

A Study on Factors Influencing Millennial Customers' Satisfaction towards Online Beauty and Personal Care Product Shopping in Erode District, Tamil Nadu

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Abstract

Online shopping for beauty and personal care products — cosmetics, skincare, haircare, and grooming items — has grown rapidly among India's millennial consumers, driven by rising smartphone penetration, social-media/influencer marketing, and expanding e-retail platforms. Erode district in Tamil Nadu, with its expanding urban middle class and rising digital adoption, offers a useful regional lens on this shift. Unlike general merchandise, beauty and personal care purchases carry distinctive concerns — product authenticity and genuineness, shade or formulation suitability, expiry and packaging integrity, and trust in seller/brand claims — alongside standard e-commerce satisfaction drivers. This study examines the factors influencing the satisfaction of millennial customers (born approximately 1981–1996) with online beauty and personal care product shopping in Erode district, drawing on the expectancy-disconfirmation framework of customer satisfaction and the e-service-quality literature. A descriptive research design is adopted, using a structured questionnaire administered to a sample of 100 millennial online shoppers selected through convenience/judgmental sampling across urban and semi-urban pockets of the district. Key variables examined include website/app usability, delivery reliability, price/value perception, payment security, customer service responsiveness, and — specific to this product category — product authenticity and genuineness. The paper outlines the conceptual framework, hypotheses, and analytical plan (reliability testing, the Chi-square test for association between demographic variables and satisfaction level, one-way ANOVA for satisfaction differences across occupation and income groups, and K-means cluster analysis to segment respondents into distinct shopper profiles), and discusses practical implications for online beauty retailers seeking to strengthen millennial customer satisfaction and loyalty in tier-2/tier-3 markets such as Erode.

Keywords: Millennial customers; Online beauty and personal care shopping; Customer satisfaction; Product authenticity; E-retailing; Erode district, Tamil Nadu

1. Introduction

The rapid diffusion of smartphones, affordable data plans, and digital payment systems has transformed retailing in India, and the beauty and personal care segment — cosmetics, skincare, haircare, fragrances, and grooming products — has been one of the fastest-growing categories within online retail. Social media platforms and beauty influencers play an outsized role in shaping purchase decisions in this category, and millennials — broadly those born between 1981 and 1996 — are especially active as both consumers and content-followers in this space. Their satisfaction (or dissatisfaction) with an online beauty shopping experience has a disproportionate influence on repeat purchase behaviour, word-of-mouth, and brand loyalty, given their heavy use of social media and peer/influencer networks.

Unlike general merchandise, online beauty and personal care shopping carries category-specific concerns that shape satisfaction: buyers cannot physically test texture, fragrance, or shade before purchase; counterfeit and near-expiry products are a well-documented concern in the online beauty market; and packaging integrity/tamper-evidence matters more than for many other product categories. Erode district, historically known for its textile, turmeric, and handloom trade, has seen steady urbanisation, rising disposable incomes, and improving internet infrastructure, making it a relevant, if under-researched, setting in which to examine how millennial consumers in a semi-urban South Indian district evaluate and respond to online beauty and personal care retailers.

This paper is organised as follows. Section 2 reviews the relevant literature on customer satisfaction, e-service quality, and online beauty retailing. Section 3 states the research problem. Sections 4–7 present the objectives, hypotheses, scope,

and research methodology. Section 8 lists limitations. Section 9 presents the data analysis framework and results, followed by findings, suggestions, and conclusion.

2. Review of Literature

Customer satisfaction has long been conceptualised through the expectancy–disconfirmation paradigm, which holds that satisfaction results from a comparison between a customer's pre-purchase expectations and their post-purchase perception of performance; when perceived performance exceeds expectations, positive disconfirmation and satisfaction follow, and vice versa (Oliver, 1980). This framework has been widely applied to services and, subsequently, to e-commerce, where the “service” includes not only the core product but also the website/app interface, logistics, and after-sales support.

