



SUPPLY CHAIN ISSUE

(IN FMCG DOMAIN)

Addressing Service Issues for Key
Customers' Retention.



Analysed By:
Sagnik Ghosh



About the Company



- AtliQ Mart is a growing FMCG manufacturer headquartered in Gujarat, India.
- It is currently operational in three cities Surat, Ahmedabad and Vadodara.
- They want to expand to other metros/Tier 1 cities in the next 2 years.



The Problem



- AtliQ Mart is currently facing a problem where a few key customers did not extend their annual contracts due to service issues.
- Essential products may have been consistently delayed or incomplete, potentially causing poor customer service.
- Management wants to fix this issue before expanding to other cities



The Strategy



Analyze Current Performance Metrics

Examining the historical data on 'OT %' and 'IF %' for each customer. Identify trends and patterns to understand where the issues lie.

Identify the Root Causes

Determine why certain essential products are not being delivered on time or in full, examining internal processes, logistics challenges, supplier issues, or any other factors.

Implement Corrective Actions & Monitoring

Develop and implement corrective actions to address the identified issues. Set up a monitoring system to track the effectiveness of these actions..



Project Metrics Overview

Orders and Lines:

- **Orders:** Unique requests placed by customers on a given date.
- **Order Lines:** Individual items requested within an order.

Measuring Line Fill Rate & Volume Fill Rate:

- **Line Fill Rate:** Ratio of shipped lines to total lines ordered, irrespective of delivery time.
- **Volume Fill Rate:** Ratio of total quantity shipped to total quantity ordered.

Measuring On-Time Delivery %:

- Determines if an order is delivered as per the agreed time with the customer.
- Important for the warehouse & distribution team.
- An order is On Time only when all line items are delivered on time.



Project Metrics Overview

Measuring In Full Delivery %

- Determines if an order is delivered in full as per the requested quantity by the customer.
- Important for the supply planning team.
- An order is In Full only when all line items are delivered as requested.

Measuring On Time In Full (OTIF) %

- Determines if an order is delivered both in full and on time.
- Important for all sub-functions in the supply chain team.
- An order is OTIF only when all line items are delivered In Full and On Time, measuring order reliability from the customer's perspective.



POWER BI DASHBOARD



City

Customer Name

Product Name

Month

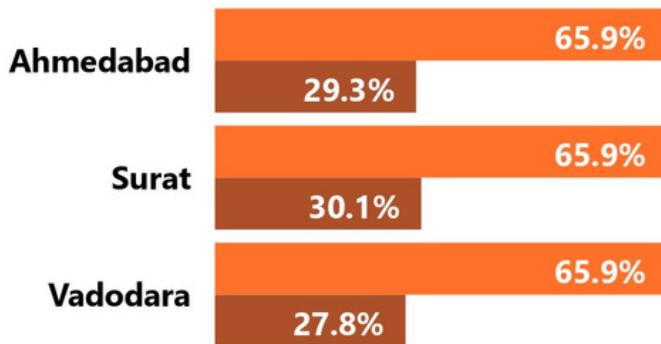
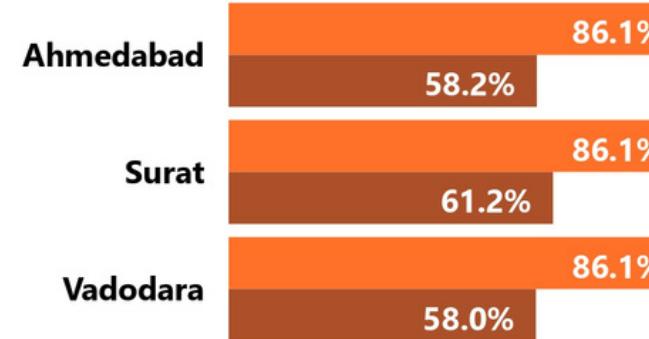
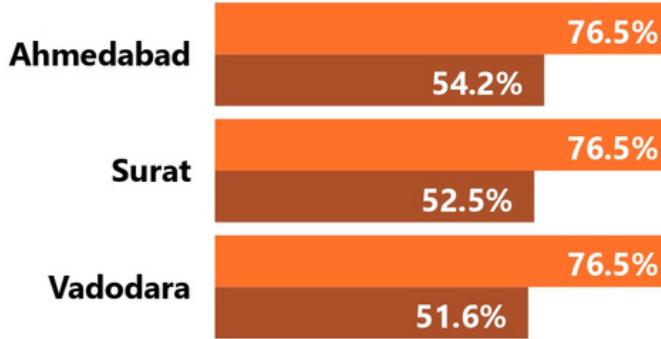
Total Orders

