OPEN ACCESS

Willingness to Pay More for Sustainable Products by Sustainability Generation (Generation Z) - Empirical Evidence from Pakistan

Uzma Anis[1]*, Syed Ahsan Zaheer[2], Reema Frooghi[2]

[1]Department of Business Administration, Jinnah University for Women, Karachi, Pakistan
[2]Department of Business Administration, Iqra University, Karachi, Pakistan

ABSTRACT

Background: The objective of this study is to enhance the existing body of literature by conducting an empirical analysis focused on Generation Z, renowned for its heightened environmental consciousness and willingness to pay (WTP) premiums for sustainable products in Pakistan. By delving into the specific preferences and behaviors of this demographic, marketers can better allocate their resources and tailor products to meet the distinct needs of various generations. Thus, further research is imperative to gain deeper insights into the environmental concerns of Generation Z and inform strategic marketing decisions accordingly.

Methodology: The study adopts a deductive approach to assess customer willingness to pay (WTP) for sustainable goods, utilizing Daniel Soper's calculator for sample size determination. A total of 314 respondents from Generation Z, consumers of sustainable products, completed the questionnaires, which underwent pre-testing and adaptation. The relationship between sustainability drivers and consumers' propensity to pay premiums is analyzed employing the Partial Least Squares (PLS) approach.

Results: The results highlight th at Generation Z's consumption of green products is influenced by environmental concerns, perceptions of a greener future, and perceived quality of eco-friendly items. These factors collectively contribute positively to their willingness to pay premiums for sustainable products.

Conclusion: This study presented pioneering evidence on how perceptions of quality, benefits, and future green vision among young Pakistani Generation Z consumers impact their inclination to invest in sustainable products. Additionally, it sheds light on the signalling function of green products in this demographic.

Keywords: Generation Z, Environmental Awareness, Environmental Concern, Sustainability, Green Future Estimation, Green Perceived Benefits, Green Perceived Quality, Signalling Theory

Article info.
Received: August 27, 2023
Accepted: December 28, 2023

Funding Source: *Nil*
Conflict of Interest: *Nil*

***Address of Correspondence:**
uzmaabashir@gmail.com

Cite this article: *Qureshi A. R. and Raza B. (2023). Effect of Organizational Identification, Work Regulatory Focus and I-Deals on Unethical Pro-Organizational Behaviors: The Pharmaceutical Industry. RADS Journal of Business Management, 5(2): 158–179.*

1. INTRODUCTION

An ecological imbalance and over-exploitation of natural resources result from the economy's rapid expansion (Afrifa *et al.*, 2020). Sustainable consumption practices, such as making ecologically responsible purchases and using products, are essential for sustainable development (Nekmahmud *et al.*, 2022). Environmental problems can be resolved by shifting human behavior toward achieving greater environmental sustainability (Han, 2020). Promoting sustainable development is believed to depend on consumers' engagement in sustainable consumption practices, including how they choose, acquire, and use products (Wang & Shen *et al.*, 2020). Establishing a sustainable market is a task entrusted to the marketing function of commercial organizations, as they endeavor to accelerate ecosystem recovery by familiarizing customers with the need for sustainable products, thus convincing them to change their buying habits from conventional to contemporary sustainable products (Kaur *et al.*, 2022). Consumer concerns about sustainability are growing, leading to increased activities with significant sustainable marketing factors and the rise of environmentally friendly products, often known as sustainable products (Squires, 2019).

Businesses need to understand how customers view and plan to purchase environmentally friendly products because customers' choices of goods and services have both direct and indirect negative effects on the environment (Puigvert *et al.*, 2020). Many companies are now employing a range of media channels, such as social media, to advertise their products to access untapped areas and increase their investments in sustainable marketing (Sun & Wang, 2020). Individuals born between 1997 and 2012 are known as Generation Z. This generation is also known as iGen or sometimes called Centennials, following the millennial generation. Gen Z was raised with access to the internet and social media. They are regarded as a tolerant generation and heavy smartphone users (Kaplan, 2020). This generation values inclusivity and diversity. As tech-savvy, mobile-first individuals, they have high hopes for how they wish to use their online time.

This research will add value to the body of sustainable marketing literature by conducting an exploratory analysis of the determinants (environmental concerns, green future estimation, green perceived benefits, and green perceived quality) influencing Generation Z's willingness to pay a premium for sustainable products. Signalling theory is incorporated in the analysis to study dimensions, including environmental concerns, green future estimations, green perceived benefits, and green perceived quality, in a distinct framework applied to Generation Z. Through this innovative approach, the research aims to enhance the existing body of knowledge in sustainable marketing.

The past two centuries have seen rapid growth in commerce and the Industrial Revolution, leading to excessive consumption and depletion of natural resources in society. Consequently, the globe is currently dealing with serious ecological issues such as deforestation, soil erosion, air and water pollution, and climate change (Al-Mamun *et al.*, 2019). Age is a significant factor in choosing environmentally and socially responsible products, and environmental concern and perceived consumer efficacy are important indicators of environmentally and socially responsible purchasing behavior across all generational cohorts (Casalegno *et al.*, 2022).

Technology has advanced significantly in the 21st century, and the internet has integrated itself into daily life without exception (Štimac *et al.*, 2022). According to Dimock (2019), those born between 1981 and 1996 are known as millennials, but everyone born after 1997 is considered Generation Z. The first generation to have grown up with access to modern technology, the internet, and digital communication is Generation Z (Štimac *et al.*, 2022). Generation Z consumers wish to spend a greater amount (on average 10% more) and choose sustainable brands. Gen Z is the most environmentally friendly generation, as per the survey (Firstinsight, 2020). For marketers to select where to focus their marketing efforts and help create particular products for distinct generations, more research is needed to gain a better grasp of the environmental concerns of Generation Z (Abdelkader & Attallah, 2021).

We identified a research gap in willingness to pay an additional amount for sustainable goods by Generation Z after reviewing the literature. Previous research findings revealed that there were hardly any papers published on willingness to pay (WTP) for green products in Pakistan among Gen Z customers. The research questions below are developed considering prior academic literature:

- **RQ1:** Does willingness to pay more by the young generation of Z for sustainable products reflects their environmental concern?
- **RQ2:** How much does willingness to pay more for sustainable goods by Gen Z depends on how sustainable or environmentally friendly a product is estimated to be in the future (Green Future Estimation)?
- **RQ3:** Do the Generation Z youth's green perceived benefits affect their willingness to pay more for sustainable products?
- **RQ4:** Does the Gen Z youth's willingness to pay for sustainable goods depend on green perceived quality?

Objectives of the Study

This study aims to contribute to the literature on sustainable marketing by conducting an in-depth quantitative exploration of factors such as concern about the environment, environmental awareness, green perceived benefits, green perceived quality, and green future estimation, all of which impact Generation Z's willingness to pay an additional amount for sustainable products. Compared to previous generational cohorts, Generation Z is shown to be more tolerant and culturally aware due to their constant online presence as digital natives and upbringing in the VUCA (volatility, uncertainty, complexity, and ambiguity) world (Mamula-Nikolić, 2021). An international study on Generation Z found that, compared to earlier generations, this cohort is more active in various forms of activism, demonstrating a strong inclination towards activism and volunteerism, caring about bettering the world, and deliberately choosing brands that align with their values (Perić *et al.*, 2020). As a society, we aim to achieve the Sustainable Development Goals (SDGs) by 2030, with one of the biggest obstacles being the promotion of ethical production and consumption (Prieto-Sandoval *et al.*, 2022). Based on information acquired from diverse sources, including institutional outreach programs, formal education, and green marketing tactics, consumers can make sustainable decisions (Prieto-Sandoval *et al.*, 2022). Developing pro-environmental behavior depends on understanding environmental issues (Carmi *et al.*, 2015). Promoting education is essential for fostering sustainable development and strengthening people's ability to address environmental issues brought on by the existing economic system and globalization. Therefore, it is crucial to disseminate knowledge to this generation. Generation Z consumers prefer to purchase from sustainable brands and are most willing to pay an additional amount for environmentally friendly products, with their ideas guiding their purchasing decisions (Petro, 2021).