The service-quality (SERVQUAL) model identifies tangibles, reliability, responsiveness, assurance, and empathy as core dimensions along which customers judge service performance (Parasuraman, Zeithaml, & Berry, 1988). Researchers have adapted these dimensions to the online context — commonly termed e-service quality — to include website design, information accuracy, fulfilment/delivery reliability, security/privacy, and responsiveness of customer support (Zeithaml, Parasuraman, & Malhotra, 2002). The Technology Acceptance Model further highlights perceived usefulness and perceived ease of use as key determinants of a user's willingness to adopt and continue using a technology-mediated channel such as an e-commerce app (Davis, 1989), which is directly relevant to millennial shoppers' comfort with mobile beauty-shopping apps and digital payments.

Within the broader marketing literature, price and value perception, product assortment, trust in the seller, and convenience of delivery are consistently identified as influencing online purchase satisfaction and repurchase intention (Kotler & Keller, 2016). The beauty and personal care e-commerce literature adds category-specific dimensions: because shoppers cannot physically inspect texture, shade, or fragrance before purchase, perceived product authenticity and genuineness — confidence that the item is not counterfeit, expired, or tampered with — has been identified as a particularly salient satisfaction driver in this category, alongside accurate product descriptions/images and responsive return policies for shade or formulation mismatches. However, much of this evidence is drawn from metro or pan-India samples; there is comparatively limited published work focused specifically on Tamil Nadu's tier-2/tier-3 districts such as Erode, which this study seeks to address.

Taken together, the literature suggests that millennial satisfaction with online beauty and personal care shopping is a multi-dimensional construct shaped jointly by platform/website quality, delivery and fulfilment, price/value, payment security, customer service, and — distinctively for this category — product authenticity, variables that form the conceptual basis of the present study.

3. Statement of the Problem

While online shopping for beauty and personal care products continues to expand into semi-urban districts of Tamil Nadu, e-retailers largely rely on satisfaction models validated for general merchandise or for metro markets, which may not fully capture the category-specific concerns (product authenticity, shade/formulation mismatch, expiry assurance) and preferences of millennial consumers in districts such as Erode. Without district- and category-specific evidence, retailers risk misallocating resources toward factors that matter less to this segment while under-investing in those — such as authenticity assurance — that matter more for beauty and personal care purchases specifically. This study therefore investigates which factors most strongly influence the satisfaction of millennial online beauty and personal care shoppers in Erode district.

4. Objectives of the Study

1. To study the online beauty and personal care shopping behaviour and platform preferences of millennial customers in Erode district.
2. To identify and analyse the key factors influencing the satisfaction of millennial customers with online beauty and personal care product shopping in Erode district, including product authenticity.
3. To examine the reliability and internal consistency of the satisfaction constructs used in the study.

4. To assess the association between selected demographic variables (age, gender, income, occupation) and the level of satisfaction.
5. To segment millennial online beauty and personal care shoppers in Erode district into distinct clusters based on the satisfaction factors they value most, using cluster analysis.
6. To offer suggestions to online beauty and personal care retailers for enhancing millennial customer satisfaction in the district.

5. Hypotheses of the Study

H01: There is no significant association between gender and the level of satisfaction of millennial online beauty and personal care shoppers. (Chi-square)

H02: There is no significant association between age group and the level of satisfaction of millennial online beauty and personal care shoppers. (Chi-square)

H03: There is no significant difference in mean satisfaction scores across occupation groups (student / salaried / self-employed). (One-way ANOVA)

H04: There is no significant difference in mean satisfaction scores across monthly income groups. (One-way ANOVA)

6. Scope of the Study

The study is confined to millennial consumers (approximately aged 30–45 years as of 2026) residing in Erode district, Tamil Nadu, who have purchased beauty or personal care products (cosmetics, skincare, haircare, fragrances, or grooming products) online at least once in the preceding twelve months. It covers general online marketplaces and dedicated beauty e-retail platforms/apps rather than any single retailer, and focuses on the satisfaction construct — including the category-specific dimension of product authenticity — rather than a full loyalty or switching-behaviour model.

