



A Study on Factors Influencing the Attitude of Gen X, Millennials & Gen Z Towards Purchase Intention for Green Skincare Products In India

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ABSTRACT:

The purpose of this research is to explore the factors that influence the views of different generational cohorts, namely Generation X, Generation Millennials, and Generation Z, with regard to the notion of buying environmentally friendly skincare products in India. Eco-conscious skincare is becoming an increasingly significant trend in the personal care sector as a result of rising environmental consciousness and a movement in consumer lifestyles toward more sustainable practices. On the other hand, there is still a significant gap between positive perceptions and actual purchasing behaviour.

In order to evaluate the ways in which attitudes, social factors, and perceived control impact purchase intentions, the Theory of Planned Behaviour (TPB) is used as the underlying framework. Regarding the effect that other elements like price sensitivity, environmental and health awareness, peer influence, and eco-certification have on customer perception, research is being conducted to investigate these aspects.

Through the use of stratified sampling, 50 Indian respondents were given a structured questionnaire. The respondents were representative of all three generations. To validate the instrument's internal reliability, researchers used the Cronbach's alpha coefficient ($\alpha = 0.905$). The most consistent and favourable opinions were expressed by members of Generation X, according to a statistical study. This generation places a high value on product legitimacy, safety, and approved eco-labels. Young people of the millennial generation had strong ethical and health-driven incentives, although they were less swayed by societal pressure. Although they are technologically sophisticated and ecologically conscientious, members of Generation Z have displayed a range of reactions, particularly when faced with potentially price-sensitive circumstances or a perceived lack of product control.

According to the findings of the study, attitude is the most accurate indicator of the intention to make a purchase. It shows that firms that want to bridge the intention-action gap across a varied group of Indian customers need to use personalized marketing tactics that are focused on trust, affordability, availability, and transparency.

INTRODUCTION

Green cosmetics have introduced a revolutionary new facet to the ever-changing market environment in countries that are still in the process of development. In the present environment, the adoption of "green" practices is not only a requirement but also a strategic opportunity for both consumers and enterprises (Vincent, 2012). When it comes to concepts such as sustainability, health, and eco-consciousness, the word "green" has become synonymous with them. According to Santos F. Bruno (2015), the adoption of environmentally friendly alternatives has increased as a result of the growing concerns presented by climate change and pollution. Although India is on the path to economic progress, the country is confronted with environmental issues as a result of its excessive use of chemicals, which has consequences for both health and the environment. There has been a rising trend for organic and natural remedies as a result of the increasing public awareness over the adverse effects of synthetic skincare products.

Traditional Indian beauty techniques have always placed a significant emphasis on the use of natural substances. Indian skincare routines have traditionally revolved around homemade remedies such as honey-turmeric masks or yogurt-besan packs. customers, however, have been Customers are looking for ready-to-use skincare products that offer convenience while maintaining their health and efficacy. This is because current time restrictions have pushed customers in this direction.

The term "green skincare" refers to personal care products that place an emphasis on environmentally friendly production practices, ethical sourcing, and the use of components that are derived from plants, biodegradable, and organic. By avoiding synthetic ingredients like parabens, sulphates, and artificial perfumes, these products are more environmentally friendly. In addition to this, they often advocate for testing that is cruelty-free and green packaging.

Recent years have seen a substantial increase in the popularity of green skincare products in India. This growth may be attributed to increased consumer knowledge of the risks associated with chemical-based products as well as a growing preference for holistic and environmentally responsible lifestyles. Ancient Ayurvedic ideas have reemerged as reliable sources of overall well-being, which is in line with the concepts that underpin contemporary green

skincare. It is anticipated that the market for skincare products in India, which was valued at USD 2.96 billion in 2024, will reach USD 7.11 billion by the year 2030. This growth is being driven by the growing interest of consumers across all age groups.

There has been a rise in the significance of sustainability, which has led to the creation of ecologically responsible product lines and green marketing techniques (Squires, 2019). When it comes to efficiently focusing these green initiatives, understanding the preferences of different generations is essential. According to Kotler (2006), each generational cohort, including Gen X, Millennials, and Gen Z, has distinct social, cultural, and economic traits. These qualities shape the purchasing motives and expectations that they have from skincare companies. It is often believed that members of Generation Z are environmentally conscious and are prepared to pay a higher price for products that are ecologically friendly (Casalegno et al., 2022; Ham et al., 2022). In contrast, members of Generation X prefer scientifically verified items that focus on performance, while members of the Millennial generation gravitate toward businesses that are ethically aligned and transparent.

Some of the most well-known companies in India, such as Kama Ayurveda and Forest Essentials, have effectively combined ancient methods with contemporary commitments to environmental sustainability. However, although this market sector is clearly expanding, there is still a substantial disparity between the level of consumer awareness and the actual buying behaviour of consumers. Gen Z and Millennials are thought to be eco-conscious, but their choices are often swayed by competing goals, like product efficacy, price, and trust in the brand. Although they have a significant amount of buying power, Gen X continues to be underrepresented in research.

There is a lack of standardized eco-labelling standards in India, which is another difficulty. This lack of regulations leads to customers having distrust and misunderstanding about the veracity of green claims by businesses.

1.1 REVIEW OF LITERATURE

1.1 The Green Consumerism of the Skincare Industry

Over the course of the last twenty years, there has been a consistent trend in customer preferences toward environmentally aware and sustainable personal care products. A growing number of consumers are looking for skincare products that are without any potentially dangerous ingredients, have not been tested on animals, and have been manufactured with a minimum effect on the environment. Consequently, this transition has resulted in the emergence of the idea of "green consumerism," which refers to the act of making purchase choices that are reflective of environmental responsibility.

According to Pagiaslis (2014), the correlation between human consumption and environmental deterioration has led to an increased awareness of sustainability on a worldwide scale, which has resulted in more ecologically conscious purchasing patterns. Furthermore, according to Charter and Polonsky (1995), contemporary customers are not only interested in environmentally friendly options, but they are also willing to spend a higher price for items that meet their needs.

1.2 Skincare Products That Are Eco-Friendly

When we talk about green skincare, we're referring to products that have been designed with a strong dedication to social and environmental sustainability. The majority of the time, these items are manufactured using non-toxic, biodegradable, or recyclable components and packaging (Ottman, 1998; Peattie, 1995). A low amount of processing, the absence of artificial chemicals, and adherence to environmentally friendly production procedures are the defining characteristics of these products. According to Hans et al. (2009) and Laroche et al. (2001), the phrase also includes responsible sourcing, testing that does not involve the use of animals, and openness in the disclosure of ingredients.

1.3 Consumer Behaviour Differences in Generational Cohorts

- **Gen X (1965–1980)**

Gen X consumers tend to be skeptical of trends and prioritize product efficacy supported by scientific evidence. Although they value sustainability, their focus often lies in product performance. This cohort typically has higher disposable incomes and responds positively to loyalty programs and brands that contribute to social or environmental causes (Whitmer, 2021; Lister, 2022). Price sensitivity remains a factor, especially given their familial and economic responsibilities.

- **Millennials (1981–1996)**

Millennials are major contributors to the beauty and personal care market. Their consumption patterns often reflect emotional and ethical concerns such as animal welfare, environmental conservation, and social responsibility (Jilkova & Kralova, 2020; Staniewski & Awruk, 2022). They value brand transparency and are more likely to purchase products that align with their personal beliefs. This generation is also known for impulsive buying behaviours and materialistic tendencies.

