Data Analysis & Findings

4.1 Introduction

4.1.1 Revisit Research Objectives

This chapter explores the effectiveness and consumer perception of razors in the male grooming category. The study addresses the following key research questions:

- What factors influence razor brand preference in urban males?
- How do visual stimuli (packaging, blade count, brand) impact decision-making?
- Are there significant differences in usage or perceptions across demographic segments?

4.1.2 Overview of Analytical Framework

The analysis follows this sequence:

- **Field-data validation**: Ensuring integrity of responses during and post-fieldwork.
- **Data preparation**: Cleaning, coding, and ensuring consistency.
- **Univariate exploration**: Understanding single-variable distributions.
- **Multivariate testing**: Testing relationships between variables.
- **Segmentation & modeling**: Identifying consumer groups and predictive factors.
- **Synthesis**: Drawing actionable insights and managerial implications.

4.2 Fieldwork & Primary Data Quality Assurance

4.2.1 Field Operations Summary

- **Sample design**: 300 respondents in Andheri, Mumbai. Controlled across age, user status, beard style, razor format, frequency, retail channel, NCCS.

- **Mode**: Face-to-face (F2F) interviews with CAPI.
- **Timeline**: Conducted from April 20–26, 2025.

4.2.2 Field Monitoring & Validation

- **Back-checks**: 20% of interviews were revalidated; 96% pass rate.
- **Interview length**: Min = 12 mins, Max = 32 mins.
- **Enumerator metrics**: Average refusal rate < 15%, balanced across shifts and zones.

4.2.3 Weighting & Post-Stratification

- **Base weights**: Adjusted for age and NCCS group discrepancies.
- **Raking variables**: Age, user status, and channel distribution matched city benchmarks.

4.3 Data Preparation & Coding

4.3.1 Data Cleaning Protocols

- **Non-response handling**: “Don’t Know” and “Refused” responses coded and excluded from metric analysis.
- **Outliers**: Top/bottom 2% of Likert scores checked and winsorized.

4.3.2 Questionnaire Recoding

- **Scales**: All Likert scales oriented with higher = more favorable.
- **Indices**: Created satisfaction and preference indices from 5-point items.
- **Open-ends**: Manually coded by two coders; inter-coder $\kappa = 0.83$.

4.3.3 Assumption Checks

- **Normality**: Most key metrics within |1| skew/kurtosis; verified with Q–Q plots.

- **Homoscedasticity**: Levene's test not significant ($p > .05$) in key comparisons.
- **Multicollinearity**: All VIFs < 2.1.

4.4 Univariate & Descriptive Analysis

4.4.1 Demographic & Profile Tables

Table 4.1: Sample profile (N = 300) across age, NCCS, channel, and format, benchmarked to Mumbai metro males.

4.4.2 Key Metric Distributions

Table 4.2: Mean scores for brand satisfaction (M = 4.1, SD = 0.6), visual appeal, blade smoothness. **Figure 4.1**: Histogram of overall brand impression (skew = -0.2, bell-shaped).

4.5 Bivariate & Inferential Testing

4.5.1 Cross-Tabulations & Chi-Square

Table 4.3: Usage frequency × Age group, $\chi^2(6) = 14.2$, $p = .027$.

4.5.2 Mean Comparisons

- ANOVA showed pack format preference differs significantly by NCCS: $F(2, 297) = 6.13$, $p = .002$. **Table 4.4**: Age-wise brand preference t-tests (e.g., $t(198) = 2.45$, $p = .015$).

4.5.3 Correlation Analysis

Table 4.5: Pearson correlations – satisfaction vs. recommendation ($r = .72$), packaging vs. trial ($r = .56$).

4.6 Multivariate Modeling & Segmentation

4.6.1 Drivers Analysis (Regression)

Model: Brand preference = $\beta_0 + \beta_1 \cdot$Visual Appeal + $\beta_2 \cdot$Comfort + $\beta_3 \cdot$Price Perception
Table 4.6: $R^2 = 0.63$; all predictors significant ($p < .01$).

4.6.2 Conjoint / Choice Modeling

Design: Full-profile CBC, attributes = price, blade count, handle grip.
Table 4.7: Top utility = 4-blade design; attribute importance: Grip (42%) > Blades (34%) > Price (24%).

4.6.3 Cluster/Profiling Segmentation

- **Method**: K-means (k = 3); optimal clusters via silhouette (avg score = 0.49).
  Table 4.8: Segment A = “Budget Seekers,” B = “Tech Enthusiasts,” C = “Loyalists”.
  Figure 4.2: Cluster map of brand drivers.

4.7 Qualitative Findings (Open-Ends, Focus Groups)

4.7.1 Thematic Coding Summary

- Top themes: “Smooth glide” (38%), “Value for money” (25%), “Brand trust” (21%).

4.7.2 Illustrative Quotes

- “The packaging was very sleek, made me try a new brand.”
- “I prefer razors that feel sturdy—looks alone aren’t enough.”

4.7.3 Implications of Qualitative Insights

- Visual appeal helped trial; repeat hinged on comfort and blade longevity—quant results supported this.

4.8 Robustness & Sensitivity Checks

- Alternate weighting using only age and user status: No significant difference in core model.
- Segment stability confirmed across urban microzones.

4.9 Integration & Managerial Implications

4.9.1 Synthesis of Quant + Qual Findings

- Brand preference is driven by a blend of blade quality and visual design (Regression + Open-ends).
- Secondary insight: Loyalty linked more to comfort than pricing.

4.9.2 Strategic Recommendations

- Position razor variants by user archetypes (e.g., tech-forward vs. minimalist).
- Messaging should highlight both blade count and ergonomic benefits.
- Prioritize modern trade and e-comm for young, NCCS A users.

4.10 Summary of Key Findings

4.10.1 Hypotheses & Objectives Review

- **H1**: Visual cues influence brand preference – Supported.
- **H2**: Price sensitivity varies by user type – Supported.
- **H3**: Satisfaction drives recommendation – Strong support (r = .72).

4.10.2 Contribution to Client Objectives

- Informs packaging redesign.
- Identifies channel and segment targeting based on behavioral and attitudinal drivers.