This research contributes to Generation Z's understanding of signalling theory and environmentally friendly products. Firstly, it builds upon previous studies suggesting that green items may carry a signalling benefit regarding consumers' attitudes towards the purchase of environmentally friendly products. Consumer perceptions and the value they assign to green products positively influence both their desire to purchase these items and their willingness to pay a premium. Additionally, Generation Z sometimes chooses green products based on trust. However, the signalling effect may not manifest if the price of sustainable goods significantly exceeds that of comparable non-sustainable products (Berger, 2019).

Generation Z youths demonstrate a willingness to pay more for sustainable goods. Therefore, the pricing of green items should be standardized compared to non-green products, aligning with current market trends. To achieve this, businesses may invest in developing innovative production methods that are cost-effective compared to those of their non-green competitors. Additionally, businesses could adopt new strategies to clearly distinguish green products for consumers, such as obtaining green certifications.

2. LITERATURE REVIEW

Signalling Theory

Signalling Theory, initially developed in the fields of biology (Zahavi, 1977) and economics (Bourdieu & Passeron, 1990), underscores the asymmetric nature of knowledge sharing, where individuals convey information to persuade others of their desirable traits, even when these attributes are not readily observable. According to this theory, a signal must be credible for the recipient to accept it; otherwise, they may dismiss it and avoid further interaction with the sender. Individuals who possess the desired quality are willing to pay a premium for signals to be deemed reliable (Berger, 2019). Recent studies leveraging Signalling Theory have linked the purchase of sustainable products to a willingness to pay more, suggesting that the willingness to pay extra for sustainable goods may serve as a signal of social status, pro-social values, and concern for the environment and sustainable future (Ki & Kim, 2022).

Initially applied to the consumption of luxury products, which symbolize high-end consumption of superior quality and distinguish consumers from others (Chung & Kalnins, 2001), Signalling Theory has been extended to encompass other forms of consumption involving costly messaging. Therefore, choosing to consume green or sustainable products may signify a willingness to pay a premium for a sustainable future.

Hypothesis Development

Willingness to Pay More

Consumer willingness to pay (WTP) represents a fundamental aspect of marketing strategy, exerting a significant influence on key marketing decisions, as demonstrated in a state-of-practice study of consumer value assessments (Anderson *et al.*, 1992). The perceived values, both positive and negative, among green consumers significantly impact their willingness to make purchases (Nekmahmud & Fekete-Farkas, 2020). When consumers perceive negative values associated with natural products, they are less likely to purchase them, particularly when compared to conventional products, which are typically less expensive. Previous studies have underscored that consumers are willing to pay for products that meet various criteria, including being environmentally friendly (Katt & Meixner, 2020).

Environmental Concerns

Concerns about climate change among young people stem from their belief that humanity has failed them and that they face an uncertain future due to inadequate government action, leading to feelings of betrayal and abandonment (Hickman *et al.*, 2021). Governments' insufficient response to climate change can result in moral harm, particularly impacting younger generations (Hickman *et al.*, 2021). Parents and educators have observed that children express significant concerns about climate change (Baker *et al.*, 2021). Global youth-led climate strikes and federal lawsuits urging governments to reduce greenhouse gas emissions, alongside support from prominent young climate activists like Greta Thunberg and Isra Hirsi, underscore the deep-seated concerns young people have about the future of their generation (Wu *et al.*, 2020). Isra Hirsi, continuing her environmental advocacy, co-founded the U.S. Youth Climate Strike and served as its executive director, while Greta Thunberg, an internationally recognized young climate activist, participated in the New York strike site (Singh, 2021). The carbon footprint of a young person over their lifetime, or carbon budget, must be eight times lower than that of their ancestors to limit global warming to 1°C, as stipulated by the Intergovernmental Panel on Climate Change in 2018 (Hausfather, 2019).

In daily decisions regarding plastic packaging, environmental considerations rank lowest in importance. Particularly for Generation Z, presumed to be more environmentally conscious than preceding generations, there is limited understanding of how to motivate consumer behavior (Wang *et al.*, 2022). The consumption habits of young consumers differ from those of other generations (Su *et al.*, 2019). They are exposed to

information about environmental and social issues on a daily basis, fostering a dedication to sustainability and sustainable lifestyles (Kumar *et al.*, 2021). Furthermore, they are proactive and seek to participate in green initiatives to effect positive changes in social and environmental conditions (Tewari *et al.*, 2022). Young consumers are characterized as being more educated, technologically adept, distinct, and curious than previous generations (Ladhari *et al.*, 2019). They are also more self-assured and independent, prompting them to define themselves as sustainable consumers and purchase environmentally and socially responsible products (Tewari *et al.*, 2022). Although young people are known for their significant environmental consciousness, research on their responsible consumption, particularly among Generation Z, remains limited (Flurry & Swimberghe, 2016). Willingness to pay a premium for sustainable goods is positively influenced by pro-environmental attitudes and greater environmental awareness (Hao *et al.*, 2019; Khoiriyah & Toro, 2018). Consequently, the following hypothesis is formulated:

H1: *Concerns about the environment positively affect the willingness to pay more for sustainable goods* of Gen. Z.

Green Future Estimation

The demand for sustainable goods plays a crucial role in determining the future demand for sustainable products (Nekmahmud & Fekete-Farkas, 2020). Increased demand for green products is driven by positive consumer demand. Products that offer both environmental sustainability and benefits to consumers, particularly in terms of health and satisfaction, are likely to experience high demand. Previous knowledge outcomes can be considered a private source of knowledge that forms the basis for future judgments (Parkinson *et al.*, 2018).

Green marketing is expected to be most effective for customers with lower or intermediate incomes and is vital for stimulating future demand for sustainable products (Nekmahmud & Fekete-Farkas, 2020). Price significantly influences future decisions regarding the purchase of green products (Lin *et al.*, 2020a), and it is perceived as a barrier to eco-friendly consumption, especially among young consumers with limited budgets (Chaudhary, 2018). Moreover, studies have demonstrated that young consumers' past consumption of sustainable products affects their future intentions, and if the experience is positive, it enhances their willingness to pay more for sustainable goods (Chaudhary, 2018). Therefore, the following hypothesis is formulated:

H2: *Green future estimation of a product has an important positive effect on the willingness to pay more for sustainable goods by the young people of Generation Z.*

Green Perceived Benefits

The concept of "perceived benefit" encompasses how individuals evaluate the satisfactory outcomes of a specific course of action. According to Chandon *et al.* (2000), perceived benefits comprise six components: 1) convenience; 2) value; 3) quality; 4) expressiveness; 5) financial savings; and 6) entertainment. Sustainability not only enhances the quality of life for current and future generations but also serves as an internal reform movement (Sarkar, 2012). Consequently, it is feasible to mitigate environmental harm while ensuring economic benefits (Radojević, 2022). Young consumers exhibit a heightened awareness of sustainable consumption and adjust their consumption patterns accordingly (Staniškis, 2012).

Consumers' personal values, purchasing situations, and other factors all play pivotal roles in determining their willingness to pay for product features (Kovacs & Keresztes, 2022). The imperative to enhance quality of life, combat environmental pollution, and adapt purchasing behaviors has compelled younger generations to

consider environmental factors when making decisions (Dragolea *et al.*, 2023). In this context, representatives of Generation Z demonstrate diverse behavioral patterns; they exhibit a stronger inclination to actively engage in social issues and a heightened sense of responsibility. They are concerned about both the present and future impacts of their actions (Song *et al.*, 2020). Based on this perspective, the following hypothesis is formulated:

H3: *Green Perceived Benefits positively affect the willingness to pay more for sustainable products by the young Gen. Z.*

Green Perceived Quality

The term "green perceived quality" refers to the overall evaluation made by customers regarding a product's environmental excellence or superiority (Wasaya *et al.*, 2021). It represents a distinct attribute that often shapes how environmentally conscious buyers assess a product (Alramsyah *et al.*, 2021). Numerous studies have affirmed the significance of green perceived quality, as it not only prompts favorable responses from consumers but also enhances their inclination to make purchases (Wasaya *et al.*, 2021).