13.4M

Total Deliveries

13.0M

Total Delayed

16KAvg Delivery Delay
(Days)**2**Max Delivery Delay
(Days)**3****Orders v/s Deliveries**
● Sum of order_qty ● Sum of delivery_qty
**OTIF Target % v/s OTIF %**
● otif_target_% ● otif_%
**OT Target % v/s OT %**
● on_time_target_% ● on_time_%
**IF Target % v/s IF %**
● in_full_target_% ● in_full_%

*OTIF %, OT % and IF % are conditionally formatted based on the gaps from their respective Target %

Customer Name	Total Order Qty	OTIF%	OT %	IF %	LiFR %	VoFR %	Avg Delay (Days)
Acclaimed Stores	1120090	15.5%	29.4%	52.4%	58.9%	95.8%	1.81
Atlas Stores	760711	39.6%	71.8%	59.8%	75.5%	97.6%	1.49
Chiptec Stores	756652	38.7%	71.6%	60.4%	75.6%	97.6%	1.46
Coolblue	776624	13.7%	29.1%	44.7%	51.5%	95.1%	1.83
Elite Mart	772140	24.4%	72.4%	37.9%	52.7%	95.3%	1.47
Expert Mart	789698	39.1%	72.5%	59.8%	75.5%	97.4%	1.48
Expression Stores	768746	38.4%	69.9%	60.8%	75.3%	97.5%	1.56
Info Stores	767833	25.5%	70.9%	41.2%	53.1%	95.2%	1.55
Logic Stores	755835	38.8%	70.8%	60.1%	74.4%	97.5%	1.52
Lotus Mart	1157117	16.3%	28.1%	53.4%	60.1%	96.0%	1.82
Propel Mart	1143763	40.9%	73.6%	59.7%	75.6%	97.7%	1.45
Rel Fresh	1155598	38.2%	72.3%	58.7%	74.5%	97.4%	1.52
Sorefoz Mart	765536	25.9%	72.7%	39.2%	53.4%	95.3%	1.48
Vijay Stores	1176293	28.3%	72.4%	45.0%	59.2%	95.9%	1.50
Viveks Stores	760300	39.4%	70.6%	60.1%	75.1%	97.6%	1.57
Total	13426936	29.0%	59.0%	52.8%	66.0%	96.6%	1.69



