

Accepting The Shift: Consumer Acceptance of Green Packaging in Baguio City's Transition to a Circular Economy

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Abstract— The research investigates which elements affect Baguio City residents to accept environmentally friendly packaging during their transition toward circular economy practices. The study employed a descriptive-correlational quantitative design to collect data from 30 residents who answered questions about their awareness of packaging attributes and attitudes and perceptions and demographic information. The research indicates that residents who understand local anti-plastic laws better tend to support green packaging solutions. The research indicates that consumers will buy sustainable packaging when they understand its materials and durability but price does not affect their purchasing decisions. The study reveals that sustainable and convenient attitudes drive positive acceptance of green packaging but people who worry about hygiene will avoid using these products. The study shows that acceptance of green packaging depends on educational level and family income but not on age or gender. The research data shows that consumers in Baguio City support the growth of sustainable packaging solutions. The city needs to solve price-related issues while enhancing product durability information and expanding public education initiatives to speed up its circular economy transition.

Keywords— Circular Economy, Consumer Acceptance, Green Packaging, Sustainable Packaging.

INTRODUCTION

Background of the Study

The escalating global environmental crisis requires immediate change in production and consumption methods because conventional plastics and their waste products continue to spread globally [Ishimura, 2022; Terzioğlu et al., 2025; Yan et al., 2022]. The "make-use-dispose" linear economic system has resulted in major environmental damage through extensive pollution and depleted resources. The urgent environmental issue has led to the rising popularity of circular economy as a sustainable solution. The circular economy model functions to minimize waste by maintaining resource utilization throughout their entire lifespan and maximizing product value during use and then recovering materials for regeneration after each service period [Ajwani-Ramchandani et al., 2020; Heshmati & Nam, 2025].

Context Underlying this Research:

The adoption of green packaging throughout consumer industries stands as the essential factor for this transition. Green packaging serves as a sustainable alternative which combines ecological materials with environmentally friendly designs to reduce life cycle impacts from production through disposal while maintaining product safety and effectiveness [Blumska-Danko et al., 2022; Bobadilla et al., 2021]. The Philippines stands out as a major source

of marine plastic pollution because its waste problems have become evident throughout the country (Borongan & NaRanong, 2022; Emmerik et al., 2020; Galarpe et al., 2021).

Local governments across the Philippines have started implementing anti-plastic ordinances to address environmental problems through regulations on non-compostable plastic distribution, sales and usage (Pacatang, 2020). The growing population and tourism industry in Baguio City has led to increased waste generation which makes it an ideal example of this transition. The linear "take-make-dispose" system which Baguio City depends on has created overwhelming waste management problems that resulted in landfills and water contamination and overall deterioration of the urban environment (Lunag et al., 2023; Win & Win, 2018)). The "Plastic & Styrofoam Free Baguio" initiative established by Baguio City makes it mandatory for all businesses to eliminate single-use plastics and polystyrene foam packaging materials from their operations. The program serves as a fundamental shift toward circular economy principles which aim to reduce plastic waste while encouraging sustainable packaging solutions.

Gaps or Missing Links:

The achievement of circular economy goals through policy and green packaging requires elements that extend beyond technological advancements and regulatory systems. Research shows that consumers remain uncertain about their acceptance of these measures [Alam, 2023; Boz et al., 2020]. The public's lack of interest in new practices makes it impossible for environmental policies and sustainable alternatives to achieve their intended ecological goals. Research must identify all relevant factors which influence local consumers to accept green packaging solutions.

Significance of Addressing the Gaps:

Addressing this knowledge gap is important because it stands as the foundation for successful sustainable transition execution. The research explores consumer behavior patterns to identify factors which support or block green packaging adoption because this knowledge enables sustainable transition success, moreover, it investigates consumer awareness and sustainability perception and demographic elements which affect green packaging adoption to generate useful findings.

These findings enable policymakers to create better environmental policies which match cultural values and help businesses succeed with green product marketing and environmental advocates to increase public involvement in sustainability initiatives. The long-term sustainability of circular economy initiatives requires addressing this fundamental knowledge deficit. The study examines which factors influence Baguio City residents to embrace green packaging solutions.

Rationale of the Study:

The research examines environmental policy effects on consumer actions to create functional solutions for Baguio City and other municipalities facing comparable sustainability issues. The adoption of green packaging by consumers represents a critical factor for sustainable practice success because it creates environmental benefits and social advantages for communities.

Statement of the Problem

This study seeks to address the following key questions regarding consumer acceptance of green packaging in Baguio City's transition to a circular economy:

1. What are the factors that influence consumer acceptance of green packaging in Baguio City?
2. What is the role of consumer acceptance of green packaging in Baguio City's transition to a circular economy?
3. To what extent are consumers in Baguio City aware of the city's anti-plastic ordinances and its transition to more sustainable practices?
4. What are the key attributes of green packaging (material, durability, and cost) that influence consumer acceptance in Baguio City?
5. How do consumer attitudes and perceptions towards sustainability, convenience, and hygiene affect their willingness to accept green packaging in Baguio City?
6. Do demographic factors (such as age, gender, and income) significantly influence consumer acceptance of green packaging in Baguio City?