Assessing a product's perceived quality typically involves considering five dimensions: usability, performance, reputation, and utility (Brucks *et al.*, 2000). While experience may not influence a consumer's purchase intention if they have not previously used the product, perceived quality can (Chen *et al.*, 2018). Thus, perceived quality is considered a key determinant of purchase intention (H. Wang & Shen *et al.*, 2020; Wang & Tan *et al.*, 2020). Perceived quality, in this context, is understood as customers' judgments about the product's environmental attributes (Chen & Chang, 2013). Green products are generally viewed favorably by consumers due to their advanced quality standards and favorable cost-benefit ratios (Mahesh, 2013).

H4*: Green perceived quality positively affects the willingness to pay more for sustainable goods by the young people of Gen. Z.*

The Moderating Role of Environmental Awareness (EA)

Environmental awareness refers to the level of knowledge and education within a population regarding environmental issues and methods for conservation (Wasaya *et al.*, 2021). This encompasses understanding everyday activities that individuals engage in, continually adapting their economic and social behaviors, and coordinating interactions with the environment (Fishbein & Ajzen, 1977). Consumer beliefs and attitudes play a crucial role in determining their willingness to pay more for green products. Studies indicate that individuals who prioritize environmental concerns are more inclined to adopt sustainable purchasing practices (Tandon & Sethi, 2017). On one hand, consumers who are highly environmentally conscious are more likely to recognize the potential benefits of green consumption, thereby offsetting some of the costs associated with green products. Conversely, consumers with a strong understanding of environmental issues tend to respond more positively to others' green purchasing decisions, which reflects a form of psychological validation (Latan *et al.*, 2018). Based on the literature, it is hypothesized that consumer awareness of environmental issues can significantly amplify the impact of green future estimation, environmental concern, green perceived quality, and perceived benefits on their willingness to pay extra for environmentally friendly goods (Figure **1**). Consequently, this study proposes the following hypothesis:

H5: *The relationship between environmental concern and willingness to pay more for sustainable goods is moderated by EA.*

H6: *The relationship between the green future estimation and willingness to pay more for sustainable goods is moderated by EA.*

H7: *The relationship between the green perceived benefit and willingness to pay more for sustainable goods is moderated by EA.*

H8: *The relationship between the green perceived quality and willingness to pay more for sustainable goods is moderated by EA.*

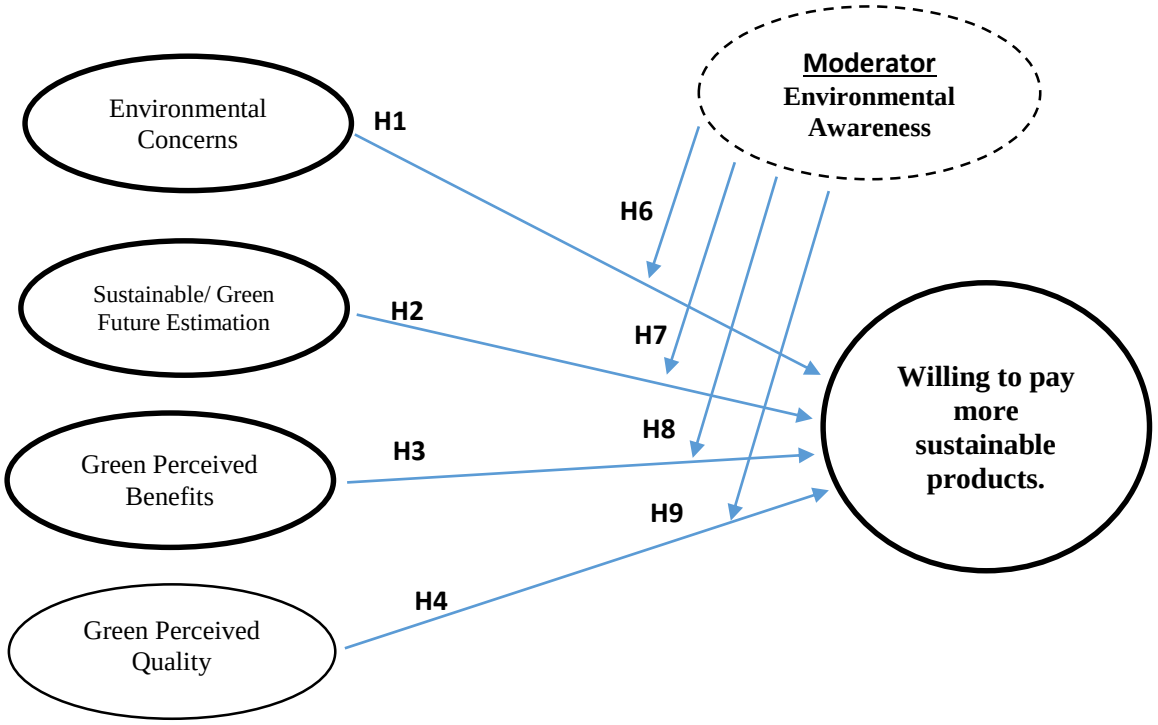


Figure 1. Structural model explaining willingness to pay more for green products by Generation Z.

3. METHODOLOGY

Sample & Measures

This study is influenced by specific research objectives and adopts a positive philosophy. Understanding the epistemological paradigm, as Mark sees it, involves first grasping epistemology as the philosophical perspective on knowledge acquisition – what knowledge constitutes, how it's acquired, and its inherent nature (Mack, 2010). Employing a top-down approach aids in efficiently drawing conclusions for this study. The deductive approach proves highly suitable in determining customer willingness to pay for environmental concern, perceived green quality and benefits, and green future estimation.

Surveys are deemed the most effective research method for this subject, influenced by various factors. Firstly, surveys are a potent technique for gathering the quantitative data that positivist philosophy necessitates (Taylor & Sinha, 2006). Survey research, defined as "the process of collecting data from a specific sample of respondents using their responses to questions" in the dictionary, fits this study's requirements (Check & Schutt, 2011).

Participants provided consent after being briefed on the study's objectives and given the choice to participate anonymously and voluntarily. A pre-test was conducted to ensure participants comprehended the questions. The study comprised 314 respondents, all young individuals from Generation Z.

Selecting an appropriate sampling technique poses a challenge to the researcher, as the study's research questions cannot be addressed by gathering data from every scenario (Rahman *et al.*, 2022). Sampling is the process of selecting a sample from a population, and the use of sampling techniques is crucial in experimental social science research (Suresh *et al.*, 2011). In this study, probability sampling was chosen, deemed the most suitable approach to ensure each sampling unit is representative of its population (Curtin *et al.*, 2005). Participants were purposefully chosen for possessing specific qualities the sample required. The sample size of 200 was determined using a sample calculator from Daniel Soper, deemed adequate to test the hypothesis (Figure **2**). The characteristics of a purposive sample are as follows:

Age: The newest generation, known as Gen Z (1997 and 2012). They are from nine to twenty-four at this time.

Gender: Male and Female

Education: middle school till students of bachelors

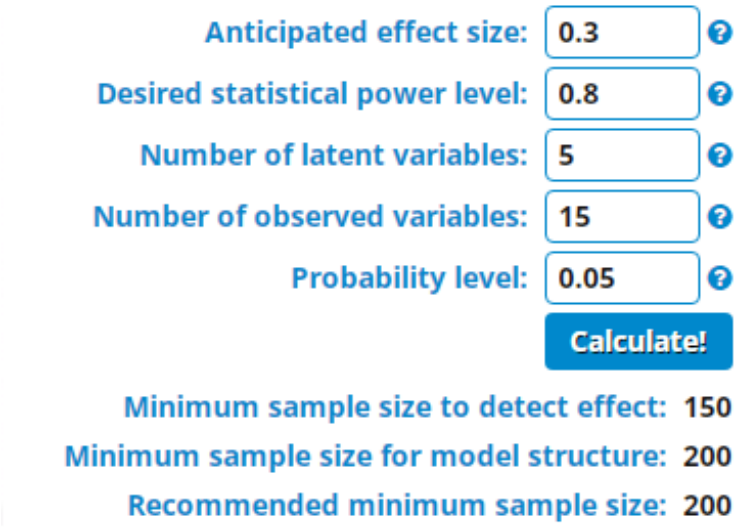


Figure 2. Daniel Soper Sample Calculation

Daniel Soper's basic sample size calculation method initially determined that a minimum sample size of 200 was needed. However, it was recognized that the screening procedure might lead to a reduction in responses. Consequently, data collection continued to ensure an efficient analysis process, resulting in a total of 314 participants.

