DATA ANALYST REPORT

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<center>**REPORT**</center>

<center>**ENHANCING SUPPLY CHAIN PERFORMANCE AND CUSTOMER SATISFACTION THROUGH POWER BI INSIGHTS AT ATLIQ MART**</center>

EXECUTIVE SUMMARY:

AtliQ Mart, a growing FMCG manufacturer headquartered in Gujarat, India, is committed to bolstering customer satisfaction by effectively addressing service concerns that impact vital customer contracts. This comprehensive project report delineates the extensive analysis undertaken utilizing Power BI to construct an illuminating supply chain performance dashboard. The insights distilled from this initiative empower AtliQ Mart to proactively rectify service issues, optimize operations, and amplify overall customer contentment.

Embarking on a journey driven by data, AtliQ Mart harnessed Power BI Insights to propel operational excellence and elevate customer gratification. This initiative sought to unearth service glitches, fine-tune supply chain efficacy, and lay the groundwork for future expansion. Through meticulous scrutiny of crucial metrics including Line Fill Rate, Volume Fill Rate, On Time Delivery %, In Full Delivery %, and On Time In Full %, the organization garnered profound insights into operational efficiency and customer-centric services. This interactive dashboard expedited swift issue identification and guided strategic recommendations, fostering data-informed decision-making and ushering in proactive service enhancements. As AtliQ Mart charts its course forward, it is poised to embrace a culture of perpetual improvement, customer-centric strategies, and seamless technology integration, thereby fortifying its standing as an industry trailblazer in the FMCG sector.

1. INTRODUCTION:

AtliQ Mart's expansion plans are accompanied by the challenge of declining customer satisfaction due to service issues. To address this critical concern, the company embarked on a project to harness data analytics, utilizing Power BI, to monitor and enhance supply chain performance. The goal was to create a holistic dashboard that tracked 'On-time' and 'In Full' delivery service levels, enabling rapid responses to service issues.
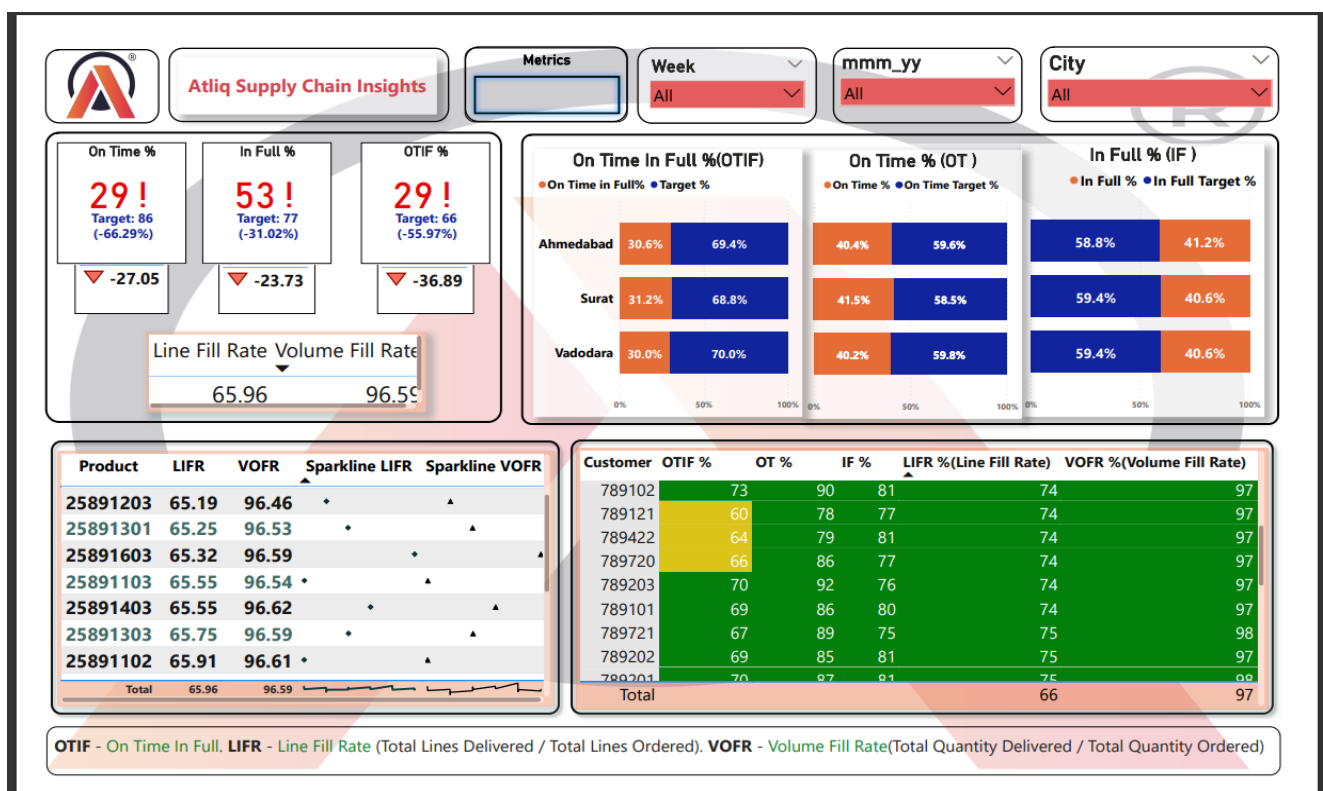
2. METHODOLOGY:

