

Data-Driven Innovations In Supply Chain Management With Qlik Insights.

1. Introduction.

1.1. Overview:

In the rapidly evolving field of supply chain management, data-driven insights have become essential for enhancing efficiency and responsiveness. This document explores the transformative power of Qlik Insights in optimizing logistics, forecasting, and inventory management. By leveraging Qlik's advanced analytics and visualization capabilities, businesses can achieve significant improvements in operational performance.

1.2. Purpose:

The primary purpose of this project is to demonstrate how Qlik Insights can be utilized to drive innovations in supply chain management. The goal is to provide stakeholders with clear, actionable insights through dynamic dashboards and real-time analytics, ultimately leading to enhanced decision-making and operational efficiency.

1.3. Technical Architecture:

This section outlines the technical architecture employed in this project, detailing the integration of data sources, the configuration of Qlik Sense for data processing, and the deployment of visualization dashboards.

2. Define Problem / Problem Architecture.

2.1 Specify the business problem

The core objective is to revolutionize supply chain management by leveraging data-driven insights. This involves optimizing logistics, improving forecasting accuracy, and enhancing inventory management. By employing Qlik's advanced analytics, the project aims to elevate operational efficiency and responsiveness.

2.2 Business Requirements

To achieve the project goals, the following business requirements have been identified:

- ✓ Implement a robust data integration strategy to aggregate and centralize data from various supply chain sources.
- ✓ Utilize Qlik's visualization capabilities to create intuitive, dynamic dashboards for comprehensive insights.
- ✓ Analyze historical logistics data to identify patterns and optimize transportation routes.
- ✓ Implement real-time tracking solutions to enhance visibility and reduce transportation costs.
- ✓ Facilitate quick decision-making through real-time analytics in response to unforeseen events or changes in demand.

2.3 Literature Survey

Visibility and Decision-Making: Studies highlighting the role of data analytics in improving supply chain visibility and decision-making.

Logistics Optimization: Research on the use of analytics tools like Qlik for

optimizing logistics operations.

Forecasting and Inventory Management: Evidence from studies showing improved forecasting accuracy and inventory management through advanced analytics.

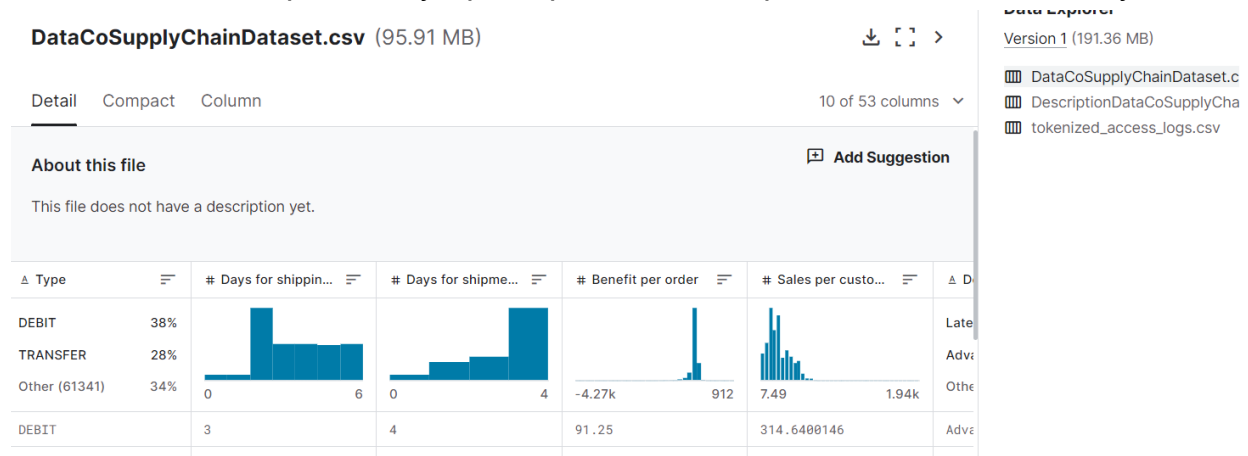
Successful Implementations: Case studies and examples of successful data-driven SCM transformations across different industries.

Challenges and Opportunities: Discussion on the challenges of adopting data-driven approaches (e.g., data governance, cultural change) and the opportunities they present.

