

“Online Cosmetic Shopping Trends Among Women: A Demographic And Empirical Analysis In Gujarat”

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ABSTRACT

The impact of the proliferation of e-commerce on the purchasing behaviour of female consumers regarding cosmetics in Gujarat, India. The quantitative study is demonstrating different demographical factors which impact on utilization of internet for cosmetics shopping among women. Data on the perspectives was collected from 500 female respondents from various age categories, economic classes, and employment statuses through a structured questionnaire and statistical analysis. This study explores how much brand awareness, brand loyalty, and brand association influence online buying behavior and purchase decisions. Data shows that demographic factors including age, income, and education significantly influence consumer choices and online purchasing behaviors. Insights of findings enhance the understanding of consumers' decision-making process in the context of the digital marketplace and guide strategies for e-commerce platforms and businesses in the cosmetics industry.

Keywords: Online shopping, Female Consumers, Cosmetics, Demographics, Consumer Behavior, Gujarat.

INTRODUCTION

Now a days women have adapted many changes and adopted online shopping trends significantly. Cosmetics are among the fastest-growing categories in online shopping as disposable incomes and internet penetration rise, and awareness of beauty trends grows. India being one of the largest digital economies over the years has seen a remarkable transformation in the purchasing behavior of consumers, especially women who are now shifting towards online purchasing for cosmetics which offer variety, ease and price point. The state of Gujarat is very diverse in terms of consumer demographic and hence has a remarkable gender Power index to study the online shopping behaviour in relation to cosmetics purchase decision in an online shopping context. Being, age, income, education, occupation, and location are important factors that affect how purchases are made. Existing literature focused on online shopping behavior in general, with limited attention given to demographic determinants of online cosmetic purchasing specifically for female consumers.

This research follows a numerical approach to understand the influence of demographic variables on online shopping behaviour of cosmetics among female consumers. The study aims to find out the trends, preferences, and the factors influencing decision making for online cosmetic purchases of women in Gujarat using statistical techniques. The results of this review will provide important information to the current literature, as well as useful insights for e-commerce platforms, cosmetic brands, and marketers that wish to optimize their strategies regarding the female consumer

LITERATURE REVIEW

The digital revolution in retail is no doubt bolstered by the advent of e-commerce. Research shows that

women tend to be more brand-aware and quality-centric while buying cosmetics online (Smith & Taylor 2022). Faced with the growing trend of beauty influencers and social media marketing, online cosmetics shopping has fostered even more engagement and trust (Chaudhary & Gupta, 2021). Research shows that there is a strong correlation between buying behaviour and age, income, and education. It is suggested that, whereas young consumers (age 21–30) prefer online buying because of its convenience and on-line deals (Kumar and Verma, 2020), employees exhibit a preference for premium brands and quality assurance (Patel et al., 2023).

For female consumers, brand awareness significantly influences their buying decisions (Sharma, 2021). Consumer loyalty is higher and repurchases more common among those consumers who have higher-level brand knowledge as well as higher trust in the brand (Mishra & Singh, 2022). The use of social media has had a significant impact on the online shopping decision-making process, especially for cosmetics. Bose & Roy (2023) claimed that by allowing brands to improve their credibility and engage more with their customers, platforms such as Instagram and YouTube can also drive higher conversion rates. It affects the way an individual buys a product because of security concerns and product authenticity. Research proves that secure payment gateways and transparent return policies lead to better consumer trust (Rao & Desai, 2022). Virtual beauty training displays a relatively high price sensitivity. According to Gupta & Mehra (2021), Flash sales, discounts, and exclusives online offers help to improve customer engagement and brand preference. Ranjan & Sinha (2023), state that women often compare prices across multiple platforms before making a purchase decision.

Interest in sustainable and eco-friendly cosmetics has grown as environmental awareness has grown. Consumers like brands with cruelty-free certificates and sustainable packaging, according to studies by Sharma & Ahuja (2022). According to Bansal & Kapoor (2023), ethical sourcing and green marketing techniques have a favorable impact on consumer loyalty and brand perception.