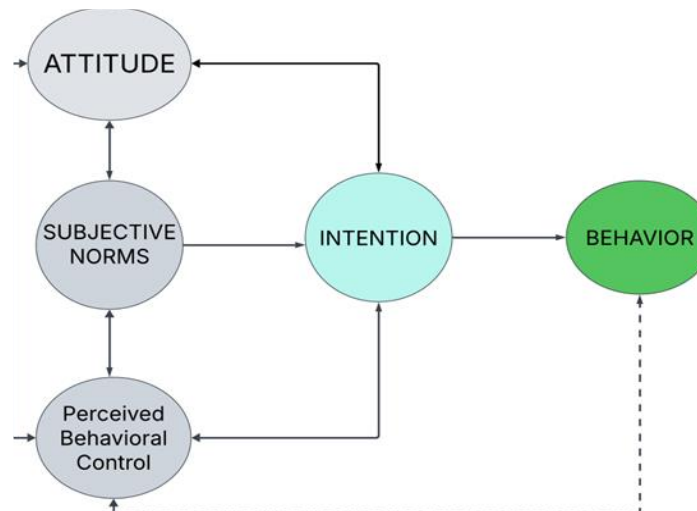
- **Gen Z (1997–2012)**

Raised in a digitally connected world, Gen Z individuals are often referred to as "skintellectuals" due to their informed and science-based approach to skincare. They are drawn to minimalistic, ethical, and sustainable products that are vegan and cruelty-free (Ngoc Minh, 2020; Kardaras et al., 2016). Transparency and authenticity are crucial for this group, and many are willing to spend more for brands that reflect these values (First Insight, 2020).

1.4 Theory of Planned Behaviour (TPB) Framework

The Theory of Planned Behaviour (TPB), developed by Icek Ajzen (1991), posits that an individual's behavioural intentions are the strongest predictors of their actual behaviour. This framework highlights the influence of three primary factors: attitude toward the behaviours, subjective norms, and perceived behavioural control.

- **Attitude** refers to a person's favourable or unfavourable evaluation of a behaviours.
- **Subjective norm** denotes perceived social pressure to perform or avoid the behaviours.
- **Perceived behavioural control** relates to the ease or difficulty one anticipates in performing the behaviours.



Several studies have validated TPB's effectiveness in predicting consumer intentions in various contexts, including eco-friendly product adoption (Han et al., 2010; Hans et al., 2010).

1.5 Attitude Towards Green Skincare Products

Attitude plays a central role in shaping consumer decisions. According to Fishbein and Ajzen (1975), attitudes can be positive or negative and significantly influence buying behaviour. Empirical research shows that a favourable attitude toward environmental issues often translates into a higher likelihood of purchasing green products (Bredahl, 2001; Kalafatis et al., 1999).

Key Influencing Factors:

- **Price Sensitivity:** Consumers evaluate the cost-benefit trade-off when deciding whether to buy green products. The perceived economic and psychological value can affect willingness to pay a premium (Monroe, 1973; Oliver & DeSarbo, 1988).
- **Peer Influence:** Social circles—including friends and family—can significantly sway an individual's purchasing decisions (Ajzen, 1991; Arli et al., 2018).
- **Environmental Awareness:** Environmentally conscious consumers are more likely to support sustainable brands and change their behaviour to align with green values (Chen & Chang, 2012; Kumar et al., 2020).
- **Health Awareness:** Concerns about chemical exposure have increased demand for safer, organic skincare alternatives. Health-conscious consumers prioritize ingredient safety and product certifications (Organic Monitor, 2016).

1.6 Subjective Norms

When we talk about subjective norms, we are referring to the perceived effect that significant individuals or social groups (such as family, friends, or peers) have on the many behavioural choices that a person makes. Individuals are more inclined to consider utilizing environmentally friendly items in the context of skincare if they perceive that their family and friends encourage the products in question. According to Ajzen (1991), these social forces, which may be either direct or indirect, have the ability to profoundly affect purchasing intentions.

Based on research conducted by Hillhouse, Turrise, and Kastner (2000), it has been shown that subjective norms can impact behaviours that are associated with personal care, such as skincare regimens and product use. Customers may feel driven to use environmentally friendly skincare products if they observe their peers or influential people using or advocating for such products (Kim & Chung, 2011). Recent research suggests that both normative and informational impacts have a role in the phenomenon of TPB (Karahanna et al., 1999). This is although TPB has historically focused on normative influence. The research conducted by Bamberg (2003) and Kalafatis et al. (1999) provides further evidence that there is a favourable correlation between subjective standards and the desire to purchase environmentally friendly items.

1.7 Perceived Behavioural Control

Individuals' perceptions of the amount of influence they feel they have on the performance of a certain activity are reflected in their perceived behavioural control. According to Ajzen (1991) and Taylor and Todd (1995), it encompasses elements such as the availability of resources (such as money, time, and product access) and the individual's confidence in their capacity to carry out the activity. The degree to which customers believe that sustainable goods are easily available, reasonably priced, and convenient is a significant factor in determining their level of perceived

control over green skincare products.

For instance, if a customer perceives that green skincare products are easily accessible in both online and traditional retail settings, they are more likely to purchase these goods. On the other side, if people perceive restrictions, such as high pricing or restricted availability, it is possible that their desire to purchase would decline. Research by Vermeir and Verbeke (2008) and Kim and Chung (2011) shows that how people perceive their ability to control their behaviours is a crucial factor in deciding whether they will engage in environmentally responsible buying behaviour.

1.8 Purchase Intention

The term "purchase intention" refers to the readiness or possibility of a buyer to purchase a certain product. It acts as a stand-in for anticipating the purchasing behaviour of future consumers. It is a cognitive decision-making process that reveals the degree to which customers are inclined to make a purchase, according to the definitions of academics such as Fishbein and Ajzen (1975) and Kinnear and Taylor (1987).

There has been a number of research that has highlighted the notion that attitudes, beliefs, and perceived social and behavioural variables are the root causes of purchase intention. According to the context of green skincare, the level to which customers are prepared to commit to a purchase is influenced by several criteria, including the perceived efficacy of the product, its safety, and the ethical source of the ingredients. According to Mehta (1994) and Howard (1994), a greater intention often results in a real purchase action, given that there are few obstacles from outside the consumer's environment.

1.9 Certifications and eco-labelling of products

Environmental labels serve as informative tools that assist customers in comprehending the influence that a product has on the environment. These designations may influence people's views of trustworthiness and authenticity. According to Rahbar and Wahid (2011) and Sharman (2012), customers are more likely to trust that a product satisfies sustainability requirements if it has a recognized certification to back up its claims.

There are, however, difficulties associated with the validity of labels in the contemporary market. A significant number of skincare firms make claims that they are environmentally friendly without obtaining verification from a third party, which leads to uncertainty and reduces customer trust (Gallastegui, 2002). It is true that eco-labels have the potential to favourably affect consumer attitudes and drive sales; nevertheless, the usefulness of these labels is contingent on the level of consumer knowledge as well as the perceived legitimacy of the certification (Nguyen & Du, 2010; Heino, 2012). Labelling that is misleading or "greenwashing" may be detrimental to the confidence that consumers have in a business and lessen the overall effect of sustainability marketing.

