

A Work Project presented as part of the requirements for the Award of a Master's Degree in
Management from the NOVA School of Business and Economics.

**WHAT PREMIUM ARE YOUNG INDIANS WILLING TO PAY FOR SUSTAINABLE
SKINCARE PRODUCTS?**

[How to win the skincare territory in Web3/Metaverse]

SMRITI SANJAYKUMAR SINGH – 49348

A Project carried out under the supervision of:

Antonio Marinho Torres

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What premium are young Indians willing to pay for sustainable skincare products?

Abstract

This research investigates the average premium young Indians are willing to pay for sustainable skincare products and the demographic factors that have an impact on this premium. The study uses a quantitative survey approach, using dichotomous choice testing. Regression tests and confirmation mean comparison tests are done to check the statistical significance of the proposed hypotheses. The results show that willingness to pay higher premiums is driven by income and age but gender plays no significant role. The findings have practical implications for companies as they can tailor pricing decisions better to meet the demands of this specific consumer segment.

Keywords:

Indian market, Young consumers, Sustainable skincare products, Willingness-to-pay, Premium

List of abbreviations:

WTP: Willingness To Pay

ELOC: Environmental Locus of Control

PEB: Pro-Environment Behavior

CBC: Choice-Based Conjoint analysis

BP: Business Project

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1. Business Project

1.1 Project Description & Relevance

The client (referred to as Brand X here on) is a well-known skincare brand and the BP is focused on boosting their brand image by creating and enhancing meaningful skincare-relevant connections with consumers leveraging the new touchpoints created by Web3/Metaverse.

Web3/Metaverse technology touchpoints enhance these connections through community, co-creation, and collaboration. While in some sectors these opportunities are evident and have already been seized by leading companies, in skincare the rules are not yet settled. This poses a significant opportunity for Brand X. The BP aims at getting a three-fold outcome:

- 1) A long-term vision of Brand X as the #1 skincare brand in Web3/Metaverse
- 2) The key success factors to achieve this vision
- 3) A roadmap on how to get there

1.2 Methods

This project is positioned at the intersection of three relevant areas: consumer experience, skincare, and Web3/Metaverse. The approach taken was to gain a deep understanding of each of the relevant areas and their intersections as seen in the Venn diagram in Figure 1.

The project was based on both primary and secondary research. The primary research had a quantitative and a qualitative part. The quantitative part was a survey conducted on a sample of consumers between the ages 18-25. The quantitative survey gathered data on what brands are recalled by consumers on Web3/Metaverse. The qualitative part was in-depth interviews on a sample of consumers between the ages 18-25, from 5 countries – Brazil, Germany, India, South Korea and UK. The interviews were conducted to understand consumer perception of skincare, Brand X and Web3/Metaverse technology. The secondary research consisted of desk research on

brands and their initiatives on Web/Metaverse space.

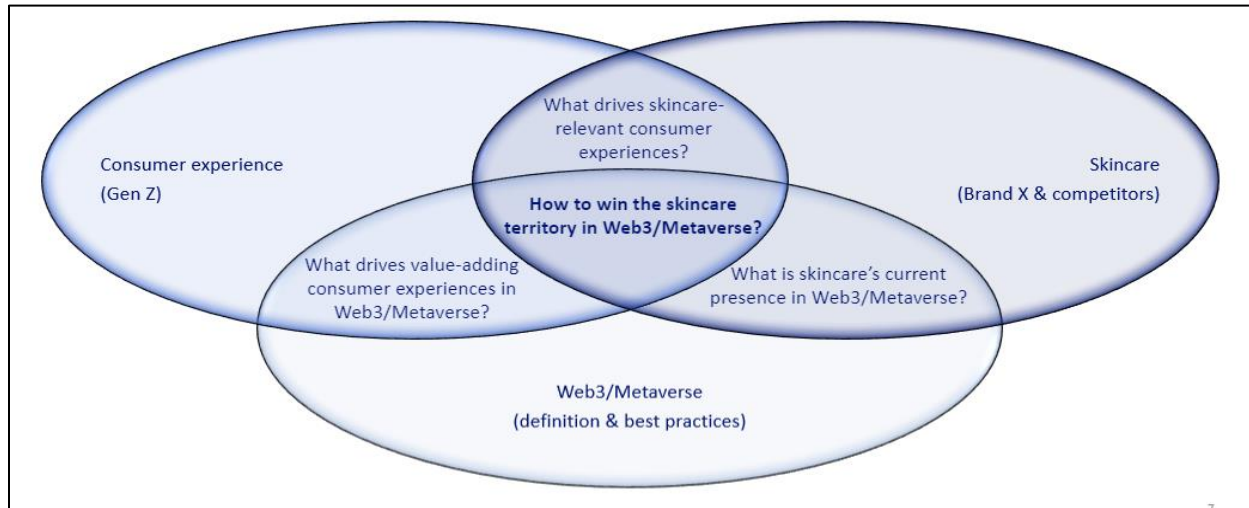


Figure 1: Venn diagram of approach

1.3 Main Findings

In this section, the main findings from each intersection of the Venn diagram will be discussed.

Skincare & Consumer Experience

From desktop research, it was found that within Gen Z, needs, motivations, and behaviors regarding skincare vary substantially. Three main segments were found – ones who have no routine, simple routine or multi-stage routine. The qualitative research further suggests that Metaverse can play a relevant role for Brand X to build a closer connection to these younger consumers.

Web3/Metaverse & Consumer Experience

From the quantitative analysis of consumer recall of brands on Web3/Metaverse, a framework was developed to measure the brand presence on the technology. A brand would *lead* its category if it has more than 50% of spontaneous recall for the category, among those respondents who could recall at least one brand in the category. A brand would *own* its category if it has more than 75% of spontaneous recall for the category. Further, categories in which at least 50% of the

respondents could recall at least one brand with activities in the metaverse when asked a non-category specific question were defined as *established* categories. While categories in which less than 50% of the respondents mentioned at least one brand with activities in the metaverse when asked a non-category specific question were defined as *emerging* categories.