City

Customer Name

Product Name

Month

OTIF %

29.4%

Target: 65.9%

OT %

58.9%

Target: 86.1%

IF %

53.6%

Target: 76.5%

LiFR %

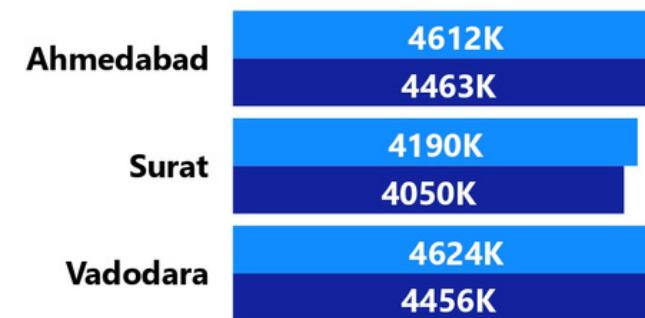
66.3%

VoFR %

96.7%

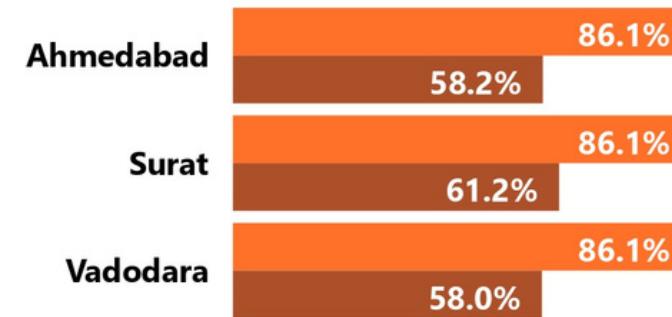
Orders v/s Deliveries

● Sum of order_qty ● Sum of delivery_qty



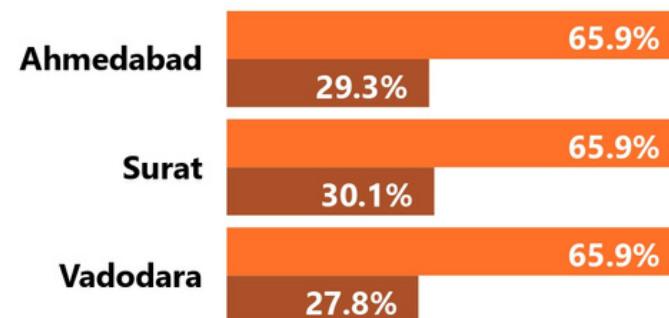
OT Target % v/s OT %

● on_time_target_% ● on_time_%



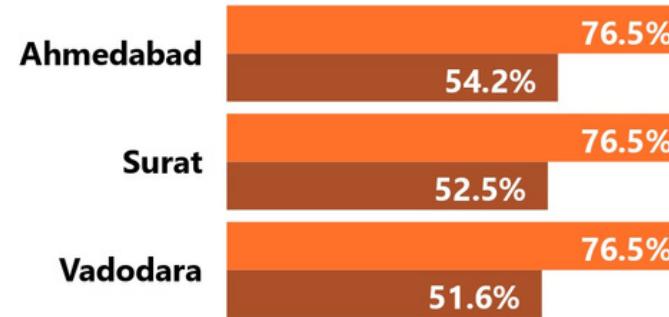
OTIF Target % v/s OTIF %

● otif_target_% ● otif_%



IF Target % v/s IF %

● in_full_target_% ● in_full_%



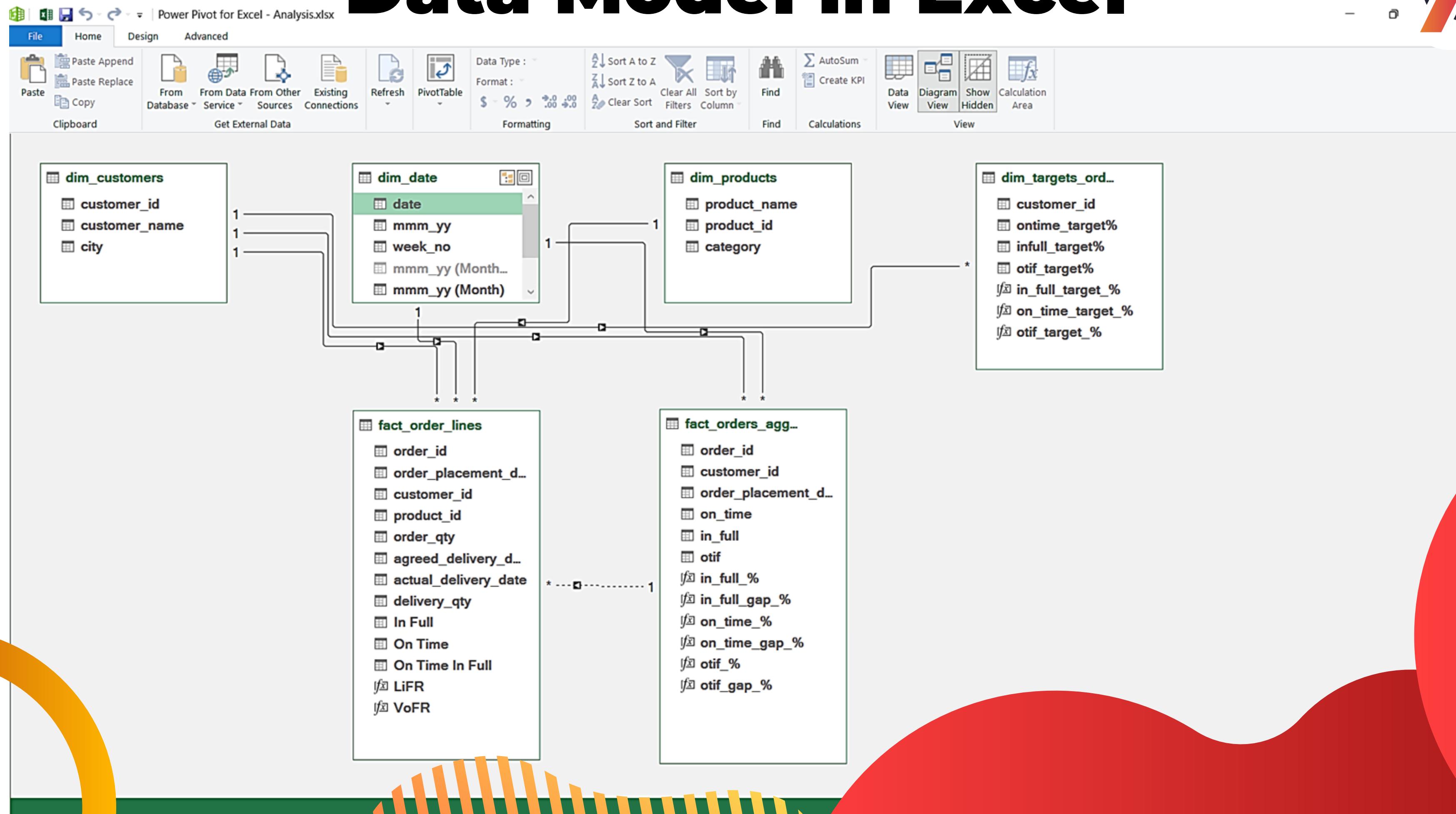
Product Name

Product Name	Total Order Qty	LiFR %	LiFR by month	VoFR %	VoFR by month	Avg Delay (Days)
AM Curd 100	1105336	66.7%		96.6%		1.72
AM Ghee 100	186186	65.8%		96.6%		1.72
AM Butter 100	943483	66.7%		96.6%		1.71
AM Biscuits 250	563366	65.2%		96.6%		1.71
AM Milk 250	1279132	65.9%		96.6%		1.71
AM Butter 250	933107	63.5%		96.4%		1.70
AM Curd 50	1119256	65.5%		96.6%		1.70
AM Milk 100	1276190	65.5%		96.5%		1.69
AM Biscuits 500	558119	66.1%		96.5%		1.69
AM Tea 500	396571	66.1%		96.5%		1.68
AM Butter 500	983180	65.2%		96.5%		1.68
AM Curd 250	1099401	67.0%		96.7%		1.68
AM Biscuits 750	556996	68.0%		96.9%		1.68
AM Tea 250	392461	65.2%		96.5%		1.67
AM Ghee 150	193524	66.7%		96.7%		1.67
AM Tea 100	394712	65.3%		96.6%		1.66
AM Milk 500	1254422	67.5%		96.7%		1.66
AM Ghee 250	191494	65.3%		96.5%		1.66
Total	13426936	66.0%		96.6%		1.69



