ANALYZING FACTORS INFLUENCING CUSTOMER SATISFACTION IN ONLINE RETAIL USING SPSS MULTIPLE LINEAR REGRESSION

1. Background and Problem Statement:

An e-commerce platform observed fluctuating customer satisfaction levels in its quarterly Net Promoter Score (NPS) despite consistent delivery timelines. While several customer support and UI/UX updates were implemented, management lacked clarity on which operational and service factors were influencing customer satisfaction. To address this, the company sought to model the key predictors of customer satisfaction using SPSS-based regression analysis.

2. Objectives:

- To evaluate the impact of website usability, delivery experience, and product quality on customer satisfaction
- To include control variables such as purchase frequency and payment method
- To build and validate a regression model to predict customer satisfaction scores
- To assess multicollinearity and fit of the model using SPSS diagnostics

3. Methodology:

3.1 Data Collection:

- **Sample Size:** 500 customers who made purchases within the last 3 months
- **Variables Collected:**
    - Dependent Variable: Customer Satisfaction Score (scale: 0–10)
    - Independent Variables:
        - Website Usability Rating (scale: 1–10)
        - Delivery Experience Score (scale: 1–10)
        - Product Quality Rating (scale: 1–10)
        - Purchase Frequency (times/month)
        - Payment Method (dummy-coded: Card, UPI, COD)

3.2 SPSS Analysis Plan:

- Descriptive statistics to explore central tendencies and data variability
- Correlation matrix to check bivariate relationships
- Multiple Linear Regression using the Enter method with:
    - Step 1: Control variables (Payment Method, Purchase Frequency)
    - Step 2: Service quality predictors (Usability, Delivery, Product Quality)
- Diagnostic tests for multicollinearity (VIF), residual normality, and outliers

4. Results:

Model Summary:

- $R^2 = 0.68$, Adjusted $R^2 = 0.67$
- $F(6, 493) = 173.20$, $p < 0.001$

Significant Predictors:

- Website Usability: $\beta = 0.41$, $p < 0.001$
- Delivery Experience: $\beta = 0.36$, $p < 0.001$
- Product Quality: $\beta = 0.29$, $p < 0.001$
- Purchase Frequency: $\beta = 0.14$, $p = 0.02$

Non-significant Predictors:

- Payment method (all dummy variables $p > 0.05$)

Diagnostics:

- VIF < 2 for all variables
- Normal P-P plot confirmed normality of residuals
- No extreme outliers or leverage points detected

5. Interpretation and Insights:

- Customer satisfaction is significantly influenced by service touchpoints rather than the method of payment.
- Website usability had the highest impact, followed by delivery and product quality.

- Regular buyers (higher purchase frequency) tend to report higher satisfaction, possibly due to familiarity with platform usage.
- Payment methods did not show significant contribution, indicating a relatively uniform experience across options.

6. Recommendations:

- Prioritize UX/UI upgrades focusing on search filters, cart experience, and mobile responsiveness
- Strengthen last-mile delivery coordination for improved customer satisfaction
- Conduct regular audits on product packaging and quality for high-return SKUs
- Launch loyalty benefits for repeat customers to amplify the satisfaction effect of high purchase frequency

7. Future Work:

- Segment satisfaction data by product category to explore variation across verticals
- Include variables like support responsiveness and refund experience in extended models
- Evaluate temporal changes through repeated cross-sectional analysis every quarter

8. Stakeholder Relevance:

Academic:

- Serves as an example for applying SPSS regression in customer analytics
- Relevant for case studies in marketing research and service quality modeling

Corporate:

- Helps e-commerce firms align resources to drivers of customer satisfaction
- Useful for tracking performance of service improvements over time