

Consumer Buying Behavior towards the Adoption of Eco- Friendly Products: An Analysis from Generation Z Consumers of Goods in Poblacion Valencia City, Bukidnon

Cherrey May Vivienne O. Osahita., Jade Nathalia S. Ellorimo., Millisa E. Saramosing-Equit, MBA

ACLC College of Bukidnon Valencia City, Bukidnon, Philippines

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ABSTRACT

This study examined the influence of consumer buying behavior on the adoption of eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. It investigated four dimensions — behavioral intention, attitude, subjective norms, and perceived behavioral control — and their impact on eco-friendly product adoption. Using a quantitative, descriptive, and correlational research design, the study analyzed data from 370 Generation Z respondents, guided by Ajzen's (1991) Theory of Planned Behavior, which linked cognitive and social determinants to actual eco-friendly product adoption. Validated survey instruments ensured reliability and precision, yielding an overall Cronbach's alpha of 0.895. Key findings revealed that consumer buying behavior significantly influenced eco-friendly product adoption, with behavioral intention emerging as the most critical driver, highlighting the role of environmental awareness and future-oriented purchasing dispositions in promoting sustainable consumption. The study aimed to help marketers, governments, and educators develop strategies to address the low adoption of eco-friendly products in developing countries and support further research on green consumption patterns in the Philippines.

Keywords: Consumer buying behavior; Eco-friendly products; Generation Z; Theory of Planned Behavior; Behavioral intention; Attitude; Subjective norms; Perceived behavioral control; Sustainable consumption; Philippines

INTRODUCTION

Many consumers claimed they would like to purchase eco-friendly products, but their behavior often contradicted this principal intention. The problem was mental, specifically due to the uncertainty of whether true eco-friendly products existed. Customers' perception of greenwashing, where companies falsely advertised eco-friendly or sustainable products, often resulted in a reluctance to purchase eco-friendly products (Shabani et al., 2024). Additionally, a lack of social pressure for sustainable consumption (especially in places where environmental concerns were a low priority) contributed to reluctance to purchase eco-friendly products (Xie & Madni, 2023). Indeed, the combination of disbelief, a low subjective social norm, and low availability of eco-friendly products illustrated consumers' negative attitudes towards sustainability (Agbisit et al., 2023; Macasaquit & Ortiz, 2022; Daya, 2022).

Researching the adoption of sustainable products was essential for encouraging sustainable consumption in urban and rural contexts. Ajzen's (1991) Theory of Planned Behavior (TPB) was useful because it suggested that positive attitudes, subjective social pressures, and a degree of behavioral control explained why positive adoption (in this case, sustainable products) seemed to precede purchases. Nguyen et al. (2024) observed that the combination of environmental concern, a positive attitude, and social influence was a significant factor in the actual adoption of sustainable products. The study also identified some less visible barriers, such as the cost and scarcity of sustainable options. The same was true of the study by Barbu et al., (2022), which highlighted that some perceived intentions and attitudes prevented many customers, even though they were interested in purchasing eco-friendly products. These findings were consistent with those of Kamalanon, Chen, & Le (2022), who stressed that environmental concern and perceived benefits positively influenced behavioral purchase

intentions. Still, barriers such as affordability and product availability hindered the adoption of eco-friendly products. Understanding this behavioral intention was essential to increasing adoption and informing policy and marketing strategies that made eco-friendly products more desirable and feasible.

Consumer buying behaviors, such as attitudes, subjective norms, behavioral control, and intention, strongly influenced the purchase of eco-friendly products. The theory of planned behavior (TPB) is a widely accepted framework for explaining the adoption of eco-friendly products. TPB had been widely proven to predict eco-friendly buying behavior, and its main contribution concerned behavioral intention to continue behaving in an environmentally friendly way to customers (Bharti, Agarwal, & Satsangi, 2024). Furthermore, subjective norms (social pressure) from peers, family, and culture toward buying eco-friendly products strongly predicted purchasing decisions, indicating that external social pressure played an important role in adopting green products (Harjadi and Gunardi, 2022).

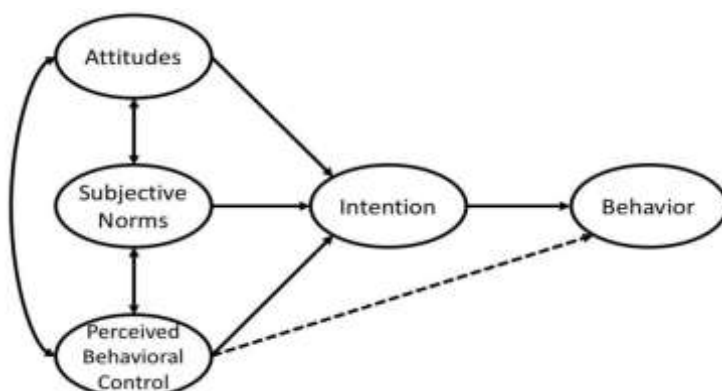
Interest in sustainability grew, but literature documenting the adoption of eco-friendly products remained sparse, specifically in the Philippines. Most studies focused on consumer behavior in developed nations. Very few studies had examined how situational factors hindered sustainable purchasing, for example, income, product availability, and culturally defined attitudes toward sustainability. This study was unique in that it focused on Poblacion, Valencia City, Bukidnon, and articulated the Filipino consumer-specific hindrances and motivators. This study was important because increased awareness of and access to sustainable products were likely to lead to increased sustainable consumption. The results of this study would be instrumental in broadening the global market for sustainable products.

THEORETICAL FRAMEWORK

Anchor Theory: Theory of Planned Behavior

The Theory of Planned Behavior (TPB), proposed by Ajzen (1991), offered a complete framework for understanding how attitudes, subjective norms, and perceived behavioral control influenced customer intentions and adoption behavior. The TPB claimed that while subjective norms took the perceived social pressure from important people to participate in a behavior, an individual's attitude towards a behavior showed their positive or negative assessment of performing it. Perceived behavioral control was the personal view of one's capacity to participate in the behavior provided available resources and challenges. These three variables formed behavioral intentions, quick sources of actual behavior. In consumer environments, reasonable beliefs toward a product, supporting societal norms, and a strong sense of power raised the probability of adoption. For example, customers who believed that using sustainable items was good to see that their friends supported such behavior and felt confident in their ability to buy and use these products. Hence, they intended to embrace and follow through with the behavior. Therefore, behavioral intention was an important facilitator between psychological factors and actual adoption behavior, which meant that TPB was a valuable model for influencing and planning consumer decision-making (Ajzen, 1991).

Theory of Planned Behavior Conceptual Framework



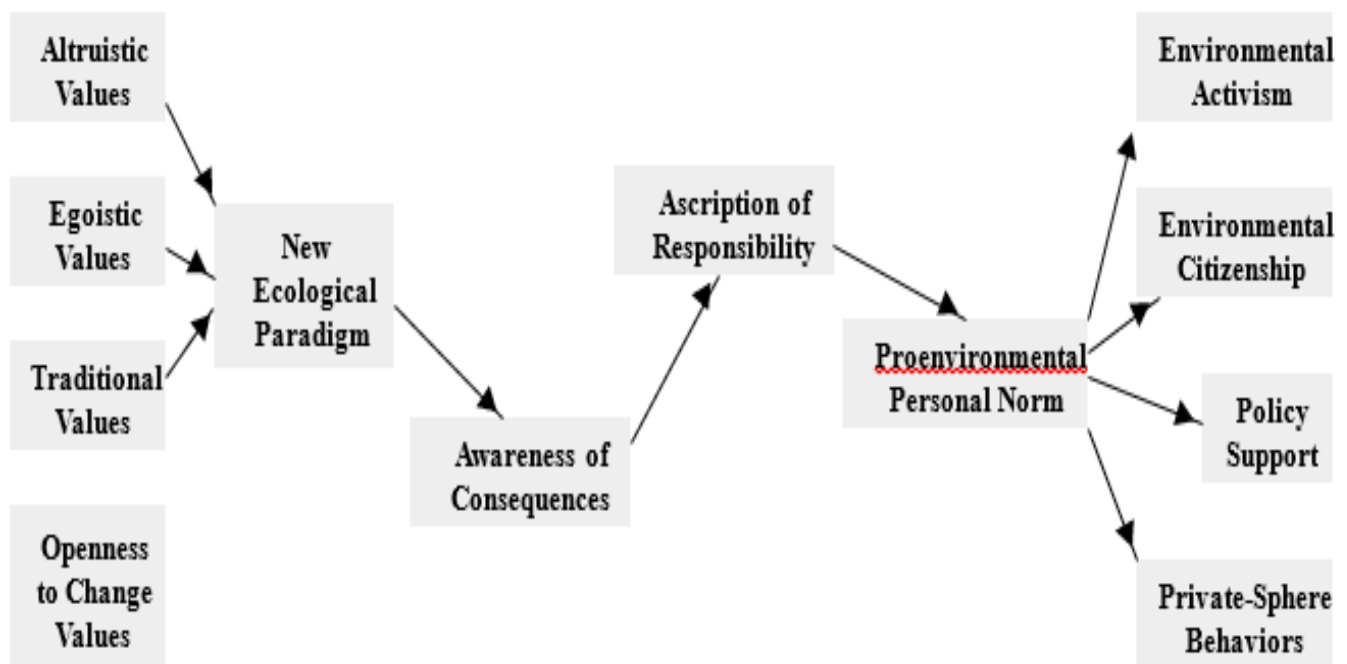
Supporting Theory 1: Value-Belief-Norm (VBN) Theory

The Value-Belief-Norm (VBN) Theory Stern et al., (1977), helped us understand why people acted in good ways for the environment by showing how values, beliefs, and personal standards were connected. This theory stated that individuals' egoistic, altruistic, and biospheric values shaped their ecological worldview, as reflected in the New Ecological Paradigm (NEP).

These values influenced awareness of environmental consequences (AC) and the ascription of responsibility (AR), which activated personal moral norms and a sense of obligation to act. These norms motivated environmentally friendly actions, including private and public actions. The VBN theory connected elements from Schwartz's norm-activation model and value theory, focusing on how solid perspectives on value guided beliefs about environmental risks and personal responsibility.

Multiple settings had validated its use, including energy policy acceptance, flood risk mitigation, and climate change adaptation. By demonstrating how values and beliefs created adopted moral obligations, the VBN framework explained pro-environmental behavior. It offered valuable tips to help develop actions that encouraged environmentally friendly behaviors and public support for environmental policies. This theoretical model highlighted the importance of addressing psychological factors and larger societal values to encourage practical environmental engagement (Stern et al., 1999).

Value-Belief-Norm (VBN) Theory Conceptual Framework



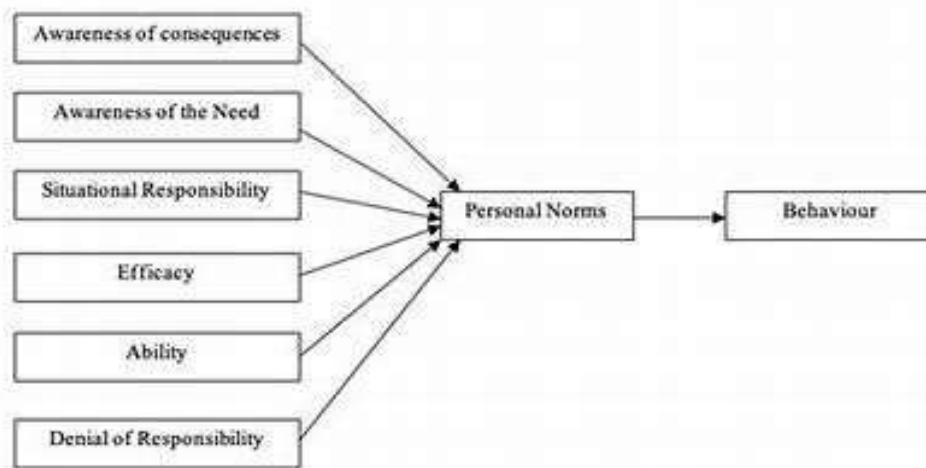
Supporting Theory 2; Norm Activation Theory (NAT)

Norm Activation Theory (NAT), developed by Schwartz (1977), emphasized the influence of personal norms, individual values, and beliefs on behavior. Personal norms were external standard assumptions defined by human beings and collectively known as individuals' moral and ethical codes of conduct.

As such, the belief that one was a part of the group in this category could play a key role in an individual's behavior. The idea behind the definition of personal norms was that people were driven to act by the norms they established within themselves and their social environment.

As a result, when individuals activated personal norms, they acted against internal norms, which were self-imposed on them. Norm Activation Theory added a moral dimension to reasoned action (TRA) and planned behavior (TPB) theories. In other words, individuals' eco-friendly purchase decisions were not only guided by attitudes but also by their ethical beliefs and values (Schwartz, 1977).

Norm Activation Theory Conceptual Framework



Personal Discourse of the Theories

The Theory of Planned Behavior (TPB) proposed by Ajzen (1991) provided robust explanatory power of consumers' intentions and adoption behaviors, highlighting the influences of attitudes, subjective norms and perceived behavioral control. This model indicated that positive attitudes, supportive social norms and perceived control contributed to favorable intentions in behavioral decisions, which affected adoption behavior. In line with this, The Value-Belief-Norm (VBN) Theory argued that the values of individuals determined their environmental beliefs and their responsibility, resulting in a feeling of responsibility towards the environment through recycling and green policies. Furthermore, the Norm Activation Theory (NAT) reconciled the above frameworks by bringing in moral considerations, suggesting that personal norms and ethical beliefs were positively associated with eco-friendly behaviors without competing demands (Schwartz, 1977).

Conceptual Framework

This conceptual framework study aimed to determine the influence of consumer buying behavior towards the adoption of eco-friendly products of Generation Z in Poblacion, Valencia City, Bukidnon. The determinant variable was customers' buying behavior and was decomposed into four elements: behavioral intention, attitude, subjective norms, and perceived behavioral control. These constructs were gathered from the Theory of Planned Behavior (Ajzen, 1991), which posited that the intention to perform a behavior was a function of one's attitude toward the behavior, the social pressure one experienced to perform the behavior (subjective norms), and one's perceived behavioral control. The model studied the motivation behind Generation Z consumers to adopt eco-friendly products based on their beliefs, social influence, and confidence in making them. Supporting this recommendation were theories such as the Value-Belief-Norm Theory (Stern et al., 1999) and Norm Activation Theory (Schwartz, 1977), which concentrated on the deep motivations of values, beliefs, and personal standards towards eco-friendly responsible buying behavior.

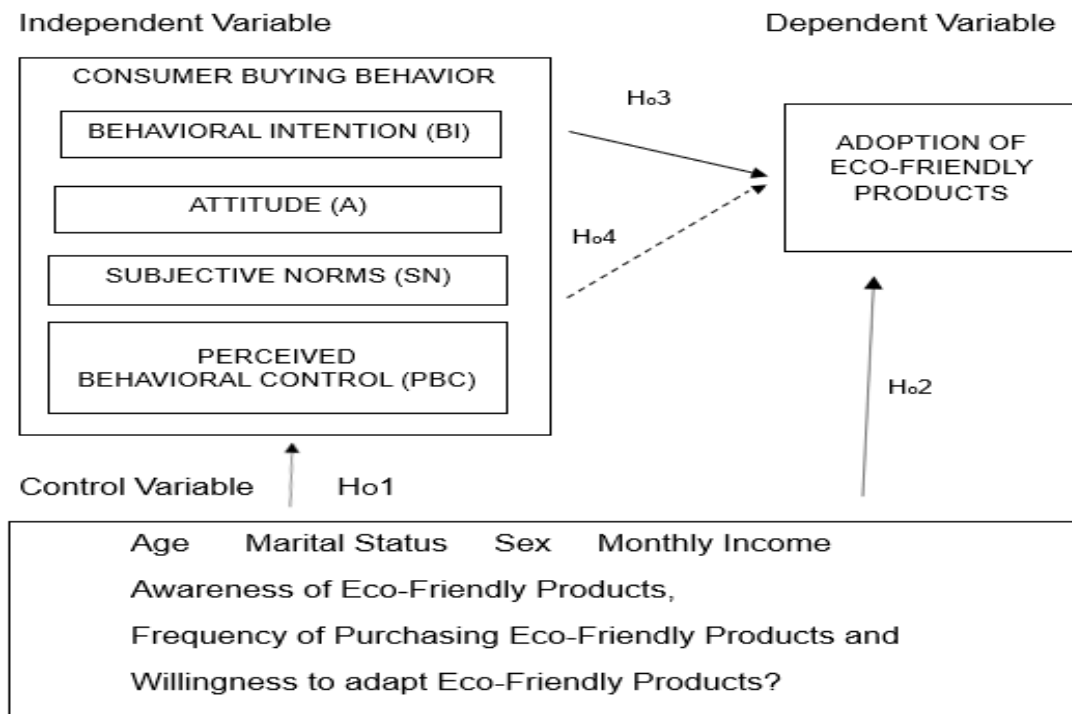
Description of Variables

The independent variable of this study was Consumer Buying Behavior, which consisted of four main factors - Behavioral Intention (BI), Attitude (A), Subjective Norms (SN), and Perceived Behavioral Control (PBC). They were gathered from the Theory of Planned Behavior (Ajzen, 1991) and described how private attitudes, social pressures, and the perceived ease/difficulty of the purchase drove consumers' intentions to purchase eco-friendly products. Behavioral Intention reflected the motivation to buy; Attitude showed how positively or negatively consumers viewed eco-friendly products; Subjective Norms gathered the influence of family or friends, and Perceived Behavioral Control connected to consumers' confidence in buying these products. The dependent variable was the Adoption of Eco-Friendly Products, which referred to the actual purchase and use of products that were less harmful to the environment, such as those made from sustainable materials or produced through eco-friendly processes (Stern et al., 1999; Schwartz, 1977). Adoption depended on the consumer's buying

behavior and was important for encouraging eco-friendly consumption and environmental preservation. Collectively, these factors contributed to a better understanding of the determinants that influenced Generation Z customers in Poblacion, Valencia City, Bukidnon to adopt eco-friendly products.

Schematic Diagram of the Study

Figure 1 Proposed Conceptual Framework of the Study



Statement of the Problem

This research investigated the influence of consumer buying behavior on the adoption of eco-friendly products in Poblacion, Valencia City, Bukidnon.

Specifically, the study sought to answer the following:

1. What was the frequency distribution regarding the percentage of the demographic profile in terms of:
 - a) Age,
 - b) Marital Status,
 - c) Sex,
 - d) Monthly Income,
 - e) Awareness of Eco- Friendly Products,
 - f) Frequency of Purchasing Eco-Friendly Products and
 - g) Willingness to adopt Eco-Friendly Products?
2. What was the level of agreement among customers of Eco-friendly products in Poblacion, Valencia City, Bukidnon in terms of:

- a) Behavioral Intention (BI),
- b) Attitude (A),
- c) Subjective Norms (SN), and
- d) Perceived Behavioral Control (PBC)?

3. What was the significant difference between demographic profiles and consumer buying behavior of eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon?
4. What was the significant difference between demographic profiles and adoption of eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon?
5. What was the significant relationship between consumer buying behavior and adopting eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon?
6. What was the significant influence between consumer buying behavior and adopting eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon?

Research Hypothesis

A null hypothesis was a statement tested negatively by including the word "no." A null hypothesis in hypothesis testing determined whether there was a statistically significant association between the variables or whether the observed effect was due only to chance (Kwak, 2023).

Whether the null hypothesis was accepted or rejected depends on the p-value. The null hypothesis was rejected when the p-value was less than or equal to the significance level, which was usually 0.05. However, if the p-value was higher than 0.05, the null hypothesis was still accepted because there was insufficient evidence to reject it (Di Leo and Sardanelli, 2020).

The primary objective of this study was to determine the extent to which consumer buying behavior affects the acceptance of eco-friendly products. In this study, the focus was on the importance of behavioral intention, Attitude, Subjective Norms, and Perceived Behavior Control (Kamalanon et al., 2022).

H₀1: There was no significant difference between Generation Z's consumer buying behavior of eco-friendly products in Poblacion, Valencia City, Bukidnon.

H₀2: There was no significant difference between Generation Z's demographic profiles and the Adoption of eco-friendly products in Poblacion, Valencia City, Bukidnon.

H₀3: There was no significant relationship between consumer buying behavior and adopting eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon.

H₀4: There was no significant influence between consumer buying behavior and adopting eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon.

RESEARCH METHODOLOGY

This chapter detailed the methodology of the study. The context in which the study was developed, along with the procedure of data collection and the methodology of data analysis were explained. Also explained was the chosen research design and its relevance to the study's objectives. Outlined in this chapter was the approach to exploring both relationships of the variables. This approach provided information that was valid, reliable and pertinent to the objectives of the study. Ultimately, this chapter formed the foundation of the study by explaining the methodology of data collection and how data was selected.

Research Design

The study adopted the quantitative method, as it was the most appropriate for consumer behavior research and for collecting numerical data that can be statistically analyzed to identify statistically significant behaviors and relationships (Peekage, 2024). The protocol came from a Closed-ended application questionnaire or a structured survey aimed at measuring the variables of Behavioral Intention, Attitudes, Subjective Norms, perceived behavioral control, and a series of statements regarding eco-friendly products.

The test outcomes were quantitative, and the findings were hypothesis-supported and extrapolated to a larger population. Therefore, the consumer buying behavior of Gen Z in Poblacion, Valencia City was better established. It was a method used in several studies of consumer behavior since it resulted in objective, verifiable data that demonstrated the number of times or the degree to which consumers purchased products that were eco-friendly.

