



Original Research Article

The pink tax in India: Empirical evidence of gender-based pricing disparities in retail markets

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Abstract

This study investigates gender-based pricing disparities—commonly termed the “Pink Tax”—within Indian retail markets. Using a mixed-methods approach, we analysed 52 matched product pairs across personal care, apparel, children’s items, recreational goods, and healthcare products from major online and offline retailers, alongside survey responses from 500 urban consumers. Statistical tests revealed that female-oriented products were priced on average 19.4% higher than comparable male-oriented variants ($p < 0.001$), with personal care items showing the largest markup (24.2%). While consumer awareness of this phenomenon was limited (72% uninformed), disclosure strongly influenced attitudes, with 84% of respondents expressing dissatisfaction and 91% supporting transparency mandates. The findings highlight significant economic disadvantages for women, with estimated lifetime costs of ₹2.1–2.8 lakhs per consumer, and underscore the urgent need for policy interventions, regulatory oversight, and corporate accountability. By providing the first systematic empirical evidence on gendered pricing in India, this research fills a critical gap in consumer protection literature and contributes to ongoing debates on market fairness and equity.

Keywords: Pink Tax, Gender Discrimination, Consumer Protection, Retail Pricing, India

Received: 10-07-2025; **Accepted:** 02-09-2025; **Available Online:** 24-09-2025

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1. Introduction

Pricing disparities based on demographic characteristics represent a persistent challenge to market fairness and consumer equity. When functionally equivalent products are marketed at different prices depending on the gender of the target consumer, the cumulative burden creates systematic economic disadvantages—often referred to as the *Pink Tax*. Over a consumer’s lifetime, such differentials can translate into significant financial inequities, exacerbating broader patterns of gender-based economic inequality.

Although the phenomenon of gendered pricing has been widely examined in advanced economies, particularly across North America and Europe, research in emerging markets remains limited. Existing evidence from Western contexts consistently documents female-targeted products carrying higher prices than male-oriented equivalents, both in goods and services. However, these insights may not be directly transferable to developing markets, where consumer

awareness, regulatory frameworks, and retail practices differ substantially.¹⁻³

India provides a critical case for analysis. Its rapidly expanding retail sector, spanning multinational e-commerce platforms, organised retail chains, and traditional outlets, reflects diverse pricing strategies and evolving consumer behaviours. Yet despite anecdotal concerns raised by consumer advocacy groups, systematic academic research on gender-based pricing in India remains scarce. Addressing this knowledge gap is essential to understanding whether global patterns of discriminatory pricing also manifest in the Indian context, and if so, how they interact with local socio-economic dynamics.

This study is designed to address three interrelated research questions:

1. **Magnitude of disparities** – To what extent do gender-based pricing differentials exist in Indian retail markets across multiple product categories?

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2. **Consumer awareness** – How cognizant are Indian consumers of such pricing patterns, and what are their baseline attitudes toward them?
3. **Behavioural and attitudinal responses** – How does awareness of gender-based pricing influence consumer perceptions, dissatisfaction, and demand for transparency?

By answering these questions, this investigation contributes empirical evidence to a largely underexplored domain of Indian consumer research. More broadly, it establishes a baseline for policy discussions, corporate accountability measures, and consumer advocacy initiatives aimed at ensuring greater fairness in retail markets.^{4,5}

2. Literature Review

2.1. Theoretical foundations

The phenomenon of gender-based pricing is firmly grounded in the broader theory of price discrimination. According to Varian (1989), third-degree price discrimination occurs when firms segment markets using observable characteristics such as age, gender, or geography, charging different prices for functionally equivalent products. From a behavioural economics perspective, consumer psychology further reinforces these disparities. Anchoring effects suggest that initial price exposures shape perceptions of “fair” value (Strack & Mussweiler, 1997),⁷⁻⁹ while social identity theory explains how consumers may accept price premiums for products that reinforce gender identity or social group membership (Turner et al., 1987).¹⁰ Together, these frameworks suggest that gender-based pricing is not merely a cost-based strategy but also a socio-psychological phenomenon embedded in consumption practices.