1.10 Research Gaps

Research conducted on a worldwide scale has been progressively concentrating on the involvement of Millennials and Gen Z with green skincare products. However, there is a dearth of literature that specifically addresses Indian customers and how generational variations impact their views and intentions to make purchases.

In addition, the majority of the research that has been conducted so far has pointed to environmental consciousness as the dominant factor that influences consumer choices. On the other hand, customers in India may place equal importance on the effectiveness and safety of the products they purchase. For now, research has not sufficiently investigated the trade-off that exists between perceived performance and sustainability.

In addition, the impact that eco-certifications have in reducing skepticism is not yet well understood. Although eco-labels have the potential to increase confidence, it is not apparent if Indian customers differentiate between genuine certifications and statements that they have self-proclaimed. To get a better understanding of how trust is established and whether or not credibility in green labelling influences purchasing behaviour across a range of age groups, more study that is more in-depth is required.

RESEARCH METHODOLOGY

2.1 Research Questions

1. In India, what are the key elements that influence the views of Generation X, Generation Millennials, and Generation Z with regard to the purchase of environmentally friendly skincare products?
2. What impact do promises about sustainability and ingredient transparency have on consumers' intentions to make a purchase?
3. What kind of impact do eco-labels and certifications have on the level of confidence that consumers have in the skincare industry and how they behave when making purchases?
4. How does the desire to pay for environmentally friendly skincare products differ across the three different generations?

2.2 Research Objectives

The objectives guiding this research include

- The purpose of this research is to identify and investigate the elements that influence the perspectives of Generation X, Millennials, and Generation Z adults on green skincare products.
- Identifying age disparities in the willingness to pay for environmentally friendly skincare products is the goal of this study.
- The purpose of this study is to investigate the influence that eco-labelling and formal certifications have on customer intentions across these target demographics.

2.3 Data Requirements and their Sources

This research makes use of both primary and secondary sources of information. The primary data was collected via the use of a structured questionnaire that was developed expressly for the purpose of this study. The secondary data was gathered from various sources, including books, academic publications, reports from the industry, and trustworthy websites.

In order to facilitate access and participation, the questionnaire was designed and sent in a digital format by the administration team. It was possible to gather data in an effective manner thanks to the survey method, which also provided a clear framework for analysing the correlations between the variables.

2.4 Tools of Data Collection

For the purpose of gathering quantitative data, a survey-based technique was used. The questionnaire was divided into many parts, the first of which consisted of demographic questions (such as age, gender, and occupation), and the subsequent sections followed by focused questions that addressed the characteristics that were found in the conceptual model.

Specific factors, such as attitudes, subjective norms, perceived behavioural control, and purchasing intents, were the focus of each segment, which was aimed at investigating those variables. Respondents were assured that the goal of keeping anonymity is to promote replies that are honest and truthful. The questionnaire was sent via email and several social media sites, and it was posted on Google Forms and shared.

2.5 Sampling

This study adopted a stratified sampling approach, categorizing respondents into three distinct generational cohorts—Gen X, Millennials, and Gen Z. A total of 206 responses were collected from Indian consumers.

Sampling Details

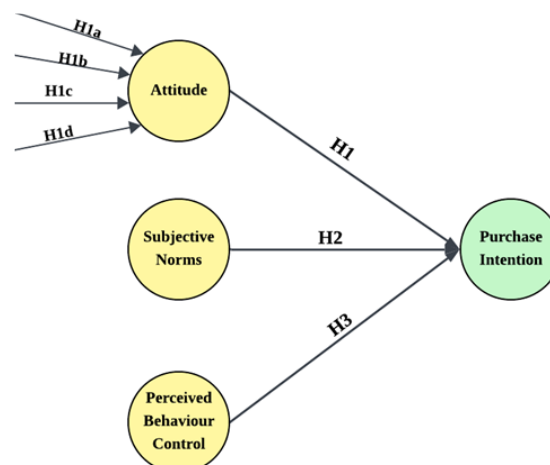
- Target Population: Indian residents aged 18–59, segmented into:
 - Gen Z (18–26 years)
 - Millennials (27–40 years)
 - Gen X (41–59 years)

Sampling Technique: Stratified random sampling

Sample Size: 50 participants

2.6 Hypotheses

Based on the literature review and conceptual framework, the following hypotheses were formulated:



Main Hypothesis (H1):

- Attitude significantly influences purchase intention toward green skincare products.

Sub-Hypotheses:

- H1a: Price sensitivity significantly affects consumer attitudes.
- H1b: Environmental awareness positively influences consumer attitudes.
- H1c: Peer influence is an important factor in determining attitudes.
- H1d: Health consciousness positively impacts consumer attitudes.

Other Hypotheses:

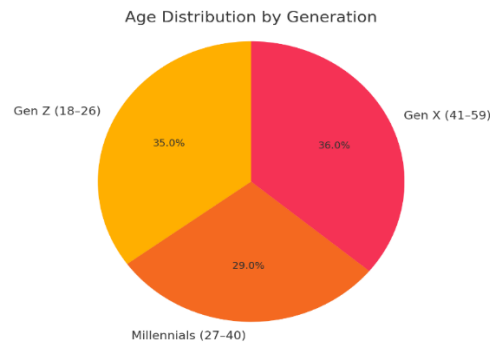
- H2: Subjective norms positively influence purchase intention.
- H3: Perceived behavioural control positively affects purchase intention.

DATA ANALYSIS & INTERPRETATION

A total of 50 Indian respondents participated in this research. These participants were categorized into three generational cohorts: Generation Z (ages 18–26), Millennials (ages 27–40), and Generation X (ages 41–59). Stratified sampling ensured balanced representation across age groups for comparative analysis.

3.1 Section A—Demographic Information

- **Age Distribution**

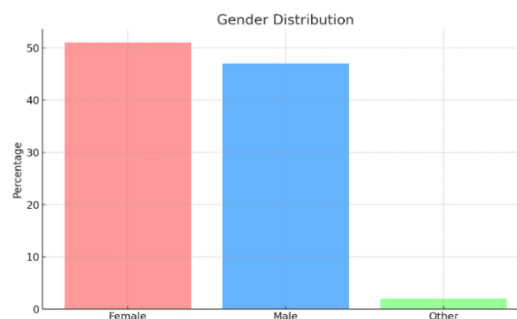


Respondents were divided as follows:

- Generation X (41–59 years): 36%
- Generation Z (18–26 years): 35%
- Millennials (27–40 years): 29%

This distribution reflects a near-even representation of all three cohorts, with a slight majority from Gen X.

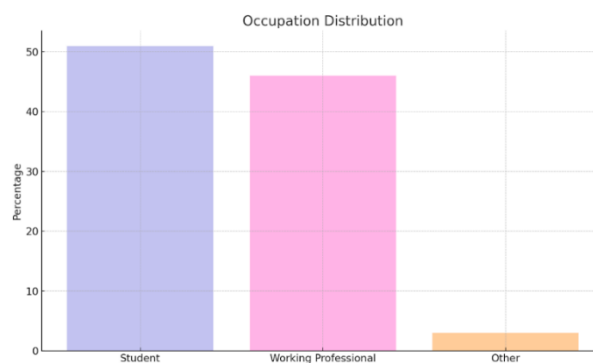
- **Gender**



- **Female:** 51%
- **Male:** 47%
- **Others/Prefer not to say:** 2%

The gender distribution shows a slightly higher participation from female respondents, which is notable in the context of skincare research.