Qualitative research provided a better exploration and understanding of motivations, but in this situation, the quantitative method adopted enabled the research to identify and measure patterns that were predictive of behavior in a more extensive sample space of respondents and therefore offered evidence-based findings and the application of normative marketing. Furthermore, this approach offered both descriptive and inferential statistics to interrogate the literature-informed theory through the lens of the Theory of Planned Behavior (Ajzen, 1991). A quantitative technique had enabled the researchers to obtain the exact and relevant outcomes regarding the consumers' acceptance of eco-friendly products.

Quantitative Research

Quantitative studies focused on defining variables, collecting numerical data and analyzing them through statistical methods. Surveys and questionnaires were common means of data collection. Earlier studies focused on quantitative methods to understand what people thought and felt, and how they acted positively towards the environment. Previous studies focused on quantitative methods to understand people's attitudes towards buying eco-friendly products and the subsequent intention to purchase (Ajzen, 1991).

Research Setting

This study was conducted in Poblacion, Valencia City, Bukidnon, a rapidly growing urban area in the province of Bukidnon, Philippines. Poblacion was selected for the study because of the fast-growing commercial sector, increasing youth population, and growing concern for the environment. Poblacion was the central business district of Valencia City and drew in a diverse crowd, particularly Gen Z marketers and sustainability advocates (Philippine Statistics Authority [PSA], 2023). With its diverse eco-friendly product offerings and high consumer traffic, Poblacion was an ideal location for studying sustainable purchasing. Also, the city's active participation in environmental programs strengthened the study's relevance.

Research Participants

This research focused on individuals aged 18-28 in Gen Z, totaling 9,510 possible participants. There were 3 age categories created. The 18-19 age group had 1,878 participants, the 20-24 age group had 4,318 participants, and the 25-28 age group consisted of 3,314 participants. The entire population was used to calculate the sample size utilizing the Standardized Population Formula. This was done to show that the study's findings could be used and applied to the population at large.

Participants were aged 18-28 years. The respondents were in the age group 18–28 years, which was important to the objectives of the study, and were voluntary participants who gave informed consent to participate. Exclusion criteria included individuals outside the specified age group and participants with opposing interests who could not understand the survey. The study adhered to ethical procedures, and participants had the option to withdraw at any time. Survey participants were expected to be honest, and the study relied on them to remove any data that compromised its quality and reliability.

Table 2.1 Study Population and Samples Size Derivation Using Raosoft.com

Target Respondents	Population of the Respondents	Population Percentage in	Sample Size
Aged 18-19	1,878	20%	74
Aged 20-24	4,318	45%	168
Aged 25-28	3,314	35%	128
TOTAL	9510	100	370

A sample of 370 participants was calculated using Raosoft.com from a population of 9,510, 95% confidence level and 5% margin of error. For better representativeness, the sample was divided into three age groups. This is in accordance with Israel (1992) and supports the study's external validity and statistical justification.

The sampling technique used was stratified random sampling, which ensured every age group was fairly represented. Random sampling in each stratum eliminated bias and allowed for subgroup analysis, which enhanced the internal and external validity. This was well captured by Taherdoost (2016), which helped to assure the good quality of the process.

Research Instrument

The survey for this study was developed from Rybina et al., (2024) and focused on the Theory of Planned Behavior. It was necessary to modify the opening questions to fit the local context better and provide greater clarity for participants. The initial questionnaire was pilot-tested with 30 respondents who shared characteristics with the study's target population. The primary intention was to test the clarity of the questionnaire and to assess the instrument's reliability. The respondents' comments were implemented into the final version of the questionnaire. To assess the questionnaire's reliability and internal consistency, Cronbach's Alpha was computed. Across all four dimensions, the reliability scores were above .70 (70 percent), thereby affirming the reliability of the constructs. The evidence suggested the proposed instrument was strong and reliable. The pilot test also established the instrument's overall quality before the main study.

Table 2.2 Construct Description, Source, and Cronbach's Alpha Reliability Score Result from a Pilot Test of Thirty (30) Samples

Construct	Description	Source	Cronbach's Alpha (Reliability Score from Pilot Test)	Remarks
Behavioral Intention (BI)	Refers to the likelihood or willingness of an individual to purchase or use eco-friendly products in the future.	Khashtan et al., 2024	.718	All 7 item questions are higher than the 0.70 reliability score.
Attitude (A)	Measures the individual's positive or negative evaluation of using eco-friendly products.	Khashtan et al., 2024	.734	All 10 item questions are higher than the 0.70 reliability score.
Subjective Norms (SN)	Assesses perceived social pressure from important others (e.g., family, friends) to engage in eco-friendly purchasing behavior.	Khashtan et al., 2024	.869	All 10 item questions are higher than the 0.70 reliability score.

Perceived Behavioral Control (PBC)	Reflects the perceived ease or difficulty of purchasing eco-friendly products, including access, affordability, and knowledge.	Khashtan et al., 2024	.717	All 5 item questions are higher than the 0.70 reliability score.
Adoption to Eco-friendly Products (AD)	Refers to the actual purchase or usage behavior of eco-friendly products by consumers.	Khashtan et al., 2024	.780	All 5 item questions are higher than the 0.70 reliability score.
Overall Cronbach's Alpha	.851			All 37 item questions are higher than the 0.70 reliability score.

The Table 2.2 Reliability Pilot Study Instrument Report detailed how reliable the instrument was based on the conduct of a pilot study with 30 of the respondents. The study showed a high degree of internal consistency on the constructs because all the Cronbach's Alpha values for the study exceeded the accepted threshold of .70. Subjective Norms was the most reliable construct with a value of .869. The other constructs in order of reliability were Adoption of Eco-friendly Products at .779, Attitude at .734, Behavioral Intention at .718, and Perceived Behavioral Control at .717. For the 37 items in the instrument, the overall Cronbach's Alpha was .851, which represented excellent reliability. Based on the results of the pilot study, the instrument was reliable and valid for use in the study and it was greatly expected that the results will be valid and reliable.

Table 2.3 Construct Item Questions to be Used in Actual Data Gathering

Construct	Item Questions	Total No. of Item Questions	Total Number of Item Questions Deleted After Pilot Test
Behavioral Intention (BI)	BI1: I intend to buy eco-friendly products because of environmental benefits. BI2: For ecological reasons I consider switching to eco-friendly products. BI3: I expect buying eco-friendly products in the future because of positive impact BI4: I will be in favor of eco-friendly products in my future purchases. BI5: We intend to adopt eco-friendly products in our systems. BI6: We predict that we will continue to use the eco-friendly products in our system in the future. BI7: We plan to use/incorporate eco-friendly products in our systems in the future	7	0
	A1: In my opinion, eco-friendly products are trustworthy.		0

Attitude (A)	A2: For me it would be a good idea to buy ecofriendly products A3: For me it would be a worthwhile decision to buy eco-friendly products. A4: My attitude towards purchasing the eco-friendly products is favorable. A5: I am favorable to purchasing eco-friendly products/services when I travel. A6: During my travelling, I feel much better about myself when I purchase eco-friendly products.	10	
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Table 2.3 Construct Item Questions to be Used in Actual Data Gathering (continuation)

Construct	Item Questions	Total No. of Item Questions	Total Number of Item Questions Deleted After Pilot Test
	A7: It is worth using eco-friendly products during my travels because it will help in conserving natural resources. A8: Use of eco-friendly products/services will reduce pollution to improve the environment of tourist places.		
Attitude (A)	A9: Generally, I have a favorable attitude towards the eco-friendly products. A10: I like the idea of buying eco-friendly products instead of conventional products to contribute to environmental protection.	10	0
Subjective Norms (SN)	SN1: I would be admired if buying the environmentally friendly products. SN2: I would have a good impression of me, if buying eco-friendly products. SN3: I would change for better the way I am perceived if buying eco-friendly products. SN4: I should buy eco-friendly products because important to me people would expect that. SN5: My family supports me to purchase eco-friendly products/services when I travel. SN6: My friends support me to purchase eco-friendly products/services during my travelling.	10	0

	SN7: Those important to me support my decision to purchase eco-friendly products/services. SN8: My friends expect me to buy eco-friendly products. SN9: My family expects me to buy eco-friendly products. SN10: People who are important to me expect me to buy eco-friendly products.		
	PBC1: I have money to buy eco-friendly products. PBC2: I would buy eco-friendly products, if it were entirely up to me. PBC3: I am capable of buying eco-friendly products. PBC4: I possess financial resources to buy eco-friendly products PBC5: I have the time to buy eco-friendly products.	5	0

Table 2.3 Construct Item Questions to be Used in Actual Data Gathering (continuation)

Construct	Item Questions	Total No. of Item Questions	Total Number of Item Questions Deleted After Pilot Test
Adoption to Eco-friendly Products (AD)	AD1: To buy eco-friendly products I make a special effort. AD2: Due to environmental benefits, I have switched to buying eco-friendly products. AD3: I buy the ones that use less electricity and is less harmful to the environment when I have a choice between the same types of goods. AD4: I undertake a special effort to buy eco-friendly products. AD5: To buy eco-friendly products I make a special effort.	5	0

This final set of item questions for each construction was used in the actual data collection and was shown in Table 2.3. These constructs included Behavioral Intention (7 questions), Attitude (10 questions), Subjective Norms (10 questions), and Perceived Behavioral Control (5 questions). Adoption of Eco-friendly Products had 10 questions. These items were developed to measure individuals' intentions, personal views, social pressure, and perceived capacity to buy or use eco-friendly products. Following the pilot test, no items were discarded, as all were considered clear and dependable. This showed all 37 questions were up to the mark and suitable for the target respondents. For this reason, all items were retained for use in the principal data collection phase.

Table 2.4 Interpretation Table of the Level of Agreement

Scale	Range Interval of Weighted Mean	Scale Description	Interpretation
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7	6.148 - 7.000	Strongly Agree	Very extensively observed in the buying behavior toward eco-friendly products.
6	5.290 - 6.147	Agree	Extensively observed in the buying behavior toward eco-friendly products.
5	4.432 - 5.289	Almost Agree	Observed in the buying behavior toward eco-friendly products.
4	3.574 - 4.431	Nearly Agree	Moderately observed in the buying behavior toward eco-friendly products.
3	2.716 - 3.573	Somewhat Disagree	Rarely observed in the buying behavior toward eco-friendly products.
2	1.858 - 2.715	Disagree	Almost not observed in the buying behavior toward eco-friendly products.
1	1.000 - 1.857	Strongly Disagree	Not observed in the buying behavior toward eco-friendly products.

Table 2.4 presented respondents' data on the adoption of eco-friendly practices and the resulting agreement levels, as determined by the researchers and by weighted mean scores. Respondents with a mean score between 6.148 and 7.000 were classified as "Strongly Agree," indicated that the behavioral practice described was very prevalent in the consumer purchase pattern. Scores between 5.290 and 6.147 were scored as "Agree", which suggested that the described practice was quite prevalent. A score between 4.432 and 5.289 was scored as "Almost Agree" where the described behavior was present, however, not substantially so. A weighted mean of 3.574 to 4.431 was scored as "Nearly Agree", which exhibited a moderate eco-friendly purchasing behavior. The score range of 2.716 to 3.573 was scored as "Somewhat Disagree", signified that environmental behavior was very infrequently observed among the consumers. A score range between 1.858 and 2.715 was scored as "Disagree", meant that the behavioral practice was very low. The final score ranged of 1.000 to 1.857 was assigned the "Strongly Disagree" rating, indicated that respondents did not practice environmental purchasing behavior at all.

Table 2.5 Interpretation Table of the Variable Strong to No Correlation (Pearson r Coefficient) According to Hair et. al., (2013)

Range of Coefficient		Description
From	To	
±0.81	±1.00	Very Strong Positive Correlation or Very Strong Negative Correlation
±0.61	±0.80	Strong Positive Correlation or Strong Negative Correlation
±0.41	±0.60	Moderate Positive Correlation or Moderate Negative Correlation
±0.21	±0.40	Weak Positive Correlation or Weak Negative Correlation
±0.00	±0.20	Weak to No Correlation

Table 2.5 presented interpretations of the strength of correlations based on Pearson's r coefficients, per Schober, Boer, and Schwarte (2018). Correlation coefficients in the ranged of ±0.81 to ±1.00 and ±0.61 to ±0.80 were described as very strong and strong positive (or negative) correlations, respectively, and were considered highly reliable. A range of ±0.41 to ±0.60 reflected a moderate positive (or negative) correlation, signified a moderate relationship. A ranged of ±0.21 to ±0.40 described a weak positive (or negative) correlation, meant the variables were related but not strongly. The last category ranged from ±0.00 to ±0.20 and was described as a very weak (or no) correlation, suggested that the variables had little or no linear relationship.

Table 2.6 Interpretation Table of the Variable Strength and Magnitude of the Relationship (Pearson r Coefficient) According to Cohen (1988)

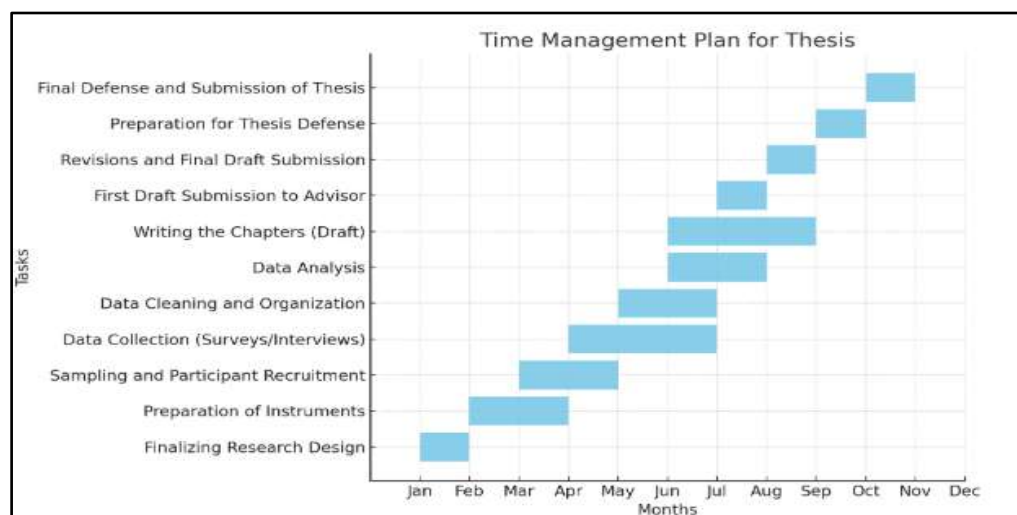
Range of Coefficient		Description
From	To	
± 0.50	± 1.00	Large Positive or Large Negative Relationship
± 0.30	± 0.49	Medium Positive or Medium Negative Relationship
± 0.10	± 0.29	Small Positive or Small Negative Relationship
± 0.00	± 0.09	No Strength and Magnitude of Relationship

Table 2.6 showed how the strength and size of the relationships were interpreted according to Cohen's (1988) guidelines. Correlation values of ± 0.50 and ± 1.00 , whether positive or negative, represented a strong relationship. These values indicated a strong relationship between the variables. Values of between ± 0.30 and ± 0.49 indicated a medium relationship and showed a moderate connection. Values of ± 0.10 and ± 0.29 were small relationships (weak), and values between ± 0.00 and ± 0.09 indicated a negligible relationship. This classification helped illustrate the significance of the correlations found.

Data Gathering Procedure

The data collection strategy was developed for the thesis for the months of April to June of the year 2025. This was done within the context of the strategic plan that was developed. Instrumentation was done in the months of February and March. And then, in March and April, sampling and participant recruitment were conducted. Ethical and truthful data was collected during the entire month of April and closed in June. Meanwhile, data scrubbing for the collection was prepared for the month of June. The thesis workflow started with a research design in January and closed with a final defense in November 2025. Other essential activities of the entire workflow, for example. Data analysis, writing, revision, and defense preparation were performed in the month that was scheduled; this was done to ensure that the research activity was completed within the time constraints.

Figure 2.3 Gantt-Chart of Proposed Time Management from Proposal Thesis Topic to Final Thesis Defense



Data Analysis

This research applied statistical techniques to address every individual question in SOP by exploring the relationships and patterns in consumer purchasing for eco-friendly products. Furthermore, descriptive statistics (frequencies, percentages, means, and standard deviations) were computed to summarize the demographic background and overall responses of Generation Z consumers to obtain a brief look into how they thought and behaved.

Correlation analysis measured the degree and nature of the relationships between behavioral intention, attitude, subjective norms, perceived behavior control, and adoption of eco-friendly products. Multiple regression analysis was used to predict the probability of adoption based on these factors since it provided the extent of contribution of each independent variable to the dependent variable, which was the adoption behavior.

If there were categorical outcomes, the data could also apply logistic regression to predict the probability of consumers converting into eco-friends compared to demographic or behavioral segments (Mohammad et al., 2024). Differences between groups, for instance, gender or income measures, were tested with the t-test or ANOVA (Analysis of Variance) to check whether differences in buyer behavior were statistically significant. Further, a factor analysis could be applied to confirm the constructs underlying the conceptual model by clustering correlated survey items into given categories, e.g., attitudes or subjective norms.

These two types of statistical approaches conducted thorough and reliable analyses that were robust enough to allow for a meaningful understanding of consumer behavior patterns toward acceptance of eco-friendly products among Generation Z.

Figure 2.4 Statistical Tools to be Used to Answer Each SOP

Statement of the Problem	Statistical Tool
Frequency distribution (age, marital status, sex, income, awareness, purchase frequency, willingness)	Frequencies and Percentages
Level of agreement (BI, A, SN, PBC)	Means and Standard Deviations Likert scale interpretation
Significant differences (demographics vs. buying behavior)	Independent t-test (2 groups: gender) One-way ANOVA (3+ groups: age, income)
Significant relationships (behavior vs. adoption)	Pearson r Correlation
Significant influence (predictors of adoption)	Multiple Linear Regression

RESULTS AND DISCUSSIONS

This chapter presented the results of the investigation about the consumer buying behavior in adopting eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon, taken from 370 respondents. Frequency and percentage distributions were used to describe the demographic profile of respondents. Descriptive statistics were performed on the levels of consumer buying behavior, Behavioral Intention (BI), Attitude (A), Subjective Norms (SN), Perceived Behavioral Control (PBC), and eco-friendly product adoption. Independent-samples t-tests and a one-way ANOVA were conducted to test for significant differences in socio-demographic variables. At the same time, Pearson correlation analysis checked the significant relationships of consumer buying behavior dimensions with adoption, and linear regression analysis ascertained the effect of consumer buying behavior on adoption.