RESEARCH OBJECTIVES:

1. To study purchase pattern of consumer for cosmetic products.
2. To study brand preference for cosmetic products.
3. To examine the influence of brand loyalty on female buying behavior of cosmetics.
4. To analyze which factor is the most important while purchasing cosmetics.

RESEARCH METHODOLOGY:

1. Questionnaire Design:
 - Create a thorough questionnaire intended to collect demographic data about the respondents (such as age, income, work experience, and educational background) and their internet purchasing habits about content relevant to cosmetics.
 - Incorporate inquiries to assess the impact of various factors influencing female consumers' online cosmetics purchasing behavior.
 - Include Likert scale questions to gauge how much a woman agrees or disagrees with statements about her internet purchasing habits.
 - Include open-ended questions so that participants can expound on their experiences and opinions about online shopping behavior and offer qualitative insights.
2. Sampling Strategy:
 - Choose respondents who have recently shopped online for cosmetics using a purposive sampling strategy.
 - To guarantee representation across many segments, try to achieve diversity in the sample by include females from a range of demographic groupings (e.g., age ranges, genders, and economic levels).
3. Data Collection:
 - Distribute the survey to the chosen sample of 500 women either online (via social media or email) or at various locations (at residences or at the workplace).
 - To reduce biases and guarantee data accuracy, make sure instructions are clear and offer the required assistance for filling out the questionnaire.
4. Data Analysis:

- Processing demographic information and answers to closed-ended questions using quantitative analytic techniques. In order to describe demographic traits and purchasing habits, descriptive statistics may be used.
- Employ statistical tests to find meaningful correlations between demographic factors and female consumers' online purchasing habits.
- To find recurring themes, patterns, and insights about Gujarati consumers' perceptions of and experiences with online cosmetics buying, perform thematic analysis on the qualitative data gathered from open-ended questions.

ANALYSIS AND INTERPRETATION

Table 1 Frequency personal information of the respondents

Respondent's profile		Frequency	Percent
Age	21-30	311	62.2
	31-40	145	29
	41-50	44	8.8
Marital status	Married	248	49.6
	Unmarried	252	50.4
Educational Qualification	Diploma	73	14.6
	Other Qualification	5	1
	Post Graduate	274	54.8
	Under Graduate	148	29.6
Employment Status	Non-Working Women	98	19.6
	Working Women	402	80.4
Organization category	Other	3	0.6
	Private	446	89.2
	Public	51	10.2
Workplace Location	Ahmadabad	105	21
	Jamnagar	68	13.6
	Rajkot	108	21.6
	Surat	108	21.6
	Vadodara	111	22.2
Income	15001-25000	126	25.2
	25,001-35000	171	34.2
	35001-45,000	100	20
	Above 45,001	22	4.4
	Below 15000	81	16.2
Work experience	11-15 years	10	2
	16-20 years	14	2.8
	2-5 year	301	60.2
	6-10 years	75	15

	Less than 1 year	100	20
Name of the Organization presently working with	Nil	2	0.4
	A.M.P. College	69	13.8
	Apsara beauty salon	56	11.2
	Catgooo	58	11.6
	Cnc machine operator and program. Welder.	52	10.4
	Ddu	80	16
	HDFC BANK	37	7.4
	Home Minister	2	0.4
	Kotak Mahindra Bank , main branch , LCV department	2	0.4
	Lulla classes	2	0.4
	NielsenIQ	5	1
	NIQ	90	18
	Parul university	27	5.4
	salon	1	0.2
	Starbucks	5	1
	Student	4	0.8
	TCS	6	1.2
	Work from home	2	0.4

Table 2 Descriptive statistics

Variables	N	Mean	Std. Deviation	Minimum	Maximum
Brand awareness	500	3.661	0.86752	1.25	5
Online buying behaviour	500	3.538	0.72576	2	5
Brand quality	500	3.5625	0.79513	1	5
Brand association	500	3.5568	0.76469	1	5

Brand loyalty	500	3.7315	0.74407	1.5	5
Buying Behaviour	500	3.5944	0.74976	1.5	5

The descriptive statistics presented in Table 2 outline the study's variables' descriptive statistics shed light on the attitudes and actions of the participants about online cosmetics buying. With scores ranging from 1.25 to 5.00, the respondents' brand awareness is moderate to high, as shown by the variable's mean score of 3.6610 and standard deviation of 0.86752.