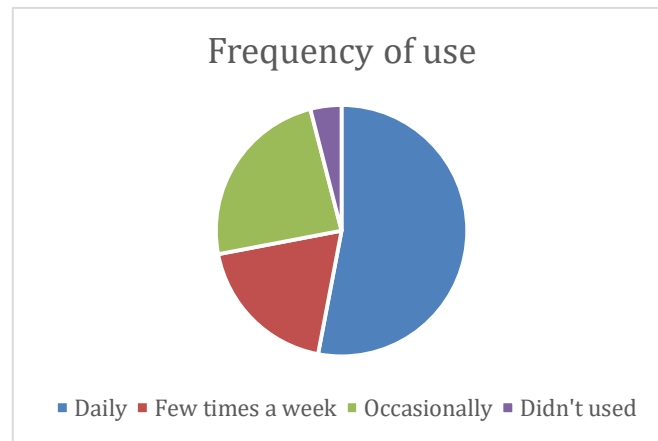
- **Occupation**



- **Students:** 51%
- **Working professionals:** 46%
- **Others (freelancers, homemakers, etc.):** 3%

A diverse occupational background was captured, with the majority being students and professionals actively engaged in the economy.

3.2 Section B – Awareness & Usage of Skincare Products



- Frequency of Use**
 - **Daily users:** 53%
 - **A few times a week:** 19%
 - **Occasionally:** 24%
 - **Rarely/Never:** 4%

More than half of the respondents use skincare products daily, indicating high engagement with the personal care segment.

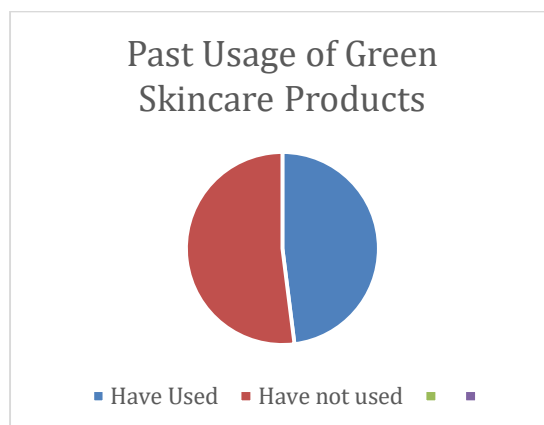
2. Awareness of Green Skincare Products



- **Aware:** 52%
- **Unaware:** 48%

Awareness is nearly evenly split, indicating the importance of greater consumer education on eco-friendly options.

3. Past Usage of Green Skincare Products



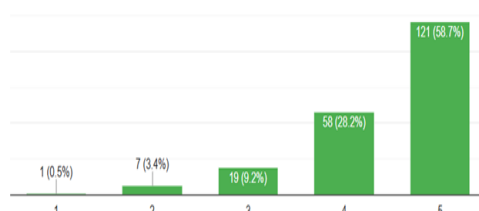
- **Have used:** 48%
- **Have not used:** 52%

Even among the aware, actual usage remains limited—pointing to a gap between knowledge and adoption.

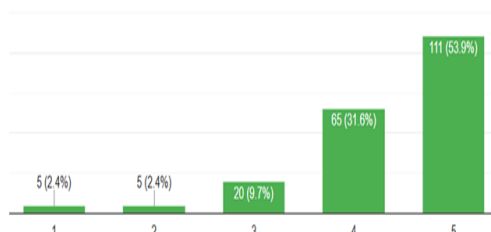
3.3 Section C – Attitude Toward Green Skincare Products

Respondents were asked about their preferences and emotional responses to green skincare. Key insights include:

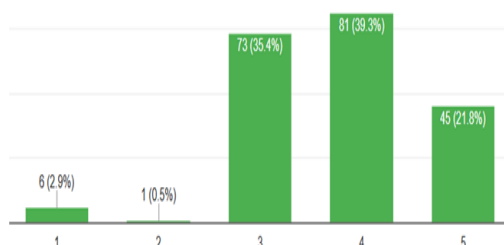
- **Preference for natural/organic ingredients:** ~58.7% strongly agreed.



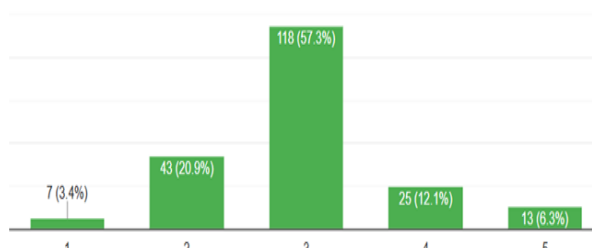
- **Belief in the safety of green products:** Over 53% strongly agreed.



- **Environmental impact awareness:** Around 61% agreed or strongly agreed that they feel good using eco-safe products.



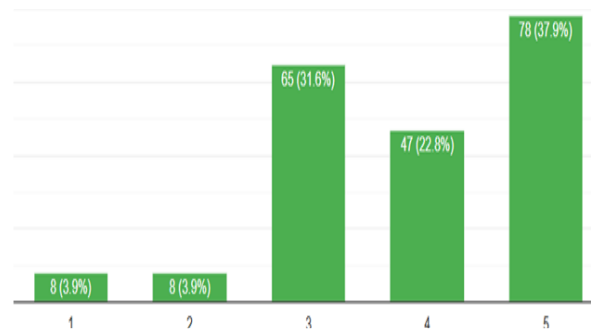
- **Social image:** Responses were mixed; ~57% were neutral about whether green product use enhances their social image.



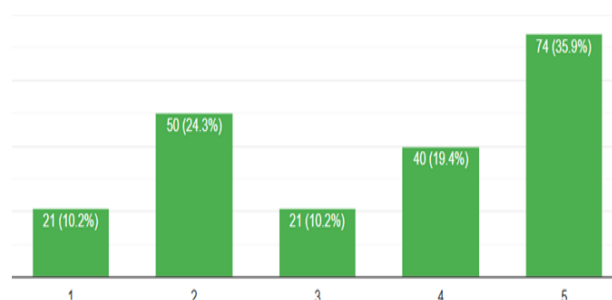
These findings show that while product quality and environmental value are appreciated, the social prestige linked with green skincare remains uncertain.

3.4 Section D – Subjective Norms

- **Family/friends' influence:** 37.9% strongly agreed their social circle supports green skincare use.



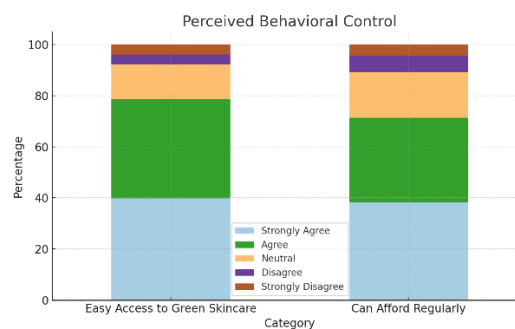
- **Social media impact:** 35.9% strongly agreed that influencers affect their green skincare decisions, though 24.3% disagreed.



