Analyzing Delivery Performance and profitability in supply chain

Project Overview

This project involved analyzing a supply chain dataset containing 10k rows and 18 columns to identify performance gap in delivery, supplier reliability and overall profitability. with only 1975 out of 9689 orders delivered (20.38%.) The profit and revenue metrics were calculated solely on these fulfilled transactions. This approach ensured accuracy in evaluating real business performance, while also highlighting potential concerns in order fulfillment.

Key Findings:

Supplier D has the most orders and most successful and most unsuccessful deliveries.

Supplier D has highest total cost and highest profitability

Highest revenue comes from delayed orders, suggesting penalties or urgent changes.

Pending Deliveries are the highest followed by delayed.

December 2023 had peak delays, likely due to holiday demand.

Most of the products returned , cancelled, pending, shipped .

Supplier with highest delay is E and lowest delay   C.

Avg. lead time: Supplier A quickest

Business Impact:

Delivery inefficiency is directly affecting profitability.

Pending deliveries (nearly 80%) represent lost or unrealized revenue.

Suppliers with high demand are underperforming in terms of fulfillment, especially Supplier D.

Seasonal issues (e.g., December delays) show the need for better forecasting and capacity management.

Recommendations:

Prioritize high delay suppliers for process improvements.

Review penalties/ incentives related to delayed orders.

Improve logistics planning to increase on time delivery.

Optimize cost structures for Supplier B to improve margins.

Focus on supplier D's delivery rate to turn high demand into real profit.

Conclusion:

Delivery success plays a crucial role in driving profitability. The dominance of pending and delayed orders highlights the need for better tracking and supplier accountability . December delays point to seasonal capacity issues. Strategic improvements in supplier performance and delivery planning can turn losses into profitability.