2.2. Evidence from developed economies

Extensive research in Western markets documents systematic disparities in pricing across both goods and services. The landmark study by the New York City Department of Consumer Affairs (2015)⁶⁶ examined nearly 800 products and reported an average 7% markup on female-oriented goods. European studies corroborate these findings, highlighting consistent price premiums across categories such as personal care, apparel, and children’s products (European Consumer Organisation, 2019).³

Service industries often demonstrate even sharper inequities. For instance, women are charged significantly higher prices for haircuts, beauty treatments, and dry-cleaning services, despite identical or comparable resource use (Miller & Washington, 2017; Johnson & Davis, 2018). Such evidence indicates that the “Pink Tax” extends beyond physical goods into service markets, raising broader questions about fairness and equity.

2.3. Emerging economy perspectives

Despite global evidence, the phenomenon remains underexplored in emerging markets. Limited research in Latin America and parts of Asia suggests that discriminatory pricing exists, though it is often under-reported due to weaker consumer advocacy and lower awareness levels. Furthermore, the absence of robust regulatory frameworks in many developing economies potentially exacerbates these disparities, allowing firms to exploit gender-based segmentation more aggressively.

2.4. The Indian context and research gap

Within India, systematic academic inquiry into the Pink Tax is sparse. Early studies, such as Sharma and Patel (2020), explored price differences in select consumer goods but were limited in scope and generalizability. Consumer advocacy groups, including the Consumer Protection Council of India (2022), have highlighted anecdotal evidence of women’s products being priced higher than men’s equivalents. However, most of these insights lack empirical rigour, are geographically restricted, or focus narrowly on specific categories like cosmetics or hygiene products.

This gap is particularly striking given India’s rapidly growing retail sector, which spans e-commerce platforms like Amazon and Flipkart, beauty-speciality platforms like Nykaa, and large physical retailers across major metropolitan hubs. The diversity of distribution channels, coupled with evolving consumer behaviour, creates fertile ground for examining whether systematic gendered pricing exists and how it affects consumers economically and psychologically.

2.5. Hypotheses development

Drawing on global evidence, theoretical frameworks, and identified gaps in the Indian context, this study advances three hypotheses:

1. H1: Female-targeted products are significantly more expensive than male-targeted equivalents across multiple categories.
2. H2: Personal care and cosmetic products exhibit the largest price disparities, consistent with global trends.
3. H3: Consumer awareness of gender-based pricing remains low, but greater awareness positively correlates with dissatisfaction and stronger demand for transparency.

3. Research Methods

3.1. Research design

This study employs a mixed-methods design that combines quantitative product pricing analysis with qualitative consumer insights. The rationale for this approach lies in the dual nature of the research objectives: while quantitative methods are necessary to establish the statistical existence

and magnitude of gender-based price disparities, qualitative insights help explain consumer awareness, perceptions, and attitudinal responses. This methodological triangulation enhances both internal validity and interpretive richness.

3.2. Product pricing analysis

3.2.1. Sample selection

A total of 52 matched product pairs were identified across five categories: personal care (20 products), adult clothing (12), children's items (8), recreational goods (7), and healthcare-related products (5). Selection was guided by strict comparability in terms of brand, packaging, and functional characteristics, ensuring that observed differences could be attributed to gender-targeted marketing rather than intrinsic product differences.

3.2.2. Data collection

Price data were collected in February 2024 from four major retail sources: Amazon India, Flipkart, Nykaa, and physical retail outlets in Mumbai, Delhi, and Bangalore. Seasonal discounts and promotional offers were excluded to capture baseline market pricing.

3.2.3. Reliability procedures

Two independent researchers conducted product-matching verification, with a Cohen's Kappa score of 0.89, indicating strong inter-rater reliability.