EXCEL REPORTS

Data Model in Excel





City & Month-wise Analysis

City	OTIF Direction	OTIF %	OTIF Target %	OT Direction	OT %	OT Target %	IF Direction	IF %	IF Target %
Ahmedabad	▼	29.3%	66.5% ▼		58.2%	85.8% ▼		54.2%	77.3%
Surat	▼	30.1%	66.4% ▼		61.2%	86.3% ▼		52.5%	76.9%
Vadodara	▼	27.8%	64.9% ▼		58.0%	86.2% ▼		51.6%	75.3%
Grand Total	▼	29.0%	65.9% ▼		59.0%	86.1% ▼		52.8%	76.5%

Month	Total OTIF	OTIF Direction	OTIF %	Total OT	OT Direction	OT %	Total IF	IF Direction	IF %
Mar	1,561.00	▼	28.9%	3221	▼	59.6%	2,830.00	▼	52.3%
Apr	1,506.00	▼	28.7%	3116	▼	59.3%	2,761.00	▼	52.6%
May	1,578.00	▼	29.1%	3169	▼	58.5%	2,907.00	▼	53.7%
Jun	1,497.00	▼	28.7%	3050	▼	58.5%	2,713.00	▼	52.0%
Jul	1,567.00	▼	29.4%	3171	▼	59.4%	2,802.00	▼	52.5%
Aug	1,499.00	▼	29.4%	3003	▼	58.9%	2,734.00	▼	53.6%
Grand Total	9,208.00	▼	29.0%	18730	▼	59.0%	16,747.00	▼	52.8%



Product Analysis

Product Name	Total Order Qty	Total Delivery Qty	LiFR %	VoFR %	OTIF	OT	IF	LiFR % by Month	VoFR % by Month
AM Milk 250	12,79,132.00	12,35,779.00	65.9%	96.6%	1519	2263	2107		
AM Milk 100	12,76,190.00	12,31,979.00	65.5%	96.5%	1549	2287	2087		
AM Milk 500	12,54,422.00	12,13,094.00	67.5%	96.7%	1558	2239	2119		
AM Curd 50	11,19,256.00	10,81,421.00	65.5%	96.6%	1513	2275	2089		
AM Curd 100	11,05,336.00	10,67,987.00	66.7%	96.6%	1547	2265	2120		
AM Curd 250	10,99,401.00	10,63,337.00	67.0%	96.7%	1542	2230	2104		
AM Butter 500	9,83,180.00	9,48,395.00	65.2%	96.5%	1518	2303	2133		
AM Butter 100	9,43,483.00	9,11,300.00	66.7%	96.6%	1524	2245	2113		
AM Butter 250	9,33,107.00	8,99,151.00	63.5%	96.4%	1460	2229	1985		
AM Biscuits 250	5,63,366.00	5,44,093.00	65.2%	96.6%	1511	2285	2076		
AM Biscuits 500	5,58,119.00	5,38,535.00	66.1%	96.5%	1552	2301	2112		
AM Biscuits 750	5,56,996.00	5,39,466.00	68.0%	96.9%	1596	2289	2149		
AM Tea 500	3,96,571.00	3,82,766.00	66.1%	96.5%	1521	2275	2106		
AM Tea 100	3,94,712.00	3,81,239.00	65.3%	96.6%	1480	2245	2047		
AM Tea 250	3,92,461.00	3,78,817.00	65.2%	96.5%	1498	2235	2048		
AM Ghee 150	1,93,524.00	1,87,121.00	66.7%	96.7%	1538	2242	2141		
AM Ghee 250	1,91,494.00	1,84,849.00	65.3%	96.5%	1502	2227	2088		
AM Ghee 100	1,86,186.00	1,79,828.00	65.8%	96.6%	1452	2170	2037		
Grand Total	1,34,26,936.00	1,29,69,157.00	66.0%	96.6%	27380	40605	37661		