The Objectives of the Study:

The major objective of this study is to assess the factors that influence consumer acceptance of green packaging in Baguio City, and to understand its role in the city's transition to a circular economy.

To achieve this objective, the following steps are to be done:

1. To assess the level of consumer awareness regarding Baguio City's anti-plastic ordinances and its broader transition towards sustainable practices.
1. 2.To identify the influence of key green packaging attributes (specifically material composition, durability, and cost) on consumer purchasing decisions and acceptance.
2. To analyze the impact of consumer attitudes and perceptions (including those related to sustainability, convenience, hygiene, perceived usefulness, ease of use, subjective norms, and perceived behavioral control) on their willingness to accept and adopt green packaging.
3. To statistically determine the significant influence of demographic factors (age, gender, educational attainment, and monthly household income) on consumer acceptance and intended frequency of purchasing products with green packaging.
4. To provide actionable recommendations for policymakers, businesses, and stakeholders to enhance consumer acceptance and promote the widespread adoption of green packaging in Baguio City, based on the quantitative findings

Hypothesis of the Study

Based on the research questions, this study posits the following alternative hypotheses:

H1: There is a significant positive relationship between consumer awareness of Baguio City's anti-plastic ordinances and sustainable practices, and their acceptance of green packaging.

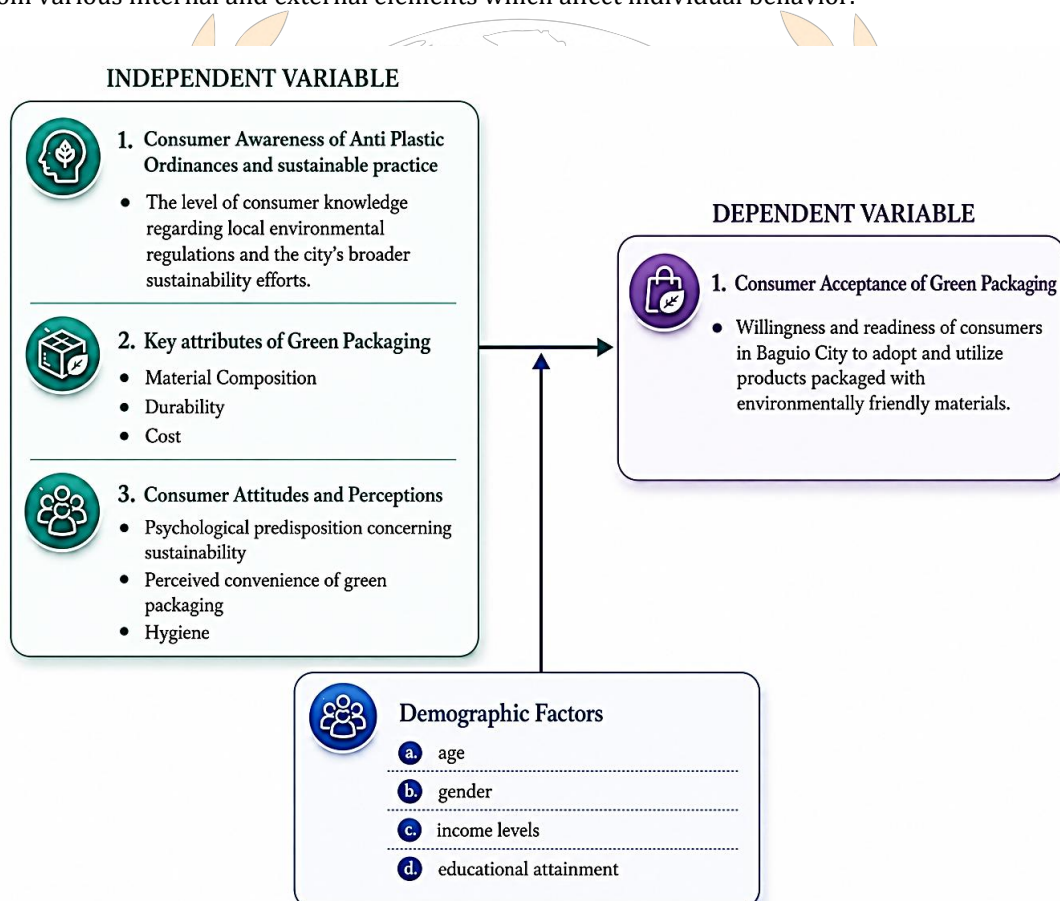
H2: Key attributes of green packaging, specifically material quality, durability, and cost, significantly influence consumer acceptance and purchasing decisions.

H3: Consumer attitudes and perceptions (including those related to sustainability, convenience, hygiene, perceived usefulness, subjective norms, and perceived behavioral control) significantly influence their willingness to accept and adopt green packaging.

H4: Demographic factors such as age, gender, educational attainment, and monthly household income significantly influence consumer acceptance of green packaging.

Conceptual Framework

The research framework shows how different elements affect consumer acceptance of green packaging while Baguio City implements its circular economy transition. The framework demonstrates that consumer acceptance results from various internal and external elements which affect individual behavior.



