

Supply Chain Optimization Dashboard Report

Executive Summary

This report analyzes supply chain performance using key metrics and data visualizations, offering actionable insights to enhance efficiency, reduce costs, and improve customer satisfaction. By addressing the identified areas for improvement, we can optimize logistics, improve quality control, and better align production with demand.

Key Metrics Overview

- Total Revenue Generated: ₹577,605
- Total Products Sold: 48,440 units
- Total Stocks: 5,550 units
- Average Shipping Costs: ₹14.77 per unit
- Average Lead Time: 1.77 days
- Overall Customer Satisfaction: 2.28/5.00

Product Distribution and Sales Analysis

Distribution of Products Sold and Availability

- Skincare: 20,700 units sold, 2,000 units available
- Haircare: 13,600 units sold, 1,500 units available
- Cosmetics: 11,800 units sold, 1,300 units available Insight: Skincare products show the highest sales and availability, reflecting strong demand. Haircare and cosmetics also perform well but have relatively lower sales and inventory levels.

Sales and Revenue by Location

- Kolkata: ₹140,000 revenue from 100,000 units sold
- Bangalore: ₹100,000 revenue from 100,000 units sold
- Mumbai: ₹140,000 revenue from 10,000 units sold
- Chennai: ₹120,000 revenue from 10,000 units sold
- Delhi: ₹80,000 revenue from 10,000 units sold Insight: Kolkata and Bangalore are top-performing regions with high sales and revenue. Mumbai shows exceptional revenue efficiency despite lower sales volumes.

Product Price and Revenue by Product Type

- **Cosmetics:** Average price ₹57, total revenue ₹240,000
- **Skincare:** Average price ₹47, total revenue ₹160,000
- **Haircare:** Average price ₹46, total revenue ₹170,000 **Insight:** Cosmetics command the highest prices and generate the most revenue, positioning them as premium products. Skincare and haircare maintain competitive pricing with robust sales.

Logistics and Operations Analysis

Transportation Mode Utilization

- **Road:** 29% of shipments
- **Rail:** 26% of shipments
- **Air:** 28% of shipments
- **Water:** 17% of shipments **Insight:** Road and air transport dominate due to their flexibility and speed. Rail and water, while less utilized, offer cost advantages for certain routes.

Revenue Contribution by Product Type

- **Skincare:** 41.83% of total revenue
- **Haircare:** 32.20% of total revenue
- **Cosmetics:** 26.00% of total revenue **Insight:** Skincare is the primary revenue driver, with haircare and cosmetics making significant contributions as well.

Quality Control and Inspection Results

- **Pending:** 23% of products
- **Fail:** 41% of products
- **Pass:** 36% of products **Insight:** The high failure rate indicates urgent quality control improvements are needed to reduce waste and enhance product reliability.

Shipping Times by Product Type

- **Skincare:** 213 hours average shipping time
- **Haircare:** 191 hours average shipping time
- **Cosmetics:** 171 hours average shipping time **Insight:** Skincare products experience the longest shipping delays, potentially affecting customer satisfaction and inventory turnover.

Production Volumes

- Skincare: 24,000 units produced
- Haircare: 20,000 units produced
- Cosmetics: 12,000 units produced **Insight:** Haircare has the highest production volume, while cosmetics show a significant gap between production and sales, suggesting possible overproduction or supply chain bottlenecks.

Product Distribution by Route

- Route A: 20% skincare, 43% haircare, 37% cosmetics
- Route B: 43% skincare, 20% haircare, 37% cosmetics
- Route C: 37% skincare, 37% haircare, 26% cosmetics **Insight:** Route B is heavily utilized for skincare distribution, while Route A focuses on haircare. Route C offers a more balanced product mix.

Strategic Recommendations

1. **Shipping Optimization:** Prioritize reducing shipping times for skincare products through route optimization and logistics partnerships.
2. **Quality Control Enhancement:** Implement advanced quality assurance protocols to address the high failure rate and improve product reliability.
3. **Inventory Management:** Align production volumes with sales data, particularly for cosmetics, to minimize overproduction and stockouts.
4. **Route Efficiency:** Rebalance product distribution across routes to leverage cost and time advantages based on product type.
5. **Demand Forecasting:** Develop predictive models to anticipate demand fluctuations and adjust inventory and production schedules proactively.
6. **Customer Satisfaction:** Address lead time and shipping concerns to improve overall customer experience and satisfaction ratings.