Table 3.1 Reliability and Validity Test of the Research Instrument

Standard Value		>0.5	>0.6	>0.5	> or = to 0.7
Construct	Item	FL	CR	AVE	Cronbach's Alpha

Behavioral Intention BI	BI1: I intend to buy eco-friendly products because of environmental benefits.	0.717	0.937	0.680	0.936***
	BI2: For ecological reasons I consider switching to eco-friendly products.	0.757			
	BI3: I expect buying eco-friendly products in the future because of positive impact	0.748			
	BI4: I will be in favor of eco-friendly products in my future purchases.	0.830			
	BI5: We intend to adopt eco-friendly products in our systems.	0.904			
	BI6: We predict that we will continue to use the eco-friendly products in our system in the future.	0.888			
	BI7: We plan to use/incorporate eco-friendly products in our systems in the future	0.905			
Attitude A	A1: In my opinion, eco-friendly products are trustworthy.	0.639	0.872	0.406	0.861
	A2: For me it would be a good idea to buy ecofriendly products	0.594			
	A3: For me it would be a worthwhile decision to buy eco-friendly products.	0.653			
	A5: I am favorable to purchasing eco-friendly products/services when I travel.	0.655			
	A6: During my travelling, I feel much better about myself when I purchase eco-friendly products.	0.661			
	A7: It is worth using eco-friendly products during my travels because it will help in conserving natural resources.	0.640			
	A8: Use of eco-friendly products/services will reduce pollution to improve the environment of tourist places.	0.641			
	A9: Generally, I have a favorable attitude towards the eco-friendly products.	0.617			
	A10: I like the idea of buying eco-friendly products instead of conventional products to contribute to environmental protection.	0.639			

Subjective Norms SN	SN1: I would be admired if buying the environmentally friendly products.	0.673	0.905	0.487	0.885
	SN2: I would have a good impression of me, if buying eco-friendly products.	0.681			
	SN3: I would change for better the way I am perceived if buying eco-friendly products.	0.711			
	SN4: I should buy eco-friendly products because important to me people would expect that.	0.702			
	SN5: My family supports me to purchase eco-friendly products/services when I travel.	0.662			
	SN6: My friends support me to purchase eco-friendly products/services during my travelling.	0.740			
	SN7: Those important to me support my decision to purchase eco-friendly products/services.	0.738			
	SN8: My friends expect me to buy eco-friendly products.	0.696			
	SN9: My family expects me to buy eco-friendly products.	0.711			

Table 3.1 Reliability and Validity Test of the Research Instrument (continuation)

Standard Value		>0.5	>0.6	>0.5	> or = to 0.7
Construct	Item	FL	CR	AVE	Cronbach's Alpha
	SN10: People who are important to me expect me to buy eco-friendly products.	0.660			
Perceived Behavioral Control PBC	PBC1: I have money to buy eco-friendly products.	0.905	0.950	0.793	0.939***
	PBC2: I would buy eco-friendly products, if it were entirely up to me.	0.873			
	PBC3: I am capable of buying eco-friendly products.	0.923			
	PBC4: I possess financial resources to buy eco-friendly products	0.894			

	PBC5: I have the time to buy eco-friendly products.	0.857			
Adoption to Eco-Friendly Products AD	AD1: To buy eco-friendly products I make a special effort.	0.914	0.935	0.743	0.918***
	AD2: Due to environmental benefits, I have switched to buying eco-friendly products.	0.866			
	AD3: I buy the ones that use less electricity and is less harmful to the environment when I have a choice between the same types of goods.	0.895			
	AD4: I undertake a special effort to buy eco-friendly products.	0.865			
	AD5: To buy eco-friendly products I make a special effort.	0.761			
Overall Consumer Buying Behavior Concept (32 Item Questions) *					0.901***
Overall Cronbach's Alpha (IV and DV) **					0.895***
*Originally, there were 32 item questions for Consumer Buying Behavior Concept (BI, A, SN, and PBC). Communality value for Attitude and Subjective Norms were slightly below 0.50 (e.g., 0.40–0.49) but as to literature it were often retained, especially in social science research since the factor loadings are strong (typically ≥ 0.50); the sample size was adequate (e.g., >200); the item improves reliability (Cronbach's alpha); and the values were not extremely low (preferably ≥ 0.30). Thus, all 32 item questions for Consumer Buying Behavior Concept (7 for BI, 10 for A, 10 for SN, and 5 for PBC) will be utilized for deeper analysis.					
**For Overall alpha, there were only 37 item questions accounted both IV and DV. There was no item question deleted from IV and no item question deleted from DV - Adoption to Eco-Friendly Products AD.					
All values from Factor Loading (FL), Composite Reliability (CR), and Cronbach's alpha passed the standard value of 0.5 or higher, 0.6 or higher, 0.7 or higher, respectively. For Average Variance Extracted (AVE), the value were conditional, but as to literature, these values were still in an acceptable range. Thus, all measures slightly passed the standard requirements for good validity test scores.					
n = 370					
***Cronbach's Alpha based on standardized items					

Table 3.1 presented the measurement model evaluating four indicators: factor loadings (FL), composite reliability (CR), average variance extracted (AVE), and Cronbach's alpha (α). All factor loadings ranged from 0.594 to 0.923, composite reliability values ranged from 0.872 to 0.950, and Cronbach's alpha values ranged from 0.861 to 0.939, all exceeded their respective thresholds. The Cronbach's alpha values indicated excellent internal consistency for the 32-item consumer buying behavior concept ($\alpha = 0.901$) and the combined 37 items ($\alpha = 0.895$). The AVE scores for attitude (0.406) and subjective norms (0.487) were below 0.50, but these constructs were retained given their acceptable factor loadings, composite reliabilities, and adequate sample size of 370 (Hair et al., 2021; Cheung et al., 2023). The remaining constructs, behavioral intention (AVE = 0.680), perceived behavioral control (AVE = 0.793), and adoption of eco-friendly products (AVE = 0.743), exceeded the

standard threshold. Overall, the measurement model exhibited satisfactory levels of construct reliability and validity, justifying further analyses.

Significant Research Results

As seen in Table 3.0, the demographic details concerning the 370 Generation Z consumer respondents from Poblacion, Valencia City, Bukidnon, showed the majority age group belonging to 20 to 24 years ($n = 168$, 45.4%), remaining respondents consisted of 25 to 28 years ($n = 128$, 34.6%) and 18 to 19 years ($n = 74$, 20.0%). Regarding respondents' marital status, the majority were single ($n = 340$, 91.9%) and only 30 respondents (8.1%) were married. The distribution of respondents by sex was almost equal, with 187 (50.5%) females and 183 (49.5%) males. When it comes to the classification in monthly incomes, the majority of respondents were in poor income group (0 to 12,082 pesos; $n = 303$, 81.9%), low income group (12,083 to 24,164 pesos; $n = 57$, 15.4%), low middle-income group (24,165 to 48,328 pesos; $n = 9$, 2.4%) and only one (0.3%) in the middle middle income group (48,329 to 84,581 pesos). When it came to awareness of the products, more than half of the respondents said that they were aware and knowledgeable ($n = 189$, 51.1%), 11 respondents (48.4%) said they were somewhat aware, and 2 respondents (0.5%) were not aware of such products.

Regarding the frequency of the purchase of eco-friendly products, the largest percentage said they bought them often, at least once a month ($n = 207$, 55.9%), then those who bought them always possible ($n = 73$, 19.7%), those who said they bought them occasionally every few months ($n = 61$, 16.5%), then those who said they bought them rarely one to two times per year ($n = 28$, 7.6%), and just one respondent (0.3%) who said they never bought. Finally, concerning the willingness to adapt eco-friendly products, the largest percentage mentioned willingness ($n = 217$, 58.6%), then those who said they were strongly willing ($n = 117$, 31.6%), then those who said they were neutral ($n = 35$, 9.5%), and just one respondent (0.3%) who said he was unwilling.

Demographic Profile in Terms of Frequency

Table 3.2 Demographic Profiling of the Respondents

Demographic Variable	Category	Frequency	Percentage
Age Grouped (Generation Z Consumers of Goods)	18 to 19 years old	74	20.0
	20 to 24 years old	168	45.4
	25 to 28 years old	128	34.6
Marital Status	Single	340	91.9
	Married	30	8.1
Sex	Male	183	49.5
	Female	187	50.5
Monthly Income Classification Group	Poor (0 to 12, 082 pesos)	303	81.9
	Low Income (12, 083 to 24, 164 pesos)	57	15.4
	Low Middle Income (24, 165 to 48, 328 pesos)	9	2.4

	Middle Middle Income (48, 329 to 84, 581 pesos)	1	0.3
Awareness of Eco-Friendly Products	Not aware	2	0.5
	Somewhat aware	179	48
	Fully aware and knowledgeable	189	51.1
Frequency of Purchasing Eco-Friendly Products	Never	1	0.3
	Rarely (1–2 times per year)	28	7.6
	Occasionally (every few months)	61	16.5
	Frequently (at least once a month)	207	55.9
	Always (whenever possible)	73	19.7
Willingness to Adopt Eco-Friendly Products	Unwilling	1	0.3
	Neutral	35	9.5
	Willing	217	58.6
	Strongly willing	117	31.6
Note: n=370			

Table 3.2 showed the demographic profile of 370 Generation Z goods consumers in Poblacion, Valencia City, Bukidnon. Most respondents were 20-24 years old (45.4%), 25-28 years old (34.6%), or 18-19 years old (20.0%). Most respondents were single (91.9%), while married respondents were only 8.1%. The distribution of respondents by sex was 50.5% female and 49.5% male. The overwhelming majority (81.9%) in terms of monthly income fell in the poor income group (0 to 12,082 pesos); the low-income group came next at 15.4%, and only 2.7% were in the low-middle- and middle-income ranges. Regarding eco-friendly products, 51.1% were fully aware and knowledgeable, 48.4% were partially aware, and 0.5% were not aware. Based on respondents' purchasing frequency of eco-friendly products, the majority (55.9%) purchase them at least once a month, 19.7% purchase them at every opportunity, 16.5% purchase them at some point, 7.6% purchase them infrequently, and 0.3% had never purchased them. Regarding willingness to adopt eco-friendly products, 58.6% were willing, 31.6% were very willing, 9.5% were neutral, and 0.3% were unwilling. Lastly, the respondents were mostly young, single, low-income Generation Z consumers who showed high awareness, frequent purchasing, and strong willingness to adopt eco-friendly products.

Level of Consumer Buying Behavior (BI, A, SN and PBC) and Adoption to Eco-friendly Products as Perceived by the Generation Z Consumer of Goods Poblacion, Valencia City, Bukidnon

Range was the distance between the maximum and minimum values in a dataset, which was a straightforward way to quantify how far apart responses were on average (Hair et al., 2021). Minimum referred to the lowest observed value across all responses for a given variable, and maximum was the highest (Cheung et al., 2023). The mean, or the arithmetic average of individual responses, was calculated by first calculating the total response of all respondents for each item and then dividing it to obtain an average, which was the most common measure by which we describe the typical response of a composite (Hair et al., 2021). Standard deviation (Std. Dev.) described the magnitude of deviation of individual responses from mean which assessed the spread (the extent

to which numbers were more dispersed) for how close were the respondents' answers, meaning that a smaller standard deviation indicated that responses were tightly grouped around the mean and a larger standard deviation between answers provided by respondents (Cheung et al., 2023).

Table 3.3 Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) and Adoption of Eco-Friendly Products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Construct	Range	Min.	Max.	Mean	Std. Dev.	Scale Description	Descriptive Interpretation
Behavioral Intention BI	4.29	2.71	7.00	5.848	0.836	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Attitude A	3.80	3.20	7.00	5.554	0.755	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Subjective Norms SN	4.30	2.70	7.00	5.445	0.832	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Perceived Behavioral Control PBC	5.80	1.20	7.00	5.440	1.202	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Overall Consumer Buying Behavior	3.35	3.65	7.00	5.572	0.579	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Adoption of Eco-Friendly Products AD	5.20	1.80	7.00	5.474	1.084	Agree	Extensively observed in the buying behavior toward eco-friendly products.
Note: n = 370							

Table 3.3 showed the levels of consumer buying behavior on behavioral intention (BI), attitude (A), subjective norms (SN), and perceived behavioral control (PBC), as well as adoption of eco-friendly products (AD) from the perspective of the 370 Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon. As per the Level of Agreement Interpretation in Table 2.4, it was observed that all constructs were highly agreed upon and descriptively interpreted as significantly being part of buying behavior toward eco-friendly products. With respect to the four dimensions of consumer buying behavior, behavioral intention had the highest mean ($M = 5.848$, $SD = 0.836$) as compared to attitude ($M = 5.554$, ... The mean value of the overall consumer buying behavior was 5.572 ($SD = 0.579$), which was a little bit into the range of "Agree". The means for the adoption of eco-friendly products were 5.474 ($SD = 1.084$), indicated all items corresponded to the concept of "Agree". Among the four dimensions, perceived behavioral control had the largest range (5.80) and the highest standard deviation (1.202), indicating a high variability in responses to this dimension.

On the other hand, attitude had the least variability (3.80) and the smallest standard deviation (0.755), suggested greater convergence in responses among respondents. The overall consumer purchasing behavior had the lowest standard deviation (0.579), indicated relatively consistent perceptions across all four dimensions combined. The results showed that Generation Z consumers in the study area were largely similar regarding the factors that they believed to be significant behind their buying habits towards eco-friendly products, as well as their adoption of

those products. Section 3.3 provided a more detailed discussion of those findings in the context of existing literature.

Significant Difference (between socio-demographic profile to Consumer Buying Behavior – BI, A, SN, and PBC) – Using Compare Means > Independent Samples t-Test, One Way ANOVA

Independent Samples t-Test

The independent samples t-test was a means of evaluating if two independent groups had significant statistical differences (Hair et al., 2021). Levene's test was the first step in the independent samples t-test process. It evaluated the equality of two group variances, as it was one of the assumptions for the independent samples t-test. If Levene's test was significant ($p < 0.05$), the equal-variance assumption was violated; as a result, the t-test would need to be modified to the Welch t-test (Cheung et al., 2023). The term t-value was representative of a singular test's outcome; more specifically, it was the result of dividing the difference of the two groups' means by the standard error of that difference. Therefore, the larger the t-value, the larger the difference was between the two groups (Hair et al., 2021). Degrees of freedom (df) was the term that described the number of values in the test that were free to vary; in the case of an independent-samples t-test, this number was typically the sum of the two groups' sample sizes, reduced by 2 (Cheung et al., 2023). The p-value was the measure of probability that, if the null hypothesis was true, then the test could be as extreme as, or more extreme, than the value that was observed. A p-value that was smaller than 0.05 was statistically significant; the null hypothesis must be rejected (Hair et al., 2021). Mean difference was the expression of the two compared groups' average scores in numerical form that summaries the difference between the two means, the direction of the difference, and the magnitude of the difference (Cheung et al., 2023).

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Marital Status

Table 3.4a The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Variable/Construct Between Marital Status compared to Behavioral Intention BI	^a Levene's Test (0.349) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	1.138	368.000	0.256	0.181	H ₀ 1 Accepted
Variable/Construct Between Marital Status compared to Attitude A	^a Levene's Test (0.910) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.560	368.000	0.576	0.081	H ₀ 1 Accepted

Variable/Construct Between Marital Status compared to Subjective Norms SN	^a Levene's Test (0.372) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.997	368.000	0.320	0.158	H ₀ 1 Accepted
Variable/Construct Between Marital Status compared to Perceived Behavioral Control PBC	^a Levene's Test (0.239) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.032	368.000	0.975	0.007	H ₀ 1 Not Accepted
Variable/Construct Between Marital Status compared to Overall Consumer Buying Behavior (BI+A+SN+PBC)	^a Levene's Test (0.184) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.967	368.000	0.334	0.107	H ₀ 1 Accepted
*There was no significant difference between the marital status of the respondents and the level of consumer buying behavior (in terms of BI, A, SN, and PBC) between single and married generation Z consumers in Valencia City, Bukidnon in majority with p-value>0.081. Except for marital status classified as single and married compared to PBC, which showed a significant difference with p-value = 0.007 , the value suggested that there was indeed a different perception on perceived behavioral control PBC between single and married when asked about adoption of eco-friendly products.					

The independent samples t-test was also conducted to compare the level of consumer buying behavior (BI, A, SN, and PBC) between single and married respondents, specifically for Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon, as shown in Table 3.4a. The results of Levene's test on equality of variances were nonsignificant across all constructs ($p > 0.05$), which confirmed the assumption of homogeneity of variance and that equal variances were assumed for all comparisons. For behavioral intention, the results revealed no significant difference between single and married ($t = 1.138$, $df = 368$, $p = 0.256$, mean difference = 0.181),

hence the null hypothesis was accepted (H_0). Similarly, no significant difference was found for attitude ($t = 0.560$, $df = 368$, $p = 0.576$, mean difference = 0.081), and H_0 was accepted. In terms of subjective norms, the difference was also not significant ($t = 0.997$, $df = 368$, $p = 0.320$, mean difference = 0.158), and H_0 was accepted in this case too.

Meanwhile, the mean difference between single and married respondents' perceived behavioral control of 0.007 with a $p = 0.975$ was negligible. However, the hypothesis decision showed that H_0 was rejected, meaning there was a different perception of PBC of eco-friendly products adoption for the two groups by their marital status. No significant difference was found between the overall consumer buying behavior for both groups ($t = 0.967$, $df = 368$, $p = 0.334$, mean difference of comparison group to test group). Hence, H_0 was accepted. Overall, marital status was not a significant determinant in consumer buying behavior for Generation Z consumers, except for the predictor perceived behavioral control (PBC).

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Sex

Table 3.4b The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Variable/Construct Between Sex compared to Behavioral Intention BI	^a Levene's Test (0.866) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	-0.118	368.000	0.906	-0.010	H_0 Not Accepted
Variable/Construct Between Sex compared to Attitude A	^a Levene's Test (0.153) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.716	368.000	0.474	0.056	H_0 Accepted
Variable/Construct Between Sex compared to Subjective Norms SN	^a Levene's Test (0.258) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.205	368.000	0.838	0.018	H_0 Not Accepted

Table 3.4b The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Variable/Construct Compared to Perceived Behavioral Control PBC	^a Levene's Test (0.191) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	1.271	368.000	0.205	0.159	H ₀₁ Accepted
Variable/Construct Compared to Overall Consumer Buying Behavior (BI+A+SN+PBC)	^a Levene's Test (0.258) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.923	368.000	0.357	0.056	H ₀₁ Accepted
*There was no significant difference between the sex of the respondents and the level of consumer buying behavior (in terms of BI, A, SN, and PBC) between male and female generation Z consumers in Valencia City, Bukidnon in majority with p-value>0.056. Except for sex classified as male and female compared to BI and SN, which showed a significant difference with p-value = -0.010 and p-value = 0.018, respectively, the values suggested that there were indeed a different perception on behavioral intention BI and subjective norms SN between male and female when asked about adoption of eco-friendly products.					

Table 3.4b showed the results of an independent samples t-test on the level of consumer buying behavior (BI, A, SN, and PBC) between male and female Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon. The assumption of homogeneity of variance was satisfied for all comparisons as tested with Levene's test for equality of variances ($p > 0.05$ for all constructs). Behavioral intention had no statistically significant difference between male and female respondents ($t = -0.118$, $df = 368$, $p = 0.906$, mean difference = -0.010), which could be confirmed on hypothesis decision H₀₁, not accepted meant male and female had different perceptions of BI towards the adoption of eco-friendly products.

For attitude, the difference was non-significant ($t = 0.716$; $df = 368$; $p = 0.474$; mean difference = 0.056) and H₀₁ was accepted. For subjective norms, the outcome was also nonsignificant ($t = 0.205$, $df = 368$, $p = 0.838$, mean difference = 0.018), but as with BI H₀₁, not accepting indicated that male and female respondents had a different perception of SN. There was no significant difference regarding perceived behavioral control ($t = 1.271$, $df = 368$, $p = 0.205$, mean difference = 0.159); H₀₁ was accepted. The deference was also nonsignificant for the aggregate consumer buying behavior ($t = 0.923$, $df = 368$, $p = 0.357$, mean difference = 0.056), and thus H₀₁ was accepted. Overall, the results mainly showed that sex did not play a significant role in differentiating consumer buying behavior levels, except for behavioral intention and subjective norms, where differences between males' and females' perceptions

One-Way ANOVA

When the data analysis included groups, Levene's test was performed (Hair et al., 2021), this was a statistical procedure used to decide whether the variances of two or more groups were equal, which was an assumption for performing (parametric) tests like the independent samples t-test and one-way ANOVA, a no significant p-value

(> 0.05) meant that homogeneity of variance could be assumed. Parametric one-way analysis of variance (ANOVA) was performed to see if there were statistically significant differences between the means of three or more independent groups for a single continuous dependent variable (Cheung et al., 2023). The test statistic (known as the t-value) was obtained by dividing the observed difference between similar and dissimilar groups' means by that difference's standard error, based on the fact that larger absolute values of t indicated greater differences between both groups relative to their inner variability (Hair et al., 2021). On the other hand, standard error referred to the estimated standard deviation of a sampling distribution and represented how precise a sample mean was as an estimator of the population mean; small standard errors were thus indicative of more precise estimation (Cheung et al., 2023). The significance value (p value) was the probability of obtaining the observed result, or one more extreme, given that the null hypothesis was true; $p < 0.05$ was classically used as the threshold below which to reject a null hypothesis and concluded that a statistically significant difference existed between or among groups when groups were being compared (Hair et al., 2021).

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Age Group

Table 3.4c The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age	Age Grouped	Age	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
Behavioral Intention BI: Levene's Test (0.271) Homogeneity of Variance Assumed (Tukey)	18 to 19 years old	20 to 24 years old	0.115	0.001	H ₀ 1 Not Accepted for group 18 to 19 years old and 20 to 24 years old compared to Behavioral Intention
		25 to 28 years old	0.120	0.153	
	20 to 24 years old	18 to 19 years old	0.115	0.001	
		25 to 28 years old	0.097	0.150	
	25 to 28 years old	18 to 19 years old	0.120	0.153	
		20 to 24 years old	0.097	0.150	
Attitude A: Levene's Test (0.399) Homogeneity of Variance Assumed (Tukey)	18 to 19 years old	20 to 24 years old	0.105	0.199	H ₀ 1 Accepted
		25 to 28 years old	0.110	0.916	
	20 to 24 years old	18 to 19 years old	0.105	0.199	

Table 3.4c The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age	Age Grouped	Age	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
		25 to 28 years old	0.088	0.270	
	25 to 28 years old	18 to 19 years old	0.110	0.916	
		20 to 24 years old	0.088	0.270	
Subjective Norms SN: Levene's Test (0.334) Homogeneity of Variance Assumed (Tukey)	18 to 19 years old	20 to 24 years old	0.116	0.281	H ₀ 1 Accepted
		25 to 28 years old	0.121	0.475	
	20 to 24 years old	18 to 19 years old	0.116	0.281	
		25 to 28 years old	0.098	0.931	
	25 to 28 years old	18 to 19 years old	0.121	0.475	
		20 to 24 years old	0.098	0.931	
Perceived Behavioral Control PBC: Levene's Test (0.622) Homogeneity of Variance Assumed (Tukey)	18 to 19 years old	20 to 24 years old	0.168	0.469	H ₀ 1 Accepted
		25 to 28 years old	0.175	0.197	
	20 to 24 years old	18 to 19 years old	0.168	0.469	

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age	Age Grouped	Age	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
		25 to 28 years old	0.141	0.734	
	25 to 28 years old	18 to 19 years old	0.175	0.197	
		20 to 24 years old	0.141	0.734	
Overall Consumer Buying Behavior	18 to 19 years old	20 to 24 years old	0.081	0.148	H ₀ 1 Accepted

(BI+A+SN+PBC): Levene's Test (0.065) Homogeneity of Variance Assumed (Tukey)					
		25 to 28 years old	0.084	0.414	
	20 to 24 years old	18 to 19 years old	0.081	0.148	
		25 to 28 years old	0.068	0.793	
	25 to 28 years old	18 to 19 years old	0.084	0.414	
		20 to 24 years old	0.068	0.793	
*There was no significant difference between the age group of the respondents and the level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon in majority with $p\text{-value} > 0.148$. Except for the group 18 to 19 years old and 20 to 24 years old compared to behavioral intention BI, which showed a significant difference with $p\text{-value} = 0.001$. This means, the perception of group 18 to 19 and group 20 to 24 differs towards behavioral intention perception on adoption of eco-friendly products.					