Customer Analysis

Customer	Total Order Qty	OTIF %	OT %	IF %	LiFR %	VoFR %
Acclaimed Stores	11,20,090.00	15.5%	29.4%	52.4%	58.9%	95.8%
Atlas Stores	7,60,711.00	39.6%	71.8%	59.8%	75.5%	97.6%
Chiptec Stores	7,56,652.00	38.7%	71.6%	60.4%	75.6%	97.6%
Coolblue	7,76,624.00	13.7%	29.1%	44.7%	51.5%	95.1%
Elite Mart	7,72,140.00	24.4%	72.4%	37.9%	52.7%	95.3%
Expert Mart	7,89,698.00	39.1%	72.5%	59.8%	75.5%	97.4%
Expression Stores	7,68,746.00	38.4%	69.9%	60.8%	75.3%	97.5%
Info Stores	7,67,833.00	25.5%	70.9%	41.2%	53.1%	95.2%
Logic Stores	7,55,835.00	38.8%	70.8%	60.1%	74.4%	97.5%
Lotus Mart	11,57,117.00	16.3%	28.1%	53.4%	60.1%	96.0%
Propel Mart	11,43,763.00	40.9%	73.6%	59.7%	75.6%	97.7%
Rel Fresh	11,55,598.00	38.2%	72.3%	58.7%	74.5%	97.4%
Sorefroz Mart	7,65,536.00	25.9%	72.7%	39.2%	53.4%	95.3%
Vijay Stores	11,76,293.00	28.3%	72.4%	45.0%	59.2%	95.9%
Viveks Stores	7,60,300.00	39.4%	70.6%	60.1%	75.1%	97.6%
Grand Total	1,34,26,936.00	29.0%	59.0%	52.8%	66.0%	96.6%

Final Report



SUPPLY CHAIN REPORT

City	OTIF Direction	OTIF %	OTIF Target %	OT Direction	OT %	OT Target %	IF Direction	IF %	IF Target %
Ahmedabad	⚠️	29.3%	66.5%	⚠️	58.2%	85.8%	⚠️	54.2%	77.3%
Surat	⚠️	30.1%	66.4%	⚠️	61.2%	86.3%	⚠️	52.5%	76.9%
Vadodara	⚠️	27.8%	64.9%	⚠️	58.0%	86.2%	⚠️	51.6%	75.3%
Grand Total	⚠️	29.0%	65.9%	⚠️	59.0%	86.1%	⚠️	52.8%	76.5%

Month	Total OTIF	OTIF Direction	OTIF %	Total OT	OT Direction	OT %	Total IF	IF Direction	IF %
Mar	1,561.00	▼	28.9%	3221	▼	59.6%	2,830.00	▼	52.3%
Apr	1,506.00	▼	28.7%	3116	▼	59.3%	2,761.00	▼	52.6%
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Aug	1,499.00	▼	29.4%	3003	▼	58.9%	2,734.00	▼	53.6%
Grand Total	9,208.00	▼	29.0%	18730	▼	59.0%	16,747.00	▼	52.8%