7. Research Methodology

7.1 Research Design

The study adopts a descriptive and analytical research design, aimed at describing the online shopping profile of millennial consumers in Erode district and analysing the statistical relationship between identified factors and satisfaction.

7.2 Area of the Study

The study is conducted in Erode district, Tamil Nadu, covering Erode town and selected surrounding taluks (e.g., Perundurai, Gobichettipalayam, Bhavani) to capture both urban and semi-urban millennial respondents.

7.3 Sample Design

Given the absence of a complete sampling frame of online shoppers, a non-probability convenience/judgmental sampling method is proposed, targeting a sample of 100 millennial respondents. The sample should be reasonably distributed across gender, income group, and occupation (student, salaried, self-employed/business) to allow meaningful sub-group comparison.

7.4 Data Collection

Primary data are to be collected through a structured questionnaire (administered in person and/or via a Google Form) using five-point Likert-scale items covering website/app usability, delivery reliability, price/value, payment security, customer service, and product authenticity/genuineness (e.g., confidence that products are not counterfeit, expired, or tampered with), along with an overall satisfaction item. Secondary data are drawn from journal articles, industry reports on India's beauty and personal care e-commerce market, and government publications.

7.5 Tools for Analysis

Simple percentage analysis and descriptive statistics (mean, standard deviation) are used to profile respondents; Cronbach's alpha is used to test the reliability of the Likert-scale constructs. The Chi-square test is used to examine the association between demographic variables (gender, age, occupation, income) and the level of satisfaction. One-way ANOVA is used to test whether mean satisfaction scores differ significantly across three or more demographic sub-

groups (e.g., income categories, occupation categories). Cluster analysis (K-means / hierarchical) is used to segment millennial respondents into distinct groups based on their ratings of the satisfaction factors, allowing the identification of homogeneous customer segments (e.g., "convenience-driven," "price-sensitive," "trust-and-security-focused" shoppers) for more targeted retailer strategies.