Table 3.4c presented the results of ANOVA + Tukey tests to compare the differences in the level of consumer buying behavior (BI, A, SN, PBC) of the Generation Z consumers of the Poblacion, Valencia City, Bukidnon, by age (18 to 19, 20 to 24, and 25 to 28 years). Levene's test indicated that the assumption of homogeneity of variance was satisfied ($p > 0.05$), and therefore, the Tukey post hoc test would be appropriate for the comparisons. In the context of the results, the scale descriptions and interpretations were aligned with the findings from Table 2.4: Level of Agreement Interpretation. For behavioral intention, there was a significant difference between the 18- to 19-year-olds and the 20- to 24-year-olds ($p = 0.001$). For this reason, the H_0 for this pair was rejected. However, there were no differences between the 18 to 19 and 25 to 28 ($p = 0.153$) and 20 to 24 and 25 to 28 ($p = 0.150$) age groups. Regarding respondents' attitudes, all pairwise comparisons were accepted ($p = 0.199\text{-}0.916$). For subjective norms, all pairwise comparisons were accepted ($p = 0.281\text{-}0.931$). For perceived behavioral control, the H_0 was added for each age group ($p = 0.197\text{-}0.734$).

All pairwise comparisons for total consumer buying behavior were non-significant (p between 0.148 and 0.793), and so H_0 was accepted. Most results confirmed that for consumers of Generation Z, age was not a sufficient factor to explain the difference in consumer buying behavior, except for behavioral intention, in which significant differences were found between the 18 to 19-year-old and 20 to 24-year-old age groups ($p = 0.001$), indicated that these two groups had differing attitudes toward the purchase of sustainable products.

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Monthly Income Classification Group

Table 3.4d The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Monthly Income Classification Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Monthly Income Classification Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.724	H_0 Accepted

Attitude A	0.320	H ₀ 1 Accepted
Subjective Norms SN	0.356	H ₀ 1 Accepted
Perceived Behavioral Control PBC	0.891	H ₀ 1 Accepted
Overall Consumer Buying Behavior (BI+A+SN+PBC)	0.796	H ₀ 1 Accepted
*There was no significant difference between the monthly income classification group of the respondents and the level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value >0.320.		

Table 3.4d illustrated the One-Way ANOVA results on the level of consumer buying behavior in relation to Behavioral Intention (BI), Attitude (A), Subjective Norms (SN), and Perceived Behavioral Control (PBC) when categorized based on the monthly income classification of Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon. The p-values were BI = 0.724, Attitude = 0.320, Subjective Norms = 0.356, PBC = 0.891, and Overall Consumer Buying Behavior = 0.796. With all p-values greater than the 0.05 level of significance, all constructs accepted the null (H₀1). Thus, no statistically significant differences in consumer buying behavior were observed across income groups. As seen in Table 2.4 Level of Agreement Interpretation, consumers from all income groups—Poor, Low Income, Low Middle Income, and Middle Middle Income generally rated their buying behavior as “Agree,” interpreted as “Extensively observed in the buying behavior toward eco-friendly products.” This indicated that monthly income classification was not a distinguishing characteristic in the perception of eco-friendly product buying behavior among Generation Z consumers.

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Frequency of Purchasing Eco-Friendly Products Group

Table 3.4e The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Frequency of Purchasing Eco-Friendly Products Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Frequency of Purchasing Eco-Friendly Products Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.500	H ₀ 1 Accepted
Attitude A	0.299	H ₀ 1 Accepted
Subjective Norms SN	0.329	H ₀ 1 Accepted
Perceived Behavioral Control PBC	0.499	H ₀ 1 Accepted
Overall Consumer Buying Behavior (BI+A+SN+PBC)	0.622	H ₀ 1 Accepted
*There was no significant difference between the frequency of purchasing eco-friendly products group of the respondents and the level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value >0.299.		

Table 3.4e showed the One-Way ANOVA results analyzing consumer buying behavior based on purchasing frequency of eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. The p-values for each construct were as follows: Behavioral Intention (BI) 0.500, Attitude (A) 0.299, Subjective Norms (SN) 0.329, Perceived Behavioral Control (PBC) 0.499, and Overall Consumer Buying Behavior 0.622. Since all p-values were greater than 0.05, the null hypothesis (H₀1) was accepted for the constructs. This

indicates there was no statistically significant difference in consumer buying behavior across the purchasing frequency groups: Never, Rarely, Occasionally, Frequently, and Always. As cited in Table 2.4, Level of Agreement Interpretation, respondents from all groups rated their buying behavior as “Agree”, which is interpreted as “Extensively observed in the buying behavior toward eco-friendly products.”

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Willingness to Adopt Eco-Friendly Products Group

Table 3.4f The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Willingness to Adopt Eco-Friendly Products Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Willingness to Adopt Eco-Friendly Products Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.192	H ₀ 1 Accepted
Attitude A	0.950	H ₀ 1 Accepted
Subjective Norms SN	0.081	H ₀ 1 Accepted
Perceived Behavioral Control PBC	0.731	H ₀ 1 Accepted
Overall Consumer Buying Behavior (BI+A+SN+PBC)	0.580	H ₀ 1 Accepted
*There was no significant difference between the willingness to adopt eco-friendly products group of the respondents and the level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value >0.081.		

Table 3.4f showed the One-Way ANOVA results for consumer buying behavior by the willingness to adopt eco-friendly products among Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon. The p-value for each construct was as follows: Behavioral Intention (BI) is at 0.192, Attitude (A) was at 0.950, Subjective Norms (SN) was at 0.081, Perceived Behavioral Control (PBC) was at 0.731, and Overall, Consumer Buying Behavior was at 0.580. All p-values were greater than 0.05; therefore, for each construct, the null hypothesis (H₀1) was accepted. This meant that there was no statistically significant difference in consumer buying behavior along the willingness groups Unwilling, Neutral, Willing, and Strongly Willing. As stated in Table 2.4, Level of Agreement Interpretation, respondents in all groups of willingness rated their buying behavior as “Agree,” which was interpreted as “Extensively observed in the buying behavior toward eco-friendly products.”

Consumer Buying Behavior – BI, A, SN, and PBC compared to Variable Awareness of Eco-Friendly Products Group

Table 3.4g The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC)

Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City,	Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
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Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group					
Behavioral Intention BI: Levene's Test (0.653) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.595	0.921	H ₀ 1 Accepted
		Fully aware and knowledgeable	0.595	0.851	
	Somewhat aware	Not aware	0.595	0.921	
		Fully aware and knowledgeable	0.087	0.548	
	Fully aware and knowledgeable	Not aware	0.595	0.851	
		Somewhat aware	0.087	0.548	

Table 3.4g The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
Attitude A: Levene's Test (0.434) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.537	0.978	H ₀ 1 Accepted
		Fully aware and knowledgeable	0.537	1.000	
	Somewhat aware	Not aware	0.537	0.978	
		Fully aware and knowledgeable	0.079	0.294	
	Fully aware and knowledgeable	Not aware	0.537	1.000	
		Somewhat aware	0.079	0.294	

Subjective Norms SN: Levene's Test (0.202) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.592	0.463	H ₀ 1 Accepted
		Fully aware and knowledgeable	0.592	0.468	
	Somewhat aware	Not aware	0.592	0.463	
		Fully aware and knowledgeable	0.087	0.997	
	Fully aware and knowledgeable	Not aware	0.592	0.468	
		Somewhat aware	0.087	0.997	

Table 3.4g The Differences in Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group

Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
Perceived Behavioral Control PBC: Levene's Test (0.133) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.855	0.865	H ₀ 1 Accepted
		Fully aware and knowledgeable	0.855	0.939	
	Somewhat aware	Not aware	0.855	0.865	
		Fully aware and knowledgeable	0.125	0.456	
	Fully aware and knowledgeable	Not aware	0.855	0.939	
		Somewhat aware	0.125	0.456	
Overall Consumer Buying Behavior (BI+A+SN+PBC): Levene's Test (0.295) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.412	0.970	H ₀ 1 Accepted
		Fully aware and knowledgeable	0.412	0.895	
	Somewhat aware	Not aware	0.412	0.970	
		Fully aware and knowledgeable	0.060	0.310	

	Fully aware and knowledgeable	Not aware	0.412	0.895	
		Somewhat aware	0.060	0.310	
*There was no significant difference between the awareness of eco-friendly products group of the respondents and the level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon in majority with p-value>0.294.					

Table 3.4g showed the One-Way ANOVA and Tukey post hoc comparison results for the differences in the level of consumer buying behavior categorized by awareness of eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. The awareness groups were Not Aware, Somewhat Aware, and Fully Aware and Knowledgeable. For Behavioral Intention (BI), the pairwise p-values ranged from 0.548 to 0.921, and Levene's Test (0.653) indicated homogeneity of variance, so Ho1 was accepted. For Attitude (A), the p-values were between 0.294 and 1.000, and for Subjective Norms (SN), the p-values were between 0.463 and 0.997, and thus Ho1 was accepted for both constructs. For Perceived Behavioral Control (PBC), the p-values ranged from 0.456 to 0.939; for Overall Consumer Buying Behavior, the p-values ranged from 0.310 to 0.970, and thus Ho1 was accepted for both. Since all p-values were less than 0.05 for all constructs and awareness group pairings, no statistically significant difference was found. As noted in Table 2.4, Level of Agreement Interpretation, respondents across all awareness levels rated their buying behavior as "Agree," which was interpreted as "Extensively observed in the buying behavior toward eco-friendly products."

Significant Difference (between socio-demographic profile to Adoption of Eco-Friendly Products) – Using Compare Means > Independent Samples t-Test, One Way ANOVA

Independent Samples t-Test

Adoption of Eco-Friendly Products compared to Variable Marital Status

Table 3.5a The Differences in Level of Adoption of Eco-Friendly Products AD Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Variable/Construct Between Marital Status compared to Adoption of Eco-Friendly Products AD	^a Levene's Test (0.736) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) or P-value*	Mean Difference	
Level of Adoption of Eco-Friendly Products AD Between Single and Married Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	1.200	368.000	0.231	0.247	Ho2 Accepted
*There was no significant difference between the marital status of the respondents and the level of adoption of eco-friendly products AD between single and married generation Z consumers in Valencia City, Bukidnon in majority with p-value=0.231.					

Table 3.5a presented the results of the Independent Samples t-Test in the Adoption of Eco-Friendly Products (AD) of single and married consumers of Generation Z in Poblacion, Valencia City, Bukidnon. For the t-test, it was assumed that the variances were homogeneous from the results of Levene's Test. With that, the t-test yielded $t = 1.200$, $df = 368$, and two-tailed $p = 0.231$, with a mean difference of 0.24745. As $p = 0.231 > 0.05$, the null hypothesis (Ho2) has been accepted. Thus, it can be seen that there were no statistically significant differences in single and married individuals in the adoption of eco-friendly products. Hence, it can be concluded that there were no differences in marital status among Generation Z consumers in adopting eco-friendly products.

Adoption of Eco-Friendly Products compared to Variable Sex

Table 3.5b The Differences in Level of Adoption of Eco-Friendly Products AD Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Variable/Construct Compared to Adoption of Eco-Friendly Products AD	^a Levene's Test (0.866) Homogeneity of Variance Assumed				Hypothesis Decision
	t	df	Sig. (2-tailed) P-value*	Mean Difference	
Level of Adoption of Eco-Friendly Products AD Between Male and Female Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon	0.753	368.000	0.452	0.085	H ₀ 2 Accepted
*There was no significant difference between the sex of the respondents and the level of Adoption of Eco-Friendly Products AD between male and female generation Z consumers in Valencia City, Bukidnon in majority with p-value=0.081.					

Table 3.5b showed the results of the Independent Samples t-Test conducted on the differences in the level of Adoption of Eco-Friendly Products (AD) between male and female Generation Z consumers in Poblacion, Valencia City, Bukidnon. Levene's Test (0.866) justified the assumption of the homogeneity of variance. The t-value of the t-test is 0.753 with 368 degrees of freedom, a two-tailed p-value of 0.452, and a mean difference of 0.08485. The p-value of 0.452, which was greater than the 0.05 level of significance, led to the acceptance of the null hypothesis (H₀2). This showed that there was no statistically significant difference in the level of eco-friendly product adoption between male and female respondents. The findings indicated that sex was not a distinguishing characteristic in the adoption of eco-friendly products among Generation Z consumers.

One-Way ANOVA

Adoption to Eco-Friendly Products compared to Variable Age Group

Table 3.5c The Differences in Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age

Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Age	Age Grouped	Age	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
Behavioral Intention BI: Levene's Test (0.691) Homogeneity of Variance Assumed (Tukey)	18 to 19 years old	20 to 24 years old	0.151	0.678	H ₀ 2 Accepted
		25 to 28 years old	0.158	0.531	
	20 to 24 years old	18 to 19 years old	0.151	0.678	
		25 to 28 years old	0.127	0.052	

	25 to 28 years old	18 to 19 years old	0.158	0.531	
		20 to 24 years old	0.127	0.052	
*There was no significant difference between the age group of the respondents and the level of adoption of eco-friendly products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon in majority with p-value>0.052.					

Table 3.5c presented the One-Way ANOVA and Tukey post hoc comparison results, and shows the differences in the level of Adoption of Eco-Friendly Products (AD) by age for Generation Z consumers in Poblacion, Valencia City, Bukidnon. Levene's Test (0.691) showed the assumption of equal variance and pairwise comparisons showed results of: 18 to 19 years old compared to 20 to 24 years old at 0.678, 18 to 19 years old compared to 25 to 28 years old at 0.531, and 20 to 24 years old compared to 25 to 28 years old at 0.052. All p-values were above the 0.05 level of significance, and the null hypothesis (Ho2) was accepted for each pair of age groups. This indicated that there was no significant difference in eco-friendly product adoption across the 3 age groups. Still, the result for the comparison between the 20 to 24 and 25 to 28 year-old groups was 0.052 (which was just above the significance threshold) and indicated it was trending towards significance. This indicated that age was not a significant factor in how Generation Z consumers adopted eco-friendly products.

Adoption to Eco-Friendly Products compared to Variable Monthly Income Classification Group

Table 3.5d The Differences in Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Monthly Income Classification Group

Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Monthly Income Classification Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.246	H ₀ 2 Accepted
*There was no significant difference between the monthly income classification group of the respondents and the level of Adoption of Eco-Friendly Products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value=0.246.		

In Table 3.5d, the One-Way ANOVA results were presented, which determined differences in the level of Adoption of Eco-Friendly Products (AD) across monthly income categories of Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon. A p-value of 0.246 was obtained, which is higher than the 0.05 level of significance. Thus, the null hypothesis (Ho2) was accepted. As there was no statistically significant difference in the level of adoption of eco-friendly products among income groups, Poor, Low Income, Low Middle Income, and Middle Middle Income, the findings indicated that monthly income classification was not a differentiating factor in how Generation Z consumers assessed their adoption of eco-friendly products.

Adoption to Eco-Friendly Products compared to Variable Frequency of Purchasing Eco-Friendly Products Group

Table 3.5e The Differences in Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Frequency of Purchasing Eco-Friendly Products Group

Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Frequency of Purchasing Eco-Friendly Products Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.230	H ₀ 2 Accepted
*There was no significant difference between the frequency of purchasing eco-friendly products group of the respondents and the level of Adoption of Eco-Friendly Products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value=0.230.		

Table 3.5e presented the results of a One-Way ANOVA concerning the Adoption of Eco-Friendly Products (AD) and the varying purchase frequencies of eco-friendly products among Generation Z in Poblacion, Valencia City, Bukidnon. The analysis produced a p-value of 0.230 which was greater than the 0.05 level of significance. Therefore, we accepted the null hypothesis (H₀2). There was no statistically significant difference in the adoption of eco-friendly products across the purchasing frequency groups: Never, Rarely, Occasionally, Frequently, and Always. This showed that the number of eco-friendly products purchased did not impact the adoption of eco-friendly products among Generation Z consumers.

Adoption to Eco-Friendly Products compared to Variable Willingness to Adopt Eco-Friendly Products Group

Table 3.5f The Differences in Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Willingness to Adopt Eco-Friendly Products Group

Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Willingness to Adopt Eco-Friendly Products Group	P-value	Hypothesis Decision
Behavioral Intention BI	0.218	H ₀ 2 Accepted
*There was no significant difference between the willingness to adopt eco-friendly products group of the respondents and the level of Adoption of Eco-Friendly Products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon with p-value=0.218.		

Table 3.5f presented the One-Way ANOVA results assessing differences in the adoption of Eco-Friendly Products (AD) as a function of willingness to adopt eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. The analysis produced a p-value of 0.218, which was above the 0.05 level of significance. Therefore, the null hypothesis (H₀2) was accepted. This indicated that there was no statistically significant difference in the level of adoption of eco-friendly products within the willingness groups Unwilling, Neutral, Willing, and Strongly Willing. This result indicated that the willingness to adopt eco-friendly products was not a distinguishing factor in how Generation Z consumers perceived their actual adoption.

Adoption to Eco-Friendly Products compared to Variable Awareness of Eco-Friendly Products Group

Table 3.5g The Differences in Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group

Level of Adoption of Eco-Friendly Products AD Perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon, when Grouped According to Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products Group	Awareness of Eco-Friendly Products	Std. Error	Sig. (2-tailed) or P-value*	Hypothesis Decision
Behavioral Intention BI: Levene's Test (0.462) Homogeneity of Variance Assumed (Tukey)	Not aware	Somewhat aware	0.772	0.987	H _{o2} Accepted
		Fully aware and knowledgeable	0.771	0.952	
	Somewhat aware	Not aware	0.772	0.987	
		Fully aware and knowledgeable	0.113	0.576	
	Fully aware and knowledgeable	Not aware	0.771	0.952	
		Somewhat aware	0.113	0.576	
*There was no significant difference between the awareness of eco-friendly products group of the respondents and the level of Adoption of Eco-Friendly Products AD as perceived by the Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon in majority with p-value=0.576.					

Table 3.5g showed the results of the One-way ANOVA with Tukey post hoc comparisons on differences in the level of Adoption of Eco-Friendly Products (AD) based on claimed awareness of eco-friendly products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. Levene's Test (0.462) validated the assumption of equality of variances. In the pairwise comparisons, the following p-values were obtained: 0.987 (Not Aware versus Somewhat Aware), 0.952 (Not Aware versus Fully Aware and Knowledgeable), and 0.576 (Somewhat Aware versus Fully Aware and Knowledgeable). All p-values were greater than the 0.05 level of significance, thus H_{o2} was accepted for all the awareness group pairings. This shows there were no statistically significant differences in the level of adoption of eco-friendly products in the three awareness groups. The findings implied that the level of awareness of eco-friendly products was not a distinguishing factor in how Generation Z consumers perceived their adoption of eco-friendly products.

Significant Relationship – Using Correlate > Bivariate Technique > Pearson R Coefficient

Correlation examined the degree to which there was a linear relationship between two variables, that was how standardized “negative” or “positive” responded could pair-wise co-vary (also known as bivariate methods where ‘bi’ means two and ‘variate’ means variable) e.g., b consumer buying behavior vs. adoption of eco-friendly products; for such analysis Pearson r or the Pearson product-moment correlation coefficient was used to measure

the degree of linear relationship between two continuous variables and that was measured on a scale ranged from negative one to positive one (-1 to +1) (where negative one meant a perfect negative relationship and positive one meant perfect positive relationship, and the presence of zero meant there's no linear relationship) and was categorized into succinctly defined ranged such as $r = 0.10-0.30$ small/weak, $r = 0.30-0.50$ moderate, $r > 0.50$ strong/large (Cohen, 1988).

Table 3.6a The Relationship Between Overall Consumer Buying Behavior and Adoption of Eco-friendly Products AD Among Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Construct	Mean	Std. Dev.	(1)	(2)	Interpretation DV to IV (1)		Remarks
					According Hair et al. (2013)	According to Cohen (1988) ^a	
(1) Adoption of Eco-Friendly Products AD (DV)	5.474	1.084	(0.918)				
(2) Overall Consumer Buying Behavior (IV)	5.572	0.579	.126*	(0.901)	Weak to No Correlation	Small Positive Relationship	H₀₃ Not Accepted
**. Correlation is significant at the 0.01 level (2-tailed).							
^a Direction and Strength of the variables' relationship							
Values in the diagonal with parenthesis are the Cronbach's Alpha							
n=370							

Table 3.6a reported the results of the Pearson correlation analysis to explore the relationship between Overall Consumer Buying Behavior (IV) and Adoption of Eco-Friendly Products (DV) among Generation Z consumers in Poblacion, Valencia City, Bukidnon. Adoption of Eco-Friendly Products recorded a mean of 5.4741 and a standard deviation of 1.08372, while Overall Consumer Buying Behavior recorded a mean of 5.5717 and a standard deviation of 0.57938. The Pearson correlation coefficient (r) between the two constructs was 0.126*, significant at the 0.05 level (two-tailed), with a p-value of 0.015. Per the interpretation of Hair et al., (2019), the correlation value indicated a weak to no correlation, whereas Cohen (1992) placed it in the small positive relationship range. The correlation was significant at the 0.05 level, which resulted in the rejection of the null hypothesis (H₀₃), indicated a statistically significant, though weak, correlation between the two variables. The diagonal Cronbach's alpha values confirmed the internal consistency of both constructs: 0.918 for Adoption of Eco-Friendly Products and 0.901 for Overall Consumer Buying Behavior.