The questionnaire structure was modeled after that of Nekmahmud & Fekete-Farkas (2020), encompassing sociodemographic characteristics and comprising five categories of questions.

The first set of queries gauged respondents' willingness to pay (WTP) for environmentally friendly goods. The second set focused on "environmental concern," assessing attitudes towards protecting nature and wildlife, enjoying buying eco-friendly goods, considering the environmental impact of purchases, and personal environmental responsibility.

The third group of questions explored "green perceived benefits," evaluating the advantages of green products in terms of their impact on health, taste, and aroma. The fourth group, concerning "green perceived quality," assessed perceptions of reliability, trustworthiness, and faith in green products.

Lastly, the fifth group examined the view of a green future through questions concerning acceptance of green products both currently and in the future. Responses to these questions were rated on a 5-point scale ranging from 1 for "Strongly Disagree" to 5 for "Strongly Agree." (See Table **1** and the Appendix for the questionnaire constructs).

Table 1. Total Items & Authors.

Items	AVE	CR	α	Adapted from Authors
Variable 1 - Willingness to pay	0.715	0.811	0.802	Shi and Jiang (2022)
Variable 2 - Environmental Concerns	0.775	0.811	0.711	Mishal, Dubey, Gupta, and Luo (2017)
Variable 3 - Green Future Estimation	0.65	0.828	0.820	Focus group discussion
Variable - 4 Green Perceived Benefits	0.785	0.726	0.726	Islam and Zabin (2013)
Variable - 5 Green Perceived Quality	0.758	0.844	0.84	Islam and Zabin (2013)
Variable- 6 Environmental Awareness	0.747	0.835	0.831	Shi and Jiang (2022)

Between July and August, data were collected through an online survey distributed to young Generation Z Pakistani users via social media platforms such as Facebook and WhatsApp. Participants provided their consent after being informed about the study's objectives and were given the option to participate anonymously and voluntarily. Additionally, a pre-test was conducted to ensure participants' comprehension of the questions.

Data Analysis

The variables utilized in this study underwent statistical analysis using SPSS v.25. Hypotheses were tested using the Partial Least Squares (PLS) method through Smart PLS 4 (Ringle *et al.*, 2022). PLS is particularly suitable for samples obtained via surveys as it does not require data normality and allows for the optimization of correlations between latent variables and collected items (Ringle *et al.*, 2020). Construct reliability and validity were assessed using three measures: Cronbach's Alpha (C > 0.70), Composite Reliability (CR > 0.70), and Average Variance Extracted (AVE > 0.50) (Hair *et al.*, 2019). Discriminant validity was evaluated using the Fornell-Larcker criterion, while the R2 values of the endogenous latent variables were used to assess predictive prediction.

4. RESULTS AND ANALYSIS

The variables utilized in this study underwent statistical analysis using SPSS v.25. Hypotheses were tested using the Partial Least Squares (PLS) method through Smart PLS 4 (Ringle *et al.*, 2022). Given its ability to optimize correlations between latent variables and collected items without requiring data normality, PLS is particularly suitable for samples obtained through surveys (Ringle *et al.*, 2020).

Before commencing the study, a questionnaire was administered to 30 individuals to assess its validity and reliability, as measured by Cronbach's Alpha (Table **2**).

Table 2. Pilot testing reliability and Cronbach's Alpha (n=30).

Variable Name	Items	Cronbach's Alpha
Environmental Concern	4	0.943
Green Future Estimates	4	0.949
Green Perceived Benefits	2	0.941
Green Perceived Quality	3	0.963
Willingness to Pay	3	0.944

The table **2** indicates that the instrument can be effectively utilized for full-scale data collection, with Cronbach's Alpha typically accepted at a level of 0.70 (Chan & Idris, 2017). However, the presence of univariate outliers in the sample could potentially skew the statistical results. To mitigate this issue, data points with extreme values for any of the variables were identified and removed using SPSS. Initially, the dataset consisted of 314 responses, but after conducting univariate analysis in SPSS, 22 responses were excluded, resulting in a total of 292 remaining.

Equally important is the identification and removal of multivariate outliers in the dataset. Multivariate outliers, characterized by abnormal scores on at least two different factors, must be addressed to ensure the robustness of the analysis. Using Mahalanobis with a significance level of 0.001, 5 responses were eliminated, reducing the total to 287. These 287 responses surpass Daniel Soper's minimum requirement of 200. Subsequently, these responses underwent additional validity and reliability testing using Smart-PLS.

Descriptive Analysis and Interpretations

Out of the initial sample of 321 young people from Generation Z, a majority, comprising over 50%, expressed their willingness to purchase sustainable products. Among these respondents, 66% identified as female, while 34% identified as male. In terms of professional occupation, all respondents were students attending various schools or universities (Table **3**).

Table 3. Demographic Details.

		Frequency	Percent	Valid Percent	Cumulative Percent
GENDER					
Valid	Female	209	66.6	66.6	66.6
	Male	105	33.4	33.4	100
	Total	314	100	100	-
AGE					
Valid	9 - 14	0	0	0	0
	15 - 20	79	25	25	25
	21 - 26	235	75	75	100
	Total	314	100	100	-

For the age groups, 25% of the respondents belonged to the age group of 15 – 20 and 75% belonged to the 21 – 26 age brackets.

Outer Model Measurement

Outer loadings play a crucial role in assessing the validity and reliability of constructs in a model by indicating the absolute contribution of each item to its corresponding construct. Generally, a standard threshold for outer loadings is set at 0.7 or higher. Some researchers suggest that outer loadings of 0.65 or higher can also be acceptable. However, in this case, all the outer loadings were found to be greater than 0.7, indicating a strong association between the items and their respective constructs (Table **4**).

Table 4. Outer Loadings.

Variables	EC	GFE	GPB	GPQ	WTP
EC1	0.882	-	-	-	-
EC3	0.88	-	-	-	-
GFE1	-	0.741	-	-	-

GFE2	-	0.85	-	-	-
GFE3	-	0.826	-	-	-
GFE4	-	0.804	-	-	-
GPB1	-	-	0.888	-	-
GPB2	-	-	0.884	-	-
GPQ1	-	-	-	0.872	-
GPQ2	-	-	-	0.845	-
GPQ3	-	-	-	0.894	-
WTP1	-	-	-	-	0.857
WTP2	-	-	-	-	0.83
WTP3	-	-	-	-	0.849

Cronbach's alpha, composite reliability (rho_a), composite reliability (rho_c), and Average Variance Extracted (AVE) are crucial metrics used in Smart-PLS 4 to assess construct reliability and validity. Among these, rho_c and AVE are considered the most important indicators. To ensure construct validity, the AVE value should be greater than 0.5. The table **5** presents the construct reliability and validity:

Table 5. Construct Reliability.

Variables	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
EC	0.711	0.874	0.775
GFE	0.82	0.881	0.65
GPB	0.726	0.88	0.785
GPQ	0.84	0.904	0.758
WTP	0.802	0.883	0.715

Discriminate validity is the degree to which each variable in the model differs from the others (Ringle *et al.*, 2015). For this study, two main criteria were applied. Cross loadings were tested first. A particular variable's cross loadings cannot load more heavily than the variable itself. The cross loadings table **6** is provided below:

Table 6. Cross Loadings.

Cross Loadings					
Variables	**EC**	**GFE**	**GPB**	**GPQ**	**WTP**
EC1	0.882	0.665	0.631	0.509	0.857
EC3	0.88	0.651	0.589	0.592	0.849
GFE1	0.538	0.741	0.624	0.617	0.549
GFE2	0.654	0.85	0.709	0.611	0.671
GFE3	0.651	0.826	0.693	0.632	0.682
GFE4	0.555	0.804	0.602	0.598	0.587
GPB1	0.626	0.718	0.888	0.573	0.63
GPB2	0.601	0.73	0.884	0.711	0.62
GPQ1	0.561	0.669	0.665	0.872	0.585
GPQ2	0.49	0.637	0.584	0.845	0.528
GPQ3	0.576	0.678	0.639	0.894	0.599
WTP1	0.882	0.665	0.631	0.509	0.857

WTP2	0.665	0.653	0.566	0.571	0.83
WTP3	0.88	0.651	0.589	0.592	0.849

Fornell and Larcker's criteria made up the second set of requirements. As shown Table **7**, to meet this requirement, the variable's value must be greater than that of the other variables in the column.