This suggests that both real-life and digital communities affect how consumers behave, especially among younger demographics.

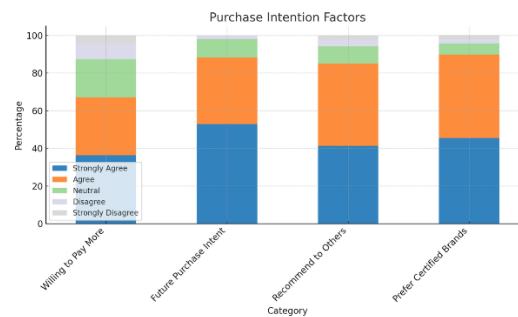
3.5 Section E—Perceived Behavioural Control

- **Ease of access (online/offline):** 39.8% strongly agreed that products are easy to find.
- **Affordability:** 38.3% felt they could afford green skincare regularly, while 6.3% disagreed.



Availability seems less of a barrier, but price remains a concern—especially among price-sensitive segments like Gen Z.

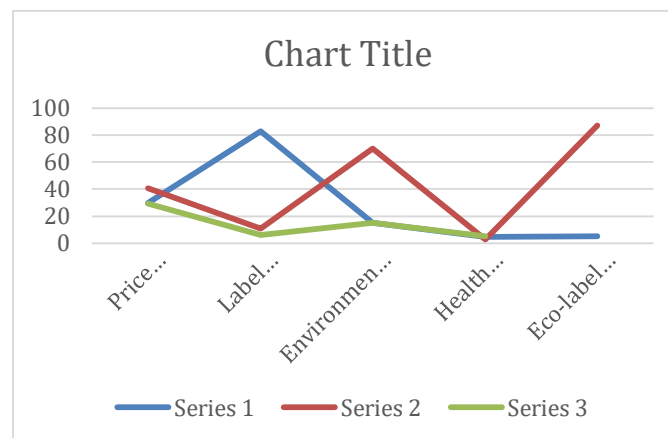
3.6 Section F – Purchase Intention



- **Willingness to pay more:** 36.4% strongly agreed.
- **Future purchase plans:** 52.9% expressed strong intent to purchase.
- **Recommending to others:** 41.3% strongly agreed.
- **Preference for certified products:** Over 89% either agreed or strongly agreed.

This reflects strong positive intentions, even if actual usage rates remain moderate.

3.7 Section G—Factors Influencing Attitude



- **Price Sensitivity:** 40.8% strongly agreed high prices deterred them.
- **Label Checking:** Nearly 83% routinely read ingredient labels.
- **Environmental Concern:** Over 70% expressed concern about product impact on the environment.
- **Health Consciousness:** A majority preferred dermatologically tested products.
- **Eco-label Trust:** 87.3% agreed that certifications build product trust.

Price remains a hurdle, but transparency and health claims significantly shape attitudes.

3.8 Descriptive Statistics

To interpret generational differences, mean, median, and standard deviation values were calculated for responses to major constructs (attitude, subjective norms, control, and intention). These measures helped assess central tendencies and variability in responses.

- **Gen Z:** Demonstrated moderately positive attitudes, especially about ingredient awareness, but were mixed on price and social perception.
- **Millennials:** Held positive views on product benefits but were less influenced by peer pressure.
- **Gen X:** Showed the most stable and positive responses, particularly valuing certification, scientific backing, and control over purchasing.
- To gain a clearer understanding of the various dispositions of different generational cohorts towards green skincare products, descriptive statistical analysis was conducted on responses to four key sections designed to measure their environmental, ethical, and personal beliefs.
- This analysis included the computation of mean, median, and standard deviation values for each item to assess the central tendency and variability in responses. The mean provides insight into the overall level of agreement, while the median offers a measure of the central response, and the standard deviation indicates the extent of consensus among participants. By analysing these descriptive statistics, a foundational understanding

of different generations attitudes can be established, which serves as a crucial component for further analysis of how these attitudes influence their purchase intentions.

- Regarding the first question, this particular item reveals that respondents from Generation Z had a typically optimistic mindset. A mean score of 4.18 indicates that the participants are in agreement with the statement, and a median score of 5 indicates that at least half of the participants strongly agreed with the statement. Nevertheless, the relatively large standard deviation (1.07) indicates that views were not consistent; some respondents scored the item substantially lower (perhaps indifferent or disagree), indicating that the opinions were not uniform. Despite the fact that the general feeling is quite optimistic, the variability suggests that there are some different points of view among the members of the group.
- Answering Question 2 A considerable trend toward agreement was shown by respondents from Generation Z, with a mean score of 4.09859 and a median score of 4, but the level of agreement was somewhat less than in the first question. Once again, the standard deviation of 1.07111 indicates that there is substantial variety. This indicates that while many people felt the same way, a sizeable number of them chose lower ratings, such as 3 or 2. This would imply that the attitude is typically positive, but that it is not firmly held by all individuals.
- Regarding the third question, the replies to this statement likewise demonstrate a positive attitude, with a mean score of 4.12676 and a median score of 4. As a result of the standard deviation being 0.98459, which is somewhat lower than the ones that came before it, there is less variability, which shows that there is greater consistency in agreement among the respondents. In general, this indicates that members of Generation Z have a consistent and somewhat high agreement with this particular component of green skincare

● SUBJECTIVE NORMS

| SUBJECTIVE NORMS | | |
|------------------|---------|---------|
| | Q1 | Q2 |
| MEAN | 3.57746 | 3.1831 |
| MEDIAN | 4 | 4 |
| STDEV | 0.99516 | 1.29073 |

For Question 1, The mean score of 3.58 indicates a moderately positive attitude among Gen Z respondents toward the statement. The median value of 4 suggests that at least half of the participants agreed with the statement, reflecting a general leaning toward agreement.

However, the standard deviation of 0.99 points to moderate variability, implying that while many respondents leaned positively, a significant portion gave neutral or slightly disagreeing responses. This distribution suggests that the attitude is mostly favourable, but not strongly held across the entire group, with some divergence in opinion.

For Question 2, The mean of 3.18 suggests a neutral to slightly positive overall attitude toward the statement. Interestingly, the median value of 4 indicates that at least half of the Gen Z respondents still selected "Agree", suggesting a skewed distribution with some low scores pulling the mean down. The relatively high standard deviation of 1.29 reflects a wide spread in responses, pointing to a lack of consensus among the participation.

PERCEIVED BEHAVIOURAL CONTROL

For Question 1, The mean score of 3.5 indicates a moderately positive attitude among Gen Z respondents. The median value of 4 suggests that at least half of the participants agreed with the statement, which reflects a general tendency toward agreement. However, the standard deviation of 1.09 reveals a noticeable variability in responses. This indicates that while many respondents held favourable views, a substantial number expressed neutral or even disagreeing responses. Overall, the data points to a positive but somewhat mixed sentiment, with the statement being received favourably by most but not uniformly across the group.

For Question 2, A mean of 3.16 reflects a neutral to slightly positive average attitude toward the statement. The median of 3 reinforces this by showing that half of the respondents chose the neutral option, suggesting an overall ambivalence or uncertainty regarding the statement. The standard deviation of 1.08 indicates moderate variation, meaning that although some participants agreed or disagreed, the responses were fairly spread out. This distribution highlights that Gen Z respondents were less aligned on this item compared to others, revealing a more divided or uncertain attitude toward the underlying concept.