Product Name	Total Order Qty	Total Delivery Qty	LiFR %	VoFR %	OTIF	OT	IF	LiFR % by Month	VoFR % by Month
AM Milk 250	12,79,132.00	12,35,779.00	65.9%	96.6%	1519	2263	2107		
AM Milk 100	12,76,190.00	12,31,979.00	65.5%	96.5%	1549	2287	2087		
AM Milk 500	12,54,422.00	12,13,094.00	67.5%	96.7%	1558	2239	2119		
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AM Curd 100	11,05,336.00	10,67,987.00	66.7%	96.6%	1547	2265	2120		
AM Curd 250	10,99,401.00	10,63,337.00	67.0%	96.7%	1542	2230	2104		
AM Butter 500	9,83,180.00	9,48,395.00	65.2%	96.5%	1518	2303	2133		
AM Butter 100	9,43,488.00	9,11,300.00	66.7%	96.6%	1524	2245	2113		
AM Butter 250	9,33,107.00	8,99,151.00	63.5%	96.4%	1460	2229	1985		
AM Biscuits 250	5,63,366.00	5,44,093.00	65.2%	96.6%	1511	2285	2076		
AM Biscuits 500	5,58,119.00	5,38,535.00	66.1%	96.5%	1552	2301	2112		
AM Biscuits 750	5,56,996.00	5,39,466.00	68.0%	96.9%	1596	2289	2149		
AM Tea 500	3,96,571.00	3,82,766.00	66.1%	96.5%	1521	2275	2106		
AM Tea 100	3,94,712.00	3,81,239.00	65.3%	96.6%	1480	2245	2047		
AM Tea 250	3,92,461.00	3,78,817.00	65.2%	96.5%	1498	2235	2048		
AM Ghee 150	1,93,524.00	1,87,121.00	66.7%	96.7%	1538	2242	2141		
AM Ghee 250	1,91,494.00	1,84,849.00	65.3%	96.5%	1502	2227	2088		
AM Ghee 100	1,86,186.00	1,79,828.00	65.8%	96.6%	1452	2170	2037		
Grand Total	1,34,26,936.00	1,29,69,157.00	66.0%	96.6%	27380	40605	37661		

City	
Ahmedabad	 
Surat	 
Vadodara	 

Product Name	
AM Biscuits 250	 
AM Biscuits 500	 
AM Biscuits 750	 
AM Butter 100	 

Month	
Mar	
Apr	
May	
Jun	

Customer Name		
Acclaimed Stores	Atlas Stores	Chiptec Stores
Coolblue	Elite Mart	Expert Mart
Expression Stores	Info Stores	Logic Stores
Lotus Mart	Propel Mart	Rel Fresh
Sorefroz Mart	Vijay Stores	Viveks Stores

Customer	Total Order Qty	OTIF %	OT %	IF %	LFR %	VoFR %
Acclaimed Stores	11,20,090.00	15.5%	29.4%	52.4%	58.9%	95.8%
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Coolblue	7,76,624.00	13.7%	29.1%	44.7%	51.5%	95.1%
Elite Mart	7,72,140.00	24.4%	72.4%	37.9%	52.7%	95.3%
Expert Mart	7,89,698.00	39.1%	72.5%	59.8%	75.5%	97.4%
Expression Stores	7,68,746.00	38.4%	69.9%	60.8%	75.3%	97.5%
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Rel Fresh	11,55,598.00	38.2%	72.3%	58.7%	74.5%	97.4%
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Vijay Stores	11,76,293.00	28.3%	72.4%	45.0%	59.2%	95.9%
Viveks Stores	7,60,300.00	39.4%	70.6%	60.1%	75.1%	97.6%
Grand Total	1,34,26,936.00	29.0%	59.0%	52.8%	66.0%	96.6%



KEY FINDINGS

- **Vadodara** City, despite having the highest order quantity, exhibited the **highest undelivered order percentage (3.63%)**.
- **Surat** demonstrated the **highest 'On Time In Full' (OTIF) percentage at 30.1%**, while **Vadodara** had the **lowest OTIF% of 27.8%**.
- Crucial insights into overall order fulfillment times, **averaging 2 days** after the agreed delivery date, with a **maximum delay of 3 days**.
- Product-specific optimization opportunities, highlighting products with the highest average delivery delays.



RECOMMENDATIONS

Optimize Operations:

- Investigate Vadodara's high undelivered order percentage.
- Implement process improvements.

Replicate Success:

- Analyze Surat's high OTIF percentage.
- Implement best practices in other cities.

Streamline Fulfillment:

- Reduce order fulfillment times.
- Set up alerts for timely processing.

Product Optimization:

- Improve delivery times for high-delay products.
- Evaluate supply chain processes.

Tailored Customer Service:

- Customize service based on top customers' needs.
- Establish proactive communication.

Continuous Improvement:

- Establish a monitoring system.
- Regularly review metrics and feedback.



Thank You

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