Table 7. Fornell and Larcker's Criteria.

Variables	**Fornell and Larcker's criteria**				
	EC	**GFE**	**GPB**	**GPQ**	**WTP**
EC	0.881	-	-	-	-
GFE	0.747	0.806	-	-	-
GPB	0.693	0.817	0.886	-	-
GPQ	0.625	0.76	0.724	0.87	-
WTP	0.869	0.776	0.706	0.657	0.845

Inner Model Measurement & Hypothesis Testing

Once the inner models are established and confirmed to be accurate and reliable, the next step is to examine the relationship within the model to investigate the proposed hypothesis. For this purpose, Smart-PLS SEM is being optimized to test the hypothesis. This approach was chosen mostly because of the software's ability to handle complex models and produce effective and efficient results. To accomplish this, bootstrapping was calculated, and the results are shown in Table **8**.

Table 8. Bootstrapping - Path Coefficients.

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**	**Results**
EC -> WTP	0.871	0.869	0.027	31.809	0.0000	Accepted
GFE -> WTP	0.081	0.08	0.035	2.322	0.0200	Accepted
GPB -> WTP	-0.039	-0.038	0.038	1.024	0.3060	Rejected
GPQ -> WTP	0.025	0.026	0.029	0.861	0.3890	Rejected

The table underpins the results of bootstrapping, it is ostensible that out of 04 hypotheses, two hypotheses are excluded. The results from the bootstrapping results depict that green perceived benefit and green perceived quality is negatively associated with the willingness to pay more for environment friendly product. The bootstrapping estimations illustrate positive results on rest of the hypothesis in direct relation shown in (Table **8a**).

Table 8a. Bootstrapping.

Moderating Path						
Hypothesis	**Original sample (O)**	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**	**Result**
EA x EC -> WTP	0.013	0.01	0.024	0.535	0.592	Rejected
EA x GFE -> WTP	-0.06	-0.06	0.027	2.216	0.027	Accepted
EA x GPB -> WTP	0.063	0.063	0.021	3.002	0.003	Accepted

EA x GPQ -> WTP	0.001	0.003	0.015	0.047	0.962	Rejected

The current study examined green environmental awareness as a moderator between environmental concern and willingness to pay, green future estimates and willingness to pay, and green perceived quality and willingness to pay. Additionally, environmental awareness is considered a moderator between green perceived quality and willingness to pay more for sustainable products. It is assumed that a higher level of environmental awareness, coupled with green future estimation and perceived benefits, would influence Generation Z to buy more sustainable products. The results support Hypotheses 6 and 7, based on the p-values which are p=0.027 and p=0.003 respectively.

5. THEORETICAL IMPLICATIONS

In this study, variables such as environmental concerns, green future estimates, green perceived quality, and green perceived benefits were considered. Environmental considerations have been found to impact green purchasing behavior (Arısal & Atalar, 2016). Additionally, the favorable influence of attitudes towards social and environmental benefits on sustainable buying patterns has been noted (Nekmahmud & Fekete-Farkas, 2020). It was found that Gen Z customers' willingness to pay (WTP) more for sustainability is positively influenced by their environmental awareness. Hence, we can argue that this generation of Pakistani buyers is becoming more educated about the value of protecting the environment and is eager to help solve environmental issues (Wei et al., 2018). Thus, H1 is accepted, underscoring the significant relationship between environmental concerns (EC) and WTP.

Additionally, in the second hypothesis, it was found that Gen Z customers' WTP more for sustainability in the future is positively influenced by a product's green future estimations. The findings imply that these consumers may be inclined to spend somewhat more on green or sustainable products, depending on their current consumption patterns. Green marketing may, therefore, have a significant impact on Gen Z consumers, especially considering that they typically have tighter budgets (Chaudhary, 2018). Sustainability products are generally more expensive than non-sustainable products (Shen et al., 2019), and Gen Z customers are cost-conscious (Lin et al., 2020a). However, Generation Z consumers may be more willing to spend extra in the future for green or sustainable products if they have a positive experience with them (Boronat-Navarro & Pérez-Aranda, 2020). Thus, H2 is supported, highlighting the significant positive relationship between green future estimation (GFE) and WTP.

It was also found that Generation Z's WTP more for sustainable products is negatively impacted by how positively they perceive the green benefits. This finding is concerning since it suggests that young Pakistani Generation Z consumers are not willing to pay more for green products, despite recognizing their benefits. The perceived benefits of green products are acknowledged by younger consumers, who are willing to pay an additional price for greater perceived benefits. There is increasing pressure from governments and society on sustainability challenges (Nogueira et al., 2022). As a result, consumers may feel pressured to make greener or sustainable product purchases, leading to changes in their consumption patterns. Regarding green foods, politicians and businesses have in recent years increased public awareness that these products are healthy, delicious, environmentally beneficial, and can prevent disease (Nekmahmud & Fekete-Farkas, 2020). Thus, H3 is not supported, indicating a significant negative correlation between green perceived benefits (GPB) and WTP in Pakistan.

Finally, in Hypothesis 4, Generation Z in Pakistan is negatively impacted by their perception of sustainability in terms of their willingness to pay extra for sustainable goods. This is concerning because sustainable products are generally of higher quality than non-sustainable ones (Shen et al., 2019). Consumers typically consider prices as indicators of a product's quality, believing that high-quality products cost more to produce and are

therefore more expensive than low-quality products (Kirmani & Rao, 2000). Therefore, Generation Z customers' purchasing decisions are not significantly influenced by green perceived quality.

Based on the moderation results of both hypotheses, environmental awareness and green future estimation, and environmental awareness and green perceived quality showed a significant relationship with willingness to pay more (WTP). However, the other two hypotheses, environmental awareness and environmental consideration, and environmental awareness and green perceived quality, showed a negative influence on willingness to pay more for sustainability. Thus, the data analysis results support Hypotheses 6 and 7, but Hypotheses 5 and 8 are rejected.

This study investigates the impact of Generation Z on WTP for sustainable green products. The empirical findings regarding Gen Z provide significant evidence in favor of the two hypotheses that green future estimates and green perceived benefits, and environmental awareness are positively correlated with customers' willingness to pay more for green or sustainable products. Consumer beliefs and attitudes determine whether they are willing to pay more for environmentally friendly products. According to some scholars, customers who are highly conscious of the environment are more likely to use green purchasing tactics (Tandon & Sethi, 2017). Environmental awareness is crucial because the decision to purchase green products in the future is heavily influenced by price (Lin et al., 2020b). As a result, the perceived quality of being green has little impact on the purchasing decisions of Generation Z consumers (Boronat-Navarro & Pérez-Aranda, 2020).

6. PRACTICAL IMPLICATIONS

This study offers several valuable business implications. Environmental concerns, awareness, green future estimation, and perceived quality are identified as potential determinants of sustainable purchasing, providing marketers with insights to develop more effective strategies for Gen Z customers and promote sustainable consumption. The willingness of Generation Z to pay more for environmentally friendly products will be influenced by these factors, underscoring the significance of historical sustainability behavior among Gen Z consumers and its impact on current and future purchasing decisions. Consequently, marketers can contribute to fostering more environmentally conscious consumer behavior in the future (Joshi & Rahman, 2017). However, it's important to note that while Generation Z consumers may be willing to pay extra for sustainable products, the signalling effect may not occur if the price of sustainable products is significantly higher than that of comparable non-sustainable products (Berger, 2019). Therefore, companies should avoid setting excessively high prices for sustainable products or limit the development of such products to specific markets targeting consumers with higher incomes (Nekmahmud & Fekete-Farkas, 2020).