Brands in different categories with popular and interesting initiatives on Web3/Metaverse were identified and analyzed as seen in Figure 2. It was observed that the number of initiatives or technology diversity did not seem decisive for owning a category, as brands have adopted different approaches.

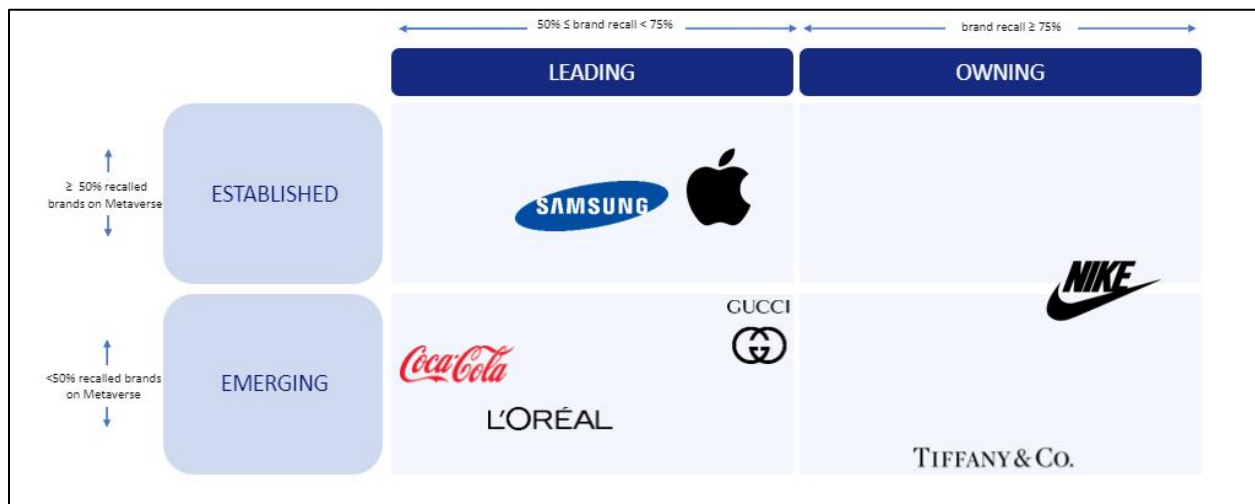


Figure 2: Brands Web3/Metaverse initiatives analysis

Nike is the only brand close to crossing the threshold to own an established category in the metaverse, whereas Tiffany's position is more due absence of other brands.

The building blocks from the brands were plotted on a heat map and the main ones were identified as exclusivity, celebrity collaborations, communities, collectibles, virtual products, NFTs and gamification as seen in Figure 3.



Figure 3: Building blocks heat map of brands from different categories

Web3/Metaverse & Skincare

Skincare brands and their journeys on the Web3/Metaverse were analyzed. The building blocks from the brands were plotted on a heat map and the main ones were identified as NFTs, celebrity collaboration, exclusivity, identity, gamification, entertainment and events as seen in Figure 4.



Figure 4: Building blocks heat map of skincare brands

1.4 Recommendation

Triangulating the insights from the different intersections, the center of the Venn diagram, namely “How to win the skincare territory in Web3/Metaverse?” is where the vision and roadmap was developed.

Brand X's vision "Skincare is about skin and mind" is aligned with its brand purpose, addresses consumers' needs, and leverages the Web3/Metaverse technology. According to the vision, Brand X will win the skincare territory in Web3/Metaverse by being recognized as the brand that delivers a healthy skin by taking care of skin and mind. The vision is delivered through four levers – Innovation, Information, Community and Mindfulness. The levers comprise 10 solid initiatives which are developed based on the previous insights and creativity. Each initiative checks the fit to vision, fit with the Web3/Metaverse technology and fit with the skincare category. These 10 initiatives must be rolled out in the market over the next 5 years. The roadmap takes into consideration the prioritization and the balance among initiatives, as well as the expected technology development.

2. Individual Work Project

2.1 Problem Definition

From our research in the Business Project (BP), we saw that consumers expect an extensive sustainable product portfolio from skincare brands. There are many well-known brands in India that have a sustainable line (Appendix 1) but it is the smaller brands that manufacture only sustainable products that are taking the cake (Thaker, 2021). Consumers prefer brands which are innovating skincare and doing it sustainably (Sachar, 2020). With growing awareness of environmental issues, sustainable consumer behavior has taken center stage in recent years. Brands must create a stronger brand image connection to sustainability and this starts from meeting consumer demand for trustworthy sustainable products. Considering how India is a price-sensitive market (Appendix 2), brands need to uphold the quality trust of its consumers in India and price their sustainable products accurately. The price should reflect the WTP and drive consumer behavior. Therefore, the topic of this study is the extent to which young Indians are willing to pay a premium for sustainable skincare products.

2.2 Research Objectives

This study aims at assessing the attitude of young Indians towards sustainability in the skincare industry by observing whether they make a sustainable choice given the option. Further, the willingness of young Indians to pay a premium for sustainable skincare products is to be explored. If the consumers make a sustainable choice, how far are they willing to go in order to display this behavior. It is to be assessed which demographic factors drive this consumer behavior of paying higher premiums as opposed to lower or no premiums.

By addressing these research objectives, this study aims to contribute to a deeper understanding of the consumer behavior of young Indians towards sustainable skincare products. These findings

will provide valuable insights for product manufacturers and marketers to promote sustainable consumption practices in the Indian skincare market and how to tailor their pricing decisions.

Therefore, the main objectives are to identify:

- 1) The average premium young Indians are willing to pay for sustainable skincare products
- 2) The demographic factors that may have an impact on this premium

2.3 Literature Review

In this section, literature on sustainable skincare, consumer segments for sustainable products purchase, and factors that drive WTP for sustainable products are explored in the Indian context.

2.3.1 Sustainable skincare in India

India has a large skincare market valued at USD 2.6 billion in 2021, with a CAGR of more than 10% between 2021-2026 (GlobalData, 2022). Sustainability is a growing concern for Indian consumers with 20% of consumers being environmentally and socially conscious (Appendix 3).