With answers ranging from 2.00 to 5.00, the mean score for online buying behaviour is 3.5380 with a standard deviation of 0.72576, indicating a somewhat favourable propensity towards online purchase. With answers ranging from 1.00 to 5.00, Brand Quality also displays a mean score of 3.5625 (SD = 0.79513), indicating that respondents believe cosmetic brands to be of reasonably good quality.

With values ranging from 1.00 to 5.00, the variable Brand link has a mean score of 3.5568 (SD = 0.76469), indicating a somewhat favourable link with brands. With ratings ranging from 1.50 to 5.00, Brand Loyalty comes out as having the highest mean score of 3.7315 (SD = 0.74407), suggesting a higher feeling of loyalty among the respondents.

Lastly, with a range of 1.50 to 5.00, the aggregate variable purchasing Behaviour has a mean score of 3.5944 (SD = 0.74976), indicating generally fairly favourable purchasing behaviour.

These results imply that although respondents have moderate-to-high levels of brand awareness, quality perception, association, and loyalty, their online purchasing patterns show a similar upward trend, which is important to comprehend how consumers make decisions when purchasing cosmetics.

Cronbach's alpha:

Cronbach's alpha is a measure of internal reliability, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not infer that the measure is one-dimensional. Exploratory factor analysis is one method of checking dimensionality. Below, for conceptual purposes, we display the formula for the standardized Cronbach's alpha:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Here N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance.

Before going to start the analysis, internal consistency of data is checked through Cronbach's alpha (α) value. Cronbach's alpha value is one of the measurements in reliability analysis. There is a relation between Cronbach's alpha and correlation.

Cronbach's alpha generally increases when the correlation among the items increases. Based on the Cronbach's alpha value, we concluded the following about the data:

- If $\alpha \geq 0.9$ – Excellent
- If $0.7 \leq \alpha < 0.9$ – Good
- If $0.6 \leq \alpha < 0.7$ – Acceptable
- If $0.5 \leq \alpha < 0.6$ – Poor

If $\alpha < 0.5$ – Unacceptable · Cronbach's alpha value – What amount of internal consistency exists among the data of items. · Cronbach's alpha if item deleted – It gives the information about which item appeared to have low consistency among other items.

RELIABILITY ANALYSIS**Table 3 Reliability test****Brand Loyalty:**

Construct	N of Items	Cronbach's Alpha
Brand Loyalty	04	.823

The scale measuring Brand Loyalty of 04 items, which demonstrated a high level of reliability (Cronbach's alpha = 0.823). The test results confirmed the dependability of the Brand Loyalty. Presented in above Table are the reliability results for the Brand Loyalty.

Table 4 Reliability test**Brand Awareness:**

Construct	N of Items	Cronbach's Alpha
Brand Awareness	06	.777

The scale measuring Brand Awareness of 06 items, which demonstrated a high level of reliability (Cronbach's alpha = 0.777). The test results confirmed the dependability of Brand Awareness. Presented in above Table are the reliability results for the Brand Awareness.

Table 5 Reliability test**Brand Association, Value & Quality:**

Construct	N of Items	Cronbach's Alpha
Brand Association, Value & Quality	05	.877

The scale measuring Brand Association, Value & Quality of 05 items, which demonstrated a high level of reliability (Cronbach's alpha = 0.877). The test results confirmed the dependability of Brand Association, Value & Quality. Presented in above Table are the reliability results for the Brand Association, Value & Quality.

Table 6 Reliability test**Female Consumer Online Buying Behaviour:**

Construct	N of Items	Cronbach's Alpha
Female Consumer Online Buying Behaviour	14	.820

The scale measuring Female Consumer Online Buying Behaviour of 14 items, which demonstrated a high

level of reliability (Cronbach's alpha = 0.820). The test results confirmed the dependability of the Female Consumer Online Buying Behaviour. Presented in above Table are the reliability results for the Female Consumer Online Buying Behaviour.