7. POTENTIAL LIMITATIONS

This study, like many others, has some limitations. The data for this study was gathered only in Pakistan; hence, it is not possible to generalize the findings to other contexts without replicating the study in those situations. The paper focuses on Pakistani Generation Z eco-consumers. However, it would be fascinating to compare the willingness of Generation X and Generation Y to spend more on green items. The sociodemographic characteristics of the respondents were not considered as mediating factors between the factors that influence purchasing green products and the willingness to pay more for them. Future research on the mediating effects of gender, age, income, and education would be intriguing. This study does not target any specific product; rather, it discusses sustainable products in general. As a result, new research can be carried out using the same questionnaire but applying it to products like food, clothing, homes, and cars.

8. FUTURE DIRECTIONS

This study, like many others, has some limitations. The data for this study was gathered only in Pakistan; hence, it is not possible to generalize the findings to other contexts without replicating the study in those

situations. The paper focuses on Pakistani Generation Z eco-consumers. However, it would be fascinating to compare the willingness of Generation X and Generation Y to spend more on green items. The sociodemographic characteristics of the respondents were not considered as mediating factors between the factors that influence purchasing green products and the willingness to pay more for them. Future research on the mediating effects of gender, age, income, and education would be intriguing. This study does not target any specific product; rather, it discusses sustainable products in general. As a result, new research can be carried out using the same questionnaire but applying it to products like food, clothing, homes, and cars.

9. CONCLUSION

A literature gap is identified in terms of answering whether environmental concerns and awareness, future estimations, green perceived benefits, and quality positively impact the readiness to pay more for sustainable products among young consumers of Generation Z in Pakistan. Specifically, their behavior towards sustainable products and the perceived value and quality of the attributes they are paying for are left unexplored in the available literature. Furthermore, it is necessary to provide marketers with fundamental and crucial knowledge that could aid them in growing their businesses. Therefore, the focus of this research is on factors that might be included in strategies to improve readiness to pay among Gen Z.

Another significant contribution of this research is to identify what may guide marketers if they want to attract the Gen Z population of Pakistan and influence their willingness to pay for more sustainable products. Nevertheless, overall, studies on this topic are rare. Similarly, no study has specifically addressed this issue in Pakistan, despite the country having one of the largest populations of youth and Generation Z. As a result, by extending the research to a new region, this study also contributes to the value of literature.

REFERENCES

Abdelkader, O. A., & Attallah, S. (2021). Attitudinal and behavioural loyalty toward green buildings among generations from baby boomers to Z. *International Journal of Services and Operations Management*, *40*(2), 203–216.

Afrifa, G. A., Tingbani, I., Yamoah, F., & Appiah, G. (2020). Innovation input, governance and climate change: Evidence from emerging countries. *Technological Forecasting and Social Change*, *161*, Article e120256.

Al-Mamun, A., Masud, M. M., Fazal, S. A., & Muniady, R. (2019). Green vehicle adoption behavior among low-income households: Evidence from coastal Malaysia. *Environmental Science and Pollution Research*, *26*, 27305–27318.

Alamsyah, D., Othman, N., Bakri, M., Udjaja, Y., & Aryanto, R. (2021). Green awareness through environmental knowledge and perceived quality. *Management Science Letters*, *11*(1), 271–280.

Anderson, J. C., Jain, D. C., & Chintagunta, P. K. (1992). Customer value assessment in business markets: A state-of-practice study. *Journal of Business-to-Business Marketing*, *1*(1), 3–29.

Arısal, I., & Atalar, T. (2016). The exploring relationships between environmental concern, collectivism and ecological purchase intention. *Procedia-Social and Behavioral Sciences*, *235*, 514–521.

Baker, C., Clayton, S., & Bragg, E. (2021). Educating for resilience: Parent and teacher perceptions of children's emotional needs in response to climate change. *Environmental Education Research*, *27*(5), 687–705.

Berger, J. (2019). Signalling can increase consumers' willingness to pay for green products: Theoretical model and experimental evidence. *Journal of Consumer Behaviour*, *18*(3), 233–246.

Boronat-Navarro, M., & Pérez-Aranda, J. A. (2020). Analyzing willingness to pay more to stay in a sustainable hotel. *Sustainability*, *12*(9), Article e3730.

Bourdieu, P., & Passeron, J.-C. (1990). *Reproduction in education, society and culture* (Vol. 4). Sage.

Brucks, M., Zeithaml, V. A., & Naylor, G. (2000). Price and brand name as indicators of quality dimensions for consumer durables. *Journal of the Academy of Marketing Science*, *28*, 359–374.

Carmi, N., Arnon, S., & Orion, N. (2015). Transforming environmental knowledge into behavior: The mediating role of environmental emotions. *The Journal of Environmental Education*, *46*(3), 183–201.

Casalegno, C., Candelo, E., & Santoro, G. (2022). Exploring the antecedents of green and sustainable purchase behaviour: A comparison among different generations. *Psychology & Marketing*, *39*(5), 1007–1021.

Chan, L. L., & Idris, N. (2017). Validity and reliability of the instrument using exploratory factor analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences*, *7*(10), 400–410.

Chandon, B. Wansink, Gi., & Laurent. (2000). A benefit congruency framework of sales promotion effectiveness. *Journal of Marketing*, *64*(4), 65-81. https://doi.org/10.1509/jmkg.64.4.65.18071

Chaudhary, R. (2018). Green buying behavior in India: An empirical analysis. *Journal of Global Responsibility*, *9*(2), 179–192.

Check, J., & Schutt, R. K. (2011). *Research methods in education*. Sage publications.

Chen, C., C., Chen, C.-W., & Tung, Y.-C. (2018). Exploring the consumer behavior of intention to purchase green products in belt and road countries: An empirical analysis. *Sustainability*, *10*(3), Article e854.

Chen, Y.-S., & Chang, C.-H. (2013). Towards green trust: The influences of green perceived quality, green perceived risk, and green satisfaction. *Management Decision*, *51*(1), 63–82.

Chung, W., & Kalnins, A. (2001). Agglomeration effects and performance: A test of the Texas lodging industry. *Strategic Management Journal*, *22*(10), 969–988.

Curtin, R., Presser, S., & Singer, E. (2005). Changes in telephone survey nonresponse over the past quarter century. *Public Opinion Quarterly*, *69*(1), 87–98.

Dimock, M. (2019, January 17). *Defining generations: Where Millennials end and Generation Z begins*. https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

Dragolea, L., Butnaru, G. I., Kot, S., Zamfir, C. G., Nuţă, A.-C., Nuţă, F.-M., Cristea, D. S., & Ştefănică, M. (2023). Determining factors in shaping the sustainable behavior of the generation Z consumer. *Frontiers in Environmental Science*, 11. Article e1096183.

Firstinsight. (2020). *Gen Z shoppers demand sustainable retail*. https://www.firstinsight.com/white-papers-posts/gen-z-shoppers-demand-sustainability

Fishbein, M., & Ajzen, I. (1977). *Belief, attitude, intention, and behavior: An introduction to theory and research*. MA: Addison-Wesley.

Flurry, L. A., & Swimberghe, K. (2016). Consumer ethics of adolescents. *Journal of Marketing Theory and Practice*, *24*(1), 91–108.

Greg Petro. (2021, April 30). *Gen Z is emerging as the sustainability generation*. https://www.forbes.com/sites/gregpetro/2021/04/30/gen-z-is-emerging-as-the-sustainability-generation/?sh=12d3692d8699

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24.

Han, H. (2020). Theory of green purchase behavior (TGPB): A new theory for sustainable consumption of green hotel and green restaurant products. *Business Strategy and the Environment*, *29*(6), 2815–2828.

Hao, Y., Liu, H., Chen, H., Sha, Y., Ji, H., & Fan, J. (2019). What affect consumers' willingness to pay for green packaging? Evidence from China. *Resources, Conservation and Recycling*, *141*, 21–29.

Hausfather, Z. (2019, October 4). *Analysis: Why children must emit eight times less CO2 than their grandparents*. https://www.carbonbrief.org/analysis-why-children-must-emit-eight-times-less-co2-than-their-grandparents/

Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: A global survey. *The Lancet Planetary Health*, *5*(12), e863–e873.