The trigger that has motivated the Indian consumer to move towards sustainable products has been the personal impact due to environmental issues, followed closely by family and friends who have influenced their choices (Lightowler, et al., 2022).

In Asia Pacific, sustainability is equally important across age and income groups. While one may have expected that consumers identifying as environmentally/socially conscious would have predominance in certain subsections of society, the fact is that it is equally prevalent across income, age, and gender (Lightowler, et al., 2022). However, Indian consumers are at an early stage of awareness and we see consumers identifying as environmentally/socially conscious to be in the educated and urban/sub-urban subsection of society (Francis & Sarangi, 2021).

There is no legal definition for what sustainable products are or established standards for them in the Indian market. But what consumers perceive as sustainable products are ones that are natural,

additive/chemical free, and organic (Appendix 4). Indian consumers focus 5 percentage points more on organic products than the Asia-Pacific average, the most in the region (Lightowler, et al., 2022).

In India, the percentage share of consumers willing to spend a clear premium on sustainability products is 62%, but there is a disconnect between intent and action—the vexing “say-do gap” (Bureau, 2022). The top reasons for consumers not buying sustainable products are ‘lack of knowledge’, ‘higher price’, ‘doubt on product sustainability claim’, and ‘low availability of brands with sustainable products’ (Bureau, 2022). 60% of Indian consumers have tried different brands, especially since COVID-19 pandemic, with sustainability and purpose being number two reason (McKinsey, 2022). 43% of Indian respondents rank sustainability as a top-five key purchasing criterion (Bureau, 2022), yet sustainable products comprise a very low share in the skincare market.

2.3.2 Consumer segments for sustainable purchase in India

With the growing purchase power of the urban middle class, nearly 52% of consumers in India say they plan to increase their spending on sustainable products over the next three years (Bureau, 2022). According to a report by McKinsey, 83% of the respondents had an intention to splurge in 2022, high among young consumers (Young millennials followed by Gen Z). This behavior is pronounced for high-income groups but is on the rise among medium-income group in urban areas (Appendix 5). In the same report, we see that 97% of Indian consumers have new shopping behavior with 67% omnichannel purchases, 25% online product research and purchase, and only 9% in-store purchase for the skincare category (McKinsey, 2022). But segmenting environmentally conscious consumers is very important since the demand for sustainable products has been uneven across different market segments (Ottman, 1992).

According to the study by Chitra (2007), based on behavior of consumers towards eco-friendly products, they are classified into four categories – Aspirants, Addicts, Adjusters, and Avoiders. Aspirants (58.3%) are aware of how they are creating ecological imbalance and wish to consume eco-friendly products whose higher price is rendered value. Addicts (20%) see the benefit value (more natural so better for health, etc.) in eco-friendly products and loyally buy only eco-friendly alternatives. They also recommend it to family and friends. Adjusters (15%) don't care whether the product is eco-friendly and care more about functionality – product availability, price, and quality. Avoiders (6.7%) feel that ecological imbalance is not in their hand and eco-friendly products are marketing gimmicks. They feel that eco-friendly products don't actually help the environment or have extra benefits, hence a price premium is not justified.

2.3.3 Factors that influence WTP in India

Consumer behavior of purchase of sustainable products in India is driven by three identified potential factors – Demographics, Psychographics and Knowledge.

Demographics as a driver of WTP: According to Goswami (2008), 20% of the respondents who are identified as having the most inclination towards sustainable products purchase are equal in number of males and females, urban working class and have attained higher education. This group may act as opinion leaders for the other groups, influencing their consumer behavior in the future. The study from Francis & Sarangi (2021) further corroborates that respondents from urban areas are better aware of the sustainability discourse. This can be due to the awareness of current environmental problems due to education and exposure. Furthermore, responses clubbed by age groups in a generation show that younger consumers are more aware of the ecological paradigm, more altruistic and open to change. But it is older consumers who show higher sustainable purchase behavior. This can be attributed to their higher incomes.

Psychographics - Environmental Locus of Control (ELOC) as a driver of WTP (Trivedi, et al., 2014): The concept of Locus of Control applied in the environmental context gives two factions – internal ELOC who believe that their behavior has an impact on the environment and external ELOC who believe that situation is beyond their own control. Internal ELOC seems to be positively related to WTP and pro-environmental behavior ties in tightly with the concept. Higher ELOC leads to a higher Pro-Environment Behavior (PEB) and the difference in WTP between consumers with high PEB and low PEB is quite significant. With the help of education, awareness creation and provision of relevant environmental information, marketers can influence consumers to purchase environmentally friendly products at a higher premium.

Knowledge as a driver of WTP (Jain & Kaur, 2004): The study highlights that respondents get influenced by green advertising of products that promote environmental issues being worked on. They themselves don't know which products are sustainable and what attributes to look for. This can be attributed to uneven awareness and knowledge of various environmental issues. There is more awareness level (60% and above) of issues like pollution, overpopulation, deforestation, etc. because of the visibility of these issues in the country. But other issues like species preservation, environmental labeling, chlorofluorocarbons, sustainable development, etc. have low awareness levels (20-40%). Overall, the results are quite in conformity with those of studies undertaken in other countries which report that consumers not only desire to purchase products that are environmentally less harmful but are also willing to pay more for them.

Given the early stage of development of sustainability marketing in India, this study focuses on demographics.

2.4 Conceptual Framework

In general, the willingness to pay a price premium decreases as the price premium

increases, consistent with the law of demand (Aryal, et al., 2009). In consumer behavior theory, consumers make their own decisions to balance the skin benefits and marginal price of one unit of a skincare product.