Table 3.6b The Relationship Between Consumer Buying Behavior (BI, A, SN, and PBC) and IAdoption of Eco-friendly Products AD Among Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon

Construct	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	Interpretation DV to IV (1)		Remarks
								According Hair et al. (2013)	According to Cohen (1988) ^a	
(1) Adoption of Eco-Friendly Products AD (DV)	5.474	1.084	(0.918)							

(2) Behavioral Intention BI (IV)	5.848	0.836	0.009	(0.936)				No correlation	No strength and magnitude of relationship	H ₀₃ Accepted
(3) Attitude A(IV)	5.554	0.755	0.048	.854**	(0.861)			No correlation	No strength and magnitude of relationship	H ₀₃ Accepted
(4) Subjective Norms SN (IV) ^b	5.445	0.832	.178**	0.061	0.101	(0.885)		Weak Correlation	Small Positive Relationship	H₀₃ Not Accepted
(5) Perceived Behavioral Control PBC (IV)	5.440	1.202	0.084	.162**	.152**	0.035	(0.939)	No correlation	No strength and magnitude of relationship	H ₀₃ Accepted
**. Correlation is significant at the 0.01 level (2-tailed).										
^a Direction and Strength of the variables' relationship										
Values in the diagonal with parenthesis are the Cronbach's Alpha										
n=370										
^b Only Subjective Norms SN obtained the correlation (Pearson R Coefficient = 0.178 and p-value < 0.001) to Adoption of Eco-friendly products AD. The rest of the dimensions under Consumer Buying Behavior such as BI, A, and PBC showed no correlation/relationship to adoption of eco-friendly products. Overall Consumer Buying Behavior (BI+A+SN+PBC) had a weak correlation and small positive relationship to adoption of eco-friendly products as perceived by the respondents among Generation Z consumers of goods in Poblacion, Valencia City, Bukidnon.										

Table 3.6b presented the results of the Pearson correlation analysis on the Consumer Buying Behavior dimensions captured from Generation Z consumers in Poblacion, Valencia City, Bukidnon. These included Behavioral Intention (BI), Adoption of Eco-Friendly Products (AD), Attitude (A), Subjective Norms (SN), and Perceived Behavioral Control (PBC). The correlation between Behavioral Intention and the Adoption of Eco-Friendly Products was $r = 0.009$, $p = 0.863$. This indicated no correlation and no meaningful strength or magnitude of relationship; therefore, H₀₃ was accepted. Attitude produced $r = 0.048$ and $p = 0.359$, indicated no correlation; therefore, H₀₃ was also accepted. For PBC, $r = 0.084$ and $p = 0.106$, which still showed no correlation, and H₀₃ was accepted. The only exception was Subjective Norms, with $r = 0.178^{**}$ and $p < 0.001$. This was significant at the 0.01 level. According to Hair et al., (2019), this was described as a "Weak Correlation," and in Cohen (1992) it was a "Small Positive Relationship," which meant H₀₃ was rejected. Out of the four dimensions, only Subjective Norms had a significant correlation with the Adoption of Eco-Friendly Products. BI, A, and PBC were not significant. The internal reliability of all constructs was confirmed by the Cronbach's alpha values on the diagonal.

Significant Influence – Using Regression > Linear Technique > Beta (β) Coefficient

Regression is a form of analysis to understand how predicted output variables relate to input variables (Prion & Haerling, 2020). Linear Technique was a form of analysis that uses straight line equations to explain data, and assumes that there was a linear correlation between predictor variables and outcome variables (Prion & Haerling, 2020). R (Multiple Correlation Coefficient) was a predictor of the strength of a linear correlation with the outcome variable among a set of input variables and was reported as a value between 0 and 1 (Andrade, 2024). R² (Coefficient of Determination) was a report of how much the input variables predicted the outcome variable

(Gao, 2023). Adjusted R^2 was just a version of R^2 that accounted for the number of input variables in the analysis, and tends to be a better estimate of how much was captured by the input variables in the analysis compared to regular R^2 when there were a lot of input variables (Andrade, 2024). The Durbin-Watson statistic was a test used to identify autocorrelation in regressions and was typically considered acceptable when the value was between 1.5 and 2.5 (Masaud & Ali, 2024). The Beta (β) Coefficient was a standardized analysis of regressions that was used to identify the strength and direction of the impact of given input variables on the outcome variable and allowed for comparison of the input variables regardless of the variable types (Andrade, 2024).

Table 3.7a Simple Linear Regression (Enter Method) Analysis on Significant Predictor of Variables Consumer Buying Behavior and Adoption to Eco-friendly Products

Model	R	R^2	Adjusted R^2	Durbin Watson*
1	.009a	0.000	-0.003	
2	.078b	0.006	0.001	
3	.188c	0.035	0.027	
4	.203d	0.041	0.031	1.841
Note: n = 370				
a Predictors: (Constant), Behavioral_Intention_Mean				
b Predictors: (Constant), Behavioral_Intention_Mean, Attitude_Mean				
c Predictors: (Constant), Behavioral_Intention_Mean, Attitude_Mean, Subjective_Norms_Mean				
d Predictors: (Constant), Behavioral_Intention_Mean, Attitude_Mean, Subjective_Norms_Mean, Perceived_Behavioral_Control_Norms				
Constant to all Models. Dependent Variable: Adoption to Eco-friendly Products				
*Autocorrelation issue - check Durbin-Watson value should be between 2 and 4. In this case, there was a slight auto-correlation issue (the Durbin-Watson value was 1.841).				
*The R-Square value tells how much of the variance in the DV was explained by the model. In this case, the value was between 0.000 and 0.041 means between 0.00% to 4.10% of the variance in the consumer buying behavior concept most likely did not influenced the adoption of eco-friendly products of respondents from among Generation Z consumer of goods in Poblacion, Valencia City, Bukidnon. In other words, this study's findings, which ranged from 0.00% to 4.10%, lowly fit the whole model used in the research. All the predictor variables, SPSS identified ALL variables as included because its contribution to the model was statistically significant after controlling for the other predictors. These indicated that these variables did uniquely explain variation in the dependent variable.				

Table 3.7a presented Simple Linear Regression for Eco-Friendly Products Adoption among Generation Z in Poblacion, Valencia City, Bukidnon. The regression was run for four models by adding each dimension of Consumer Buying Behavior as a predictor: Behavioral Intention (Model 1) ($R = .009$, $R^2 = 0.000$), Attitude (Model 2) ($R = .078$, $R^2 = 0.006$), Subjective Norms (Model 3) ($R = .188$, $R^2 = 0.035$), and Model 4 with all four predictors including Perceived Behavioral Control ($R = 0.203$, $R^2 = 0.041$). The Durbin-Watson value was 1.841, which was close to the ideal value of 2, and there was no autocorrelation concern. The R^2 value lied between 0.000 and 0.041, and indicated only 0.00 to 4. F} = 0.041 of the Eco-Friendly Products Adoption was explained by the Consumer Buying Behavior. Models only have Adjusted R^2 values between -0.003 and 0.031. These

results indicated Consumer Buying Behavior (BI, A, SN and PBC) on the Eco-Friendly Products Adoption among respondents did not perform to the expectation.

Table 3.7b Simple Linear Regression (Enter Method) Analysis on Significant Predictor of Variables Consumer Buying Behavior (Behavioral Intention BI, Attitude A, Subjective Norms, and Perceived Behavioral Control PBC) to Adoption of Eco-friendly Products

Model	Variables	Standardized Coefficients (β)**	t	p-value	Collinearity Tolerance*	VIF*	Hypothesis Decision	Remarks
1								
	(Constant): Adoption to Eco-friendly Products AD (DV)							
	Behavioral Intention BI	0.009	0.173	0.863	1.000	1.000	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
2								
	(Constant): Adoption to Eco-friendly Products AD (DV)							
	Behavioral Intention BI	-0.118	-1.178	0.240	0.270	3.706	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
	Attitude A	0.149	1.484	0.139	0.270	3.706	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
3								
	(Constant): Adoption to Eco-friendly							

	Products AD (DV)							
	Behavioral Intention BI	-0.102	-1.028	0.304	0.269	3.715	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
	Attitude A	0.117	1.182	0.238	0.267	3.739	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
	Subjective Norms SN	0.172	3.334	<.001	0.987	1.013	H₀4 NOT Accepted	Significantly influence Adoption of Eco-friendly Products
	(Constant): Adoption to Eco-friendly Products AD (DV)							
	Behavioral Intention BI	-0.111	-1.124	0.262	0.268	3.730	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
	Attitude A	0.114	1.146	0.253	0.267	3.742	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products
	Subjective Norms SN**	0.170	3.304	0.001	0.987	1.013	H₀4 NOT Accepted	Significantly influence Adoption of Eco-friendly Products
	Perceived Behavioral Control PBC	0.079	1.518	0.130	0.973	1.028	H ₀ 4 Accepted	Did not significantly influence Adoption of Eco-friendly Products

Note: n = 370; All the predictor variables, SPSS identified ALL variables as included because its contribution to the model was statistically significant after controlling for the other predictors. These indicated that these variables did uniquely explain variation in the dependent variable.

Constant to all Models. Dependent Variable: Adoption to Eco-friendly Products

***Multi-collinearity issue - check Tolerance value should be more than 0.3 and VIF value should be less than 4. In this case, there was a multi-collinearity issue especially in Model 2 to 4 (some Tolerance value was less than 0.3)**

****As to Model 4, the only predictor factor influencing Adoption of Eco-friendly products AD was Subjective Norms SN ($\beta=0.170$ and $p\text{-value} = 0.001$). The rest of the dimensions of consumer buying behavior: behavioral intention BI, attitude A, and perceived behavioral control PBC, did not showed**

any significant influence to AD, consistent from model 1 to 4 as perceived by generation Z consumer of goods in Poblacion, Valencia City, Bukidnon.

Table 3.7b reflected the results of the linear regression coefficients analysis using the Enter Method for the dimensions of Consumer Buying Behavior that predicted the Adoption of Eco-Friendly Products by Generation Z consumers in Poblacion, Valencia City, Bukidnon. The analysis consisted of four successive models. The final model (Model 4) incorporated all four predictors: Behavioral Intention ($\beta = -0.111$, $p = 0.262$), Attitude ($\beta = 0.114$, $p = 0.253$), Subjective Norms ($\beta = 0.170$, $p = 0.001$), and Perceived Behavioral Control ($\beta = 0.079$, $p = 0.130$). Of the four constructs, only Subjective Norms significantly predicted the Adoption of Eco-Friendly Products in Models 3 and 4, with p-values of $<.001$ and 0.001 , respectively; hence, H_{o4} was rejected for Subjective Norms. In contrast, Behavioral Intention, Attitude, and Perceived Behavioral Control all recorded p-values of 0.05 and above across all models; thus, H_{o4} was accepted, and these three constructs had no significant impact on adoption. The collinearity diagnostics indicated that the tolerance values of the predictors were between 0.267 and 1.000 and the VIF values were between 1.000 and 3.742 , all of which were within the acceptable range and showed no serious multi-collinearity. Overall, the only significant predictor of the Adoption of Eco-Friendly Products was Subjective Norms, while BI, A, and PBC did not significantly predict adoption.

Table 3.8a Simple Linear Regression (Enter Method) Analysis on Significant Predictors of Variables Consumer Buying Behavior (As Overall) and Adoption of Eco-friendly Products

Model	R	R ²	Adjusted R ²	Durbin Watson*
1	.126a	0.016	0.013	1.853
Note: n = 370				
a Predictors: (Constant), Overall_Consumer_Buying_Behavior_Mean				
Constant to all Models. Dependent Variable: Adoption of Eco-friendly products				
*Autocorrelation issue - check Durbin-Watson value should be between 2 and 4. In this case, there was a slightly auto-correlation issue (the Durbin-Watson value was 1.853)				
*The R-Square value tells how much of the variance in the DV was explained by the model. In this case, the value was 0.016 which means 1.60% of the variance in the consumer buying behavior (as overall) least influenced the adoption of eco-friendly products as perceived by the generation Z consumer of goods respondents in Poblacion, Valencia City, Bukidnon. In other words, this study's findings, which ranged only 1.60%, the very least fit to the whole model used in the research. All the predictor variables, SPSS identified ALL variables as included because its contribution to the model was statistically significant after controlling for the other predictors. These indicated that these variables did uniquely explain variation in the dependent variable.				

Table 3.8a showed the results of the Simple Linear Regression analysis on Overall Consumer Buying Behavior (a combined measure of BI, A, SN, and PBC) as a predictor of the Adoption of Eco-Friendly Products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. The model produced an R value of .126, an R² value of 0.016, and an Adjusted R² value of 0.013. The R² value of 0.016 meant that Overall Consumer Buying Behavior explained only 1.60% of the variance in the Adoption of Eco-Friendly Products. The Durbin-Watson value was 1.853, which was close to the ideal value of 2 and suggested no serious autocorrelation concern. Although the model's explanatory power was low, the predictor variable was statistically significant.

Table 3.8b Simple Linear Regression (Enter Method) Analysis on Significant Predictors of Variables Consumer Buyign Behavior (As Overall) and Adoption of Eco-friendly Products

Mo del	Variables	Standard ized Coefficie nts (β)**	t	p- value	Colline arity Tolera nce*	VIF*	Hypothesis Decision	Remarks
1								
	(Constant): Adoption to Eco-friendly Products AD (DV)							
	Overall Consumer Buying Behavior (BI+A+SN+PBC) (IV)**	0.126	2.444	0.015	1.000	1.000	Ho4 NOT Accepted	Significantl y influence Adoption of Eco-friendly Products
Note: n = 370								
Constant to all Models. Dependent Variable: Adoption of Eco-friendly Products								
*Multi-collinearity issue - check Tolerance value should be more than 0.3 and VIF value should be less than 4. In this case, there was no multi-collinearity issue (Tolerance value was more than 0.3 and VIF values was less than 4.)								
**The total mean of four dimensions under Consumer Buying Behavior concepts showed that there was a significant influence on Adoption of Eco-friendly Products (p-value=0.015).								

Table 3.8b provided the coefficients of the Simple Linear Regression analysis assessed to what degree Overall Consumer Buying Behavior (comprising BI, A, SN, and PBC) predicted the Adoption of Eco-Friendly Products among Generation Z consumers in Poblacion, Valencia City, Bukidnon. The model produced a standardized beta coefficient (β) of 0.126, $t = 2.444$, and $p = 0.015$, which was below the 0.05 level of significance. Given the significant p-value, the null hypothesis (H_{o4}) was rejected, and it was concluded that Overall Consumer Buying Behavior was a significant predictor of the Adoption of Eco-Friendly Products. The absence of multi-collinearity was confirmed by the Tolerance and VIF values of 1.000. The p-value of 0.015 indicated that the composite of the four dimensions of Consumer Buying Behavior had a statistically significant, though modest, impact on the Adoption of Eco-Friendly Products.

DISCUSSIONS AND IMPLICATIONS OF RESEARCH RESULTS

Descriptive Frequency of Respondents Profile

Among 370 Gen Z respondents, the largest proportion fell within the 20-24 age category (45.4%). Most were single (91.9%), with close-to-equal numbers of male (49.5%) and female (50.5%) respondents. The largest proportion (81.9%) was among the economically disadvantaged, earning 12,082 pesos (approximately 228 euros) or less. Despite this, slightly more than half (51.1%) claimed to understand what an eco-friendly product was. 55.9% claimed to buy eco-friendly products, and 58.6% were ready to buy more, even constrained by their financial situation. Gen Z respondents in Poblacion, Valencia City, exhibited an inclination towards sustainable consumption. The respondents from lower socio-economic classes frequently purchased eco-friendly products in large quantities. Eco-friendly purchases are not driven by economic reasons, and the assumption is mulled over with this fact.

Czczotko et al., (2021) & Chiang et al., (2022) supported the findings that the enhanced concern of Gen Z consumers towards the environment was a consequence of the combined efforts of digital media campaigns and the education of consumers towards sustainability. The respondents with low income purchasing eco-friendly products, as noted by Pekersen & Canöz (2022) demonstrated that sustainable purchasing from consumers can be motivated by even the most basic alternatives. This contradicted the findings of Yang et al., (2021) & Srisathan et al., (2023), who found that consumers adopted eco-friendly products within a high-income bracket.

Regarding the Philippines, the eco-friendly consumption barrier may have been neglected because of the strong community-focused culture of Filipino barangays, as well as the existence of cheap biodegradable packaging and organic products. Although one's income may indicate otherwise, sustainable practices may have been strengthened because of the social influence arising from the traditional Filipino communal values, "bayanihan."

Descriptive Level of Agreement of Respondents on Social Media Advertisements and Purchase Intention

All four constructs of consumer buying behavior — Behavioral Intention (M = 5.848), Attitude (M = 5.554), Subjective Norms (M = 5.445), and Perceived Behavioral Control (M = 5.440) — as well as Adoption of Eco-Friendly Products (M = 5.474), were rated within the 'Agree' range, interpreted as 'extensively observed in the buying behavior toward eco-friendly products'. Behavioral Intention, with the highest mean, reflected strong future purchase intentions for eco-friendly products. Perceived Behavioral Control had the widest variability (SD = 1.202) among respondents, which suggested that they differed the most in their perceptions about the financial resources, time, and the ability to purchase sustainable products. This heterogeneity in PBC was reflective of the income disparity in the sample, where 81.9% were in the low-income category.

The income disparity could explain such variability in PBC. Consistency with the TPB framework (Ajzen, 1991), stated the high agreement on Behavioral Intention anchors the closest predictor to actual behavior, was congruent with the finding. This agrees with Nguyen and Hoang (2021) & Chen, Duta, & Peng (2021), who found that positive and strong environmental beliefs and attitudes influenced the likelihood of purchasing eco-friendly products. The prevailing finding of high behavioral Intention among respondents was consistent with Lavuri and Susandy (2020) & Ogiemwonyi et al., (2023), where finance (lack of it) was seen as a strong predictor of perceived consumer control in developing countries, notwithstanding high Intention. Shojaei et al (2024) & Kamalanon et al., (2022) further noted that high Intention to purchase eco-friendly products, low = ease of purchase, high = cost, high = access and high = skepticism towards eco-friendly products. This was in congruence with the finding of the present study that among the four TPB constructs, PBC accounted for the highest response variability.

Significant Difference (Consumer Buying Behavior in terms of BI, A, SN, and PBC compared to Demographics)

Table 3.9 Summary Table of Significant Difference between the Level of Consumer Buying Behavior (in terms of BI, A, SN, and PBC) and Demographic Profile of the Respondents

Demographic Variable	P-value					Hypothesis Decision
	Behavioral Intention BI	Attitude A	Subjective Norms SN	Perceived Behavioral Control PBC	Overall Consumer Buying Behavior (BI+A+SN+PBC)	
Marital Status	0.256	0.576	0.320	0.975	0.334	H ₀ 1 Accepted
Sex	0.906	0.474	0.838	0.205	0.357	H ₀ 1 Accepted
Age Grouped	0.001	>0.199	>0.281	>0.197	>0.148	H₀1 Not Accepted for group 18 to 19

						years old and 20 to 24 years old compared to Behavioral Intention
Monthly Income Classification Group	0.724	0.320	0.356	0.891	0.796	H ₀ 1 Accepted
Frequency of Purchasing Eco- Friendly Products	0.500	0.299	0.329	0.499	0.622	H ₀ 1 Accepted
Willingness to Adopt Eco- Friendly Products	0.192	0.950	0.081	0.731	0.580	H ₀ 1 Accepted
Awareness of Eco-Friendly Products	>0.548	>0.294	>0.463	>0.456	>0.310	H ₀ 1 Accepted
Note: n = 370						

Consumer Buying Behavior compared to Marital Status

The independent samples t-test showed that there were no appreciable differences in consumer buying behavior between married and unmarried Generation Z respondents in relation to the four components of the TPB model, including Behavioral Intention ($p = 0.256$), Attitude ($p = 0.576$), Subjective Norms, Perceived Behavioral Control ($p = 0.975$), and Overall Consumer Buying Behavior ($p = 0.334$). H_{01} was accepted for all four components. This meant that among the Generation Z consumers in Poblacion, Valencia City, Bukidnon, marital status did not have any effect on their perceptions of buying behavior toward eco-friendly products. Both married and unmarried respondents indicated that Behavioral Intention, Attitude, Subjective Norms, and Perceived Behavioral Control were all present in their buying behavior toward eco-friendly products. This had an important marketing implication: there was no need to differentiate campaigns for eco-friendly products in Poblacion, Valencia City, based on marital status, as all Generation Z consumers, whether married or unmarried, had uniformly favorable perceptions of the TPB components. The 91.9% proportion of unmarried respondents contributed to the uniformity of the sample, and the married respondents ($n = 30$) were not numerous enough to create the variance needed for divergent findings.

Advincula & Cayabat (2025) reported similar findings, as their study involved Generation Z business administration students in state universities in Region 4A, Philippines, showed that most green purchasing behavior variables were not significantly affected by age and gender, thus affirming that demographic characteristics had minimal differentiating influence on the TPB constructs among Filipino Gen Z consumers.