The project followed a structured methodology encompassing several stages:

- Data Collection: Utilized provided CSV files, including dim_customers, dim_products, dim_date, dim_targets_orders, fact_order_lines, and fact_orders_aggregate.

- Data Preprocessing: Ensured data accuracy and integrity through cleaning, transformation, and consolidation.

- Metrics and Dashboard Creation: Developed key metrics such as Line Fill Rate (LIFR), Volume Fill Rate (VOFR), On Time Delivery % (OT %), In Full Delivery % (IF %), and On Time In Full % (OTIF %). Designed an interactive dashboard using Power BI Desktop.

- Insights Extraction: Analyzed performance over time, across different cities, and compared to predefined targets.

- Recommendations Formulation: Derived actionable recommendations based on insights gained.

3. DASHBOARD SHOWCASE

Metrics	Week	mmm_yy	City
	All	All	All

Atliq Supply Chain Insights

On Time %	In Full %	OTIF %
29 !	53 !	29 !
Target: 86 (-66.29%)	Target: 77 (-31.02%)	Target: 66 (-55.97%)
▼ -27.05	▼ -23.73	▼ -36.89

Line Fill Rate	Volume Fill Rate
65.96	96.59

On Time In Full %(OTIF)
● On Time in Full% ● Target %

Ahmedabad	30.6%	69.4%
Surat	31.2%	68.8%
Vadodara	30.0%	70.0%

On Time % (OT)
● On Time % ● On Time Target %

	40.4%	59.6%
	41.5%	58.5%
	40.2%	59.8%

In Full % (IF)
● In Full % ● In Full Target %

	58.8%	41.2%
	59.4%	40.6%
	59.4%	40.6%

Product	LIFR	VOFR	Sparkline LIFR	Sparkline VOFR
25891203	65.19	96.46		
25891301	65.25	96.53		
25891603	65.32	96.59		
25891103	65.55	96.54		
25891403	65.55	96.62		
25891303	65.75	96.59		
25891102	65.91	96.61		
Total	**65.96**	**96.59**		

Customer	OTIF %	OT %	IF %	LIFR %(Line Fill Rate)	VOFR %(Volume Fill Rate)
789102	73	90	81	74	97
789121	60	78	77	74	97
789422	64	79	81	74	97
789720	66	86	77	74	97
789203	70	92	76	74	97
789101	69	86	80	74	97
789721	67	89	75	75	98
789202	69	85	81	75	97
789201	70	87	81	75	98
Total				66	97