To understand the factors affecting this WTP, contingent value framework was employed. In recent years contingent valuation has been applied to measure consumer preferences for new products or products with new attributes or features, such as eco-labeled products (Loureiro, et al., 2002). Hypothesis testing of different factors- Gender, Age and Income was carried out, with framework from (Carpio & Isengildina-Massa, 2009) study as reference as seen in Figure 5:

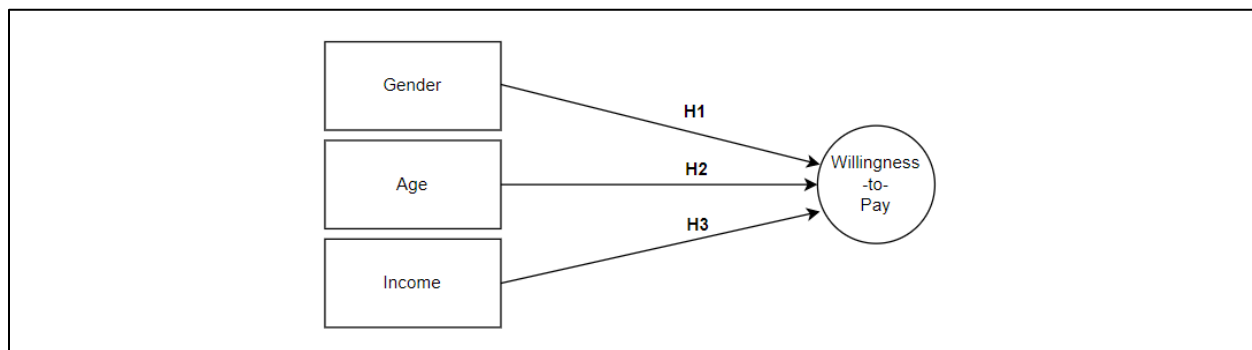


Figure 5: Framework

H1: Women are more likely to pay a higher premium than men for sustainable skincare products

According to (Goswami, 2008), men and women are equally likely to pay high premiums for sustainable products in India. This is further supported by (Lightowler, et al., 2022) but these results are applicable more broadly for sustainable products. Studies conducted for skincare category specifically point to contrary (Araújo, 2022). It is observed that women are more likely to purchase sustainable skincare products which come at higher prices. Hence this trend is expected in India as well for the skincare category.

H2: The older the consumers are, the more likely they are to pay a higher premium for sustainable skincare products

Knowledge and environmental locus of control, driving factors for WTP, are independent of age. From the literature review we see that consumer behavior varies among different generations but it remains even within a generation. The factor playing an important role is the purchase power, which increases with age considering increasing income. Hence it is expected that WTP for sustainable products would witness a rise with age, sometimes within the same generation.

H3: The higher the income of consumers, the more likely they are to pay a higher premium for sustainable skincare products

According to Das, et al. (2022), we saw that consumers from high-income segments are willing to pay high premiums for sustainability and this trend is on the rise for middle-income segments. Hence it is expected that in the current market, higher the income is, more premium consumers are willing to pay for sustainable products, including for skincare category.

2.5 Methods

2.5.1 Research approach

Quantitative method of data collection was chosen due to the fact that the study had defined hypotheses based on literature found and these hypotheses needed confirmation based on input from representative sample. The development of a survey-based experimental study allowed the possibility to gather multiple answers at a higher speed, the elimination of the bias of interviewer and the download of the results with the aim of conducting a quantitative analysis (Adams & Cox, 2008).

2.5.2 Sample

This study focuses on young Indians because India has the largest working-class population in the world (GlobalData, 2022). From literature review we see that young Indians between the ages of 20 to 30, living in urban cities with medium purchase power are most inclined towards

sustainable products purchase. This makes them the most convenient sample choice. Data is collected by administering a survey questionnaire through stratified sampling of the convenience sample of consumers. According to (Sekaran, 2009), sample size between 30 and 500 is adequate to yield a statistically significant result for a research of this nature. They participated in the survey through online platforms. Confidentiality and anonymity were ensured to encourage honest responses.

2.5.3 Questionnaire design

A structured questionnaire was designed to gather data on participants' demographics and WTP for sustainable skincare products. To gauge hypothetical WTP, contingent valuation method is used. It asks respondents hypothetical questions about their willingness to pay for products with specific attributes (Carpio & Isengildina-Massa, 2009). Evaluation of consumer responses to these questions also allows estimation of the proportion of population willing to purchase a product with specific attribute at alternative prices (Louviere, et al., 2000). The product attribute examined in this study is the "sustainable" characteristic. Two products are displayed – A and B from the same brand and with similar packaging (Appendix 6). The only difference is the claim of sustainability of Product B. Both products are displayed at a time with their prices, and the consumers choose which product they prefer to buy (Miller, et al., 2011).

The questionnaire uses dichotomous choice testing because consumer's WTP is a context-sensitive construct, the suitability of a WTP measurement method can depend on how well such a method approximates the actual purchasing context of the underlying product and/or category (Thaler, 1985). Thus, indirect approaches (Appendix 7), such as Choice-Based Conjoint analysis (CBC) analysis, a series of dichotomous choice tests, may be better suited for the product category, skincare, in which a more extensive decision process is involved (Voelckner, 2006;

Backhaus, et al., 2005). Indirect methods also seem to be more suitable for relatively higher-priced, less frequently purchased product categories with significant competition (Miller, et al., 2011), which fits well for the product in the questionnaire – 500mL body lotion.

The dichotomous choice testing will be made with different price scenarios for Product B as mentioned in Table 1, while the price of Product A remains constant. As per the American Express Trendex Report 2022, 94% of Indian adults surveyed said that they would pay a premium of 10% (Bajaj & Bahuguna, 2022). Based on this study, 10% was taken as the mean with $\pm 15\%$ as the range.

Price of Product A	Sustainability premium %	Price of Product B
₹ 320	25%	₹ 400.0
₹ 320	20%	₹ 384.0
₹ 320	10%	₹ 352.0
₹ 320	07%	₹ 342.5
₹ 320	05%	₹ 336.0
₹ 320	02%	₹ 326.5
₹ 320	00%	₹ 320.0

Table 1: Premium price scenarios

The consumers were given choices of premium in descending order, i.e., 10% premium first, going down to 0%. When consumers chose a product to buy with a certain premium for sustainability, they were exited from the survey and hence we get mutually exclusive outputs for each of the premium percentages. If the consumer did not choose to buy a sustainable product at any of the premium percentages, they were added to the last category ‘Did not choose the sustainable product’.