Around the same time, Areola, Perono, & Ilagan (2022) studied Generation Z consumers in Metro Manila, Philippines. They found that regardless of demographic differences, the sustainable purchase behavior dimensions were positively correlated with one another. They suggested that there was considerable sustainability consciousness among Filipino Gen Z and that this transcended demographic differences. Additionally, in a study conducted by Witek et al., (2023), 650 Polish consumers were surveyed. They found that regardless of consumer segment, intentions were positively and strongly correlated with attitudes and subjective norms. While perceived green purchase control had a relatively weak yet statistically significant

relationship with purchase intention, TPB constructs operated differently across demographic groups. Considering the Philippines, the collectivist family culture, where communal values ("bayanihan") and shared family expectations shaped consumption decisions regardless of marital status, may have explained why single and married respondents did not differ in their TPB perceptions.

Consumer Buying Behavior compared to Sex

The independent-samples t-test found no significant differences between male and female respondents across all four TPB constructs: Behavioral Intention ($p = 0.906$), Attitude ($p = 0.474$), Subjective Norms ($p = 0.838$), Perceived Behavioral Control ($p = 0.205$), and Overall Consumer Buying Behavior ($p = 0.357$). H_0 was accepted for all constructs. This suggested that sex was not a differentiating factor in how Generation Z consumers' buying behavior toward eco-friendly products. Male and female respondents in Poblacion, Valencia City, had statistically similar perceptions concerning their behavioral intention, attitude, subjective norms, and perceived behavioral control toward eco-friendly products. This provided a different significance for marketing management. Gender-neutral marketing campaigns for eco-friendly products could have been successfully implemented in this community without the need for sex-based segmentation. The nearly equal proportion of males (49.5%) and females (50.5%) in the sample enhanced the reliability of this finding.

This finding was consistent with Advincula and Cayabat (2025), who found that among Generation Z students in Region 4A, Philippines, gender did not have a significant impact on green purchasing behavior variables. Pathak et al., (2023) documented gender neutrality in green purchase behavior using the TPB model with 241 youth respondents in India. They suggested that companies offer green products in a gender-neutral way. G et al., (2022) examined Generation Y and Z consumers in a Philippine retail setting.

In the Philippines, eco-friendly product buying behavior was found to differ across demographic groups, including gender. However, the researchers reported that findings supporting eco-friendly business practices were insufficient to confirm the theory further. This, however, in contradiction contradicted the findings of Majumder, Gangopadhyay, & Biswas (2025), who used multi-group structural equation modeling with 306 respondents from Eastern India. In their study, gender was found to be a main variable influencing eco-friendly purchasing, attitude and environmental perceptions drove buying intention for females but not for males. The cultural difference may have explained this difference, the Filipino value of "pakikisama" (social harmony and unity) socialized both males and females to be equally responsive to community expectations, which may have been why gender-related differences in TPB perceptions were smaller than in the more individualistic society of India.

Consumer Buying Behavior compared to Age Group

The one-way ANOVA with Tukey post-hoc comparisons indicated no significant differences between the three age categories (18 to 19, 20 to 24, and 25 to 28 years old) in regard to Attitude (p values 0.199–0.916); Subjective Norms (p values 0.281–0.931); Perceived Behavioral Control (p values 0.197–0.734); and Overall Consumer Buying Behavior (p values 0.148–0.793). For these ideas, H_0 was accepted. Behavioral Intention (BI) was the only variable to show a significant effect. Age groups 18 to 19 and 20 to 24 years old were significantly different ($p = 0.001$), disallowing the acceptance of H_0 for this combination. Among the seven demographic variables analyzed (Table 3.9), this was the only statistically significant difference. This result indicated that the youngest Generation Z consumers (18 to 19 years) differed from those in the 20 to 24 years group in terms of their commitment to purchasing eco-friendly products in the future. Many from the youngest group were in senior high school. They may still have been in the process of defining their environmental identity, making purchasing choices, and forming behavioral intentions. Compared to that, those aged 20 to 24, who were more likely to have been in college or employed, may have had greater exposure to educational programs on sustainability, environmental campaigns on their campuses, and digital advocacy, which may have strengthened their behavioral intentions. Age-based communication techniques could have included school-based environmental education complemented by TikTok campaigns, as well as campus collaborations and social media influencers for ages 20 to 24. It could have been valuable for eco-friendly brands to use the previous techniques.

Rosidah (2024) studied 163 Generation Z university students in Tangerang Selatan, Indonesia, and reported a positive influence on behavioral intention to use eco-friendly products, motivated by the combined

contributions of Attitude, subjective norms, and perceived behavioral control. The positive correlation between the TPB (Theory of Planned Behavior) and the information exposure to sustainability among the Gen Z population confirmed the enduring behavioral intentions in the Gen Z population. This was consistent with Lianita et al., (2024), who reported increased purchase intention for eco-friendly products among Generation Z consumers when environmental awareness and perceived behavioral control were present. The that vary influence of the TPB (Theory of Planned Behavior) theories across age groups due to environmental exposure was noted by Dena et al., (2023) in the Philippine context, where Filipino consumers aged 28 years and below, when compared with the older age group, were more influenced by subjective norms (family, friends, social media) to buy and use eco-friendly products. Females were more likely to have purchased eco-friendly products due to social factors.

Also, the study by Chuluunbaatar and Baldangombo (2024) found that younger and older consumers differed in their willingness to buy more eco-friendly products. Similarly, the current study showed that younger and older consumers differed in their willingness to buy and in the specific TPB constructs that pushed their behavior. The youngest sub-group (18 to 19 years) differed from the 20 to 24 group in behavioral intention due to the Philippine K-12 educational system, which meant that senior high school students had more limited opportunities to participate in campus sustainability initiatives and environmental college courses than their older peers.

Consumer Buying Behavior compared to Monthly Income Classification Group

There were no significant differences based on age for Attitude ($p=0.199-0.916$), Subjective Norms ($p=0.281-0.931$), Perceived Behavioral Control ($p=0.197-0.734$), and Overall Consumer Buying Behavior ($p=0.148-0.793$), based on one-way ANOVA with Tukey's post-hoc comparisons, and H_0 was accepted for these constructs. However, for Behavioral Intention (BI), there was a significant difference between the 18–19 and 20–24 age groups ($p = 0.001$), and H_0 was rejected for this pair. This was the only statistically significant demographic difference among the seven individual demographic variables reviewed in Table 3.9. This difference showed that younger Generation Z consumers (18 to 19 years old) and those in their early twenties (20 to 24 years) differed in their intent to purchase eco-friendly products in the future. Many in the youngest group, which included several senior high school students, were likely still developing their environmental identity and their purchasing freedom. In contrast, those in the 20–24 age range, who were more likely to be studying or working, had greater exposure to campus sustainability education and environmental campaigns, which were likely to have increased their intention to engage in eco-friendly behavior. This finding was a positive development for marketing management; eco-friendly products should have used age- and gender-specific communications that integrated environmental education in schools and TikTok for the 18- to 19-year-olds and campus partnerships and social media influencers for the 20–24 age group.

For all four TPB constructs and every factor of consumer buying behavior (overall) when grouped by monthly income, no significant differences were observed in the one-way ANOVA results: Behavioral Intention ($p = 0.724$), Attitude ($p = 0.320$), Subjective Norms ($p = 0.356$), Perceived Behavioral Control ($p = 0.891$) and Overall Consumer Buying Behavior ($p = 0.796$). For constructs of H_0 were accepted, which represented that no matter whether Generation Z respondents were Poor (earned 0 to 12,082 pesos), Low Income (earned 12,083 to 24,164 pesos), or more, their perceptivity toward experienced buying behavior on eco-friendly products was uniformly high, constituting "Agree" range interpreted as extensively observed. The interesting finding was that, although of the total respondents 81.9% belonged to the lower Poor income group, their consumer buying behavior levels were not significantly different from those at higher income levels. This negated the standard view that financial means preceded positive predispositions towards environmentally friendly purchasing, providing a valuable consideration to marketing management: marketers of eco-friendly products in Poblacion, Valencia City could have avoided the costliest segmenting their promotions based on income class since even Generation Z consumers across all income classes maintained relatively similar attitudes on ecologically minded adequate behavior.

The consistency across income groups aligned with Areola et al. (2022), who found a positive correlation between sustainable purchase behavior dimensions regardless of demographic differences among Generation Z consumers in Metro Manila, implied a broad-based sustainability consciousness among Filipino Gen Z consumers that cut across income groups. Estropia et al., (2022) likewise detected no significant difference

between Generations Y and Z in perceiving eco-centric retail business practices in the Philippines, reiterated that eco-friendly buying perceptions did not follow income stratification. However, this finding was somewhat contrary to Chen et al., (2022), who suggested differences in consumption patterns based on income among respondents from developing countries. Affordable eco-friendly consumables in the Philippine local market and community-level waste segregation prompted by Republic Act 9003 may have equalized differences between income strata, while the strong communal culture of bayanihan in Poblacion, Valencia City may have further enhanced eco-friendly consumption perception uniformly regardless of income level

Consumer Buying Behavior compared to Frequency of Purchasing Eco-Friendly Products Group

The one-way ANOVA showed no significant differences in all TPB constructs based on the purchasing frequency: Behavioral Intention ($p = 0.500$), Attitude ($p = 0.299$), Subjective Norms ($p = 0.329$), Perceived Behavioral Control ($p = 0.499$), and Overall Consumer Buying Behavior ($p = 0.622$). H_01 was accepted across all constructs, implying that the perceptions of BI, A, SN, and PBC varied statistically similarly regardless of whether respondents purchased eco-friendly products as part of their lifestyle, never, rarely, sometimes, frequently, or always in the "Agree" range. This suggested that the participants' cognitive appraisals of eco-friendly purchasing behavior were consistently positive, regardless of how frequently they actually purchased environmentally friendly items. This was a crucial revelation because it implied an intention-behavior gap: even those who did not buy green products regularly possessed good attitudes towards such products, and this suggested that the obstacle to frequent purchasing may have lain in structure (product availability, pricing, or convenience) more than information. From a marketing management standpoint, this meant the industry should have sought to remove practical barriers to purchase (such as more availability of clean treatments), rather than attempt to change consumer attitudes towards clean eating, which were already favorable in each purchasing frequency group.

Kamalanon et al., (2022) studied 974 consumers in both developing and developed countries. They found that while green purchase intention exerted a positive and significant influence over green purchase behavior, they also reported an intention-behavior gap, similar to the current study's finding for attitudes and intentions remaining uniformly high even in those who made less frequent purchases. Likewise, Aisyah & Cahyasita (2023) reported Attitude and perceived behavioral control to be significant influences on green consumption behavior among 228 Indonesian consumers. Nonetheless, the prediction of intention was small, indicated that positive individual-level TPB perceptions could be observed at differential levels of behavioral frequency and not translate into scaled behaviors. Subjective norms had no impact, contrasting the strength of TPB perceptions irrespective of purchase frequency. This finding, that purchase frequency was not significant in differentiating CBB perceptions among Filipino respondents, could have been partly explained by the social desirability effect on survey responses from Filipinos, whereby individuals with extreme purchase frequency would have reported uniformly positive attitudes because of a culturally embedded attribute called "hiya" (emotionally delicate), which fostered reported pro-social and pro-environmental responses regardless of their actual purchasing patterns.

Consumer Buying Behavior compared to Willingness to Adopt Eco-Friendly Products Group

Results of the one-way ANOVA demonstrated no significant differences between purchasing frequency in Behavioral Intention ($p = 0.500$), Attitude ($p = 0.299$), Subjective Norms ($p = 0.329$), Perceived behavioral control ($p = 0.499$), and Overall consumer buying behavior ($p = 0.0062$). H_01 was accepted for all constructs; thus, respondents who never, rarely, occasionally, frequently, or always purchased eco-friendly products statistically perceived BI, A, SN, and PBC as all within the "Agree" range. This conclusion suggested that the cognitive assessments of eco-friendly purchasing behavior among respondents were consistently high, irrespective of their frequency of actual green purchases. Why was this insight important? It indicated that there might have been an intention-behavior gap: the ones who bought eco-friendly products less regularly still had somewhat positive perceptions, which suggested that their motivation for buying didn't necessarily lack, but maybe their first opportunity to do so, through either product availability or even price and convenience. For marketing management, these results suggested that the focus of work should have been on providing practical means for purchase rather than beta changing the Attitude of consumers as a whole, since this was already positive across all groups regardless of purchasing frequency.

Post hoc comparisons of the means using a one-way ANOVA revealed no significant differences for all TPB constructs under the independent variable (adopt willingness) on scales: Behavioral Intention ($p=0.192$), Attitude ($p=0.950$), Subjective Norms ($p=0.081$), Perceived Behavioural Control ($p=0.731$), and Overall Consumer Buying Behavior ($p = 0.580$). Thus, H_0 was accepted for all constructs. Specifically, Subjective Norms approached significance ($p = 0.081$), indicating a trend such that different levels of willingness to be tested might have been associated with varying perceptions of social pressure from family, friends, and peers.

However, because the p -value was greater than 0.05, we deemed this difference statistically not significant. This result meant that all respondents—unwilling, neutral, willing, and strongly willing to adopt environmentally friendly products—had equally high perceptions of their purchasing behavior. For applied marketing management, this implied that the willingness-to-adopt construct did not programmatically segment consumers in terms of how they viewed TPB components or segments because each willingness group held similar opinions; hence, what marketers ought to have focused on was entrenching current positive willingness into actual at-purchase behavior instead of developing willingness from scratch.

This aligned with Chaudhary and Bisai (2018), who found among 202 educated millennials in India that willingness to pay a premium moderated the impact of purchase intention on green buying behavior as a boundary condition, not as differing levels of TPB perceptions. Adialita et al., (2025), among 251 young Indonesian consumers, reported that attitudes and behavioral controls facilitated green behavior, while subjective norms had no significant effect on purchase intention.

Ewe & Tjiptono (2023), studying 151 Malaysian Generation Z consumers, found that willingness related more to brand familiarity and green consciousness than to TPB construct levels. A ceiling effect—with 58.6% willing and 31.6% strongly willing in the Philippine context—likely accounted for insufficient variance to detect associations between TPB perceptions across willingness levels.

Consumer Buying Behavior compared to Awareness of Eco-Friendly Products Group

The one-way ANOVA with Tukey post hoc comparisons revealed no significant differences across the TPB constructs at the level of awareness. All pairwise p -values fell between 0.294 and 1.000 for the Not Aware, Somewhat Aware, and Fully Aware and Knowledgeable groups. H_0 was confirmed for all constructs. This finding meant that regardless of whether respondents were not aware, somewhat aware, or fully aware and knowledgeable about eco-friendly products, there was a consistently high perception of behavioral intention, attitude, subjective norms, and perceived behavioral control. This was especially noteworthy given the wide range of awareness levels in the sample (0.5% not aware, 48.4% somewhat aware, 51.1% fully aware) and the lack of differences in perceptions of buying behavior. For marketing management purposes, it meant that awareness alone was not a differentiating factor in how Generation Z consumers perceived eco-friendly buying behavior; even those who were only somewhat aware held the same degree of positive perception as those who were fully aware. This suggested that increasing awareness might not have changed consumer perception of the buying decision and indicated that marketing efforts should have focused on something other than building awareness, such as facilitating behavioral change by improving the accessibility and affordability of the products.

This finding was consistent with Ghafari & Alsharabi (2025), who studied 102 Generation Z consumers in Malaysia and concluded that awareness of eco-friendly products was a key factor influencing buying intentions. However, cost served as a stronger deterrent; while awareness functioned as a necessary baseline condition, it did not differentiate buying behavior perceptions when cost was not a factor.

Filip et al., (2025) focused on 269 Gen Z respondents and found that the intention to buy eco-friendly products was mainly dependent on the assessed quality of the product and consumer awareness, while the assessed price and assessed availability were of lesser importance. In their study, the awareness variables were not able to differentiate buying behavior perceptions as much as the other relevant variables. Additionally, Erdeveciler et al., (2026) investigated 438 athletes and found that environmental concern and environmental awareness were important factors in green purchase intention, but these two variables enhanced rather than differentiated Theory of Planned Behavior perceptions, which was in line with the no-difference findings of the present study.

In the case of the Philippines, the lack of significant awareness-based differences was likely due to repeated environmental messaging directed at the Filipino Gen Z community through social media platforms (Facebook, TikTok) and community-based waste management programs. Environmental awareness existed at a baseline level across all respondents, which did not allow awareness level to serve as a differentiating factor in Theory of Planned Behavior perceptions.

Significant Difference (Adoption of Eco-Friendly Products PD compared to Demographics)

Table 3.10 Summary Table of Significant Difference between the Level of Adoption of Eco-Friendly Products AD and Demographic Profile of the Respondents

Demographic Variable	P-value	Hypothesis Decision
Marital Status	0.231	H ₀ 2 Accepted
Sex	0.452	H ₀ 2 Accepted
Age Grouped	>0.052	H ₀ 2 Accepted
Monthly Income Classification Group	0.246	H ₀ 2 Accepted
Frequency of Purchasing Eco-Friendly Products	0.230	H ₀ 2 Accepted
Willingness to Adopt Eco-Friendly Products	0.218	H ₀ 2 Accepted
Awareness of Eco-Friendly Products	>0.576	H ₀ 2 Accepted
Note: n = 370		

Adoption of Eco-Friendly Products compared to Marital Status

The independent samples t-test returned a t-value of 1.200, df = 368, p_two-tailed = 0.231, M_diff = 0.247. Since the p-value was greater than the 0.05 level of significance, H₀2 was accepted, implying that there was no statistically significant difference between single and married respondents with respect to their level of adoption of eco-friendly products. This meant that, regardless of Generation Z consumers in Poblacion, Valencia City's marital profile (married or single), the level was at the same high levels regarding actual adoption/utilization/usage of eco-friendly products (i.e., within "Agree" levels). For marketing managers, this finding suggested that green product campaign segmentation through marital status was not essential; one successful green marketing message campaigned towards all segments of Generation Z consumers in the study. This homogeneity may have been in part due to the high number of single respondents (91.9%), and, as a result, the small group of married individuals (n = 30) did not have sufficient statistical power to yield detectable differences in fruit adoption levels.

These findings were in keeping with one which was conducted by Advincula & Cayabat (2025), claiming that Generation Z Business Administration students enrolled in state universities of Region 4A, Philippines, age and gender did not significantly affect the majority of green-purchasing behavior items, thereby affirming a weak discriminatory utility of demographic characteristics toward Filipino Gen Z consumers' decision making towards sustainable adoption. Likewise, Areola et al., (2022) focused on consumers from Generation Z in the Metro Manila area of the Philippines. They noted that across demographics, sustainable purchasing behavior dimensions were positively correlated with one another, showing that Filipino Gen Z showed sustainability awareness regardless of marital status. In addition, Estropia et al., (2022) conducted a cross Generation Y and Z study in the context of Cambodian retail settings. It was noted that there was no significant difference between the generations in relation to the perception of eco-centric business practices, thus, it was confirmed that demographic factors were of no significance to the adoption of eco-friendly practices within Filipino constituents. Given the community-centered Filipino family culture with communal values/"bayanihan" and

family expectations that dominate and control people's buying behavior, it was likely that both single and married people were influenced by the same community oriented sustainable behavior, showing that there was no difference in the level of adoption based on marital status.

Adoption of Eco-Friendly Products compared to Sex

The t-test, independent samples yielded: $p=0.452$ (two-tailed), $t(368)=0.753$, mean difference=0.085. H_0 , as the p-value was greater than the level of significance (0.05), was accepted, showing no statistically significant difference in male and female respondents regarding their level of adoption for eco-friendly products. This meant that gender was not a discriminant for Generation Z consumers when it came to their actual adoption of green products. The respondents from Poblacion, Valencia City, showed equal use of eco-friendly products across male and female respondents. For marketing management, the lesson was clear: in that community, eco-friendly products would have achieved effective gender-neutral marketing, and there would have been no need for sex-based segmentation of the adoption-related message.

This result was consistent with Pathak et al., (2023), who employed a TPB model with 241 youth respondents in India and displayed gender neutrality in purchasing green, recommending that firms should promote the sale of green products in a gender-neutral style. Also, Advincula & Cayabat (2025) showed that no significant differences existed in the green purchase behavior variables with respect to gender among Generation Z students in the Philippines. Additionally, Valentin et al. and Cañete et al., (2023) also contributed to Gender and Sustainability literature as they examined 212 Filipino respondents from Generations X and Z, while results showed that it was generation and environmental literacy—not gender—that predicted sustainable clothing purchases, further confirmed by the fact that sex did not play a major role in eco-friendly adoption within a developing economy context like the Philippines. However, this finding was not in line with Dena et al., (2023), who stated that females among Filipino consumers were more inclined to purchase and utilize sustainable packaging, depending on social aspects. While Dena et al., focused specifically on packaging, where the visuality and social visibility may have further accentuated the gender divide, the present study considered the adoption of a more diverse set of eco-friendly products. In these instances, the relevance of such gender-driven dynamics may have been less significant.

Adoption of Eco-Friendly Products compared to Age Group

The one-way ANOVA and Tukey post hoc comparisons for adoption across three age groups failed to find significant differences: 18 to 19 versus 20 to 24 ($p = 0.678$), 18 to 19 versus 25 to 28 ($p = 0.531$), and 20 to 24 versus 25 to 28 ($p = 0.052$). Since all p-values were above the 0.05 level of significance, H_0 was accepted for the pair comparisons of the age groups. Nonetheless, the comparison of age groups 20 to 24 and 25 to 28 produced a p-value of 0.052 which is regarded as near significance and is suggestive of a possible inclination of higher adoption levels among older Gen Z consumers (25 to 28) over their counterparts aged 20 to 24. This stood out particularly when contrasted with Section 3.3.3. While there was a significant difference in Behavioral Intention (BI) for those aged 18 to 19 and 20 to 24 ($p = 0.001$), the gap with respect to BI did not result in a difference in the level of adoption actualized, highlighting the often-cited intention-behavior gap where a positive intention is not followed up with a behavior. For marketing management, this implied that for the age-specific behavioral intentions to be actualized, there was a need for a shift in focus from attitude formation to optimization of product actualization and affordability for the distinct age subgroups.