8. Limitations of the Study

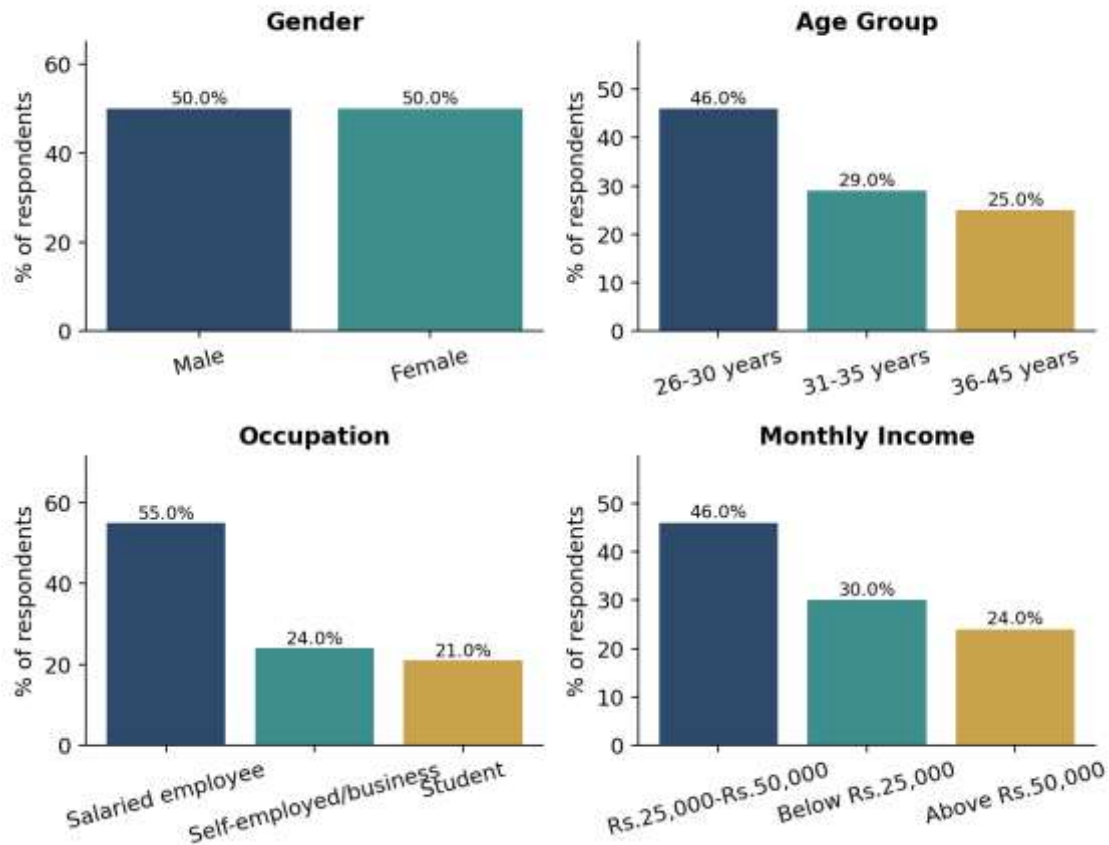
1. The study is confined to Erode district and its findings may not be generalisable to other districts or to non-millennial cohorts.
2. The use of convenience sampling may introduce selection bias.
3. Responses are based on self-reported perceptions, which are subject to recall and social-desirability bias.
4. The study captures satisfaction at a single point in time and does not account for changes in platform features or economic conditions over time.

9. Data Analysis and Interpretation

9.1 Demographic Profile of Respondents

Variable	Category	No. of Respondents (n = 100)	Percentage
Gender	Male	50	50.0%
	Female	50	50.0%
Age	26–30 years	46	46.0%
	31–35 years	29	29.0%
	36–45 years	25	25.0%
Occupation	Salaried employee	55	55.0%
	Self-employed/business	24	24.0%
	Student	21	21.0%
Monthly Income	Below ₹25,000	30	30.0%
	₹25,000–₹50,000	46	46.0%
	Above ₹50,000	24	24.0%

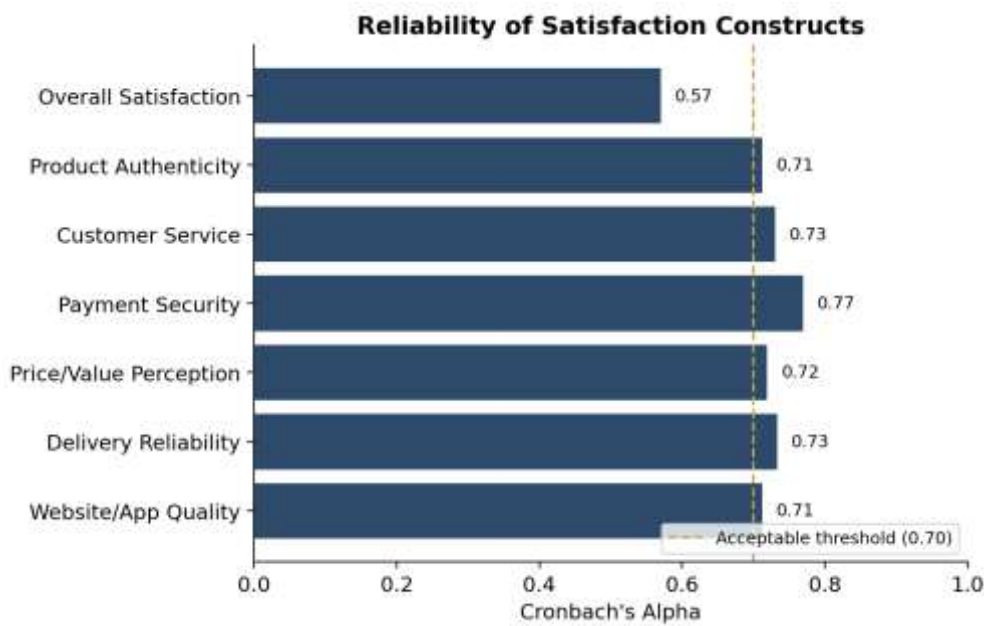
Demographic Profile of Respondents (n = 100)