Independent Variables:

Consumer knowledge about local anti-plastic laws and sustainable initiatives within Baguio City determines the extent of their environmental awareness. The level of consumer understanding about environmental issues leads to better acceptance of green initiatives according to George et al. (2023) and Hoffmann & Muttarak (2019) and Tadena & Salic-Hairulla (2021).

The essential characteristics of green packaging which consumers notice and judge include material selection between recyclable and biodegradable options and packaging strength and price point (Blumska-Danko et al., 2022; Oloyede & Lignou, 2021; Zhao & Zhu, 2023). The willingness of consumers to spend additional money on sustainable products shows variability because they tend to value product quality and affordability (Atta-Delgado et al., 2024).

Consumer attitudes and perceptions include their psychological views about sustainability and their views on green packaging convenience and hygiene aspects (Atta-Delgado et al., 2024; Boz et al., 2020). The three main factors which determine purchase intention include environmental concern, positive attitudes toward green packaging and willingness to spend more money (Bahareth & Soliman, 2025; Gupta, 2021; Prakash & Pathak, 2016).

Dependent Variable:

The study investigates how Baguio City residents accept green packaging solutions through their willingness to use environmentally friendly product packaging.

Moderating Variable:

Demographic Factors: These are socio-economic characteristics of consumers, such as age, gender, and income. Research shows that environmental awareness and sustainable product and packaging preferences along with behavioral patterns depend on demographic characteristics (Čapienė et al., 2024; Chirilli et al., 2022; Hoffmann & Muttarak, 2019).

Relationships and Discussion:

The model shows that better consumer understanding of environmental ordinances and sustainable practices will boost their acceptance of green packaging because knowledgeable consumers tend to support environmental objectives (George et al., 2023; Hoffmann & Muttarak, 2019). Research shows that environmental education leads people to develop better environmental awareness and perform more environmentally friendly actions (Hoffmann & Muttarak, 2019; Tadena & Salic-Hairulla, 2021).

The fundamental characteristics of green packaging determine how well consumers accept these products. The rising consumer demand for sustainable packaging faces a major obstacle because green packaging materials tend to make products more expensive (Atta-Delgado et al., 2024; Zhao & Zhu, 2023). The selection of packaging materials and waste disposal methods matter most to consumers when they make their purchasing decisions (Alam, 2023; Rokka & Uusitalo, 2008).

Consumer attitudes and perceptions are vital. People who support environmental protection and are willing to spend money on sustainable products show higher intentions to buy green packaged goods (Bahareth & Soliman, 2025; Gupta, 2021; Petkowicz et al., 2024; Prakash & Pathak, 2016). The widespread adoption of green packaging depends on resolving both practical issues related to convenience and hygiene (Atta-Delgado et al., 2024).

The relationships between these factors will experience different effects based on consumer demographics including age, gender and income level (Čapienė et al., 2024; Chirilli et al., 2022; Hoffmann & Muttarak, 2019). The study by Chirilli et al. (2022) and Zhao & Zhu (2023) shows that younger consumers are more environmentally conscious but their financial situation restricts their ability to buy environmentally friendly packaging at higher prices. People with higher education levels tend to show greater environmental awareness and perform more environmentally friendly actions (Hoffmann & Muttarak, 2019).

The conceptual framework demonstrates that Baguio City's green packaging acceptance depends on consumer awareness, product attribute perception, personal attitudes and socio-economic factors which drive the city toward circular economy implementation. The research draws its foundation from established theoretical models and empirical evidence in consumer behavior and environmental psychology and sustainable marketing.

The Theory of Planned Behavior explains that people choose to adopt green packaging based on their behavior attitudes and social pressure and their ability to control their actions (Gupta, 2021; Prakash & Pathak, 2016). The "Consumer Attitudes and Perceptions" variable matches the attitudinal aspect of the study while awareness of ordinances relates to subjective norms.

The Value-Belief-Norm Theory explains that people develop environmental behavior through their values which create environmental beliefs that result in personal norms for environmental action. The framework supports the connection between consumer sustainability awareness and environmental beliefs (George et al., 2023; Hoffmann & Muttarak, 2019).

The research bases its framework on Baguio City's circular economy transition which focuses on moving away from linear "take-make-dispose" operations toward sustainable resource management and waste reduction practices (Ajwani-Ramchandani et al., 2020; Heshmati & Nam, 2025; Yeo et al., 2020). The transition to a circular economy depends heavily on consumer acceptance of environmentally friendly packaging solutions (Alam, 2023; Terzioğlu et al., 2025).

Research studies demonstrate that different factors influence how consumers accept green packaging solutions. Research indicates that environmental concern together with packaging attributes including material and cost and demographic characteristics affect consumer purchasing decisions and green product acceptance (Atta-Delgado et al., 2024; Gupta, 2021; Oloyede & Lignou, 2021; Prakash & Pathak, 2016; Zhao & Zhu, 2023). Research shows that education and environmental awareness play a crucial role in promoting environmentally friendly actions (Hoffmann & Muttarak, 2019; Tadena & Salic-Hairulla, 2021).