OTIF - On Time In Full. **LIFR** - Line Fill Rate (Total Lines Delivered / Total Lines Ordered). **VOFR** - Volume Fill Rate(Total Quantity Delivered / Total Quantity Ordered)

3. KEY METRICS AND INSIGHTS:

- **Line Fill Rate (LIFR) and Volume Fill Rate (VOFR):** These metrics gauge operational efficiency. The dashboard showcased consistent performance, with LIFR averaging 65.96% and VOFR averaging 96.59%.

- **On Time Delivery % (OT %):** The analysis indicated an average OT % of 66%, which is significantly below the target of 86%.

- **In Full Delivery % (IF %):** The IF % showed an average of 31%, deviating from the target of 77%.

- **On Time In Full % (OTIF %):** The average OTIF % stood at 55%, below the target of 66%.

4. PERFORMANCE OVER TIME:

- **On Time Delivery Performance Over Time:** The graphical representation showcased gradual decline over the months but indicated a consistent gap from the target.

- **In Full Delivery Performance Over Time:** Similar to On Time Delivery, In Full Delivery demonstrated fluctuations but remained close to the target.

- **Line Fill Rate and Volume Fill Rate Over Time:** Both metrics exhibited stable performance trends with minor variations.

5. PERFORMANCE BY CITY:

- **Line Fill Rate and Volume Fill Rate by City:** The insights revealed performance variations across cities. Surat led with the highest Line Fill Rate, while Vadodara excelled in Volume Fill Rate.

6. RECOMMENDATIONS:

Based on the insights, the following recommendations are proposed to enhance supply chain performance and customer satisfaction:

- Implement targeted strategies to improve On Time Delivery performance, reducing the gap from the target of 86%.

- Address factors leading to deviations from the In Full Delivery target of 77%, possibly related to supply planning and execution.

- Utilize insights from cities with high Line Fill Rate and Volume Fill Rate as best practices to improve performance in other cities.

Based on the analysis conducted, here are detailed recommendations to address key areas of concern and capitalize on opportunities for improvement:

1. On Time Delivery Enhancement:

- **Identify Bottlenecks:** Conduct a detailed analysis of the factors leading to delays in On Time Delivery. Investigate whether the delays are caused by internal processes, supplier issues, or transportation challenges.

- **Real-time Tracking:** Implement real-time tracking and monitoring systems to ensure visibility into the movement of products. This will enable timely intervention and adjustments in case of potential delays.

- **Predictive Analytics:** Explore the integration of predictive analytics to anticipate potential delays and take proactive measures to prevent them.

2. In Full Delivery Optimization:

- **Demand Forecasting:** Strengthen demand forecasting capabilities to ensure accurate estimation of product requirements. Collaborate closely with sales and marketing teams to gather accurate demand data.

- **Safety Stock:** Maintain a safety stock of critical products to account for unforeseen fluctuations in demand. This will help prevent instances of insufficient quantities delivered to customers.

- **Supplier Collaboration:** Establish a strong collaboration with suppliers to ensure timely replenishment and availability of products, reducing the risk of incomplete deliveries.

3. City-specific Strategies:

- **Performance Analysis:** Further investigate the variations in Line Fill Rate and Volume Fill Rate across different cities. Identify the specific factors contributing to the high performance in Surat and Vadodara.

- **Knowledge Sharing:** Share best practices and strategies implemented in cities with high performance to improve the supply chain operations in other cities.

4. Regular Performance Review:

- **Dashboard Utilization:** Encourage regular and active use of the Power BI dashboard by supply chain managers and key stakeholders. The insights provided can guide data-driven decision-making.