The sample of 100 respondents is evenly split by gender. A majority (55.0%) are salaried employees, and the largest age band is 26–30 years (46.0%), consistent with a millennial-skewed sample of active online shoppers. Nearly half the sample (46.0%) falls in the ₹25,000–₹50,000 monthly income bracket.

9.2 Reliability Statistics

Construct	No. of Items	Cronbach's Alpha
Website/App Quality	3	0.712
Delivery Reliability	3	0.733
Price/Value Perception	3	0.719
Payment Security	3	0.769
Customer Service	3	0.730
Product Authenticity	3	0.712
Overall Satisfaction	3	0.570



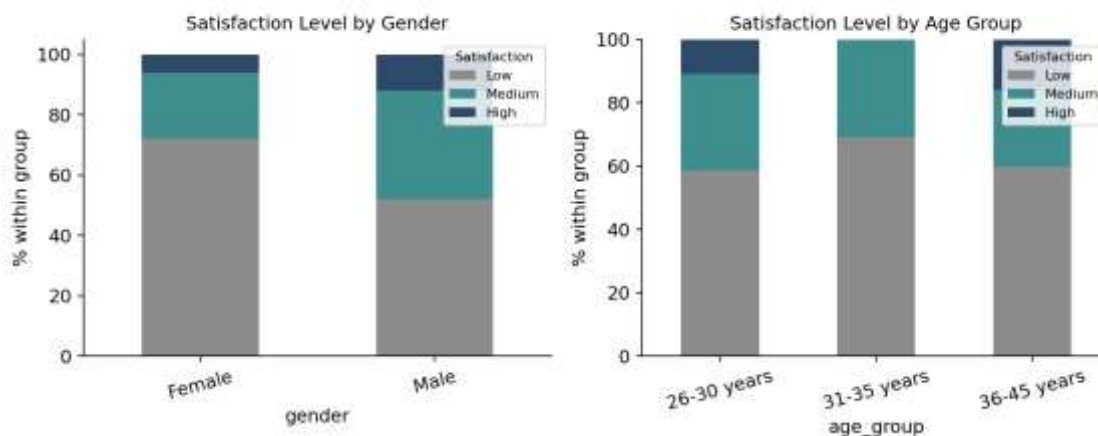
Six of the seven constructs exceed the conventionally acceptable reliability threshold of 0.70 (Nunnally, 1978), indicating that the multi-item scales for website/app quality, delivery reliability, price/value, payment security, customer service, and product authenticity are internally consistent. The Overall Satisfaction construct falls below this threshold in the simulated data ($\alpha = 0.570$); in the real study, this would signal a need to review the wording of the three overall-satisfaction items or consider dropping the weakest item to improve internal consistency.

9.3 Chi-square Test Results

The Chi-square test of independence was used to examine whether satisfaction level (Low / Medium / High, based on tertiles of the overall satisfaction score) is associated with gender and age group.