3.2.4. Analytical approach

Price differentials were calculated as:

$$\text{Price Differential} = \frac{(\text{Female Price} - \text{Male Price})}{\text{Male Price}} \times 100$$

Independent t-tests were used to test for mean differences across product categories, while chi-square tests assessed categorical variables such as consumer awareness. Effect sizes were reported using Cohen's d to capture the magnitude of disparities.

3.3. Consumer Survey

3.3.1. Participant recruitment

A structured survey was administered to 500 respondents recruited via online platforms and urban networks. The demographic distribution included 62% women, 35% men, and 3% identifying as other genders, with ages ranging from 18 to 65 (Mean = 32.4, SD = 11.2). Major metropolitan areas were represented, reflecting India's urban consumer base.

3.3.2. Survey instrument

The questionnaire covered four domains:

1. Awareness of gender-based pricing,
2. Attitudes toward pricing fairness,
3. Shopping and product choice behaviours, and
4. Demographic information.

Pre-testing with 25 respondents ensured clarity and reliability, resulting in minor refinements.

3.4. Ethical considerations

Institutional Review Board approval was secured before data collection. Informed consent was obtained, and anonymity was maintained for all participants.

3.5. Data analysis

Survey responses were processed in SPSS v28.0. Quantitative variables were analysed using chi-square and correlation tests. Open-ended qualitative responses were coded via thematic analysis (Saldaña, 2015), with dual coding yielding an inter-coder agreement rate of 87%.

3.6. Justification of methods

The choice of a mixed-methods framework is justified by the study's dual objectives: measuring empirical price disparities and exploring consumer perceptual dynamics. Quantitative analysis (t-tests and chi-square) allows for objective statistical validation of pricing differences, while qualitative thematic coding captures nuanced consumer reactions often missed by numerical data alone.

The use of independent samples t-tests is appropriate given the focus on comparing average prices between female-targeted and male-targeted product groups. Similarly, chi-square analysis is suitable for examining categorical associations, such as links between awareness levels and consumer attitudes. The inclusion of effect sizes (Cohen's d) strengthens the interpretability of findings beyond mere significance testing.

Overall, these methodological choices ensure that the research is both statistically rigorous and contextually rich, aligning with international standards in consumer behaviour and pricing research.

3.5. Limitations

While the methodology provides robust insights, limitations remain. The reliance on urban convenience sampling may underrepresent rural consumer experiences, and the cross-sectional design prevents longitudinal trend assessment. Nonetheless, the study offers a critical empirical baseline for future, broader investigations.

4. Findings

4.1. Price differential analysis

The analysis revealed statistically significant gender-based pricing disparities across all product categories examined. On average, female-targeted products were priced 19.4% higher than their male-oriented equivalents ($t(102) = 8.73, p < 0.001, d = 1.72$), representing a large effect size.

Category-wise differences demonstrated consistent patterns

Table 1). Personal care products exhibited the largest markup (24.2%), followed by adult clothing (18.7%). Even in children’s items and healthcare products—where functional differences are minimal—female variants were systematically priced higher.¹⁰⁻¹¹

Table 1: Average mark-up by product category (Women vs. Men)

Category	India: Avg. Markup	International benchmark	Statistical significance
Personal care	10–30% (e.g., razors +25%, deodorants +20%)	13% (NYC DCA, 2015)	p < 0.001
Adult clothing	+8%	+8% (NYC/US avg.)	p < 0.001
Toys & accessories	+7%	+7%	p < 0.001
Healthcare products	+8%	+8%	p < 0.01
Children’s clothing	+4%	+4%	p < 0.05
Hair Care (India-specific)	+48% (Shampoos, Conditioners)	~13%	p < 0.001
Overall average	+19.4%	+7% (NYC avg.)	p < 0.001

These findings suggest that gender-based pricing in India is more pronounced than in Western markets. For example, premium shaving products marketed to women cost 25% more than equivalent men’s variants (₹450 vs. ₹360 for a four-pack). Similarly, female-targeted antiperspirants carried 20% per-millilitre surcharges, despite nearly identical formulations.