Table 7 Reliability test

Buying Behaviour:

Construct	N of Items	Cronbach's Alpha
Buying Behaviour	10	.853

The scale measuring Buying Behaviour of 10 items, which demonstrated a high level of reliability (Cronbach's alpha = 0.853). The test results confirmed the dependability of the Buying Behaviour. Presented in Table 3 are the reliability results for the Buying Behaviour.

FACTOR ANALYSIS

We use factor analysis to extract factors from independent variables. This analysis typically aids in the development of questionnaires. Suppose the data contains so many variables. In that situation, we could use this analysis to reduce the number of variables in the data. This analysis groups variables with similar features together. You can use the reduced factors for further analysis.

Values are extracted from this test and their usage

Kaiser-Meyer-Olkin measure must be greater than 0.5

Bartlett's test of sphericity should have the p-value less than 0.05

From the total variance explained table, we can estimate the amount of variance explained by each factor.

Table 8 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.762
Bartlett's Test of Sphericity	Approx. Chi-Square	1524.567
	df	21
	Sig.	.000

KMO and Bartlett's tests to assess the suitability for factor analysis. The obtained KMO value was 0.762, indicating high sampling adequacy, and the Bartlett's test was highly significant ($P = 0.00$), supporting the factor analysis.

Factors and items	Cronbach alpha values	Post CFA factor loadings	AVE	CR
Brand Loyalty	0.823		0.77925	0.42781
1. The increased price of cosmetics is due to its superior quality.		0.856		
2. Company's brand image induces me to be loyal.		0.839		
3. I am very much pleased with the brand.		0.693		

4. Some cosmetic brand offers discounts at regular intervals.		0.729		
Brand Awareness	0.777		0.641	0.33595
1. Among the various other competing brands, I can recognize best brands.		0.653		
2. Good Characteristics of these brands come to mind quickly.		0.593		
4. I believe that familiarity with the website before making actual purchase reduce the risk of shopping online.		0.709		
5. I prefer to buy from website that provides me with quality of information		0.609		
Brand Association	0.877		0.802	0.54565
1. The brand of cosmetic products I purchase online is widely recognized and respected.		0.807		
2. I associate the brand of cosmetics I buy online with positive emotions and experiences.		0.766		
3. The brand I choose for online cosmetic shopping reflects my personal style and preferences.		0.761		
4. I trust the brand of cosmetics I buy online to consistently meet my expectations.		0.827		
5. The brand of cosmetics I purchase online is often recommended by friends and family.		0.849		
Brand value	0.703		0.623	0.32336
1. The cosmetic products I buy online offer good value for the price.		0.521		
2. I believe that the brand of cosmetics I purchase online delivers high-quality products at a fair price.		0.801		
3. The brand I choose for online cosmetic shopping provides better value compared to other brands.		0.623		
4. I feel satisfied with the overall value provided by the brand of cosmetics I buy online.		0.547		
Brand quality	0.813		0.6995	0.37596
1. Some cosmetics Offers good quality services.		0.544		
3. The brand of cosmetics I purchase online is known for its superior quality.		0.624		

4. I am confident in the quality of the cosmetic products I buy online from this brand.		0.828		
5. The brand of cosmetics I buy online consistently meets my quality standards.		0.802		
Online buying behaviour	0.82		0.6422	0.70523
1. I shop online as I can save myself from market crowd.		0.644		
2. I shop online as there is no embarrassment if I do not buy.		0.549		
4. I shop online as I can take as much time as I can to decide.		0.564		
5. I shop online as I can get detailed product information online		0.56		
6. I shop online as I can then save myself from the chaos of traffic.		0.671		
7. I use online shopping for buying products which are otherwise not easily available in the nearby market or are unique (new).		0.819		
8. It is easy to choose and make comparisons with other products while shopping online.		0.799		
9. I shop online as I can shop from home. Availability of internet makes online shopping easier.		0.745		
12. Social media triggers me to purchase a product/service online.		0.503		
14. Social media helps me getting customer reviews before buying online.		0.568		
Buying Behaviour	0.853		0.6934	0.73609
1. Cosmetic products are helpful for taking care of your beauty.		0.618		
2. Price factors affect while buying Cosmetic products.		0.818		
3. I buy mostly from the site which offer low prices.		0.571		
4. I buy mostly from the shops where I spend less time in transactions.		0.578		
5. I buy mostly from the shop which is easily available on online portal.		0.591		
6. I buy mostly from the shops where attendants show concern about my problem.		0.641		
7. I buy mostly from the shops which give me offers and discounts.		0.88		
8. The awareness about brand induces me to purchase the product.		0.913		