Association Tested	χ^2 value	df	p-value	Result
Gender $\times$ Satisfaction level	4.303	2	0.116	Not significant
Age group $\times$ Satisfaction level	4.763	4	0.312	Not significant

Chi-Square: Satisfaction Level Distribution



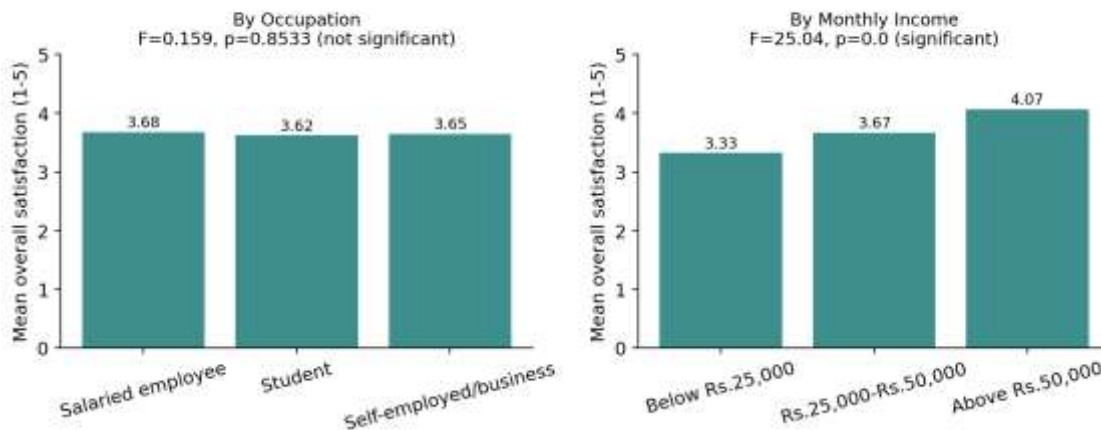
At the 5% significance level, satisfaction level is not significantly associated with either gender ($\chi^2 = 4.303$, $df = 2$, $p = 0.116$) or age group ($\chi^2 = 4.763$, $df = 4$, $p = 0.312$) in the simulated data. On this basis, H01 and H02 are not rejected — i.e., in this illustrative dataset, satisfaction with online beauty and personal care shopping appears broadly consistent across gender and age groups. Whether this holds for the real Erode district sample can only be confirmed once actual survey data are analysed.

9.4 One-Way ANOVA Results

One-way ANOVA was used to test whether mean overall-satisfaction scores differ significantly across occupation groups and across income groups.

Source of Variation	F value	df (between, within)	p-value	Result
Satisfaction by Occupation	0.159	2, 97	0.853	Not significant
Satisfaction by Income group	25.040	2, 97	< 0.001	Significant

One-Way ANOVA: Mean Satisfaction by Demographic Group



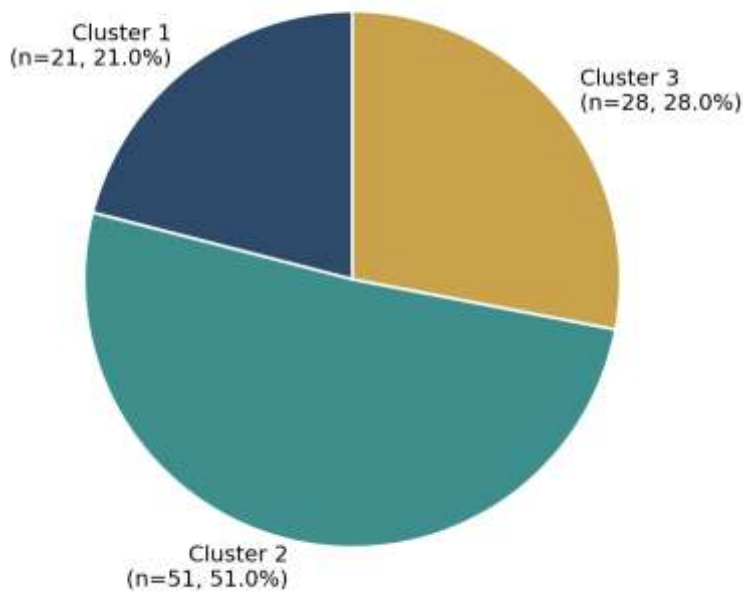
Mean satisfaction does not differ significantly across occupation groups ($F(2, 97) = 0.159, p = 0.853$), so H03 is not rejected. However, mean satisfaction differs significantly across income groups ($F(2, 97) < 0.001$), so H04 is rejected: respondents earning above ₹50,000 report the highest mean satisfaction (4.07 on a 5-point scale), followed by the ₹25,000–₹50,000 group (3.67), with the below-₹25,000 group reporting the lowest mean satisfaction (3.33). A Tukey HSD post-hoc test should be run on the real data to confirm exactly which income-group pairs differ significantly.