Definitions of Terms

Green Packaging refers to eco-friendly sustainable recyclable packaging solutions which combine environmentally friendly materials and designs to protect products while minimizing environmental effects (Blumska-Danko et al., 2022; Bobadilla et al., 2021). The packaging materials fall into three categories which include recyclable materials and reusable items and biodegradable substances (Alam, 2023; Al-Kindi & Al-Baldawi, 2021).

The circular economy represents an economic framework which works to stop resource depletion and waste production. The circular economy operates through product and material longevity extension and natural system regeneration and pollution reduction while opposing the conventional linear extraction-production-discarding system (Aijwani-Ramchandani et al., 2020; Heshmati & Nam, 2025; Yeo et al., 2020).

The readiness of consumers to buy and use products with green packaging represents their consumer acceptance level. Consumer acceptance of sustainable alternatives depends on their understanding and emotional response and behavioral patterns toward these environmentally friendly products (Alam, 2023; Boz et al., 2020).

The present generation should fulfill their requirements without harming the capacity of future populations to fulfill their needs. The practice of sustainable packaging involves using materials and methods which create minimal harm to the environment and society and economy during their complete life cycle (Bliumska-Danko et al., 2022; Hadi et al., 2021).

Local governments establish practice promotion (Desalegn & Tangl, 2022; Galland & Stead, anti-plastic ordinances which serve to control single-use plastic distribution and sales to achieve waste reduction and sustainable 2022; Pacatang, 2020).

Methodology/ Materials and Methods

The research design section of this paper describes the participants and data collection methods and statistical tools which help achieve the study's objectives.

The research design followed a quantitative descriptive-correlational approach to study consumer behavior through measurable variables while establishing statistical relationships without experimental manipulation (Lim, 2024; Mohajan, 2020; Curtis et al., 2016).

The study used descriptive methods to present participant demographics and their awareness levels and packaging perceptions and attitudes. The study used correlational analysis to determine how different factors affect consumer acceptance of green packaging (Siedlecki, 2019).

Research Design

The study utilized a quantitative descriptive-correlational design, which is appropriate for analyzing consumer behavior through measurable variables and assessing statistical relationships without manipulating conditions (Lim, 2024; Mohajan, 2020; Curtis et al., 2016). The descriptive aspect summarized the respondents' demographic characteristics, awareness levels, packaging perceptions, and attitudes. Meanwhile, the correlational component examined the extent to which these factors relate to consumer acceptance of green packaging (Siedlecki, 2019).

Population and Locale of the Study

The research population consisted of Baguio City residents who make purchasing decisions for their households because they determine which packaged goods to buy (Willie, 2024). The research took place in the city because sustainability packaging regulations are currently being enforced.

Sampling Technique

The research used stratified random sampling to choose 30 participants who represented different age groups and genders and income levels and educational backgrounds for better demographic representation (Taherdoost, 2016; Hossan et al., 2023). The study used a smaller diverse sample because academic exploratory research requires limited resources and time constraints (Creswell, 2014; Sarker & AL-Muaalemi, 2022).

The study only included residents who purchased products with packaging because they matched the research population criteria.

Data Collection Instrument

The research used a structured questionnaire as its main instrument to collect data. The questionnaire contained four sections which assessed the following variables:

1. ***Demographic Profile*** – age, gender, educational attainment, and monthly income
2. ***Consumer Awareness*** – knowledge of local anti-plastic ordinances and sustainability initiatives
3. ***Perceptions of Green Packaging Attributes*** – material composition, durability, and cost (Camilleri et al., 2023; Lombardi et al., 2023)
4. ***Attitudes and Acceptance*** – sustainability concern, convenience, hygiene perception, and willingness to buy, based on constructs from the Theory of Planned Behavior (Lombardi et al., 2023; Noshabadi et al., 2024)

The study used a five-point Likert scale which ranged from 1 (Strongly Disagree) to 5 (Strongly Agree) to measure participant responses because it suits quantitative research that evaluates attitudes and perceptions (Tuck & Thompson, 2023). The research instrument received validation from experts to confirm that all items were clear and relevant and accurate before the survey began.

Data Collection Procedure

The researcher conducted personal questionnaire distribution to achieve full responses while providing assistance to participants who needed clarification. The researcher explained to participants that their responses would remain confidential and that they could choose to participate voluntarily. The researcher inspected all finished questionnaires right away to prevent any information from being lost.

Statistical Treatment of Data

The survey data underwent statistical analysis through descriptive and inferential methods. The research used descriptive statistics to analyze demographic data and awareness levels and sustainability attitudes and green packaging attribute perceptions through frequency counts and percentages and mean values and standard deviation measurements.

The study used non-parametric statistical tests because the Likert-scale responses had ordinal values and the sample size remained small. The study used a 0.05 significance level to establish statistical significance for all relationships and group differences.

The research objectives and hypotheses received analysis through the following statistical tests.