2.5.4 Descriptive study

To understand the attitude of young Indians towards sustainable skincare and WTP a premium for it, a descriptive study based on responses will be carried out. Under this study, consumer behavior will be analyzed, whether they prefer sustainable skincare products over non-

sustainable skincare products. Also, based on consumer's personal perception of the worthiness of the sustainable products, the value-based premium that consumers are willing to pay will be determined (Rödiger, et al., 2016).

2.5.5 Data analysis

To test the hypothesis of relation between different factors and the WTP, a regression test with confidence level of 95% will be carried out with explanatory variables described in Table 2. The dependent variable will be premium percentage and independent variables will be gender, age and monthly income.

Dependent variable	
Premium percentage	20
	10
	7
	5
	2
	0
Independent variables	
Gender	Female = 1
	Male = 0
Age (in years)	[20-22] = 0
	[23-26] = 1
	[26-30] = 2
Monthly income (in Rs)	<30K = 0
	30-50K = 1
	50-72K = 2
	72-90K = 3
	>90K = 4

Table 2: Explanatory variables

The monthly income ranges are based on income tax slabs in India. While age ranges are based on social roles in India. 20-22 years olds are mostly students, 23-36 are working class and 26-30 are starting their families.

2.6 Survey Output

The number of people who responded and completed the survey were 123. Table 3 provides a

profile of the sampled respondents.

Characteristics	Percentage (n=123)
Gender	
Male	43.0%
Female	57.0%
Age (in years)	
20-22	16.3%
23-26	46.3%
27-30	37.4%
Education	
Graduate	77.2%
Post Graduate	22.8%
Monthly income (in Rs)	
Below 30,000	14.6%
30,000-50,000	30.1%
50,000-72,000	17.9%
72,000-90,000	26.0%
Above 90,000	11.4%
Occupation	
Student	14.6%
Homemaker	02.4%
Business/self-employed	31.7%
Employed/service	51.3%

Table 3: Respondents' profile

Table 3 further provides the insight into consumer choice of extent of premium they are willing to pay.

Premium percentage	No. of respondents	Percentage of respondents (n=123)
>20%	00	00.0%
Up to 20%	02	01.6%
Up to 10%	03	02.4%
Up to 7%	07	05.7%
Up to 5%	65	52.8%
Up to 2%	27	22.0%
0%	13	10.6%
Did not choose the sustainable	06	04.9%

Table 4: Sustainability premium selection

2.7 Analysis

In this section, the quantitative data will be analyzed to find the average premium young Indians are willing to pay and the relation between the different demographic factors and the WTP this premium. This study will focus on three factors - Gender, Age and Income, and test whether these factors drive the WTP higher premiums.

2.7.1 Average premium young Indians are willing to pay

The results of the survey show that while 4.9% of respondents prefer non-sustainable products, the majority of 95.1% of respondents prefer the sustainable option. This shows that young Indian consumers are willing to buy sustainable skincare products.

Further, we see that a relevant percentage of 10.6% of respondents prioritize sustainability as purchase factor but do not want to pay a premium for it. Their expectation is to have sustainable products at the same price as the original product. However, this group is still a minority with a majority of 84.5% of respondents willing to pay a premium. This shows that Young Indian consumers are willing to pay a premium for sustainable skincare products.

From the premium distribution in Figure 6, it is seen that the distribution is right-skewed with most consumers willing to pay a 5% premium (mode). The mean premium consumers are willing to pay is 6.7%.

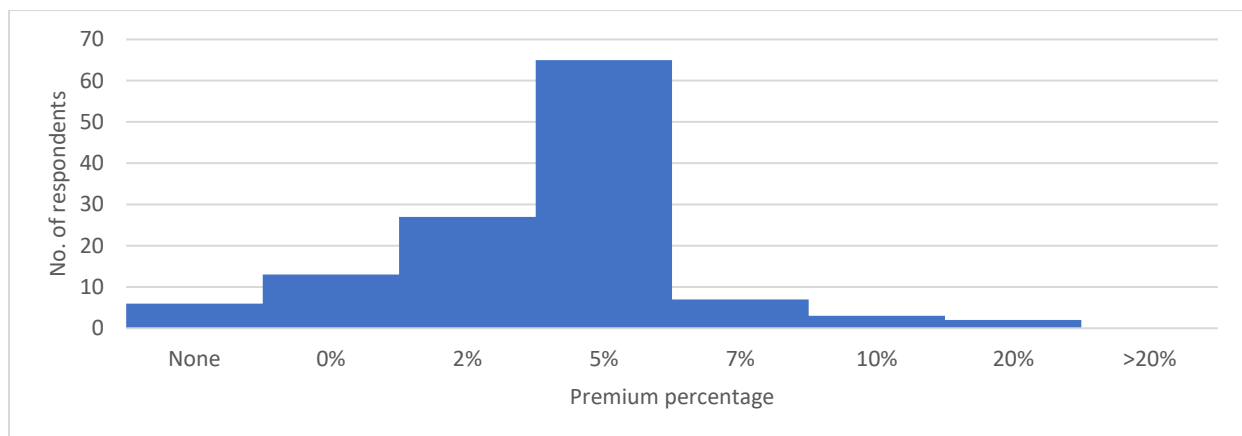


Figure 6: Premium distribution

2.7.2 Demographic factors relevant in driving WTP

Regression testing on model based on demographic factors Gender, Age and Income culminate an F-value of 0.000 which is less than 0.05 (95% confidence level) and hence this model is statistically significant, as seen in Figure 7.