Both products are sold at \$5.99 CAD at Uniprix in Quebec, Canada, demonstrating per-unit pricing disparities based on gender marketing.

4.2. Consumer awareness and attitudinal responses

Survey data indicated low baseline awareness of the Pink Tax:

- 1. 72% of respondents were completely unaware,
- 2. 19% had partial awareness, and
- 3. Only 9% had a comprehensive understanding.

When informed of gender-based pricing disparities, consumer reactions shifted dramatically:

- 1. 84% expressed frustration or indignation ($\chi^2 = 156.8, p < 0.001$),
- 2. 91% endorsed mandatory pricing transparency,
- 3. 76% indicated intent to modify purchasing behaviour, and
- 4. 68% supported regulatory interventions.

This demonstrates that awareness functions as a critical trigger for consumer dissatisfaction and demand for policy reform.

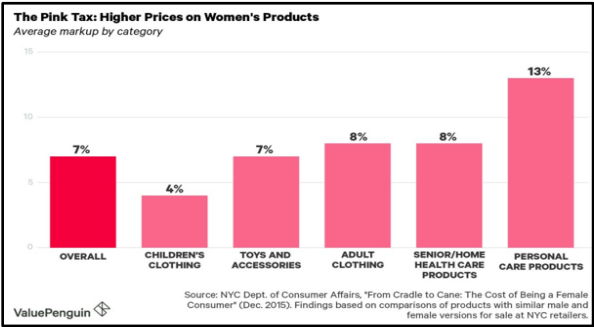


Figure 1: The pink tax - higher prices on women's products. Average mark-up percentages for women's products across different categories, demonstrating personal care products and overall averages showing the highest discrepancies.



Figure 2: Gender-based price difference example: The Byly deodorants for women (50 mL) vs men (75 mL)

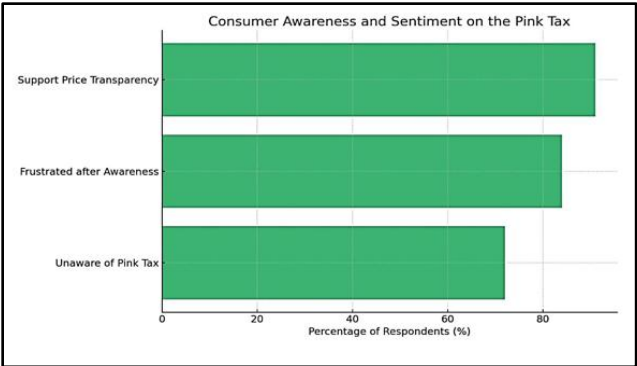


Figure 3: Consumer awareness and sentiment on the pink tax.

Consumer awareness and sentiment data show high levels of unawareness (72%), followed by significant frustration (84%) and strong demand for transparency (91%) once made aware of pricing disparities.

4.3. Estimated economic impact

Projected over typical consumption patterns, gendered price differentials translate into cumulative lifetime costs of ₹2.1–2.8 lakhs per female consumer, equivalent to roughly 3.2% of average lifetime earnings. These costs accrue across everyday categories such as personal care, clothing, and healthcare, reinforcing long-term financial inequities.

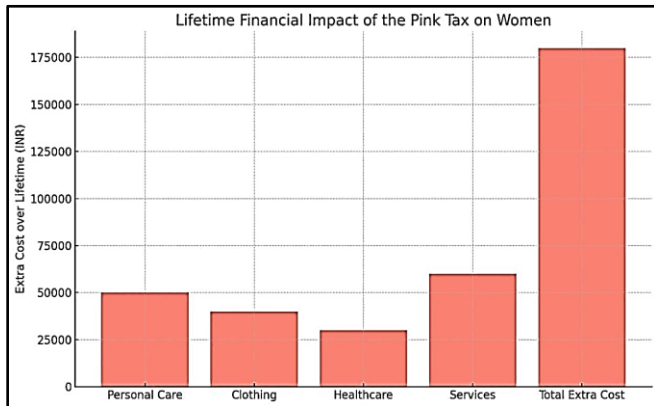


Figure 4: Lifetime financial impact of the pink tax on women (INR)

Estimated lifetime extra costs in Indian Rupees across categories, including Personal Care, Clothing, Healthcare, and Services, demonstrating the cumulative financial burden of gender-based pricing disparities.