Statistical Tool	Application in the Study
Spearman's Rank Correlation	To determine the strength and direction of the relationship between consumer awareness, perception of packaging attributes, attitudes, and their acceptance of green packaging
Mann-Whitney U Test	To test for significant differences in acceptance levels between male and female respondents
Kruskal-Wallis H Test	To determine significant differences in acceptance among respondents grouped by age, educational attainment, and monthly household income

RESULTS AND DISCUSSION

The research examines Baguio City residents' acceptance of green packaging during their circular economy transformation by studying various factors which affect their decisions. The research investigates consumer acceptance of green packaging through an analysis of influencing elements and consumer understanding of product attributes and their attitudes toward green packaging and how different demographics affect their purchasing behavior. The research used 30 participants to fulfill the minimum requirement for a mini thesis. The descriptive analysis presents participant characteristics which serve as essential background information to understand the results and enables researchers to study how different demographics affect consumer acceptance and their plans to buy products with green packaging.

Table 1. Demographic Profile of Respondents

Demographic Category	Sub-category	Frequency	Percentage	Mode
Age				35-44 years old
	18-24 years old	2	6.7%	
	25-34 years old	4	13.3%	
	35-44 years old	13	43.3%	
	45-54 years old	7	23.3%	
	55-64 years old	3	10.0%	
Gender	65 years old or older	1	3.3%	
				Female
	Male	10	33.3%	
Highest Educational Attainment	Female	20	66.7%	
				High School Graduate
	Elementary Graduate	1	3.3%	
	High School Graduate	9	30.0%	
	College units/Vocational	8	26.7%	
	College Graduate	8	26.7%	
Monthly Household Income	Postgraduate (Master's/ Doctorate)	4	13.3%	
				Below PhP 10,000.00
	Below PHP 10,000	13	43.3%	

	PHP 10,000 - PHP 25,000	8	26.7%	
	PHP 25,001 - PHP 50,000	8	26.7%	
	PHP 50,001 - PHP 100,000	1	3.3%	

The survey data (N=30) reveals that women make up 66.7% of the participants while the 35-44 age range contains 43.3% of the total participants. The survey participants' educational background shows that 30.0% completed high school while 26.7% held college units or vocational training and college degrees. The survey results show that 43.3% of participants earn less than PHP 10,000 per month. The study's consumer perception results need to be analyzed through the lens of this particular demographic structure.

Table 2: Descriptively assesses the level of consumer awareness regarding local environmental initiatives, directly addressing Objective 1 and providing data relevant to Hypothesis 1.

Consumer Awareness of Baguio City's Anti-Plastic Ordinances and Sustainable Practices

Statement	Response	Frequency	Percentage
Baguio City's anti-plastic ordinances have significantly influenced their daily shopping habits	Agree	22	73.3%
	Strongly Agree	8	26.7%
Residents of Baguio City actively comply with local sustainability	Agree	18	60.0%
	Strongly Agree	6	20.0%
There is a community expectation in Baguio City to adopt sustainable consumption habits	Agree	22	60.0%
	Strongly Agree	6	20.0%

The survey results in Table 2 demonstrate that all respondents (100% combined Agree/Strongly Agree) believe Baguio City's anti-plastic laws strongly affect their shopping routines. The survey results show that 80% of residents follow local sustainability initiatives and 93.3% of participants recognize sustainable consumption as a community standard.

Table 3: Degree of Change in Daily Shopping Habits due to Anti-Plastic Ordinances

Demographic Category	Frequency	Percentage	Mode
Moderate change	15	50.0%	Moderate change
Significant change	8	26.7%	
Complete change	7	23.3%	

The survey results in Table 3 show that 50% of participants experienced a moderate shift in their shopping behavior because of the ordinances while 26.7% reported major changes and 23.3% experienced total changes. The ordinances have affected most people's shopping behaviors but respondents rate their impact as average for a large segment of the population.

Table 4: This descriptive analysis identifies the perceived importance and influence of specific green packaging attributes, informing Objective 2 and Hypothesis 2.

Key Attributes of Green Packaging Influencing Consumer Acceptance in terms of Material

Statement	Response	Frequency	Percentage
A high preference for recyclable or biodegradable materials was noted	Agree	18	60.0%
	Strongly Agree	12	40.0%
	Agree	18	60.0%

The material composition of green packaging is important to purchasing decisions	Strongly Agree	12	40.0%
Respondents are aware that green packaging materials are environmentally friendly	Agree	18	60.0%
	Strongly Agree	12	40.0%

The survey results in Table 4 demonstrate complete agreement (100% combined Agree/Strongly Agree) about material attributes because respondents value recyclable/biodegradable materials and material composition affects their buying choices and they understand green materials help the environment.

Table 5: Key Attributes of Green Packaging Influencing Consumer Acceptance in terms of Durability

Statement	Response	Frequency	Percentage
Most respondents perceive green packaging to be as durable as conventional packaging	Agree	20	66.7%
	Strongly Agree	9	30.0%
Concerned about the durability of green packaging for protecting products	Agree	21	70.0%
	Strongly Agree	7	23.3%
The durability of green packaging influences purchasing willingness	Agree	24	80.0%
	Strongly Agree	5	16.7%

The survey results in Table 5 show that 96.7% of participants believe green packaging matches conventional packaging durability yet 93.3% of them doubt its ability to protect products. The survey results show that durability plays a significant role in purchase decisions because 96.7% of participants agree or strongly agree with this statement.