- PURCHASE INTENTION**

| PURCHASE INTENTION | | | | |
|--------------------|---------|------------|-----------|---------|
| | Q1 | Q2 | Q3 | Q4 |
| MEAN | 3.07042 | 4.09859155 | 3.6901408 | 3.95775 |
| MEDIAN | 3 | 4 | 4 | 4 |
| STDEV | 0.99029 | 1.09746369 | 0.919496 | 0.93253 |

- For Question 1, The mean of 3.07 and median of 3 indicate that Gen Z respondents exhibited a neutral attitude toward the statement. The values suggest that a large portion of respondents selected mid-point responses (e.g., “Neutral” or slightly agree/disagree). The standard deviation of 0.99 implies a moderate spread of responses, indicating that while some participants leaned toward agreement or disagreement, the overall sentiment remained ambivalent or uncertain. This suggests a lack of strong opinion on the issue, possibly due to limited awareness, relevance, or personal importance of the statement.
- For Question 2, The mean score of 4.09, coupled with a median of 4, reflects a strong positive attitude among Gen Z respondents toward the statement. A majority of participants chose “Agree” or “Strongly Agree,” signalling substantial support for the concept. However, the standard deviation of 1.09 reveals some degree of variability, suggesting that although the dominant sentiment is favourable, a segment of the respondents expressed neutral or differing opinions. Overall, the statement was well-received, with general consensus leaning toward agreement, albeit not unanimously.
- For Question 3, The mean of 3.69 and median of 4 indicate a moderately positive attitude, with the majority of Gen Z respondents leaning toward agreement. The standard deviation of 0.91 shows moderate consistency in responses, suggesting that while most participants supported the statement, there was some variation, with a few respondents selecting neutral or slightly disagreeing options. Overall, the data reflects a generally favourable but not strongly held attitude toward the statement.
- For Question 4, A mean of 3.95 and a median of 4 indicate a positive overall attitude, with most Gen Z respondents choosing “Agree” or close to it. The standard deviation of 0.93 reflects a relatively consistent pattern of responses, with fewer participants expressing extreme disagreement. This suggests that the statement resonated well with Gen Z, demonstrating a strong alignment of values or beliefs related to the topic. The overall response can be characterized as broadly favourable with moderate agreement across the group.

1. ANALYSIS OF MILLENNIALS

ATTITUDE

| ATTITUDE | | | | |
|----------|----------|----------|----------|----------|
| | Q1 | Q2 | Q3 | Q4 |
| MEAN | 4.05 | 3.966667 | 4.15 | 2.6 |
| MEDIAN | 4 | 4 | 4 | 2 |
| STDEV | 0.622325 | 0.735692 | 0.732421 | 0.977718 |

- For Question 1, The mean of 4.05 and median of 4 indicate that Millennial respondents had a strongly positive attitude toward the statement. The low standard deviation of 0.62 reflects high consistency in responses, suggesting that most participants chose “Agree” or “Strongly Agree” with minimal variation. This combination points to a clear and widely shared agreement, indicating that the attitude expressed in the statement aligns well with Millennial’s values or beliefs related to green skincare products.

- For Question 2, The mean of 3.96 and median of 4 suggest a generally positive sentiment, with the majority of Millennial respondents agreeing with the statement. The standard deviation of 0.73 indicates moderate consistency, showing that while most respondents expressed agreement, a small proportion selected neutral or slightly differing responses. Overall, this statement was well-received, with a majority consensus toward agreement and limited divergence of opinion.
- For Question 3, A mean of 4.15 and a median of 4 reflect a strong agreement among Millennial respondents toward the statement, indicating a highly favourable attitude. The standard deviation of 0.73 suggests moderate variability, meaning that while the dominant response was positive, a few respondents held differing views. Nevertheless, the relatively high mean and low SD together suggest that the statement resonated well with the majority of the group, demonstrating a strong alignment of opinion on the issue.
- For Question 4, The mean of 2.6 and median of 2 suggest a generally negative attitude among Millennial respondents toward the statement. Most responses fell in the “Disagree” range, indicating disapproval or low alignment with the concept presented. The standard deviation of 0.97 reflects moderate variation, meaning that while disagreement was the prevailing sentiment, some participants responded neutrally or positively. However, the overall interpretation remains that this statement was less favourably received, marking it as a point of disconnect or weak relevance to the target group.

SUBJECTIVE NORMS

| SUBJECTIVE NORMS | | |
|------------------|----------|-------------|
| | Q1 | Q2 |
| MEAN | 3.083333 | 2.3 |
| MEDIAN | 3 | 2 |
| STDEV | 0.743142 | 0.869443617 |

- For Question 1, The mean score of 3.08, along with a median of 3, reflects a neutral overall attitude among Millennial respondents toward the statement. The values suggest that many participants selected the midpoint response on the Likert scale, indicating neither agreement nor disagreement. The standard deviation of 0.74 is relatively low, which indicates a high level of consistency in responses. This suggests that while the group overall was neutral, there was also a shared sense of uncertainty or indifference about the issue, possibly due to a lack of strong opinions or engagement with the specific aspect addressed by the statement.

For Question 2, The mean of 2.3 and median of 2 indicate a generally negative attitude among Millennial respondents, with the majority of participants disagreeing with the statement. This suggests that the belief or perception expressed in the item did not resonate well with the group. The standard deviation of 0.86 reflects moderate consistency, indicating that while a few respondents may have been neutral or slightly agreeing, the majority leaned toward disagreement.

PERCEIVED BEHAVIOAL CONTROL

| Perceived behavioral control | | |
|------------------------------|----------|-------------|
| | Q1 | Q2 |
| MEAN | 3.716667 | 3.783333333 |
| MEDIAN | 4 | 4 |
| STDEV | 0.884742 | 0.783119937 |

- For Question 1, The mean score of 3.71 and median of 4 indicate that Millennial respondents held a moderately positive attitude toward the statement, with the majority selecting “Agree.” The standard deviation of 0.88 suggests a fairly consistent pattern of responses, with relatively low variability. This implies that while a few respondents may have chosen neutral or slightly disagreeing options, most participants were aligned in their agreement. The findings indicate a solid yet not extreme level of agreement, suggesting that the attitude is generally shared but not unanimously strong.

- For Question 2, A mean of 3.78 along with a median of 4 reflects a clearly positive attitude among Millennial respondents. The relatively lower standard deviation of 0.78 indicates high response consistency, meaning that the majority of respondents not only agreed but did so with little variation. This suggests a stronger level of attitudinal alignment than the previous item, pointing to a well-accepted belief or preference among Millennial in relation to this statement.