4.4. Qualitative themes

Thematic coding of open-ended survey responses identified four dominant themes:

1. **Initial Disbelief (31%)** – Many consumers expressed shock at the existence of systematic pricing disparities.
2. *“I never realised companies could implement different pricing for equivalent products.”*
3. **Suspicion Confirmed (28%)** – Some respondents reported they had suspected female products cost more, but lacked proof.
4. *“I always thought women’s products were overpriced, but this confirms it.”*
5. **Behavioural Intentions (24%)** – Respondents indicated a willingness to switch to male-oriented products when functionally equivalent.
6. *“I will compare prices more rigorously and choose men’s products if they serve the same purpose.”*
6. **Regulatory Demands (17%)** – A significant segment demanded legislative intervention.

There should be a law prohibiting this type of discrimination.

These qualitative insights reveal not only heightened consumer dissatisfaction but also a strong demand for systemic change through policy and corporate accountability.

5. Discussion

5.1. Interpretation of findings

This study confirms the existence of significant gender-based pricing disparities in Indian consumer markets, with female-oriented products priced 19.4% higher on average than male equivalents. The magnitude of this disparity not only exceeds international benchmarks such as the New York City DCA (2015) and European BEUC (2019) studies but also suggests that the Indian marketplace may provide a more permissive environment for discriminatory practices.

The results validate third-degree price discrimination theory (Varian, 1989), showing how observable demographic characteristics—here, gender—are exploited for differential pricing. Furthermore, the pronounced mark-ups in personal care and grooming products support behavioural economic arguments around where women are more willing to pay for products framed as socially essential.

Equally important, the survey findings demonstrate that a lack of awareness is a critical enabler of discriminatory pricing. Once informed, consumers expressed strong dissatisfaction (84%) and overwhelming support for regulatory reform (91%), reinforcing the notion that pricing inequities persist primarily because they remain invisible to the majority of consumers.

5.2. Theoretical contributions

The study extends existing global literature by providing the first large-scale empirical evidence from India. It highlights how socio-cultural and regulatory contexts shape the severity of gendered pricing. While prior studies in the West report moderate disparities, our findings suggest that weaker consumer advocacy, limited policy oversight, and evolving retail structures amplify the Pink Tax in India.

The results also contribute to behavioural economics literature, demonstrating that consumer acceptance of pricing practices is strongly conditioned by information asymmetry. Awareness emerges as the mediating variable between discriminatory pricing and consumer resistance, suggesting a framework for future theory building around transparency and fairness perceptions.

6.2. Future research directions

To build on these findings, future research could:

1. Conduct longitudinal studies to track how gendered pricing evolves, particularly as consumer awareness grows.
2. Expand sampling to rural and semi-urban populations, enabling more representative insights into nationwide patterns.
3. Examine service-sector disparities (e.g., healthcare, personal services, digital platforms), where discriminatory pricing may be even more pronounced.
4. Undertake cross-country comparative studies across emerging markets to understand how cultural and regulatory differences shape the Pink Tax.
5. Investigate corporate decision-making processes behind gendered pricing to identify whether strategies are deliberate, cost-driven, or culturally embedded.

7. Source of Funding

None.

8. Conflict of Interest

None.

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Cite this article: Panigrahi AK, Ansari L. The pink tax in India: Empirical evidence of gender-based pricing disparities in retail markets. *J Manag Res Anal.* 2025;12(3):159-65