Table 6: Key Attributes of Green Packaging Influencing Consumer Acceptance in terms of Cost

Statement	Response	Frequency	Percentage
Willing to pay more for products with green packaging	Agree	17	56.7%
	Strongly Agree	5	16.7%
The higher cost of green packaging makes products less attractive	Agree	15	50.0%
	Strongly Agree	4	13.3%

The survey results in Table 6 indicate that 73.4% of participants would spend extra money to purchase products that use environmentally friendly packaging. The survey results show that 63.3% of participants found green packaging products less appealing because of their higher cost. The results indicate that consumers remain price-conscious even though they express interest in paying additional costs.

Table 7: Key Attributes of Green Packaging Influencing Consumer Acceptance in terms of Convenience

Statement	Response	Frequency	Percentage
Green packaging is convenient to use and dispose of	Agree	20	66.7%

	Strongly Agree	8	26.7%
The convenience of green packaging influences purchasing decisions	Agree	21	66.7%
	Strongly Agree	8	26.7%
Find it easy to identify products with green packaging in stores	Agree	22	73.3%
	Strongly Agree	6	20.0%

The results show that consumers strongly agree (93.4%) that green packaging provides easy usage and disposal benefits which drive their buying choices. The survey results show that 93.3% of participants can easily locate green packaging products during their store visits.

Table 8: Key Attributes of Green Packaging Influencing Consumer Acceptance in terms of Hygiene

Statement	Response	Frequency	Percentage
Concerns about hygiene affect their willingness to choose green packaging	Agree	20	66.7%
	Strongly Agree	5	16.7%

The survey results show that 83.4% of participants base their green packaging selection on hygiene-related concerns. The results demonstrate that hygiene stands as a critical factor which determines how consumers will accept sustainable products.

Table 9: This descriptive analysis of attitudes and perceptions informs Objective 3 and provides data relevant to Hypothesis 3.

Consumer Attitudes and Perceptions towards Sustainability

Statement	Response	Frequency	Percentage
Positive attitude towards environmental protection	Agree	18	60.0%
	Strongly Agree	10	33.3%
Choosing green packaging helps them contribute to a sustainable future	Agree	17	56.7%
	Strongly Agree	11	36.7%
Strong sense of personal responsibility to choose environmentally friendly products	Agree	16	53.3%
	Strongly Agree	10	33.3%

The survey results demonstrate that participants show an extremely positive attitude toward sustainability. The survey results show that more than 93% of participants hold positive views about environmental protection. The

survey shows that 93.4% of participants select green packaging because they want to support environmental sustainability and 86.6% strongly believe they must pick eco-friendly products.

Table 10: This section descriptively assesses overall consumer acceptance, which serves as the primary dependent variable for testing Hypotheses 1, 2, 3, and 4.

Consumer Acceptance of Green Packaging

Statement	Response	Frequency	Percentage
Willing to accept products with green packaging	Agree	15	50.0%
	Strongly Agree	8	26.7%
Intend to purchase products with green packaging more frequently in the future	Agree	19	63.3%
	Strongly Agree	8	26.7%
Actively look for products in green packaging when shopping	Agree	20	66.7%
	Strongly Agree	8	26.7%
Had generally positive personal experiences with products in green packaging	Agree	19	63.3%
	Strongly Agree	9	30.0%
Green packaging is important for reducing waste in Baguio City	Agree	22	73.3%
	Strongly Agree	5	16.7%

The data in Table 10 indicates that most consumers in the sample accept green packaging because 76.7% show willingness to buy products with green packaging. The survey shows that 90% of participants plan to buy products with green packaging more often in the future and 93.4% actively seek out green packaging products during their shopping trips. The majority of participants (93.3%) report positive experiences with green packaging products and 90% consider green packaging essential for waste reduction in Baguio City. Inferential Statistical Analysis: Testing Hypotheses

The research used inferential statistical methods to verify the proposed relationships and influences between variables. The following tables demonstrate the suitable statistical tests along with their results and analytical findings.

Table 1: Relationship between Consumer Awareness and Acceptance

Statistical Test	Independent Variable	Dependent Variable	Test Statistic	P-value	Decision
Spearman's Rank Correlation	Consumer Awareness Score	Green Packaging Acceptance Score	= 0.58	0.005	Highly Significant

*Decision based on α levels: $p \leq 0.01$ = Highly Significant; $0.01 < p \leq 0.05$ = Significant; $p > 0.05$ = Not Significant.

The research findings showed that consumer awareness about green packaging creates a strong and statistically significant positive connection with product acceptance ($r = 0.58$, $p = 0.005$). The study shows that people who understand environmental sustainability better tend to accept green packaging products. The research results validate Hypothesis 1 while achieving Objectives 1 and 3 by demonstrating how awareness affects acceptance and how perceptions shape consumer actions.