Regression Statistics	
Multiple R	0.383
R Square	0.147
Adjusted R Square	0.124
Standard Error	2.824
Observations	117

ANOVA					
	df	SS	MS	F	Significance F
Regression	3	155.107	51.702	6.483	0.000
Residual	113	901.201	7.975		
Total	116	1056.308			

	Coefficients	Std Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.323	0.634	3.662	0.000	1.066	3.579	1.066	3.579
Gender	1.069	0.549	1.946	0.054	-0.019	2.157	-0.019	2.157
Income	1.108	0.287	3.866	0.000	0.540	1.676	0.540	1.676
Age	-0.701	0.523	-1.339	0.183	-1.737	0.336	-1.737	0.336

Figure 7: Regression test output

P-values of Gender and Age are 0.054 and 0.183 respectively which are greater than 0.05 (95% confidence level), hence these independent variables are not significant for premium variance. P-value of Income is 0.000 which is smaller than 0.05 and hence it is significant for premium variance.

2.7.3 Gender and WTP

A confirmation T-test is carried out with the null hypothesis, H0: Both males and females have equal mean for premium percentage they are willing to pay

Since p-value is 0.271 which is greater than significance value of 0.05 at 95% confidence level as seen in Figure 8, the null hypothesis cannot be rejected. It is seen that men and women are willing to pay similar premiums for sustainable skincare products. Hence hypothesis H1 is rejected, which is consistent with the literature review.

	<i>Male</i>	<i>Female</i>
Mean	3.875	4.522
Variance	10.878	7.841
Observations	48	69
Hypothesized Mean Difference	0	
df	90	
t Stat	-1.109	
P(T<=t) one-tail	0.135	
t Critical one-tail	1.662	
P(T<=t) two-tail	0.271	
t Critical two-tail	1.987	

Figure 8: t-Test for Gender variable

2.7.4 Age and WTP

Confirmation t-Tests are carried out between the combination of the three age ranges to identify the group that is the source of variation, seen in the regression test.

T-test 1: Between age ranges 20-22 and 23-26 with null hypothesis, H0: Both age ranges have equal mean for premium percentage they are willing to pay

	<i>20-22</i>	<i>23-26</i>
Mean	2.588	4.579
Variance	4.007	13.070
Observations	17	57
Hypothesized Mean Difference	0	
df	49	
t Stat	-2.919	
P(T<=t) one-tail	0.003	
t Critical one-tail	1.677	
P(T<=t) two-tail	0.005	
t Critical two-tail	2.010	

Figure 9: t-Test for age ranges 20-22 and 23-26

Since p-value is 0.005 which is less than significance value of 0.05 at 95% confidence level as seen in Figure 9, the null hypothesis is rejected. Age ranges 20-22 and 23-26 have equal means only 0.5% of the times. It is also observed that mean premium of age range 20-22 is lower than that of age range 23-26.

T-test 2: Between age ranges 20-22 and 27-30 with null hypothesis, H0: Both age ranges have equal mean for premium percentage they are willing to pay

	20-22	27-30
Mean	2.588	4.488
Variance	4.007	4.875
Observations	17	43
Hypothesized Mean Difference	0	
df	32	
t Stat	-3.216	
P(T<=t) one-tail	0.001	
t Critical one-tail	1.694	
P(T<=t) two-tail	0.003	
t Critical two-tail	2.037	

Figure 10: t-Test for age ranges 27-30 and 20-22

Since p-value is 0.003 which is less than significance value of 0.05 at 95% confidence level as seen in Figure 10, the null hypothesis is rejected. The age ranges 20-22 and 27-30 have equal means only 0.1% of the times. It is also observed that mean premium of age range 20-22 is lower than that of age range 27-30.

T-test 3: Between age ranges 23-26 and 27-30 with null hypothesis, H_0 : Both age ranges have equal mean for premium percentage they are willing to pay

	23-26	27-30
Mean	4.579	4.488
Variance	13.070	4.875
Observations	57	43
Hypothesized Mean Difference	0	
df	94	
t Stat	0.155	
P(T<=t) one-tail	0.439	
t Critical one-tail	1.661	
P(T<=t) two-tail	0.877	
t Critical two-tail	1.986	

Figure 11: t-Test for age ranges 23-26 and 27-30

Since p-value is 0.877 which is greater than significance value of 0.05 at 95% confidence level as seen in Figure 11, the null hypothesis cannot be rejected. Age ranges 23-26 and 27-30 have equal means 87.7% of the times. So not much difference is observed in the premium paid by the consumers in these age ranges.

The switch to higher premium mean is observed after age 20-22. This could be because the respondents in 20-22 age range are mostly students and do not have the resources to pay a higher premium. But once they get turned into a working-class consumer at 23, they have more liberty to

pay higher premium for sustainable products. Hence, H2 is rejected as a blanket hypothesis, but it is valid at the specific age range mentioned.

2.7.5 Income and WTP

From the regression test it is seen that income is a highly significant variable in driving WTP a higher premium. This is supported by the mean premium percentages of the different income groups seen in Figure 12.

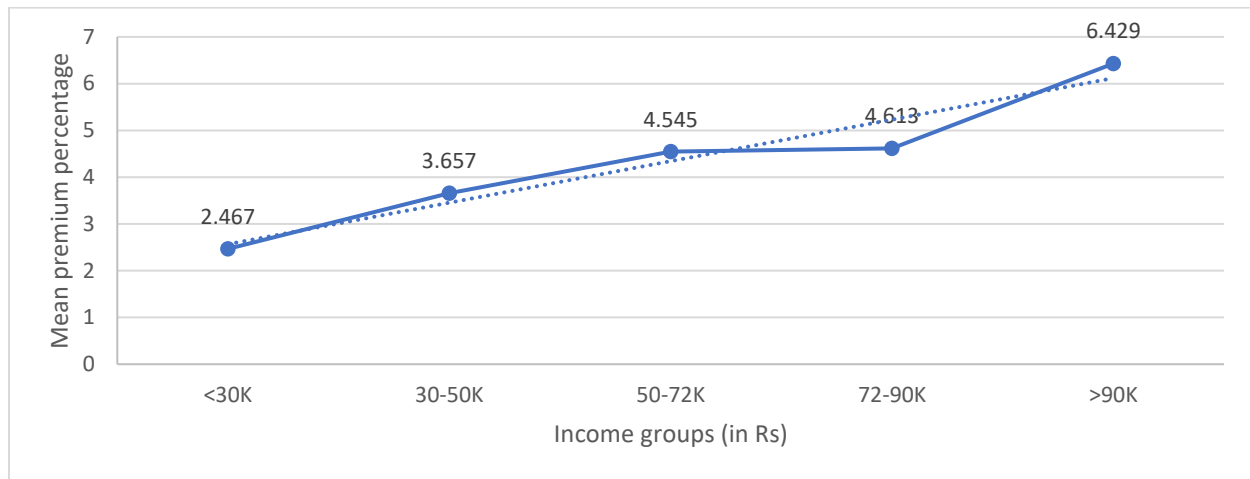


Figure 12: Mean premium percentage of income groups

The clear pattern of linear rise in mean premium percentages as income increases validates the hypothesis H3.