PERCEIVED BEHAVIORAL CONTROL

| Perceived behavioral control | | |
|------------------------------|----------|-------------|
| | Q1 | Q2 |
| MEAN | 3.716667 | 3.783333333 |
| MEDIAN | 4 | 4 |
| STDEV | 0.884742 | 0.783119937 |

- For Question 1, The mean score of 3.71 and median of 4 indicate that Millennial respondents held a moderately positive attitude toward the statement, with the majority selecting “Agree.” The standard deviation of 0.88 suggests a fairly consistent pattern of responses, with relatively low variability. This implies that while a few respondents may have chosen neutral or slightly disagreeing options, most participants were aligned in their agreement. The findings indicate a solid yet not extreme level of agreement, suggesting that the attitude is generally shared but not unanimously strong.
- For Question 2, A mean of 3.78 along with a median of 4 reflects a clearly positive attitude among Millennial respondents. The relatively lower standard deviation of 0.78 indicates high response consistency, meaning that the majority of respondents not only agreed but did so with little variation. This suggests a stronger level of attitudinal alignment than the previous item, pointing to a well-accepted belief or preference among Millennial in relation to this statement.

PURCHASE INTENTION

| PURCHASE INTENTION | | | | |
|--------------------|----------|----------|----------|----------|
| | Q1 | Q2 | Q3 | Q4 |
| MEAN | 3.716667 | 4.033333 | 4 | 4.05 |
| MEDIAN | 4 | 4 | 4 | 4 |
| STDEV | 0.804472 | 0.551321 | 0.582223 | 0.565236 |

- For Question 1, A mean of 3.71 and a median of 4 indicate a moderately positive attitude among Millennial respondents, with most participants agreeing with the statement. The standard deviation of 0.80 suggests a reasonable level of consistency, with some variation in responses but no major divergence. This shows that while the majority leaned toward agreement, a minor portion may have responded neutrally or with slight disagreement.
Overall, the attitude is positive and moderately consistent, reflecting general agreement without being strongly unanimous.
- For Question 2, The mean of 4.03 and median of 4 reflect a strong positive attitude toward the statement. The low standard deviation of 0.55 indicates a high level of agreement and response consistency, with very little variability. This means that most Millennial respondents not only agreed but did so in a relatively uniform way, suggesting the statement was broadly accepted and uncontroversial.
- For Question 3, A mean and median of 4 suggest a positive and consistent response pattern, indicating that a majority of Millennial respondents agreed with the statement. The standard deviation of 0.58 is low, signifying strong agreement across the sample with minimal deviation. This shows that the statement resonated well with the group, and the attitude it measured is widely shared and stable, making it a reliable indicator of Millennial’s beliefs regarding that particular aspect of green skincare.
- For Question 4, The mean of 4.05 and median of 4 reflect a strong level of agreement, with most respondents expressing a positive attitude. The low standard deviation of 0.56 indicates a high degree of consistency, suggesting that responses were tightly clustered around the agreement

level. This demonstrates a clear and shared attitudinal stance among Millennial respondents, pointing to a firm and well-formed opinion on the issue addressed in the statement.

2. ANALYSIS OF GEN X

● ATTITUDE

| ATTITUDE | | | | |
|----------|----------|----------|----------|----------|
| | Q1 | Q2 | Q3 | Q4 |
| MEAN | 4.92 | 4.813333 | 3.12 | 3 |
| MEDIAN | 5 | 5 | 3 | 3 |
| STDEV | 0.318781 | 0.671693 | 0.463827 | 0.434959 |

- For Question 1, The extremely high mean of 4.92 and median of 5 indicate an overwhelmingly strong agreement among Gen X respondents toward the statement. The very low standard deviation of 0.31 shows near-universal consensus, with almost all respondents selecting “Strongly Agree.” This combination suggests an exceptionally strong and consistent positive attitude, making this one of the most strongly supported statements in the entire survey. The results reflect a clear, shared belief among Gen X regarding this particular attitudinal item.
- For Question 2, With a high mean of 4.81 and a median of 5, this item also indicates a very strong positive attitude among Gen X respondents. The slightly higher standard deviation of 0.67 compared to the previous item suggests a bit more variation, but still reflects substantial agreement, with the majority of responses concentrated at the top of the scale. The statement is therefore seen as highly favourable and widely endorsed, though with slightly more variability than the first item.
- For Question 3, The mean and median both being 3 suggests a neutral attitude toward the statement. The low standard deviation of 0.46 indicates that most respondents clustered around the neutral point, with relatively few selecting strongly positive or negative responses. This implies a mild, uniform indifference or uncertainty, with respondents neither clearly agreeing nor disagreeing. The overall interpretation points to a consistently moderate or undecided stance among Gen X.
- For Question 4, Similar to the previous item, a mean and median of 3 reflects a neutral attitude, and the low standard deviation of 0.43 shows very little variation in responses. Most respondents selected the mid-point of the scale, indicating a shared sense of uncertainty or neutrality. This lack of strong opinion suggests the statement was either not personally relevant, not fully understood, or did not evoke strong feelings among Gen X. The data indicates a uniform but indifferent attitude toward the issue.

● SUBJECTIVE NORMS

| SUBJECTIVE NORMS | | |
|------------------|----------|----------|
| | Q1 | Q2 |
| MEAN | 4.773333 | 4.666667 |
| MEDIAN | 5 | 5 |
| STDEV | 0.708507 | 0.96329 |

- For Question 1, The mean score of 4.77, along with a median of 5, indicates an extremely strong positive attitude among Gen X respondents toward the statement. This suggests that the vast majority selected “Strongly Agree.” The standard deviation of 0.70 shows low variability, meaning responses were highly consistent with minimal disagreement or neutral positions. This reflects a clear and unified consensus among Gen X, highlighting that the statement resonates deeply with their values or beliefs regarding green skincare products. Such strong alignment suggests a well-established and firmly held attitude within this generational cohort.
- For Question 2, A mean of 4.6 and a median of 5 similarly suggest a strong positive sentiment among Gen X respondents, with a large proportion indicating “Strongly Agree.” However, the slightly higher standard deviation of 0.96 implies a bit more variation in responses compared to the

previous item. While the dominant trend remains highly favourable, a few respondents selected lower agreement levels, introducing some mild dispersion. Nevertheless, the overall response pattern remains overwhelmingly positive, indicating that Gen X respondents broadly endorse the statement, even if with slightly less unanimity than the previous item.

- **PERCEIVED BEHAVIOURAL CONTROL**

| Perceived behavioral control | | |
|------------------------------|----------|----------|
| | Q1 | Q2 |
| MEAN | 4.76 | 4.813333 |
| MEDIAN | 5 | 5 |
| STDEV | 0.785683 | 0.630172 |

- For Question 1, The mean score of 4.76 and median of 5 indicate a very strong positive attitude among Gen X respondents toward the statement. A large majority of participants selected “Strongly Agree,” reflecting a high level of endorsement. The standard deviation of 0.78, while not extremely low, still shows relatively consistent responses, suggesting that the high agreement was widely shared across the sample. Overall, this result demonstrates a deep and broad attitudinal alignment among Gen X respondents, indicating a strong collective belief or value related to the statement.
- For Question 2, With a mean of 4.81 and a median of 5, this item reflects an even stronger positive sentiment from Gen X respondents, with most choosing the highest possible rating (“Strongly Agree”). The low standard deviation of 0.63 highlights a high level of agreement and consistency, suggesting minimal variation in responses. This indicates a very unified and strongly held attitude, implying that the statement strongly resonates with Gen X and is likely perceived as highly relevant, valuable, or personally meaningful. The combination of high central tendency and low dispersion points to near-unanimous support within the group.