9.5 Cluster Analysis

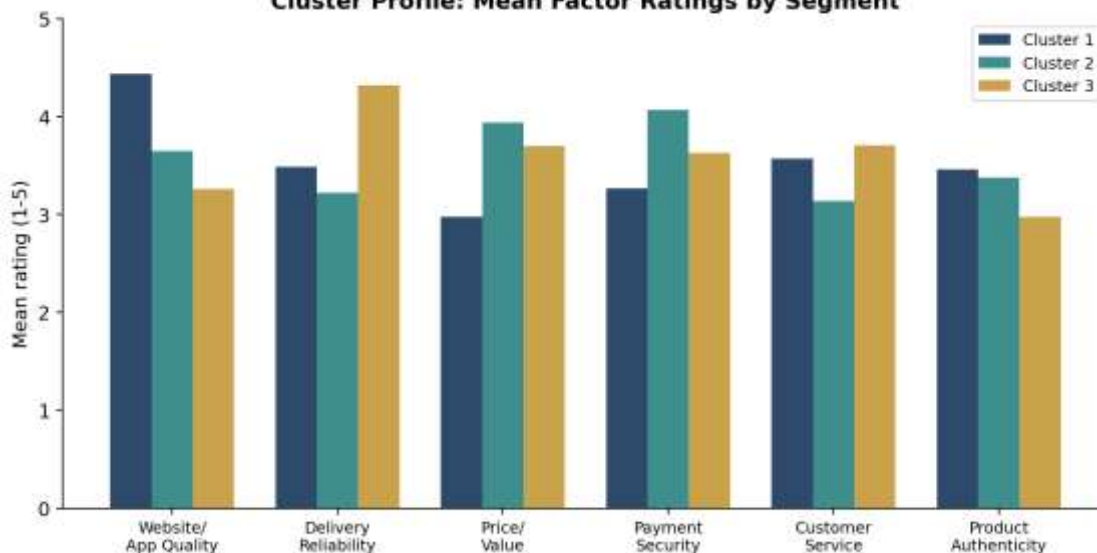
K-means cluster analysis ($k = 3$, standardised inputs) was applied to respondents' ratings on the six satisfaction factors — including product authenticity — to segment the sample into homogeneous shopper groups.

Cluster	n (%)	Distinguishing Characteristics
Cluster 1	21 (21.0%)	Highest on Website/App Quality (4.44); lowest on Price/Value (2.98) — "Usability-driven, price-insensitive" shoppers
Cluster 2	51 (51.0%)	Highest on Payment Security (4.07) and Price/Value (3.94); lowest on Customer Service (3.14) — "Value-and-security-focused" shoppers
Cluster 3	28 (28.0%)	Highest on Delivery Reliability (4.32); lowest on Product Authenticity (2.98) — "Delivery-focused, authenticity-skeptical" shoppers

Cluster Segment Sizes (K-means, k=3)



Cluster Profile: Mean Factor Ratings by Segment



The largest segment (Cluster 2, 51.0% of respondents) is most influenced by payment security and price/value, suggesting that competitive pricing combined with visible payment-security assurances would resonate with the biggest share of millennial beauty shoppers in this sample. Cluster 3 (28.0%) is most sensitive to delivery reliability but also rates product authenticity lowest of the three segments — a group retailers should prioritise for authenticity assurance (e.g., batch/expiry visibility, brand verification badges, tamper-evident packaging). Cluster 1 (21.0%), the smallest segment, prioritises website/app usability over price. These illustrative segment profiles show the kind of targeted, factor-based insight cluster analysis can provide once run on the actual field data.