2.7.6 Conclusion

In this section we conclude the results of this study in Table 5.

Hypotheses	Variables	Expectation	Results
H1	Gender	Women are more likely to pay a higher premium than men for sustainable skincare products	Rejected
H2	Age	The older the consumers are, the more likely they are to pay a higher premium for sustainable skincare products	Partially accepted
H3	Income	The higher the income of consumers, the more likely they are to pay a higher premium for sustainable skincare products	Accepted

Table 5: Results

2.8 Discussion

In this section, contribution of this research to the literature and skincare industry will be discussed. Furthermore, limitations of this research and what can be studied further will also be discussed.

2.8.1 Contributions

There is little literature available on consumer behavior towards sustainable skincare products in the Indian context. And this research contributes to it under the topic of WTP.

The extent of premium that consumers are willing to pay helps companies with making pricing decisions. Further, the demographic factors relevant in driving these decisions can help marketers better develop their marketing and communication strategy to cater to the different segments of consumers.

2.8.2 Limitations and further studies

This research has limitations in four categories. First, the methodology of CBC analysis for hypothetical WTP is significantly different from their incentive-aligned counterparts, indicating a hypothetical bias for product choice. Although hypothetical methods are known to generate hypothetical bias, they may still lead to the right demand curves and right pricing decisions (Miller, et al., 2011). Second, the sample size of 123 is not representative of the heterogeneous market like India. More responses could give a better insight. Third, the convenience-sampling method was used to draw the sample, so the limitations of the sampling method are applicable. In this research, the young urban segment is chosen and other applicable segments are ignored. Fourth, from the regression model 1, it is seen that low variance is explained by the demographic factors considered in the study. The model requires other relevant factors like psychographic and knowledge to be included, in order to explain the variance.

Future studies could explore trying other methodologies to get better WTP input, without bias. Furthermore, getting a larger sample size would also help improve the output. In the current study, limited scope of demographics were sampled for their quantitative input. But including other demographic factors like age above 30 years or respondents living in rural area, etc. would give a better picture of the different segments. It would also help to include other factors like psychography or knowledge. Different combinations of demographic, psychographic and knowledge factors driving WTP premiums gives a more complete picture.

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4. Appendices

Appendix 1: Well-known brands' sustainable lines



Nivea “Naturally Good”



The Body Shop “sustainable packaging”



Garnier “organic” products



Biotique “natural” products

Source: Brand websites

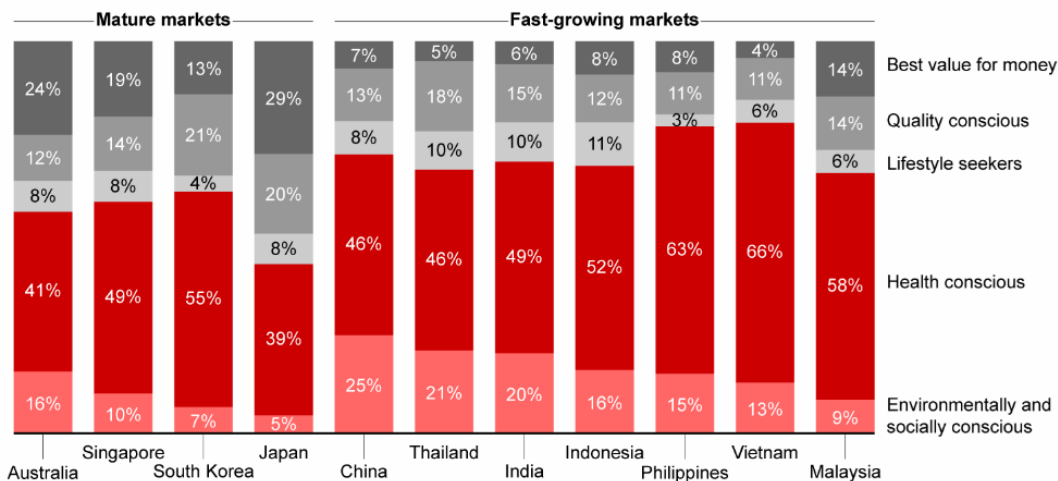
Appendix 2: Qualitative interview results – BP

IN DIFFERENT MARKETS, CONSUMERS VALUE DIFFERENT ASPECTS ABOUT SKINCARE PRODUCTS

Market	Insight	Quotes
 Brazil	Small & Organic brands: prefer sustainable, organic, brands, mostly Brazilian; want products that are not aggressive to the skin and are recommended by dermatologists	<i>People my age prefer a brand that's simple organic and not harmful.</i>
 Germany	Effectiveness: don't like to experiment, stick to same products if they are effective and seek for advice; give importance to the packaging when selecting products	<i>Effectiveness & promise of crème is important. Price is secondary.</i>
 United Kingdom	Experimentation: stick to products they are comfortable with, but are willing to experiment and search for a good price – quality ratio and organic brands	<i>I have had a skincare routine since forever! I like to experiment with products, but also stick with products that I know are good for me.</i>
 India	Simplicity & Practicality: have a simple or no routine, repurchase and don't experiment too much and buy online; are very price-sensitive and brand loyal	<i>I prefer a simple routine or not a routine as such but just products based on what my skin needs.</i>
 South Korea	Korean brands & Information: use mostly Korean skincare brands, are well informed about the ingredients that are good for their skin and what the products contain through online research	<i>I prefer to use Korean organic brands because it feels like I am putting pure nature on my skin.</i>