Puigvert, M. R., Ayuso, S., Bala, A., & Fullana-i-Palmer, P. (2020). What factors determine attitudes towards the implementation of a packaging deposit and refund system? A qualitative study of the perception of Spanish consumers. *Journal of Environmental Management*, *270*, Article e110891.

Islam, M. S., & Zabin, I. (2013). Consumer's attitude towards purchasing green food. *Eur. J. Bus. Manag*, *5*, 35–43.

Joshi, Y., & Rahman, Z. (2017). Investigating the determinants of consumers' sustainable purchase behaviour. *Sustainable Production and Consumption*, *10*, 110–120.

Kaplan, E. B. (2020). The millennial/gen Z leftists are emerging: Are sociologists ready for them? *Sociological Perspectives*, *63*(3), 408–427.

Katt, F., & Meixner, O. (2020). A systematic review of drivers influencing consumer willingness to pay for organic food. *Trends in Food Science & Technology*, *100*, 374–388.

Kaur, B., Gangwar, V. P., & Dash, G. (2022). Green marketing strategies, environmental attitude, and green buying intention: A multi-group analysis in an emerging economy context. *Sustainability*, *14*(10), Article e6107.

Khoiriyah, S., & Toro, M. J. S. (2018). Attitude toward green product, willingness to pay and intention to purchase. *International Journal of Business and Society*, *19*(S4), 620–628.

Ki, H., & Kim, J.-Y. (2022). Sell green and buy green: A signalling theory of green products. *Resource and Energy Economics*, *67*, Article e101266.

Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signalling unobservable product quality. *Journal of Marketing*, *64*(2), 66–79.

Kovacs, I., & Keresztes, E. R. (2022). Perceived consumer effectiveness and willingness to pay for credence product attributes of sustainable foods. *Sustainability*, *14*(7), Article e4338.

Kumar, A., Prakash, G., & Kumar, G. (2021). Does environmentally responsible purchase intention matter for consumers? A predictive sustainable model developed through an empirical study. *Journal of Retailing and Consumer Services*, *58*, Article e102270.

Ladhari, R., Gonthier, J., & Lajante, M. (2019). Generation Y and online fashion shopping: Orientations and profiles. *Journal of Retailing and Consumer Services*, *48*, 113–121.

Latan, H., Jabbour, C. J. C., de Sousa Jabbour, A. B. L., Wamba, S. F., & Shahbaz, M. (2018). Effects of environmental strategy, environmental uncertainty and top management's commitment on corporate environmental performance: The role of environmental management accounting. *Journal of Cleaner Production*, *180*, 297–306.

Lin, H.-H., Tseng, T. H., Yeh, C.-H., Liao, Y.-W., & Wang, Y.-S. (2020a). What drives customers' post-purchase price search intention in the context of online price matching guarantees. *Journal of Retailing and Consumer Services*, *54*, Article e102015.

Lin, H.-H., Tseng, T. H., Yeh, C.-H., Liao, Y.-W., & Wang, Y.-S. (2020b). What drives customers' post-purchase price search intention in the context of online price matching guarantees. *Journal of Retailing and Consumer Services*, *54*, Article e102015.

Mack, L. (2010). *The philosophical underpinnings of educational research*. Polyglossia.

Mahesh, N. (2013). Consumer's perceived value, attitude, and purchase intention of green products. *Management Insight*, *9*(1), 37–43.

Mamula Nikolić, T. (2021). Nova generacija potrošača i lidera u VUCA svetu. *Metropolitan University, Belgrade*.

Mishal, A., Dubey, R., Gupta, O. K., & Luo, Z. (2017). Dynamics of environmental consciousness and green purchase behaviour: An empirical study. *International Journal of Climate Change Strategies and Management*, *9*(5), 682–706.

Nekmahmud, M., & Fekete-Farkas, M. (2020). Why not green marketing? Determinates of consumers' intention to green purchase decision in a new developing nation. *Sustainability*, *12*(19), Article e7880.

Nekmahmud, M., Ramkissoon, H., & Fekete-Farkas, M. (2022). Green purchase and sustainable consumption: A comparative study between European and non-European tourists. *Tourism Management Perspectives*, *43*, Article e100980.

Nogueira, E., Gomes, S., & Lopes, J. M. (2022). The key to sustainable economic development: A triple bottom line approach. *Resources*, *11*(5), Article e46.

Parkinson, J., Russell-Bennett, R., & Previte, J. (2018). Challenging the planned behavior approach in social marketing: Emotion and experience matter. *European Journal of Marketing*, *52*(3/4), 837–865.

Perić, N., Mamula-Nikolić, T., & Delić, T. (2020). Analysis of attitudes of GenZ toward media and consumption: The region of Balkans. *Marketing*, *51*(3), 210–218.

Prieto-Sandoval, V., Torres-Guevara, L. E., & Garcia-Diaz, C. (2022). Green marketing innovation: Opportunities from an environmental education analysis in young consumers. *Journal of Cleaner Production*, *363*, Article e132509.

Radojević, N. (2022). Innovating (a Lot) with a little: High-tech innovation in southeast Europe. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, *27*(3), 47–57.

Rahman, M. M., Tabash, M. I., Salamzadeh, A., Abduli, S., & Rahaman, M. S. (2022). Sampling techniques (probability) for quantitative social science researchers: A conceptual guidelines with examples. *Seeu Review*, *17*(1), 42–51.

Ringle, C., Da Silva, D., & Bido, D. (2015). Structural equation modeling with the SmartPLS. Bido, D., da Silva, D., & Ringle, C.(2014). *Structural Equation Modeling with the Smartpls. Brazilian Journal of Marketing*, 13(2).

Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, *31*(12), 1617–1643.

Ringle, C.M., Wende, S., Becker, & J.M. (2022). *SmartPLS 4*. http://www. smartpls.com

Sarkar, A. (2012). Green branding and eco-innovations for evolving a sustainable green marketing strategy. *Asia-Pacific Journal of Management Research and Innovation*, *8*(1), 39–58.

Shen, B., Xu, X., & Choi, T.-M. (2019). Simplicity is beauty: Pricing coordination in two-product supply chains with simplest contracts under voluntary compliance. *International Journal of Production Research*, *57*(9), 2769–2787.

Shi, J., & Jiang, Z. (2022). Willingness to pay a premium price for green products: Does a reference group matter? *Environment, Development and Sustainability*, 28(8), 1–29.

Singh, V. (2021). *Isra Hirsi: The young voice of change*. https://www.themomentum.com/articles/isra-hirsi-the-young-voice-of-change

Song, Y., Qin, Z., & Qin, Z. (2020). Green marketing to gen Z consumers in China: Examining the mediating factors of an eco-label–informed purchase. *Sage Open*, *10*(4), Article e2158244020963573.

Squires, S. (2019). Do generations differ when it comes to green values and products? *Electronic Green Journal*, *1*(42).

Staniškis, J. K. (2012). Sustainable consumption and production: How to make it possible. *Clean Technologies and Environmental Policy*, *14*, 1015–1022.

Štimac, H., Bilandžić, K., & Kelić, I. (2022). Who really shapes generation Z? *In 13th International Odyssey Conference on Economics and Business*, (pp. 1077-1088).

Su, J., Watchravesringkan, K., Zhou, J., & Gil, M. (2019). Sustainable clothing: Perspectives from US and Chinese young Millennials. *International Journal of Retail & Distribution Management*, *47*(11), 1141–1162.

Sun, Y., & Wang, S. (2020). Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia Pacific Journal of Marketing and Logistics*, *32*(4), 860–878.

Suresh, K., Thomas, S. V., & Suresh, G. (2011). Design, data analysis and sampling techniques for clinical research. *Annals of Indian Academy of Neurology*, *14*(4), Article e287.

Tandon, M. S., & Sethi, V. (2017). A structured model of attitudinal determinants of green purchase behaviour. *International Journal of Research in Social Sciences*, *7*(7), 305–328.

Taylor, B & Sinha, G. (2006). *Research methodology: A guide to for reseachers in management and social sciences.* PHI Learning Pvt. Ltd.

Tewari, A., Mathur, S., Srivastava, S., & Gangwar, D. (2022). Examining the role of receptivity to green communication, altruism and openness to change on young consumers' intention to purchase green apparel: A multi-analytical approach. *Journal of Retailing and Consumer Services*, *66*, Article e102938.