Rosidah (2024) also examined 163 Generation Z university students in the area of Indonesia, Tangerang Selatan, and found that age-based differences in actual eco-friendly product consumption were not significant, although all TPB variables for Generation Z were positively correlated. Varese et al., (2025) examined the university students of Generation Z in Italy. They showed that although the influence of gender on the frequency of sustainable shopping was more evident, age differences were of more nuance and context, which is in line with the present study, which showed no significant differentiated adoption. For the Philippine context, Dena et al., (2023) showed that Filipino consumers aged 29 and below showed a greater tendency to purchase eco-friendly packaging than others, although that study was done comparing Gen Z against the older generations and not comparing them within older generation subsections. The present study's most likely explanation for not finding significant age-based differences within Generation Z was the narrow age range of participants (18 to 28) and

the social media ecosystem that was available across all older generation subdivisions, providing them with similar messaging on sustainability, especially within the mid-sized urban center Valencia City of the Philippines, where there was relatively improved digital connectivity.

Adoption of Eco-Friendly Products compared to Monthly Income Classification Group

A one-way ANOVA test showed a 0.246 p-value, which was greater than the 0.05 level of significance. This therefore, Ho2 was accepted, signifying that the adoption levels of eco-friendly products were equal among the income groups of Poor, Low Income, Low Middle Income and Middle Middle Income. This was interesting as 81.9 percent of the respondents were in the Poor category (0 to 12,082 pesos monthly) and had the same level of adoption as those in the higher income groups. This was in contradiction to the assumption that relative adoption of eco-friendly products was a financially motivated behavior. This highlighted that in addition to income, social and community pressures were a reason for the adoption of eco-friendly products among Valencia City Generation Z consumers. This was good for the marketing management as it showed that eco-friendly products could be offered to low-income Generation Z consumers, if cost barriers were eliminated.

The uniformity of adoption across income groups was consistent with Areola et al., (2022), who found that sustainable purchase behavior dimensions were positively correlated regardless of demographic variations among Filipino Gen Z consumers in Metro Manila. Laheri et al., (2024) found that among 410 participants in developing countries, behavioral control regarding the purchase of green products was absent, likely because PBC influenced behavioral intent more than actual purchases. This was somewhat contrary to Chen et al., (2022), who found an uneven distribution of green products across socioeconomic statuses in developing countries. However, in the Philippines, the presence of eco-friendly biodegradable bags, refillable cleaning products, and the Waste Segregation Act made eco-friendly products available to consumers of all income levels, suggesting that, unlike in many developing countries, green products were equally accessible across socioeconomic statuses. Furthermore, the study suggested that the lower the income group, the lower the demand for eco-friendly products.

Adoption of Eco-Friendly Products compared to Frequency of Purchasing Eco-Friendly Products Group

The p-value for the one-way ANOVA was 0.230, and since this was greater than the 0.05 significance level, Ho2 was accepted. There were no discernible differences in the adoption of eco-friendly products in the five frequency groups of Never, Rarely, Occasionally, Frequently, and Always. Consumers in this category adopted eco-friendly products to the same degree, regardless of how frequently they bought them. Consumers who were classified as rarely purchasers of eco-friendly products rated their own self-adoption almost the same as those classified as frequently purchasers of eco-friendly products. Because of the equal self-adoption rating, the mindset and perception gap was not apparent. Adoption in the perception gap, at least in how the respondents perceived it, did not depend on how frequently they bought products. Marketers were no longer shifting the goalpost of the target adoption rate away from building awareness. There was no point in attempting to “change the expectation” because there was a sufficiently positive perception regardless of cross-cultural circumstances and purchasing behaviors. A strong positive perception means that the sellers of eco-friendly competitors were taking advantage of the perceived value gap. Structural barriers were not perceived; they existed between the intention to buy and the actual purchase. Little to no effort was expended in easing the barriers, adequate pricing, better shelf placement, and better stocking of eco-friendly alternatives. In a short, simplified summary, it should have been prioritized to make it easy for consumers to purchase products that consumers were already feeling positive about.

The same finding was in line with Kamalanon et al., (2022), who examined 974 respondents, showed that green purchase intention significantly and positively affected green purchase behavior. Nonetheless, this multi-group analysis also showed that the link was stronger for developing countries than for developed countries as well, indicating that such a gap between perceived adoption and actual purchasing frequency was already established in developing-country contexts like the Philippines. In a sample of 130 Indian college students, Muzammil & Vijayaraj (2025) similarly found that green purchase intention partially mediated the relationship between antecedents and actual behavior, with product accessibility emerging as a salient variable, so frequency of purchasing more reasonably reflected access to than adoption perceptions. Furthermore, Gidakovic et al., (2023)

examined young adults in Western, Eastern, and Southeastern Europe. They found that past behavior was a significant predictor of eco-labeled product purchase. The theory of trying predictors performed better than TPB predictors alone when predicting attitudes and intentions. In the context of the Philippines, this finding suggested that purchasing frequency was not significant in predicting levels of adoption, which may have been explained by the observation that 55.9% (genuinely) frequently purchased eco-friendly products (at least once a month). Thus, the distribution was positively-skewed, with most respondents clustering about higher frequencies, leading to little variance within groups to detect differences between them.

Adoption of Eco-Friendly Products compared to Willingness to Adopt Eco-Friendly Products Group

The ANOVA one-way was significant just at 0.218, which was under a significance level of 0.05. H_0 was accepted, meaning there was no significant difference regarding the level of adoption for eco-friendly products between the willingness groups: Unwilling, Neutral, Willing, and Strongly Willing. This result suggested that while there was variation in expressed willingness, the respondents adopted environmentally-friendly products at similar average rates across these candidates. This was a counterintuitive result: one might have thought that the strongly willing would adopt at higher levels than those merely neutral. The uniformity might suggest a limit effect, as the majority (58.6%) of respondents stated that they were willing, and 31.6% very willing, to take part. This shows very little variation within the sample, making it difficult to reach significant between-group differences. Policy and marketing-wise, this finding suggested that the task was not about building willingness. Willingness was already very positive, and the task was to convert that willingness into measurably stronger actual adoption through practical means, such as product availability and affordability, and the presence of trusted eco-friendly claims.

This finding supported Chaudhary & Bisai (2018), who tested the TPB framework on a sample of 202 educated millennials in India and identified that the willingness to pay a premium significantly moderated the intention toward purchase, thus willingness (emphasis removed), specifying a boundary, held consumers back from converting their intentions into actions, as opposed to a differentiating factor of varying degrees on adoption. Adialita et al., (2025) found that, against a sample of 251 young Indonesian consumers, willingness to pay a premium and value perception for green purchases may have facilitated green behavior, but that, in general, consumers were reluctant to pay higher prices, suggesting differential adoption was not induced by willingness without factoring in economic feasibility. Additionally, Bautista et al. (2020) analyzed the intent of Filipino consumers to purchase green products through a TPB framework. They concluded that while their theory held valid in the Philippine context, altruism and social norms were significant mediating variables, demonstrating that willingness was not sufficient by itself to separate adopters without certain enabling social and economic conditions. A distinctive factor in the Philippine context was strong communal pressure to show that respondents had positive environmental attitudes, especially in public situations, through "hiya" or social sensitivity, which may have skewed high adoption across all categories of willingness, even though there might have been some difference between willingness categories.

Adoption of Eco-Friendly Products compared to Awareness of Eco-Friendly Products Group

There were no significant differences regarding adoption between the three awareness groups identified by one-way ANOVA with Tukey post hoc comparisons: Not Aware vs. Somewhat Aware ($p = 0.987$), Not Aware vs. Fully Aware and Knowledgeable ($p = 0.952$); Somewhat Aware vs. Fully Aware and Knowledgeable ($p = 0.576$). Since all p -values were higher than the 0.05 level of significance, H_0 was accepted between each pair of the awareness groups. This means that adoption of eco products was the same regardless of whether respondents were not aware, somewhat aware, or fully aware and knowledgeable about eco-friendly products. This went against general logic, where more awareness led to more adoption, which, for this community, suggested that awareness was a minimum level for adoption regardless of knowledge. To marketers, this meant that marketing efforts that were just focused on awareness were a waste of time, because an eco-friendly product adoption level was reached, and these 'somewhat aware' respondents were adopting just as much as these 'fully aware' respondents. What marketing needed to do was allow or create fundamental adjustments focused on making adoption more easily achievable and more beneficial, like loyalty rewards, clear eco-labeling, and community encouragement.

This was in line with the findings of Ghafari and Alsharabi (2025), who interviewed Generation Z consumers in Malaysia, which included a sample size of 102. They concluded that whilst awareness of eco-friendly products was a determinant factor affecting their willingness to buy, they also found that the cost of such products acted as a greater deterrence than awareness level, indicating that awareness alone was not a sufficient basis on which to distinguish adoption behavior. Filip et al., (2025) analyzed 269 Gen Z consumers. They concluded that through perceived quality and consumer consciousness, they had provided a significant basis for the evidence that should have led towards intention of eco-product purchase, compared to the low influence of constructs related to perceived price (cost) and availability, leading to confirmation that awareness-related constructs may not have been as beneficial in distinguishing adoption rates as practical factors. Furthermore, Singh & Khanwanii (2023) studied 150 participants. Positive predictors of eco-friendly consumer behavior, such as environmental concern, communal orientation, and environmental optimism, showed that actual adoption was not guided by mere awareness but by social motivators and personally held confidence regarding the state of the environment. In the case of the Philippines, Filipino Gen Z consumers had baseline awareness through legally mandated community-based waste management programs (such as barangay-level waste segregation as per RA 9003) and social media (Facebook, TikTok, YouTube) environmental advocacy campaigns; however, this awareness alone may not have been a sufficient factor to explain actual adoption behavior.

Significant Relationships

Table 3.11 Summary of Significant Relationships Between Consumer Buying Behavior and Its Dimensions to Adoption of Eco-friendly Products

Consumer Buying Behavior to Adoption of Eco-friendly products	P-value	Hypothesis Decision
Behavioral Intention BI	0.863	H ₀₃ Accepted
Attitude A	0.359	H ₀₃ Accepted
Subjective Norms SN	<.001	H₀₃ Not Accepted
Perceived Behavioral Control PBC	0.106	H ₀₃ Accepted
Overall Consumer Buying Behavior (BI+A+SN+PBC)	0.015	H₀₃ Not Accepted
Note: n = 370		

Behavioral Intention and Adoption of Eco-Friendly Products

There was no inter-correlation or strength of magnitude correlation for Ho3 accepted. Meaning that the Behavioral Intention of Eco-Friendly Products was adoption among consumers of Generation Z residing in Poblacion, Valencia City, Bukidnon. Here, the Pearson correlation was $r = 0.009$, $p \text{ value} = 0.863$. This was a notable finding since the Theory of Planned Behavior (Ajzen, 1991) suggested that behavioral intention was a proximal predictor of actual behavior. Arising from the lack of a significant relationship with BI and Adoption was an intention-behavior gap; respondents stated high levels of intention behind purchasing eco-friendly products (mean = 5.8475, the highest mean among all constructs), but this intention did not correspond to a tangible relationship/association with adoption. For marketing management, this meant that strategies based on building purchase intention alone (e.g., promotional campaigns that heightened buying desire) were inadequate; marketers had to address the lines of separation, making it impossible for intentions to be translated into actual adoption (e.g., product availability, affordability, and convenience in Poblacion, Valencia City).

These findings were similar to Kamalanon et al., (2022) study of 974 consumers across developing and developed countries, where green purchase intention led to a significant level of green purchase behavior, with positive and significant effects. However, there was considerable variation in the strength of this relationship between different countries. Similarly, Laheri et al., (2024) identified a non-significant association between

perceived behavioral control and purchase behavior towards green products among 410 consumers in a developing country, indicated that the TPB route from intention to behavior might not always have been direct or strong. Furthermore, these findings aligned with the work of Rehman et al., (2024), who, studying 333 respondents from Malaysia, noted that although attitudes and subjective norms were the strongest predictors of both purchase intention and behavior, their intention-behavior relationship was moderated by perceived consumer effectiveness, indicating once more that behavioral intention did not necessarily result in a significant correlation to actual behavior. In the prevailing Philippine context, the gap between intention and adoption may have been rooted in Generation Z consumers' behavioral frames of any mid-sized city like Valencia City due to its unique location where there were more sustainable products available in Metro Manila than in a surrounding locality (with 81.9% of respondents listed under the low-income bracket), making it more difficult for them to convert their intentions of adopting eco-friendly products into actions toward adoption.

Attitude and Adoption of Eco-Friendly Products

The Pearson correlation analysis yielded $r = 0.048$, $p = 0.359$, indicating no correlation; therefore, Ho3 was accepted. The people who answered the survey had positive views towards eco-friendly products, with an average score of 5.5541, indicated they 'agreed' with their functionality. However, this positive attitude towards eco-friendly products did not correlate with frequent purchasing of the products, repeating the many studies on the attitude-behavior gap among eco-friendly consumers. For those in marketing management, this suggested that marketers had a responsibility to create enabling conditions for making the transition from favorable attitudes to actual adoption (e.g., product trials, sales interventions, and environmentally transparent eco-labeling).

This finding was consistent with Lavuri & Susandy (2020), who found that subjective norms were not significantly associated with green purchase intention. In contrast, other variables, including media exposure, environmental concern, and perception of behavioral control, strongly influenced green purchasing. Mohmed@Wasli et al., (2022) found that subjective norms moderated eco-friendly product buying intention, while attitudes and perceived environmental responsibility were significant, confirming that the relationship between individual TPB constructs and green outcomes was selective rather than universal. Moreover, Saifudin et al., (2026) found that attitude and self-image congruence were the most significant determinants of green product purchase intention, reinforcing the finding that TPB constructs functioned differentially in predicting green consumption outcomes. Since the relationship between attitude and adoption was found to be non-significant in the Philippines, Filipino Generation Z consumers in Poblacion, Valencia City, may have had positive attitudes but were unable to act on them due to constraints on accessibility, affordability, and reliability.

Subjective Norms and Adoption of Eco-Friendly Products

Pearson correlation analysis revealed $r = .179$ ($p < 0.001$; significant at the 0.01 level). Based on Hair et al. (2019), therefore, this was considered as "Weak Correlation," and according to Cohen (1992), this indicated a "Small Positive Relationship." Ho3 was rejected, as there was a statistically significant relationship between Subjective Norms and the Adoption of Eco-Friendly Products. However, this was the only TPB construct with a statistically significant association with adoption. This result implied that not only did the social pressure from family, friends, peers, and community members matter, but it also influenced Generation Z consumers' actual adoption of eco-friendly products within Poblacion, Valencia City. While the correlation was weak ($r = .178$), it was the most powerful and only meaningful predictor amongst all four dimensions of TPB. From the relationship analysis, the most actionable marketing management message was this: Eco-friendly product campaigns launched in Poblacion, Valencia City, should have relied on social influence strategies that prioritized peer testimonials, family-oriented endorsements, community-based promotions, and even social media influences to fast-track adoption among customers, as only one TPB dimension, social norms had a statistically significant association with actual adoption behavior.

Larashati et al., (2025) found that subjective norms influenced consumer attitudes and behavioral intentions towards the use of green products, thereby emphasizing the importance of social influence for eco-friendly behavior. D'Arco et al., (2023) argued that injunctive social norms had a positive influence on pro-environmental behavioral intention at direct as well as indirect levels through personal norms, confirming that social pressure

was one of the most important predictors of eco-friendly behaviors among young consumers. Lianita et al., (2024) also reported that subjective norms had a positive, significant effect on the intention to purchase Generation Z products with eco-friendly packaging. Filipinos were known for their collectivist culture, reflected in the values of pakikisama, utang na loob, and bayanihan, which provide a strong social context for collective consumption decisions. In a closely connected community like Poblacion in Valencia City, family members, neighbors, or peer groups exerted particular behavioral influence, which accounted for the reason subjective norms became the only TPB dimension significantly related to adoption.

Perceived Behavioral Control and Adoption of Eco-Friendly Products

The analysis of Pearson Correlation showed $r = 0.084$ (p -value: 0.106), which was interpreted as no correlation; therefore, H_03 was accepted. This implied that Perceived Behavioral Control was not statistically significantly related to the Adoption of Eco-Friendly Products. Although respondents reported moderate to high levels of perceived behavioral control (mean = 5.44) and thought they were able and in control to adopt environmentally friendly products, the perception did not have a significant relationship with actual behavior with regard to the adoption of eco-friendly products. This further confirmed what was observed in Section 3.3.3, which indicated that PBC had the highest standard deviation ($SD = 1.2024$) of any construct, indicating higher variance in how individuals perceived their control over purchases that were eco-friendly. For marketing management, this suggested that perceptions of control, or self-efficacy in terms of the adoption of a new product, alone still did not drive uptake; marketers had to add enablers that went beyond perceived control with capabilities such as making sure products were made available at least equally easy if not more than should-be competitors (informed consumers about it), and at prices that were affordable enough for the purchase to be genuinely easier (instead of being merely theoretically feasible) — they needed to enable them.

This observation agreed with Laheri et al., (2024), whose results showed that, among 410 consumers in a developing country, perceived behavioral control toward purchasing green products did not significantly predict green purchase behavior but positively predicted green purchase intention, thus confirming that the PBC constructs were at work differently during the intention and the behavior stage of the TPB model. Witek et al., (2023) also highlighted a relatively weak but significant relationship between perceived green purchase control and green purchase intention among 650 Polish consumers. Yet there was no guarantee that this perception of control would translate into behavior. Furthermore, in contrast with the present study, which found that perceived behavioral control was not significant, Sangwan et al., (2025) found that perceived behavioral control was one of the most significant aspects that accounted for green tech product adoption, namely due to those products being considered as a consumer premise; this discrepancy could have been due to context differences between the product categories and consumer demographics. The current study reported a non-significant relationship between perceived behavioral control (PBC) and behavior; however, this may have reflected economic reality, as the overwhelming majority (81.9%) of the respondents classified their income as Poor, indicating that although they would have liked to adopt eco-friendly products, limited financial means and minimal exposure to eco-friendly retail sites in Poblacion, Valencia City may have prevented perceptions of control from relating to adoption.

Overall Consumer Buying Behavior and Adoption of Eco-Friendly Products

The Pearson correlation was statistically significant ($p=0.015$) and showed a correlation of 0.126 for overall consumer buying behavior and the adoption of eco-friendly products. However, one must consider these correlations as weak. Correlations with respect to the guidelines as provided by Hair et al (2019) and Cohen (1992) would classify this as weak to no correlation and/or a small degree of positive relationship. Yet still provided a reason for the rejection of the third null hypothesis. There is a correlation between the stated factors; however, it remains weak. In a significant number of the reported cases, the four end dimensions of the theory of planned behavior (TPB) (behavioral intention, attitude, subjective norms, and perceived behavioral control) were combined in order to avoid any possible bias in the data. When separated, however, the only dimension that remained significant was subjective norms, thus only one factor was responsible for the significant relationship, leaving the rest to exert no influence. This also showed marketing management a clear target: a unified campaign that drew on each of the four components of the TPB would provide an effect greater than the sum of the parts on adoption than a series of campaigns focusing on individual components. Therefore, eco-

friendly marketing campaigns needed to induce changes in intention, attitude, social norm, and perceived control simultaneously, not just one.

This result was corroborated by Zulfikar et al., (2023), performing a literature review based on 6 articles published in top international journals, who reinforced that TPB was the correct model for use in studying consumer behavior toward green products, providing evidence that intention impacted upon consumer purchases, but it was overall rather than individual constructs of the theory. Windiyani et al., (2025) found in their analysis of 222 respondents that Green Subjective Norms, Green Attitude, and Green Perceived Control all significantly impacted Green Purchase Behavior when tested together as a full TPB model, with all constructs demonstrated significant influences on behavior, confirming that the simultaneous effect of the TPB constructs was stronger than individual effects. On the other hand, Dineshkumar (2025) conducted a study on 180 respondents in Coimbatore, India, and found that attitudes and perceived behavioral control had significant predictive power towards green purchase intentions. Compared to the other two constructs, the role of Subjective Norms was likely of less importance, but it did offer some value when viewed through the lens of the Extended TPB model of green consumer behavior. Subjective Norms were judged to be valuable when the constructs of the TPB model were assessed independently of one another. In summary, the TPB model in the given study context did offer value in a limited sense, and a measure of subjective norms did exist. International students from the Filipino Gen Z population in Poblacion, Valencia City, Bukidnon, demonstrated the influence of subjective norms when it came to purchasing eco-friendly products, with the greatest influence stemming from social concern about acting in an eco-friendly manner.