Appendix 3: Product/Brand purchase criteria for Indians

Percentage share of respondents

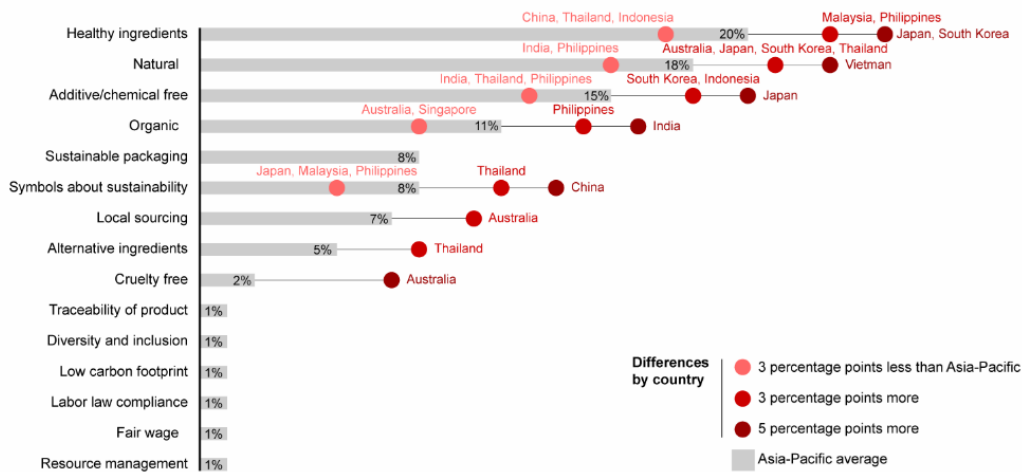


Note: Respondents were asked which are the most important and least important criteria when deciding which product and/or brand to purchase
Source: Bain Asia-Pacific Environmental, Social, and Corporate Governance Survey, January 2022 (Singapore, Australia, Japan, South Korea, Thailand, Malaysia, Vietnam, China, India, Indonesia, and Philippines n=16,824)

Source: (Lightowler, et al., 2022)

Appendix 4: Important sustainability elements for Indians

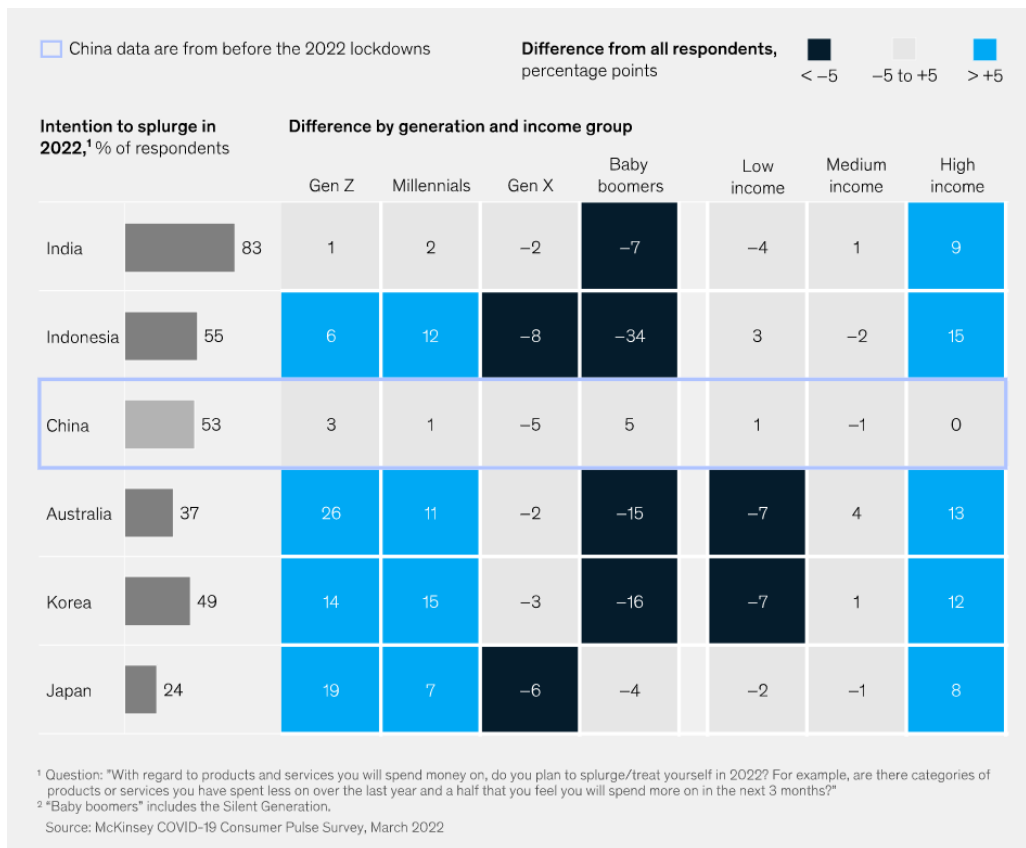
10 most important sustainability elements to Asia-Pacific consumers, as percentages



Source: Bain Asia-Pacific Environmental, Social, and Corporate Governance Survey, January 2022 (Singapore, Australia, Japan, South Korea, Thailand, Malaysia, Vietnam, China, India, Indonesia, and Philippines n=16,824)

Source: (Lightowler, et al., 2022)

Appendix 5: Indian demographic study of intention to splurge



Source: (Das, et al., 2022)

Appendix 6: Product display profile in survey questionnaire



Appendix 7: Methods for measuring consumers' WTP

ALTERNATIVE METHODS FOR MEASURING CONSUMERS' WTP

<i>Context</i>	<i>Measurement</i>	
	<i>Direct</i>	<i>Indirect</i>
Hypothetical WTP	OE question format	CBC analysis
Actual WTP	BDM mechanism	ICBC analysis

Source: (Miller, et al., 2011)