Wang, H., Shen, M., Song, Y. A., & Phau, I. (2020). Do up-displayed eco-friendly products always perform better? The moderating role of psychological distance. *Journal of Business Research*, *114*, 198–212.

Wang, J., Tao, J., & Chu, M. (2020). Behind the label: Chinese consumers' trust in food certification and the effect of perceived quality on purchase intention. *Food Control*, *108*, Article e106825.

Wang, W., Mo, T., & Wang, Y. (2022). Better self and better us: Exploring the individual and collective motivations for China's Generation Z consumers to reduce plastic pollution. *Resources, Conservation and Recycling*, *179*, Article e106111.

Wasaya, A., Saleem, M. A., Ahmad, J., Nazam, M., Khan, M. M. A., & Ishfaq, M. (2021). Impact of green trust and green perceived quality on green purchase intentions: A moderation study. *Environment, Development and Sustainability*, *23*(9), 13418–13435.

Wei, S., Ang, T., & Jancenelle, V. E. (2018). Willingness to pay more for green products: The interplay of consumer characteristics and customer participation. *Journal of Retailing and Consumer Services*, *45*, 230–238.

Wu, J., Snell, G., & Samji, H. (2020). Climate anxiety in young people: A call to action. *The Lancet Planetary Health*, *4*(10), e435–e436.

Zahavi, A. (1977). The cost of honesty (further remarks on the handicap principle). *Journal of Theoretical Biology*, *67*(3), 603–605.

Annexure 1

Questionnaire

Dear Respondent, I am an MPhil student of Business Administration, IQRA University. As part of my research, I am conducting a study to understand the "Willingness to Pay More for Sustainable Products By Sustainability Generation (Gen Z)- Empirical Evidence From Pakistan". A questionnaire is enclosed which asks a variety of questions about your opinions/perceptions. You are requested to participate in this study by answering the attached questionnaire that will take 5 to 08 minutes of your time. Please complete the questionnaire only if you born between 1997 and 2012. Your responses will be kept completely anonymous and confidential. The findings of this study will be used for academic purposes only. Thanks for your cooperation.

Your Gender

Male

Female

Your Age

9-14 Years

15-20 Years

21-26 Years

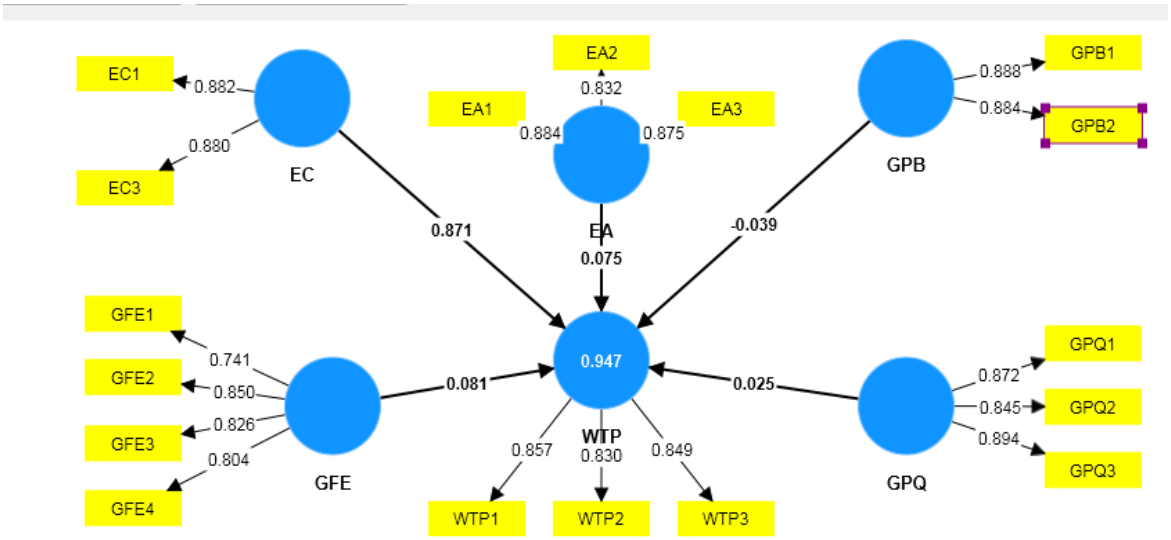
Survey Scale

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

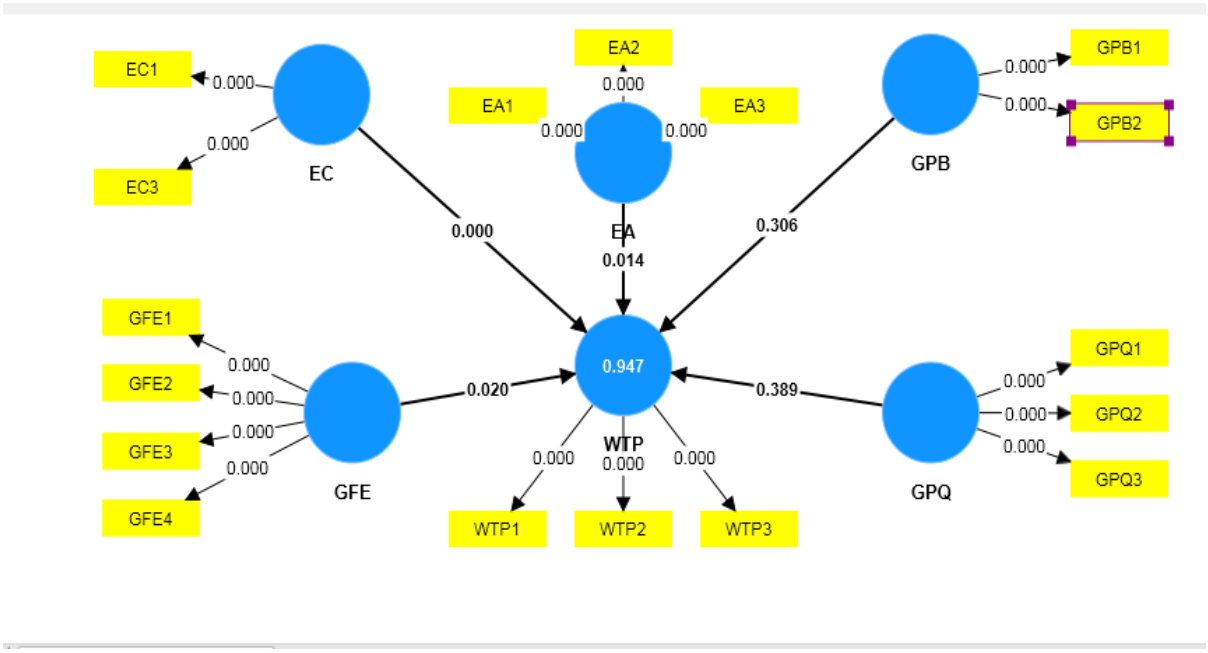
Willingness to pay	1	2	3	4	5
With the same performance, I am willing to pay more money to purchase environment-friendly products					
To me, it deserves to purchase environment-friendly products despite their premium pricing					
I am willing to purchase environment-friendly products at a high price					
Environmental Concerns					
I believe in the preservation of nature and wildlife					
I am pleased to purchase green products					
I consider that my purchase may have an environmental impact					
I am an environmentally responsible person					
Green Future Estimation					
I think that green product will be popular in our country					
I think that green marketing will be more effective and give a better product than regular marketing					
I think that green marketing will be an excellent idea for our country					
I think a consumer will accept the green products in the future					
Green Perceived Benefits					
Green products are good for health.					
Green products have well to test and flavour					
Green Perceived Quality					
Green products appear to have an acceptable quality standard.					
The green products appear to be durable.					
Green products appear to be reliable					
Environmental Awareness					
I think that humans are severely abusing the environment.					
If the environment continues to deteriorate, we will experience a major ecological catastrophe.					
The balance of nature is very delicate and easily upset.					
I think that the earth has very limited room and resources.					

Annexure 2

PLS Model Test



PLS Bootstrapping



Moderating Effect