CONSUMER PREFERENCE ANALYSIS USING SPSS FOR STRATEGIC MARKETING

1. Background and Problem Statement:

A consumer electronics company launched a new line of smart home devices and conducted an online survey to understand how different customer segments perceived the features, usability, and value of the product. Despite decent sales, the company lacked clear insights into which factors influenced customer satisfaction and purchase decisions. The marketing team needed a structured statistical analysis to segment consumers, evaluate feature preferences, and identify statistically significant differences across age, gender, and income groups. The goal was to adjust marketing messages and product development strategy using evidence-based insights from the data.

2. Objectives:

- To explore descriptive statistics for overall customer satisfaction and feature preferences
- To examine whether consumer preferences vary significantly by demographics using ANOVA
- To identify key predictors of purchase intention using multiple regression
- To segment customers based on responses for targeted marketing recommendations
- To produce a well-structured, SPSS-based report with tables, charts, and interpretations

3. Methodology:

3.1 Data Source:

- Collected through Google Forms over 2 weeks
- 450 completed responses
- Variables: Age group, Gender, Income bracket, Product Rating, Feature Ratings (Design, Battery, Price, Usability), and Purchase Intent (Likert scale)

3.2 Statistical Procedures in SPSS:

- **Descriptive Statistics:** Mean, median, mode, standard deviation for all feature ratings
- **One-way ANOVA:** To test for differences in product satisfaction across age, gender, and income groups

- **Post-hoc Tests:** Tukey HSD for significant ANOVA results
- **Correlation Analysis:** Pearson correlations between purchase intent and other numerical variables
- **Multiple Linear Regression:** Dependent variable – Purchase Intent; Independent variables – Feature Ratings
- **Reliability Test:** Cronbach's Alpha for internal consistency of multi-item scales

3.3 Data Preparation:

- Recoding Likert responses into ordinal values
- Handling missing data via listwise deletion (non-systematic missingness)
- Visualizations: Bar charts, boxplots for satisfaction by demographics, regression line plots

4. Results:

- **Descriptive Findings:**
  - Mean overall product satisfaction: 4.1 out of 5
  - Top-rated features: Design (4.3), Usability (4.2)
  - Lowest-rated: Price (3.5)
- **ANOVA Results:**
  - Age group had a significant effect on product satisfaction ($F=5.34$, $p<0.01$)
  - Income also significant ($F=4.87$, $p<0.05$)
  - Gender showed no significant variation
- **Post-hoc:**
  - Significant difference between 18–24 and 35–44 age group in satisfaction
- **Regression Model:**
  - $R^2 = 0.68$ (good explanatory power)
  - Significant predictors: Usability ($\beta=0.42$, $p<0.001$), Design ($\beta=0.35$, $p<0.001$), and Price ($\beta=-0.22$, $p<0.01$)
- **Cronbach's Alpha:**
  - $\alpha = 0.81 \rightarrow$ good internal consistency

5. Interpretation and Insights:

- Younger customers value aesthetics and usability more than price
- Price sensitivity is higher in lower-income groups, reflected in lower purchase intent
- Usability and design were the most influential drivers of purchase intent
- The regression model suggests focusing on enhancing user interface and visual appeal over cutting price

6. Recommendations:

- Create targeted campaigns emphasizing ease of use and design quality for younger consumers
- Develop alternate pricing tiers or installment plans for price-sensitive segments
- Highlight usability features in demos and social media ads
- Conduct follow-up focus groups to delve deeper into usability pain points

7. Deliverables:

- Full SPSS output (.sav and .spv files)
- A 10-page analysis report with APA-style formatting and interpretations
- Graphical dashboards (bar charts, boxplots, regression diagnostics)
- A slide deck summarizing findings and strategic recommendations for the marketing team

8. Stakeholder Relevance:

Academic:

- Useful for demonstrating applied ANOVA, regression, and correlation analysis in consumer research
- Supports curriculum in marketing analytics, research methods, or SPSS coursework

Corporate:

- Directly implementable for marketing teams exploring product feedback data

- Valuable for segmentation-based message personalization and product development strategy