- **PURCHASE INTENTION**

| PURCHASE INTENTION | | | | |
|--------------------|----------|----------|----------|----------|
| | Q1 | Q2 | Q3 | Q4 |
| MEAN | 4.733333 | 4.786667 | 4.8 | 4.8 |
| MEDIAN | 5 | 5 | 5 | 5 |
| STDEV | 0.84363 | 0.758614 | 0.716599 | 0.677834 |

- For Question 1, The mean of 4.73 and median of 5 indicate a very high level of agreement with the statement among Gen X respondents. Most participants selected “Strongly Agree,” reflecting strong support. The standard deviation of 0.84 suggests moderate consistency, meaning that while the dominant sentiment is clearly positive, a small number of respondents may have selected slightly lower ratings. Nonetheless, the overall response reflects a strongly favorable and largely consistent attitude within this generational cohort.
- For Question 2, With a mean of 4.78 and median of 5, this item reflects a very positive and slightly more consistent response pattern compared to the previous one. The lower standard deviation of 0.75 suggests that responses were more tightly clustered around the highest rating, indicating greater consensus. Gen X respondents appear to strongly align with the statement, reinforcing their unified positive attitude toward the concept being measured.
- For Question 3, This item also reflects a highly favourable attitude, with both the mean (4.80) and median (5) showing a clear inclination toward strong agreement. The standard deviation of 0.71 indicates a tight concentration of responses, signifying that most respondents consistently endorsed the statement. The results suggest a robust and coherent attitudinal stance among Gen X participants, with very little divergence in perception.

- For Question 4, This item demonstrates the strongest consensus among the four, with a mean of 4.80, median of 5, and the lowest standard deviation of 0.67. The data indicates that nearly all Gen X respondents selected the highest or second-highest rating, reflecting a uniformly strong and highly consistent positive attitude. The minimal variability underscores the extent to which this statement resonates with the group, making it one of the most universally accepted among the Gen X responses.

4.9 Reliability Test

Cronbach's alpha was used to assess the internal consistency of survey constructs. With a score of 0.905, the test indicates excellent reliability across all 16 items measured.

This study yielded significant insights into how generational cohorts in India—Gen X, Millennials, and Gen Z—perceive and behave toward green skincare products, using the Theory of Planned Behaviour (TPB) as its analytical foundation.

Key findings include:

- Attitude, subjective norms, and perceived behavioural control were all found to be significant predictors of purchase intention across all three generations.
- Within the attitude construct, the most influential factors are
 - Price sensitivity
 - Environmental consciousness
 - Peer group influence
 - Health awareness
- Generation Z expressed generally positive attitudes, driven mainly by their interest in ingredients and environmental sustainability. However, their responses showed higher variability, especially regarding peer pressure and social image.
- Millennials demonstrated strong approval for natural and safe skincare products but appeared more neutral about social pressures. Their attitudes were shaped more by personal ethics and health consciousness than by external influence.
- Gen X showed the most consistent and positive attitudes across all factors. Their high mean scores and low standard deviation indicated strong alignment around trust in product claims, reliance on scientific validation, and preference for eco-certified items.
- Perceived behavioural control was notably high for Gen X, largely due to greater purchasing power and product availability. These factors had a direct positive impact on their intention to purchase.
- Subjective norms played a key role for Gen X (mostly influenced by family and peers) and Gen Z (influenced by online content and influencers). Millennials, however, were the least affected by societal influence.
- Eco-labelling and third-party certifications emerged as important trust signals, especially for Gen X and Millennials. These groups reported higher confidence in green products when credible certifications were present.
- Despite positive attitudes, 52% of respondents had never used green skincare, and 48% were unaware of such products, suggesting an existing awareness gap.

Encouragingly, over 70% of all participants expressed a willingness to pay more for eco-friendly skincare and would recommend it to others, indicating latent demand.

CONCLUSION & LIMITATION

The findings of this study indicate that Indian consumers of all ages are becoming more responsive to environmentally friendly skincare products, but with a variety of different motives and patterns of behaviour. Gen X and Millennials emerged as the most supportive cohorts, placing a high value on effectiveness, safety, and environmental commitment. On the other hand, Gen Z, although being environmentally conscious, exhibited mixed behaviour because of worries about pricing and inclinations to follow trends.

The application of the Theory of Planned Behaviour (TPB) was instrumental in distinguishing the psychological variables that guide purchase intention—specifically attitude, social influence, and perceived control. The study affirmed that attitude is the strongest driver, particularly when reinforced by credibility, scientific backing, and visible eco-labelling.

Importantly, the findings suggest that green marketing strategies must be generation-specific:

- For Gen Z: Emphasize digital engagement, affordability, and influencer-led campaigns.
- For millennials: Highlight ingredient transparency, ethical sourcing, and brand values.
- For Gen X: Focus on clinical testing, product performance, and certification credibility.

The rise in health and environmental awareness indicates a broader lifestyle transition that brands can capitalize on. However, addressing the intention-behaviour gap will require focused efforts on improving awareness, product accessibility, and price competitiveness.

LIMITATIONS

While this research provides valuable insights into generational attitudes and behaviours related to green skincare products in India, several limitations should be acknowledged:

1. **Sample Size and Scope:** The study surveyed 206 participants, which is appropriate for exploratory analysis but may not represent the full diversity of India's vast population. Factors such as geographic location, income levels, and rural–urban differences were not specifically accounted for, limiting the generalizability of the findings.
2. **Self-Reported Data Bias:** The research relied on self-reported data, which is inherently prone to social desirability bias. Participants may have overstated their pro-environmental attitudes or purchase intentions to appear socially responsible, which may not align with their actual behaviour.
3. **Limited Behavioural Variables:** the study examined eco-libelling and certification, but it did not distinguish between third-party verified and self-declared eco-labels. This omission limits the ability to assess how trust in certification influences consumer perception and behaviours.
4. **Exclusion of Qualitative Insights:** The use of a structured questionnaire limited the opportunity to gather qualitative data That might have revealed emotional, cultural, or psychological drivers behind green skincare choices.
5. **Model Limitation:** Although the TPB framework was effective in this study, alternative models such as the Value-Belief-Norm (VBN) theory, Technology Acceptance Model (TAM), or Health Belief Model (HBM) may have offered richer dimensions for understanding digital behaviour and trust mechanisms in online skincare purchases.

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APPENDIX

(Selected Questionnaire Sections Overview)

Section A—Demographic Information

- Q1: Age
- Q2: Gender
- Q3: Occupation

Section B – Awareness & Usage of Skincare Products

- Q4: Frequency of skincare product usage
- Q5: Awareness of green skincare products
- Q6: Prior use of green skincare products

Section C – Attitude Toward Green Skincare Products

- Q7–Q10: Preferences for organic ingredients, product safety, environmental friendliness, and social perception

Section D – Subjective Norms

- Q11: Influence of friends and family

- Q12: Role of social media/influencers

Section E – Perceived Behavioural Control

- Q13: Accessibility of green skincare products
- Q14: Affordability and ability to buy regularly

Section F – Purchase Intention

- Q15–Q18: Willingness to pay more, future purchase intent, recommendation to others, preference for certified brands

Section G – Factors Influencing Attitude

- Q19–Q23: Price sensitivity, label checking, environmental and health consciousness, trust in eco-label

Section H – Open-Ended Questions

- Q24–Q26: Opinions on green skincare branding, eco-certifications, and consumer trust