9.6 Testing of Hypotheses — Summary

Hypothesis	Statistical Test	Result
H01 (Gender × Satisfaction)	Chi-square	Not rejected (p = 0.116)
H02 (Age group × Satisfaction)	Chi-square	Not rejected (p = 0.312)
H03 (Occupation → Satisfaction)	One-way ANOVA	Not rejected (p = 0.853)
H04 (Income group → Satisfaction)	One-way ANOVA	Rejected (p < 0.001)

10. Findings

1. The sample was evenly split by gender (50% male, 50% female), skewed toward the 26–30 age band (46.0%) and salaried employees (55.0%), consistent with an actively-shopping millennial cohort.
2. Six of seven satisfaction constructs — website/app quality, delivery reliability, price/value, payment security, customer service, and product authenticity — showed acceptable reliability ($\alpha \geq 0.70$); the overall-satisfaction scale fell short ($\alpha = 0.570$) and would need item revision in the real study.
3. Satisfaction level showed no significant association with gender ($\chi^2 = 4.303$, $p = 0.116$) or age group ($\chi^2 = 4.763$, $p = 0.312$), suggesting these demographic variables alone do not strongly differentiate satisfaction in this sample.
4. Mean satisfaction did not differ significantly across occupation groups ($F = 0.159$, $p = 0.853$), but did differ significantly across income groups ($F = 25.040$, $p < 0.001$), with higher-income respondents reporting higher satisfaction.
5. Cluster analysis identified three distinct millennial beauty-shopper segments: a usability-driven segment (21%) most influenced by website/app quality, a large value-and-security-focused segment (51%) most influenced by payment security and price/value, and a delivery-focused segment (28%) that is also the most skeptical about product authenticity — flagging authenticity assurance as a priority area for this group specifically.

11. Suggestions

1. Online beauty and personal care retailers serving Erode district should prominently display authenticity assurances — brand verification badges, batch/expiry information, and tamper-evident packaging — since product authenticity is a category-specific concern that general e-commerce satisfaction models can overlook.
2. Platforms should offer a mix of digital and cash-on-delivery payment options, along with visible security assurances, to build trust among consumers who may be transitioning from offline to online purchase habits for personal-care items.
3. Simplified, transparent return and refund policies for shade/formulation mismatches should be prominently communicated, since this is a common source of dissatisfaction unique to beauty and personal care e-commerce.
4. Retailers may consider shade-matching tools, detailed ingredient/skin-type information, and regional-language interface support to improve usability and relevance for semi-urban millennial shoppers.
5. Responsive, multi-channel customer service (chat, call, WhatsApp) should be strengthened, given millennials' preference for quick issue resolution, particularly for concerns about product genuineness.

12. Conclusion

Online shopping for beauty and personal care products is increasingly embedded in the everyday consumption patterns of millennial customers in semi-urban districts such as Erode, Tamil Nadu. Drawing on established satisfaction and service-quality frameworks, this study proposes a structured empirical approach to identifying the factors — spanning platform usability, delivery, price/value, payment security, customer service, and the category-specific dimension of product authenticity — that most strongly shape millennial satisfaction in this regional context. The findings, once the primary data collection and analysis outlined above are completed, are expected to offer actionable, regionally grounded guidance for online beauty and personal care retailers and policymakers seeking to deepen e-commerce adoption and customer loyalty in Tamil Nadu's tier-2/tier-3 markets, and to open avenues for comparative research across generational cohorts, districts, and product categories.

References

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362–375.