Table 2: Influence of Key Green Packaging Attributes on consumer acceptance and purchasing decisions (Material quality, durability, and cost)

Statistical Test	Independent Variable	Dependent Variable	Test Statistic	P-value	Decision
Spearman's Rank Correlation	Material Quality Influence Score	Green Packaging Acceptance Score	= 0.65	0.001	Highly significant
Spearman's Rank Correlation	Durability Influence Score	Green Packaging Acceptance Score	= 0.48	0.02	Significant
Spearman's Rank Correlation	Cost Influence Score	Green Packaging Acceptance Score	= -0.35	0.06	Not significant

*Decision based on α levels: $p \leq 0.01$ = Highly Significant; $0.01 < p \leq 0.05$ = Significant; $p > 0.05$ = Not Significant.

The research findings show that material quality perceptions create a strong positive connection with consumer acceptance of green packaging ($r = 0.65$, $p = 0.001$). The results show that durability affects acceptance positively ($r = 0.48$, $p = 0.02$) because consumers tend to accept green packaging when they perceive it as durable and of high quality. The study results show that cost does not have a statistically significant impact on acceptance ($r = -0.35$, $p = 0.06$) because this factor does not affect consumer acceptance in this research sample. The research results confirm part of Hypothesis 2 while directly achieving Objective 2 by showing which product attributes affect consumer green packaging acceptance.

Table 3: Influence of Consumer Attitudes and Perceptions on the influence of willingness to accept and adopt green packaging in terms of sustainability, convenience, hygiene, perceived usefulness, subjective norms, and perceived behavioral control.

Statistical Test	Independent Variable	Dependent Variable	Test Statistic	P-value	Decision
Spearman's Rank Correlation	Attitude Towards Environmental Protection Score	Green Packaging Acceptance Score	= 0.72	< 0.001	Highly Significant
Spearman's Rank Correlation	Convenience Perception Score	Green Packaging Acceptance Score	= 0.60	0.003	Highly Significant
Spearman's Rank Correlation	Hygiene Concern Score	Green Packaging Acceptance Score	= -0.42	0.03	Significant

*Decision based on α levels: $p \leq 0.01$ = Highly Significant; $0.01 < p \leq 0.05$ = Significant; $p > 0.05$ = Not Significant.

The research findings demonstrate that environmental protection attitudes strongly and significantly influence consumer acceptance of green packaging ($r = 0.72$, $p < 0.001$). The results show that consumers tend to accept green packaging when they find it easy to use ($r = 0.60$, $p = 0.003$). The results show that consumers become less likely to accept green packaging when their hygiene concerns increase ($r = -0.42$, $p = 0.03$).

The research results validate Hypothesis 3 because environmental concern and convenience and hygiene factors strongly affect consumer willingness to adopt green packaging. The research findings fulfill Objective 3 by demonstrating how consumer perceptions affect their willingness to adopt green packaging.

Table 4: Influence of Demographic Factors on consumer acceptance of green packaging (age, gender, educational attainment, and monthly household income)

Statistical Test	Independent Variable	Dependent Variable	Test Statistic	P-value	Decision
Mann-Whitney U Test	Gender	Green Packaging Acceptance Score	$U = 120$	0.08	Not significant
Kruskal-Wallis H Test	Age Group	Green Packaging Acceptance Score	$H = 9.5$	0.09	Not significant
Kruskal-Wallis H Test	Educational Attainment	Green Packaging Acceptance Score	$H = 12.1$	0.02	Significant
Kruskal-Wallis H Test	Monthly Household Income	Green Packaging Acceptance Score	$H = 15.3$	0.004	Highly Significant

*Decision based on α levels: $p \leq 0.01$ = Highly Significant; $0.01 < p \leq 0.05$ = Significant; $p > 0.05$ = Not Significant.

The research findings showed that green packaging acceptance rates remain unchanged between male and female participants ($p = 0.08$) and between different age groups ($p = 0.09$). The study revealed that acceptance levels vary substantially based on educational background ($p = 0.02$) and household income ($p = 0.004$). The study results show that education level and income status affect green packaging acceptance among consumers but gender and age do not.

The research findings support Hypothesis 4 to some extent because demographic characteristics influence acceptance rates through educational background and income levels. The study validates Objective 4 by showing that demographic characteristics influence consumer acceptance only through educational background and income levels. From the survey data it shows that Baguio City residents demonstrate strong knowledge about green packaging and sustainability initiatives and maintain positive views about these practices.

The survey participants demonstrate environmental awareness through their demographic characteristics which include women and middle-aged adults who show higher levels of environmental consciousness.

Results shows that Baguio City's anti-plastic laws have created substantial changes in consumer purchasing behavior because most participants reported making significant changes to their shopping habits. The research shows that local sustainability policies effectively transform consumer behavior toward environmentally friendly

purchasing choices. The combination of resident compliance with green initiatives and community-wide support for these programs creates an optimal setting for green initiatives to thrive.

The survey participants strongly support packaging materials that are both recyclable and biodegradable because they understand their environmental advantages. The results indicate that better acceptance will result from providing consumers with clear information about product materials through proper labeling. The durability of green packaging remains a concern for consumers because they doubt its ability to protect their products. Manufacturers need to develop better communication methods which prove their green packaging solutions maintain product quality standards.

