E-commerce Clothing Industry Sentiment Analysis Report

Executive Summary

This report analyzes customer sentiment toward clothing products from Khaadi, a prominent brand in the e-commerce fashion industry, based on a dataset of 754 customer reviews. Utilizing VADER sentiment analysis, we categorized reviews as Positive (58.36%), Neutral (14.72%), or Negative (26.92%). The findings provide actionable insights for e-commerce stakeholders to enhance customer satisfaction, optimize product offerings, and strengthen brand reputation in a competitive market.

---

1. Introduction

The e-commerce clothing industry thrives on customer feedback to drive product development, marketing strategies, and operational improvements. Understanding customer sentiment is critical for brands like Khaadi to maintain a competitive edge. This report leverages sentiment analysis to evaluate customer perceptions, identify pain points, and recommend strategies to enhance business performance.

Objectives

- Assess the sentiment distribution of customer reviews.
- Identify key drivers of positive and negative feedback.
- Provide actionable recommendations for e-commerce businesses in the clothing sector.

---

2. Methodology

Data Source

The dataset comprises 754 customer reviews sourced from Khaadi's e-commerce platform, stored in the file `combined_khaadi_files.csv`. Each review was processed to ensure data quality by removing empty or invalid entries.

Tools and Techniques

- **VADER Sentiment Analysis**: A lexicon-based tool designed for social media and short-text analysis, used to assign sentiment scores (compound score) and categorize reviews as:
    - Positive (score ≥ 0.05)
    - Neutral (-0.05 < score < 0.05)
    - Negative (score ≤ -0.05)
- **Data Processing**: Python libraries (Pandas, Matplotlib, Seaborn) were used to clean, analyze, and visualize data.
- **Text Cleaning**: Reviews were preprocessed to remove URLs, special characters, and extra spaces to ensure accurate sentiment scoring.

Sentiment Distribution

The sentiment analysis results are summarized below:

- **Positive**: 440 reviews (58.36%)
- **Negative**: 203 reviews (26.92%)
- **Neutral**: 111 reviews (14.72%)

---

3. Findings

3.1 Sentiment Distribution

The majority of reviews (58.36%) are positive, indicating strong customer satisfaction with Khaadi's products. However, 26.92% of reviews are negative, highlighting areas for improvement. The neutral reviews (14.72%) suggest a segment of customers with mixed or ambivalent experiences.

Visualization: A bar chart (generated using Seaborn) illustrates the sentiment distribution, emphasizing the dominance of positive sentiment but also the significant presence of negative feedback.

3.2 Business Implications

- **Positive Sentiment (58.4%)**: Customers likely appreciate product quality, design, or brand reputation. This strength can be leveraged in marketing campaigns to attract new customers.
- **Negative Sentiment (26.9%)**: A notable portion of customers expressed dissatisfaction, potentially due to issues like product quality, delivery delays, or customer service. This represents a critical area for operational focus.

- **Neutral Sentiment (14.7%)**: These reviews may reflect unclear feedback or moderate satisfaction, suggesting opportunities to convert neutral customers into loyal advocates through targeted engagement.

---

4. Recommendations

Based on the sentiment analysis, the following strategies are recommended to strengthen Khaadi's position in the e-commerce clothing industry:

4.1 Enhance Customer Experience

- **Address Negative Feedback**: Conduct a thematic analysis of negative reviews to identify recurring issues (e.g., sizing, material quality, or shipping). Implement corrective measures such as improved quality control or faster delivery.
- **Proactive Customer Service**: Introduce live chat support and faster response times to resolve issues before they escalate into negative reviews.

4.2 Leverage Positive Sentiment

- **Showcase Positive Reviews**: Highlight positive customer testimonials on the website, social media, and email campaigns to build trust and attract new customers.
- **Loyalty Programs**: Reward repeat customers with discounts or exclusive offers to maintain high satisfaction levels and encourage positive word-of-mouth.

4.3 Convert Neutral Sentiment

- **Engage Neutral Customers**: Use personalized follow-up emails or surveys to understand their concerns and offer incentives (e.g., discounts) to encourage repeat purchases.
- **Improve Product Clarity**: Enhance product descriptions, images, and sizing guides to reduce ambiguity and improve customer confidence.

---

5. Conclusion

The sentiment analysis of Khaadi's customer reviews reveals a strong foundation of positive sentiment (58.36%), but also highlights significant negative feedback (26.92%) that requires attention. By addressing pain points, 58% of customers are satisfied, but 26% are dissatisfied, indicating areas for improvement. The recommended strategies can enhance customer

satisfaction, strengthen brand loyalty, and position Khaadi for sustained success in the competitive e-commerce clothing industry.

---

6. Future Work

- Conduct a deeper thematic analysis of negative reviews to pinpoint specific issues.
- Integrate real-time sentiment monitoring to track customer feedback dynamically.
- Expand the analysis to include competitor brands for a comparative perspective.