- **Performance Reviews:** Conduct periodic performance review meetings focused on the insights gained from the dashboard. This will facilitate discussions on strategies for improvement and track progress against targets.

5. Customer Engagement:

- **Customer Feedback:** Establish a feedback mechanism to directly engage with customers who have experienced service issues. This will provide valuable insights into specific pain points and opportunities for improvement.

- **Collaborative Problem Solving:** Collaborate with key customers to jointly address service issues. This approach can foster transparency, build trust, and lead to mutually beneficial solutions.

6. Continuous Improvement Culture:

- **Cross-functional Collaboration:** Promote collaboration between supply chain, operations, sales, and customer service teams. A cross-functional approach can help identify and address issues holistically.

- **Training and Skill Development:** Invest in training programs to enhance the skills of supply chain personnel. Equip them with the tools to make data-driven decisions and proactively manage challenges.

7. Technology Integration:

- **Advanced Analytics:** Explore advanced analytics techniques such as machine learning and AI to predict demand patterns, optimize routes, and enhance delivery scheduling accuracy.

- **IoT Integration:** Consider leveraging Internet of Things (IoT) technology to track products in real-time and monitor temperature-sensitive shipments, ensuring product quality.

7. CONCLUSION:

The journey of enhancing supply chain performance and customer satisfaction through data-driven insights has been a pivotal endeavor for AtliQ Mart. The culmination of the Power BI Insights project has not only illuminated the company's operational landscape but also provided a roadmap for strategic improvements. This conclusion encapsulates the key takeaways, achievements, and the path forward for AtliQ Mart.

Key Takeaways:

The insights derived from the Power BI dashboard have uncovered critical aspects of AtliQ Mart's supply chain operations:

1. **Operational Performance:** Metrics such as Line Fill Rate, Volume Fill Rate, On Time Delivery %, In Full Delivery %, and On Time In Full % have shed light on operational efficiency and customer service levels.

2. **City-level Variations:** The analysis of performance across different cities has highlighted variations in delivery performance, offering valuable insights for localized strategies.

3. **Performance Over Time:** The performance trends over months have revealed areas of improvement and showcased gradual progress in achieving targets.

Achievements:

The Power BI Insights project has yielded significant achievements for AtliQ Mart:

1. **Data-driven Decision-making:** The comprehensive dashboard has empowered supply chain managers and stakeholders to make informed decisions backed by real-time data.

2. **Issue Identification:** Rapid identification of service issues, delivery delays, and quantity discrepancies has enabled swift corrective actions.

3. **Strategic Recommendations:** The derived insights have led to the formulation of actionable recommendations, guiding the company's strategies for improvement.

The Path Forward:

The journey toward enhanced supply chain performance and customer satisfaction is an ongoing commitment for AtliQ Mart:

1. **Implementation of Recommendations:** The recommendations presented in this report will serve as a blueprint for implementing targeted strategies and operational adjustments.

2. **Continuous Improvement:** AtliQ Mart's commitment to continuous improvement will involve regular performance reviews, cross-functional collaboration, and the integration of advanced technologies.

3. **Customer-centric Approach:** By engaging with customers, gathering feedback, and implementing customer-centric solutions, AtliQ Mart can strengthen customer relationships and loyalty.

4. **Data-driven Culture:** The company's journey toward operational excellence and customer satisfaction hinges on fostering a data-driven culture. Empowering teams with data literacy and analytical skills will be instrumental.

In Conclusion:

The Power BI Insights project has not only provided AtliQ Mart with a comprehensive view of its supply chain performance but has also equipped the company with the tools and knowledge to drive transformative change. The path ahead involves leveraging these insights to optimize operations, address service challenges, and propel the company toward growth and expansion. By embracing a data-driven approach, AtliQ Mart is poised to achieve operational excellence, elevate customer satisfaction, and solidify its position as a leader in the FMCG industry. This journey is a testament to the company's dedication to innovation, customer-centricity, and continuous improvement.