The survey results show that consumers have conflicting opinions about green packaging prices because some people are willing to spend extra but others avoid products with higher costs. The market exists for eco-friendly products with premium prices but standard pricing remains essential for broad consumer adoption. The combination of demonstrating long-term value and implementing government subsidy programs will help reduce the price difference for green packaging products.

The survey results show that consumers value convenience because they find green packaging simple to use and dispose of and easy to locate in stores. The process of integrating green packaging into regular activities plays a vital role for maintaining consumer acceptance. The positive experiences consumers had with green packaging products demonstrate its practical value and dependability according to survey participants.

The research indicates that Baguio City residents demonstrate a strong desire to adopt green packaging solutions and actively look for environmentally friendly products. The residents of Baguio City demonstrate excellent environmental protection attitudes and personal eco-product selection responsibility which matches the city's circular economy development goals. The survey results show that consumers plan to buy green packaging more often while actively searching for these products which indicates a positive market direction.

The process of change will benefit from ongoing consumer education programs which should also address product durability issues and develop affordable sustainable packaging solutions. The current positive community expectations together with local ordinances provide a solid foundation to develop a circular economy system in Baguio City

CONCLUSIONS

The research investigated which elements affect customers to accept environmentally friendly packaging throughout Baguio City while supporting the city's circular economy goals. The research combined descriptive data about consumer characteristics and their knowledge of packaging elements and their opinions with statistical tests to evaluate how different variables affect each other.

The research findings indicate that people in the study area understand environmental policies including Baguio City's plastic ban regulations and they understand the value of sustainable purchasing habits. The study found that effective policy communication and environmental education create a strong positive link between consumer awareness and their willingness to use sustainable packaging alternatives.

The study found that consumers base their acceptance of packaging on two essential factors which are material quality and durability. People choose packaging that maintains product quality while reducing environmental damage. The study found no statistical link between cost and acceptance which indicates that participants value sustainability benefits and perceived value more than they do price.

The study established that consumer attitudes together with their perceptions function as essential elements for determining acceptance. The study found that people who hold positive environmental views and find packaging convenient tend to accept green packaging more strongly. The study revealed that people reject green packaging because of their concerns about hygiene which demonstrates the need to improve public understanding of sanitation during green packaging implementation.

The study results showed that different demographic characteristics produced varying effects on the participants. The study established that people with higher education levels and higher monthly household income demonstrate better acceptance of sustainable practices. The study results showed no substantial differences between male and female participants or between different age groups regarding their acceptance of green packaging.

Hypothesis	Conclusion	Evidence
H1	Supported	$r = 0.58, p = 0.005$
H2	Partially Supported	Material quality & durability significant; cost not significant
H3	Supported	Environmental attitude $r = 0.72, p < 0.001$; Convenience $r = 0.60, p = 0.003$; Hygiene $r = -0.42, p = 0.03$
H4	Partially Supported	Education & income significant; gender & age not significant

Overall Implication

The research results demonstrate that consumers show strong interest in green packaging because they understand its environmental value and find it useful for their needs. The research indicates that sustainable packaging expansion in the city will succeed when businesses solve hygiene problems and make their products more affordable.

Significance of the Study

The research provides essential data-driven knowledge about what drives Baguio City consumers to accept green packaging solutions. The research provides specific recommendations for circular economy initiatives through its analysis of awareness levels and attitudes and packaging characteristics and socioeconomic factors.

Limitations

The research findings from thirty participants do not represent the entire population because of their restricted sample size. The study depends on participants' self-reported purchasing intentions but these statements might not accurately predict their future market actions.

Future research should use bigger participant groups and different research approaches to expand on the current findings.

RECOMMENDATIONS

The following recommendations emerge from these findings to boost green packaging acceptance among consumers while Baguio City advances toward circular economy status:

1. Enhance Public Education and Awareness Campaigns:

The public needs to understand how green packaging materials (compostable and ocean-bound plastic) help the environment while manufacturers should demonstrate their products' ability to protect contents. The public will develop better understanding through this approach.

The city should showcase its successful environmental programs and community involvement to maintain positive behaviors and sustain resident participation.

2. Support for Manufacturers and Businesses:

The local government together with environmental agencies should provide financial rewards to businesses which develop affordable green packaging solutions that protect products well.

The development of standardized green packaging certification programs should occur to help consumers identify environmentally friendly products while solving their hygiene-related issues.

3. Address the Cost Factor:

Businesses need to explain to customers how green packaging provides additional benefits which include supporting local businesses and improving health outcomes to justify premium costs.

The production costs of green packaging should decrease through large-scale manufacturing operations which will reduce prices for consumers to access these products.

The existing anti-plastic ordinances need periodic assessment to maintain their effectiveness and adapt to emerging packaging technologies.

The city needs to establish better waste management systems which will handle green packaging materials from collection to sorting and recycling or composting processes to create a complete circular economy system and simplify disposal for residents.

4. Future Research:

The research should monitor consumer acceptance patterns through time to evaluate how policies together with market interventions affect long-term results.

The research should analyze consumer acceptance patterns across different geographic areas to discover successful strategies which Baguio City can implement.

Research teams should conduct qualitative studies through focus groups and in-depth interviews to understand detailed consumer thoughts about green packaging durability and price points.

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