Supply Chain Performance Report

Period: March 1 – May 31, 2025

Scope: Order Fulfillment, Delivery Reliability, Inventory Flow, and Customer-Level OTIF Insights

Data Sources:

- fact_order_line
- dim_product, dim_customer
- dim_target_orders, dim_date, exchange_rate
- Calculated fact_summary view

1. Key Business KPIs (SCOR-Aligned)

КРІ	Value	Formula / Logic
Total Order Lines	24,530	Count of all entries in fact_order_line
Total Orders	13,652	Count of unique order_id
Line Fill Rate (%)	65.94	Total delivery_qty / Total order_qty
Volume Fill Rate (%)	96.59	Total volume delivered / ordered (if available)
On Time Delivery (%)	59.22	% of orders where actual_delivery_date <= agreed_delivery_date
In Full Delivery (%)	52.61	% of orders where delivery_qty = order_qty
OTIF (%)	28.74	% of orders both on time and in full
Order Cycle Time (days)	2.59	Avg(actual_delivery_date - order_placement_date)
Average Delivery Delay (days)	1.68	Avg(actual_delivery_date - agreed_delivery_date where delay > 0)
Lead Time Variability (days)	1.85	Std Dev of order_cycle_time_days
Category Demand Variability	0.46	Std Dev of weekly order_qty per category
Backorder Quantity	195,751	. Sum(order_qty - delivery_qty) where > 0

**Note: Inventory Turnover Rate not calculated due to lack of inventory stock data.



Q 2. Top Customer Insights



Top 5 Customers (Overall by Order Value)

Customer ID	Name	City	OTIF (%)	IF (%)	OT (%)
C123	ABC Ltd	Mumbai	42.1	89.5	64.7
C085	XYZ Pvt	Chennai	38.3	85.2	66.3
C201	FastMart	Delhi	31.7	70.4	59.9
C076	Titania	Hyderabad	29.5	66.3	55.8
C048	Omega	Ahmedabad	27.9	68.1	53.7

IN Top 5 Customers (India Only)

(Similar logic applied with filter country = 'India')

3. Revenue Loss Due to Under-Delivery

Customer Total Order Value (INR) Revenue Loss (INR) Loss (%)

ABC Ltd	₹2.5 Cr	₹51.3 Lakh	20.5%
XYZ Pvt	₹1.8 Cr	₹42.6 Lakh	23.7%
FastMart	₹1.3 Cr	₹28.9 Lakh	22.2%
Others	•••	•••	

EXAMPLE 2 Conversion for USD done using exchange_rate on order_placement_date.

(S) 4. Performance by Product Category



Category In Full % Total Orders Backorder Qty Avg Delay (days) Flag

Beverage	es 48.2	2,110	31,023	2.3	Supply Bottleneck
Dairy	50.5	1,927	28,918	2.1	Unstable Fulfillment
Snacks	53.1	2,047	25,014	1.9	Moderate Risk

Lead Time Variability (Top Affected Categories)

Category Avg Cycle Time (days) Lead Time Std Dev Flag

Dairy 2.9 3.5 <u>M</u> High

5. Weekly Demand Swings & Impact

Week % Demand Change In Full % On Time % Insight

12 +35% 42.6 48.3 Capacity Strained

15 -23% 58.9 66.7 <u>∧</u> Overbuffering Risk

ii 6. Backorders vs. Delay Correlation

- High Correlation Identified between avg_delay_days > 3 and backorder_qty > 100
- Key Customers with consistent issues: ABC Ltd, FastMart, Titania

Scatter plots suggest corrective action needed at both planning and fulfillment levels.

3 7. City Type Comparison: Metro vs Non-Metro

Metric	Metro Av	g Non-Metro Av	g Gap	Flag
On Time Delivery %	61.8	54.4	+7.4	Better in Metro
In Full %	56.2	49.5	+6.7	Better in Metro
Avg Order Cycle Time	2.3 days	3.1 days	-0.8	Slower in Non-Metro
Total Backorder Quantity	y 93,011	102,740	+9.5%	Solution Issue in Non-Metro

8. Automation & Transformation Applied

Area	Action/Logic
Data Cleaning	Removed null IDs, converted date formats, numeric coercion for IDs
Merge Logic	Joined order-product-customer-exchange data
Currency Conversion	$USD \rightarrow INR$ using exchange rate on order date

Action/Logic Area

New Calculated Columns backorder_qty, delay_days, in_full_percent, order_cycle_time_days, etc.

Aggregation & Grouping Weekly, Customer, Category

Business Logic Prompts Applied SCOR Model and real-world fulfillment criteria

P Conclusion & Recommendations

Top Priorities:

- Reduce backorders and stabilize fulfillment in Beverages & Dairy
- Optimize lead times for high-delay categories
- Tailor separate strategies for Metro vs Non-Metro service gaps

Actionables:

- 1. Implement weekly capacity planning to tackle demand spikes.
- 2. Conduct supplier performance reviews for Beverages and Dairy.
- 3. Launch city-specific fulfillment benchmarks to close Metro vs Non-Metro gaps.
- 4. Automate customer-level OTIF tracking using rolling 4-week window.