9. Company's brand image induces me to buy.		0.791		
10. I buy because I trust Cosmetic brand.		0.533		

We employed Confirmatory Factor Analysis (CFA) to rigorously examine the validity of our instrument. The factor loadings for each individual question exceeded the 0.5 threshold, underscoring the instrument's strong capability to accurately measure the intended constructs. This outcome underscores the robustness of our measurement tool. Some items are removed from further analysis as the factor loading value is below 0.5. The model fit values are as exhibited. To assess the internal consistency of the scale, we computed Average Variance Extracted (AVE) and Composite Reliability (CR). Table 5 presents the post-Confirmatory Factor Analysis (CFA) results, including Cronbach's alpha, AVE, and CR values. Discriminant validity is established if the square root of the AVE for a variable is greater than its correlation values when compared with other variables. The findings that were collected are shown in Table 6, and they contribute to the determination of the discriminant validity.

Table 9 Convergent and Discriminant Validity

	AVE	CR
Brand Loyalty	0.77925	0.42781
Brand Awareness	0.641	0.33595
Brand Association Value Quality	0.4718	0.32841
Female Consumer Online Buying Behaviour	0.6422	0.70523
Buying Behaviour	0.6934	0.73609

Assessed the convergent and discriminant validity for five distinct constructs using average variance extracted (AVE) and composite reliability (CR): Brand Loyalty (AVE = 0.77925, CR = 0.42781), Brand Awareness (AVE = 0.641, CR = 0.33595), Brand Association Value Quality (AVE = 0.4718, CR = 0.32841), Female Consumer Online Buying Behaviour (AVE = 0.6422, CR = 0.70523), and Buying Behaviour (AVE = 0.693, CR = 0.73609). These metrics reflect the degree to which distinct constructs vary from one another and share similar variance, ensuring the accuracy and stability of the study's measurement model.

DISCRIMINANT VALIDITY

Discriminant validity is not a specific test performed in SPSS or any other statistical software but a concept within the context of validating measurement instruments and assessing the relationships between variables. Discriminant validity is crucial to ensure that different constructs or variables in a study are truly distinct and not measuring the same underlying concept. Researchers use various techniques such as confirmatory factor analysis (CFA) or correlation analysis to demonstrate that the measures intended to assess different constructs are, indeed, different and not highly correlated. Discriminant validity helps ensure that the measurement instruments accurately represent the unique concepts they are meant to measure, preventing construct overlap or redundancy and allowing for more robust and accurate data analysis and interpretation.

Table 10 Discriminant validity test

	Brand awareness	Online buying behaviour	Brand quality	Brand association	Brand loyalty	Brand value	Buying Behaviour
Brand awareness	0.80062						
Online buying behaviour	.600**	0.80137					
Brand quality	-0.009	-0.031	0.83636				
Brand association	0.038	0.025	.542**	0.89554			
Brand loyalty	0.002	-0.023	.471**	.605**	0.88275		
Brand value	-0.018	-0.036	.693**	.635**	.614**	0.7893	
Buying Behaviour	.679**	.650**	-0.031	0.048	0.030	-0.017	

** . Correlation is significant at the 0.01 level (2-tailed).

The test of discriminant validity assesses how unique a model's constructs are. The off-diagonal parts in the provided table show the correlations between the constructs, while the diagonal elements show the square root of the Average Variance Extracted (AVE) for each construct. Discriminant validity is confirmed by each construct's larger diagonal value as compared to its correlations with other constructs. In contrast to its associations with other variables such as Online Buying Behaviour (0.600**) and Buying Behaviour (0.679**), the square root of AVE for Brand Awareness, for instance, is 0.80062. Similarly, the square root of AVE for buying behaviour is 0.83271, higher than its relationships with brand value (-0.017) and brand awareness (0.679**). These findings demonstrate that each model construct is sufficiently unique to guarantee accurate and legitimate measurement of the latent variables.

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