Significant Influence

Table 3.12 Summary of Significant Influence Between Consumer Buying Behavior and Adoption of Eco-friendly Products (Based on Model 3 of 3.7b and Model 1 of 3.8b)

Consumer Buying Behavior to Adoption of Eco-friendly products	P-value	Hypothesis Decision
Behavioral Intention BI	0.262	H ₀₄ Accepted
Attitude A	0.253	H ₀₄ Accepted
Subjective Norms SN	0.001	H₀₄ NOT Accepted
Perceived Behavioral Control PBC	0.130	H ₀₄ Accepted
Overall Consumer Buying Behavior (BI+A+SN+PBC)	0.015	H₀₄ NOT Accepted
Note: n = 370		

Behavioral Intention and Adoption of Eco-Friendly Products

Regression analysis had presented a standardized Beta value of -0.111, and a p value of 0.262, which is higher than the level of significance of said value at 0.05; as a result, H₀₄ was accepted. This result showed that the Behavioral Intention significantly showed no impact on the Generation Z Consumers' Adoption of Eco-Friendly Products in Poblacion, Valencia City, Bukidnon. Beta coefficients were negative, which meant that this finding was different from what the Theory of Planned Behavior (Ajzen, 1991) suggested, where behavioral intention must have been the strongest and most direct predictor of behavior. The non-significant negative Beta showed that BI's unique contribution to the adoption was suppressed when all TPB constructs were entered at the same time. This would attribute to shared variance from one or more of the other constructs (especially SN and Attitude, which had very high correlations with BI). This confirmed the intention-behavior gap (Section 3.3.5). A high amount of BI was meant to show a strong intention (5.8475, the highest mean), but this behavior also showed no effect; usage was not influenced. This meant that for marketing managers, building purchase intentions was an inadequate means to achieve the desired goal, where marketers in Poblacion, Valencia City

had to deal with the contextual and structural barriers (availability of their products, affordability, trust in ecolabels) that restrict high intentions from transforming into actual adoption behavior.

This result was comparable with Lu et al., (2025), who showed that green buying intention was still the most stable predictor of behavior, but only within a sequential model where shifts in attitude were followed up by intention changes and then by actual purchases, so that while these constructs predicted behavior collectively, without mediation they did not correlate.

Wardana et al., (2025) found that subjective norm was not significant as a direct antecedent of purchase intention, illustrating that social pressure was insufficient to stimulate purchasing without any facilitating conditions. Furthermore, Mufidah et al., (2018) revealed that attitude was a significant factor influencing behavioral intention, though the model only explained 49% of behavioral intention in Taiwan and 72% in Indonesia, showing that the intention to purchase eco-friendly options did not lead to eco-friendly purchases.

Specifically, in the Philippines, the mere presence of behavioral intention was insufficient to drive adoption, especially in mid-sized cities like Valencia City, where Generation Z members may have wanted to select eco-friendly alternatives but were limited by a scarce number of certified eco-friendly retailers, causing even clearly present purchase intentions to completely stagnate.

Attitude and Adoption of Eco-Friendly Products

The regression analysis showed that there was no significant relationship between attitude and the adoption of eco-products ($\beta = 0.114$, $p = 0.253$); therefore, the fourth null hypothesis was accepted. It was not surprising that respondents showed a positive attitude toward eco-friendly purchases, scoring 5.55. However, positive attitudes toward eco-friendly purchases were not sufficient on their own to trigger adoption, and considering the other three TPB constructs further explained this. This finding demonstrated a well-documented pattern. In particular, people could care about the environment and do all the right things, but still not purchase eco-friendly products. Various real-world barriers stood in the way. The lesson for marketing managers was fairly simple. Initiatives that created awareness of the environmental and sustainability benefits were a good start but were not enough to close the gap. Positive attitudes toward eco-friendly purchases and products needed to be supported by direct initiatives offering real benefits, such as price promotions, loyalty programs, and good availability and visibility in stores where eco-products were sold. The gap between eco-friendly attitudes and eco-friendly purchasing needed to be bridged by removing barriers between green intentions and green purchase actions.

This finding corroborates Xu et al., (2022), who conducted a survey of respondents in China ($N = 408$). Xu's et al., (2022) research found that while environmental cognition, descriptive norm, and self-efficacy had highly significant positive coefficients for green purchase intention, there were some clear obstacles to translating this into green purchase behavior that required a combination of a few other factors like environmental indebtedness, situational and/or self-control. This also validated that in the attitude-behavior gap, attitude alone does not translate to behavior. Moazzam et al., (2023) found, among 224 consumers, that while subjective norms, green self-efficacy, and green purchase attitude positively impacted intention toward green purchase, the mediation of intention toward green purchase was only partial. Moreover, Liu et al., (2020) studied 485 consumers in China and established that, of several predictors of purchase intentions, attitude was one of the most important. At the same time, they found that moral norms mediated the relationship between subjective norms and intention to purchase. This meant that the attitudinal impact on behavior was indirect and that there was a complex mediational effect. Regarding Philippine consumers, the less positive impact of attitude on adoption may have been more pronounced because young Filipino consumers were found to be more concerned about greenwashing. This meant that while they may have held positive attitudes toward environmentally friendly products, they may have considered market claims about the environment and eco-friendly products to be false, which ultimately resulted in a less positive attitude.

Subjective Norms and Adoption of Eco-Friendly Products

The regression analysis produced a Beta value of 0.114, with $p = 0.253$, which was slightly above $p = 0.05$, so we accepted Ho4, indicated that Attitude did not significantly impact the Adoption of Eco-Friendly Products.

When controlling for the other three constructs of the TPB (Theory of Planned Behavior), respondents maintained favorable attitudes (mean = 5.5541), but these positive attitudes did not have an effect on the actual adoption of the Eco-Friendly Products, which supported the documented attitude-behavior gap in consumer behavior literature. Subjective Norms, however, had a Beta value of 0.170 with $p = 0.001$, leading us to not accept Ho4, indicating that Subjective Norms did influence adoption. This was the only dimension of the TPB that was able to predict adoption in both the correlation analysis ($r = .178$, $p < .001$) and the regression analysis (Beta = 0.170, $p = 0.001$). Generation Z consumers in the Poblacion area of Valencia City were influenced in their adoption of eco-friendly products by subjective norms stemming from social groups such as families, friends, and community members. Within marketing management, the results indicated the need for stronger subjective norms-driven marketing approaches for eco-friendly products. This included community-based eco-friendly product marketing, family advocacy marketing, peer advocacy marketing, social influencer marketing, and advocacy marketing through community social networks.

Sethi & Jain (2020) also confirmed this finding. Out of the 501 respondents surveyed, subjective norms showed the most influence on the purchasing intention and subsequent behavior towards green FMCG products, establishing a direct relation between social influence and green buying. Similarly, Jhanji and Kaur (2019) reported subjective norms as the strongest predictor of green purchasing behavior among 301 youth respondents. Khoridah et al., (2026) studied 358 Indonesian Generation Z respondents and found that subjective norms (contrary to income) significantly and positively influenced the purchase decision for green skincare. This means that, contrary to economic factors, psychological and social factors mainly influenced Generation Z's sustainable consumption behavior. Furthermore, Cao (2025) examined 302 Generation Z respondents from Vietnam and found that subjective norms and social media significantly influenced buying intention and behavior towards green cosmetics. Regarding the significance of subjective norms in the Philippines, they were tied to the country's collectivist culture. The social influence described the values of "pakikisama" (social conformity and harmony), "utang na loob" (reciprocity and obligation), and "bayanihan" (communal solidarity), which shaped the behavior of individuals in a community and this was why SN was the only TPB dimension to significantly influence the adoption of eco-friendly products in Poblacion, Valencia City, Bukidnon.

Perceived Behavioral Control and Adoption of Eco-Friendly Products

The Regression analysis gave a Beta standardized coefficient of 0.079 with a p-value of 0.130, which was higher than the 0.05 significance level, so Ho4 was accepted. This implied that Perceived Behavioral Control did not have a significant effect on the Adoption of Eco-Friendly Products. While respondents reported a moderate to high level of control over their adoption of eco-friendly products (mean = 5.44), this control did not significantly influence actual adoption, even after controlling for other TPB constructs. For marketing management, this meant that marketers had to create real enabling conditions, such as enabling pricing, accessible retail places, and clear product labels, as opposed to merely reinforcing consumers' belief that they could adopt eco-friendly products.

This outcome was consistent with Laheri et al., (2024), who found that perceived behavioral control toward buying green products did not significantly affect green purchase behavior, suggesting that PBC operates differently at the intention versus the behavioral level. Gul & Ahmed (2024) also reported that, even if PBC influenced intention, it may not always have influenced actual behavior. The non-significance of PBC in the Philippine context could have stemmed from the economic deprivation of most respondents, where limited budget availability, poor market accessibility in Poblacion, Valencia City, and priority expenditure requirements for food, schools, and transport may have outweighed their perceived control over real adoption.

Overall Consumer Buying Behavior and Adoption of Eco-Friendly Products

The regression analysis returned a standardized Beta coefficient of 0.126, t-value of 2.444, and p-value of 0.015, which was lower than the level of significance of 0.05; therefore, Ho4 was rejected. This suggested that Overall Consumer Buying Behavior had a significant effect on the Adoption of Eco-Friendly Products, but as its R-squared value was equal to 0.016, it explained only 1.60% of the variance in adoption.

While the explanatory power was extremely low, a statistically significant p-value substantiated that the overall TPB construct did have a weak but verifiable effect on adoption. This finding was meaningful for marketing management, as whilst the separate TPB dimensions (except SN) were not significant predictors of adoption, together they exerted a small but statistically significant impact, implying that a holistic marketing strategy targeting all four TPB components at once may have led to a cumulative effect on adoption unattainable by single-component strategies.

This finding was corroborated by Ong et al., (2023), who found that the joint TPB model retained explanatory power in predicting behavior in the developing-country context of the Philippines despite varying importance between individual constructs. Muzammil & Vijayaraj (2025) also found that the overall model better predicted behavior than individual constructs, consistent with the finding of the present study demonstrating that CBB as an additive construct was significant while most individual dimensions were not.

In the current study, the relatively low R-squared of 1.60% suggested that much of the variance in consumption behaviors actually lay with non-TPB factors such as product availability, price-accessibility issues, trust in eco-labels, government policies, and community-level infrastructures.

Validation of the Theoretical Framework

Results of the current study partially confirmed the Theory of Planned Behavior (Ajzen, 1991) as the anchor theory of this research. TPB was partially validated in this study, with Subjective Norms found to be the only single TPB dimension that significantly associated with ($r = .178$, $p < .001$) and exerted a sizeable effect ($\text{Beta} = 0.170$, $p = 0.001$) on Eco-Friendly Product Adoption. Behavioral Intention, Attitude, and Perceived Behavioral Control were not significant predictors of adoption, contrary to the basic TPB route. Although the Overall Consumer Buying Behavior construct did significantly predict adoption ($\text{Beta} = 0.126$, $p = 0.015$), it had extremely low explanatory power ($R\text{-squared} = 0.016$), indicating that the TPB model only explained a small percentage of variation in adoption behavior.

The partial acceptance of the TPB implied that while it was still applicable for explaining eco-friendly consumer behavior, other contextual variables not associated with the TPB, including product availability, economic constraints, trust in eco-labels, and cultural norms specific to the Philippine setting, significantly contributed to adoption behaviors. Subjective Norms was the only significant predictor, underlining how well-adjusted the TPB was in terms of social influence in collectivist contexts like the Philippines, where group-oriented values such as pakikisama, bayanihan, and utang na loob heightened the impact of social pressure on consumption choices. The present study thus concluded that the Theory of Planned Behavior was partially supported, with the social influence pathway being the only confirmed TPB mechanism for eco-friendly product adoption among Generation Z consumers in Poblacion, Valencia City, Bukidnon.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presented a summary of findings, conclusions, and recommendations based on evidence collected in line with the study entitled "Consumer Buying Behavior Towards the Adoption of Eco-Friendly Products: An Analysis from Generation Z Consumers of Goods in Poblacion, Valencia City, Bukidnon." The summary of findings answered the five statements of the problem through descriptive and inferential results, while the conclusions identified whether the results supported or negated the Theory of Planned Behavior (Ajzen, 1991) as the anchor theory of the study. Lastly, the recommendations were addressed to eco-friendly product manufacturers and marketers, the local government of Valencia City, barangay officials of Poblacion, educational institutions, and future researchers.

Summary of Findings

This study examined the effects of consumer buying behavior — BI, A, SN, and PBC — on eco-friendly product adoption among 370 Generation Z consumers in Poblacion, Valencia City, Bukidnon, using Ajzen's (1991) Theory of Planned Behavior (TPB). The most frequent demographic among the respondents was aged 20 to 24 years old (45.4%); single (91.9%); had nearly equal sex distribution (50.5% female, 49.5% male); belonged in

the poor income group category (81.9%); were aware of eco-friendly products (51.1%) with at least once a month purchase frequency (55.9%) and willingness to adopt (58.6%). All TPB constructs and adoption ranked within the "Agree" range, with BI exhibiting the maximum score ($M = 5.8475$, $SD = 0.836$). Demographic profiles did not differ significantly in predicting consumer buying behavior or adoption, except for a significant difference between BI for age groups 18–19 and 20–24 ($p = 0.001$). A significant correlation was found between only Subjective Norms and adoption ($r = .178$, $p < .001$), and only Subjective Norms were significant predictors of adoption ($\beta = 0.170$, $p = 0.001$). At the same time, BI, A, and PBC were not significant predictors. Overall, Consumer Buying Behavior significantly influenced adoption ($\beta = 0.126$, $p = .015$). Still, it accounted for only 1.60% of the variance ($R^2 = 0.016$), partially validating the TPB with Subjective Norms as the only confirmed pathway to adoption of eco-friendly products.

Conclusions

The findings revealed that the majority of Gen Z consumers of goods in Poblacion, Valencia City, Bukidnon were young adults belonging to the 20–24 years old (45.4%); single (91.9%), and a similar proportion of females (50.5%) and males (49.5%); significantly identified as poor income class accounting for a greater extent (81.9%). Even though these consumers were low-income, they had reported 51.1% eco-friendly product awareness (fully aware of them or knowledgeable about them); 55.9% of the respondents bought these products frequently (at least once a month); and the willingness to buy was up to 58.6%. All four TPB constructs— Behavioral Intention ($M = 5.8475$), Attitude ($M = 5.5541$), Subjective Norms ($M = 5.4451$) and Perceived Behavioral Control ($M = 5.44$) — and Adoption of Eco-Friendly Products ($M = 5.4741$), made it to the "Agree" range which indicated that they could be predominantly practiced in buying behaviors toward eco-friendly products. Wide-based demographic variables, including marital status, sex, monthly income level, frequency of purchase, and awareness/willingness to adopt eco-friendly products, did not significantly discriminate among consumer buying behavior/expression or adoption levels; the only noteworthy finding being that Behavioral Intention differed between 18–19-year groups and 20–24-year groups ($p = 0.001$). These descriptive results contradicted the common belief that income is a necessary condition for green consumption. They implied that Generation Z respondents in this part of the world were green-minded and open to sustainable goods regardless of class status.

These inferential results confirmed Ajzen's (1991) Theory of Planned Behavior as the theoretical framework for this research. Among the four TPB constructs, only Subjective Norms had a statistically significant relationship ($r = .178$, $p < .001$) and a statistically significant predictive force upon the mental assumption ($\beta = 0.170$, $p = 0.001$). On the other hand, Behavioral Intention ($r = .009$, $p = .863$; $\beta = -0.111$, $p = .262$), Attitude ($r = .048$, $p = .359$; $\beta = 0.114$, $p = .253$), and Perceived Behavioral Control ($r = .084$, $p = .106$; $\beta = 0.079$, $p = .130$) were not significantly associated with or did not affect adoption, indicating an intention-behavior gap as respondents had reported high levels of behavioral intention ($M = 5.8475$, the highest between all constructs) and favorable attitudes. Yet none of these translated into a corresponding association with actual adoption. TPB dimensions when aggregated as Overall Consumer Buying Behavior significantly influenced adoption ($\beta = 0.126$, $p = .015$), but with very low explanatory power ($R^2 = 0.016$), i.e., just 1.60% of the variance in adoption was explained by the model. These findings showed that the TPB was only partly validated in this Generation Z Filipino context: the social influence pathway — grounded on collectivistic cultural values of pakikisama (social conformity), bayanihan (communal solidarity) and utang na loob (reciprocity) — the TPB mechanism in which consumer buying behavior translated to actual adoption of eco-friendly products was confirmed as significant, while individual-level pathways from Behavioral Intention, Attitude and Perceived Behavioral Control were not supported.

Recommendations

The results showed that eco-friendly product manufacturers and marketers should have developed new marketing strategies that signaled social influence, considering that Subjective Norms was the only significant predictor ($r = .178$, $p < .001$; $\beta = 0.170$, $p = 0.001$) of the practice of using eco-friendly products. In this case, manufacturers and marketers should have prioritized peer testimonial campaigns, family-endorsed promotions, community messaging and sponsorships, and social pressure-utilizing influencers to market eco-products to Gen

Z, and they should also focus on influencers as a key approach since Generation Z are easy to influence based on result and Subjective Norms was the only significant predictor of the practice of using eco-friendly products. Based on this study, the best practice was to leverage subjective norms, the dominant factor influencing eco-product adoption and retention, through word-of-mouth referrals and community-linked marketing. Moreover, considering that sex ($p = 0.906$ for BI; $p = 0.452$ for AD) and marital status ($p = 0.334$ for overall CBB; $p = 0.231$ for AD) had no significant impact on consumer buying behavior or adoption, the research supported gender-neutral and marital-status-neutral marketing campaigns in this market.

In contrast, most respondents (81.9%) were considered low-income and yet were still willing to adopt, while self-reports indicated that low-income eco-friendly product consumers (55.9%) and willingness to adopt (58.6%) were also low. This meant that eco-friendly products were priced too high for regular purchase and that manufacturers needed to offer smaller and cheaper pack sizes available at within-reach local retail stores, such as sari-sari stores or public markets located in close proximity to consumers in Poblacion, Valencia City, Philippines. This suggested that manufacturers were overlooking consumers' efforts to reduce the intention-behavior gap that was evident in this study.

The Structural Interventions for Sustainable Consumption facilitator suggested enhancing and sustaining eco-friendly consumption at the community level by fostering partnerships with local government units and barangay officials in Poblacion. It was determined that Subjective Norms — an indicator of social expectations from the family, friends, peers, and community of the respondent — was the only significant predictor of adoption; therefore, LGU and barangay officials should have spearheaded community-based norm-setting activities, such as public commitments (the main instrument on which all subsequent lifestyle behavior change strategies were based), barangay eco-friendly product fairs, and partnerships with local NGOs and churches to instill sustainable consumption as a community value. The idea of providing subsidies or other incentives to local businesses that offered eco-friendly products was also relevant in the context of improving product availability and affordability. Promotion of eco-friendly products should have also been part of existing waste management and environmental initiatives. This would have created a more supportive policy context for socially based eco-friendly consumption, in conjunction with Republic Act 9003 (Ecological Solid Waste Management Act) and the Green Jobs Act (RA 10771). Finally, the LGU should have partnered with schools to establish sustainability initiatives in barangays and schools targeting Generation Z consumers.

Valencia City educational institutions ought to have improved senior high school and university-level sustainability education, where there was the most potential for improvement, considering the youngest Gen Z cohort (18–19 years old), whose Behavioral Intention was considerably lower than that of the 20- to 24-year-old category ($p = 0.001$). This age-group finding indicated that senior high school students were still at the stage of forming an environmental identity and developing consumer independence. At that point in time, a robust self-initiated Behavioral Intention could have been harnessed through the provision of customized sustainability curricula, school Environmental Education (EE) projects, and participatory EE activities (eco-product fairs, recycling drives, sustainability challenges, etc.).

Because Gen Z consumers were digitally oriented, educational institutions should have focused their social media campaigns on sustainability, encouraged pro-social (eco-friendly) purchasing, and promoted Environmental Education peer campaigns on social media (i.e., TikTok, Facebook, YouTube). Partnerships with eco-friendly brands, sustainability-driven student organizations, and influencer marketing were expected to strengthen the subjective norms of the participants — the only significant predictor of sustainable behavior — for the 20- to 24-year-old university students.

The findings and implications of this study left opportunities for future researchers. First, the TPB model had extremely poor explanatory power. The model accounted for only 1.60% of the variance ($R^2 = 0.016$, Adjusted $R^2 = 0.013$); therefore, the adoption of eco-friendly products was due to factors that the TPB constructs did not capture. Future research should examine factors outside of the TPB constructs, such as product unavailability, trust in eco-labels, the phenomenon of greenwashing, product quality and price, and the availability of community-level infrastructure for the sustainable consumption of eco-friendly products. Furthermore, alternative theoretical approaches should be explored that could possibly offer greater explanatory power in the Philippine context, such as the Norm Activation Model (Schwartz, 1977), Value-Belief-Norm (VBN) Theory

(Stern, 2000), or Theory of Trying (Bagozzi and Warshaw, 1990). Behavioral Intention, Attitude, and Perceived Behavioral Control exhibited an intention–behavior gap. The notable gaps called for qualitative study (interviews, focus group discussions, or ethnography) to identify the structural, economic, and psychological barriers in low-income Filipino communities that prevented people with strong intentions and positive attitudes from adopting the behavior.

Future researchers might consider the participants from outside of Poblacion, Valencia City, and try to make distinctions between rural and urban areas in other barangays of Bukidnon, or even other provinces of Mindanao, to clarify better if Subjective Norms was the only significant TPB pathway in the case of one Filipino Generation Z collectivist community, and whether the case was confined to this community or whether it could be generalized to a broader and more diverse Filipino populace across generations. Lastly, this study advocates the inclusion of longitudinal research designs to capture the possible changes in patterns of consumer buying behavior, intention–behavior gap, and levels of adoption of eco-friendly products over time due to changes in environmental policies, prices of eco-friendly products, and digital sustainability marketing campaigns in the Philippines.

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