3. Data Collection.

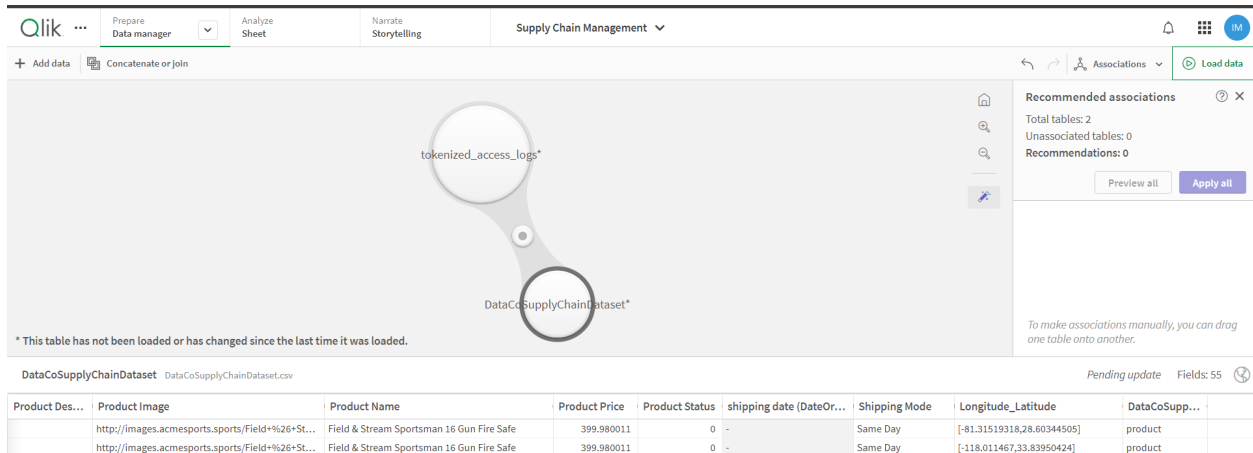
3.1 Collection of dataset

Datasets were collected from various sources encompassing different aspects of the supply chain, including logistics, inventory, and sales data. The data includes key metrics such as shipment days, profit per item, sales per customer, and delivery risk.



3.2 Connect Data with Qlik Sense

The collected data is integrated into Qlik Sense, allowing for seamless data processing and visualization. This step involves configuring data connections, setting up data loading scripts, and ensuring data accuracy.



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Product Des...	Product Image	Product Name	Product Price	Product Status	shipping date (DateOr...	Shipping Mode	Longitude_Latitude	DataCoSupp...
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	http://images.acmesports.sports/Field+%26+St...	Field & Stream Sportsman 16 Gun Fire Safe	399.980011	0	-	Same Day	[-118.011467,33.83950424]	product

4. Data Preparation.

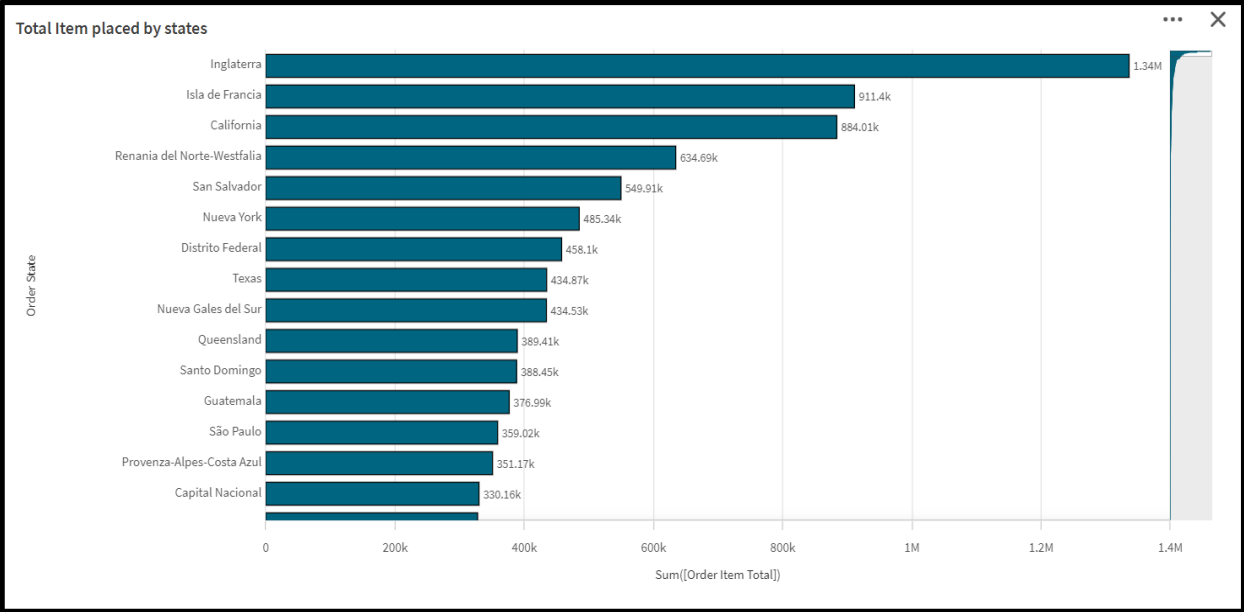
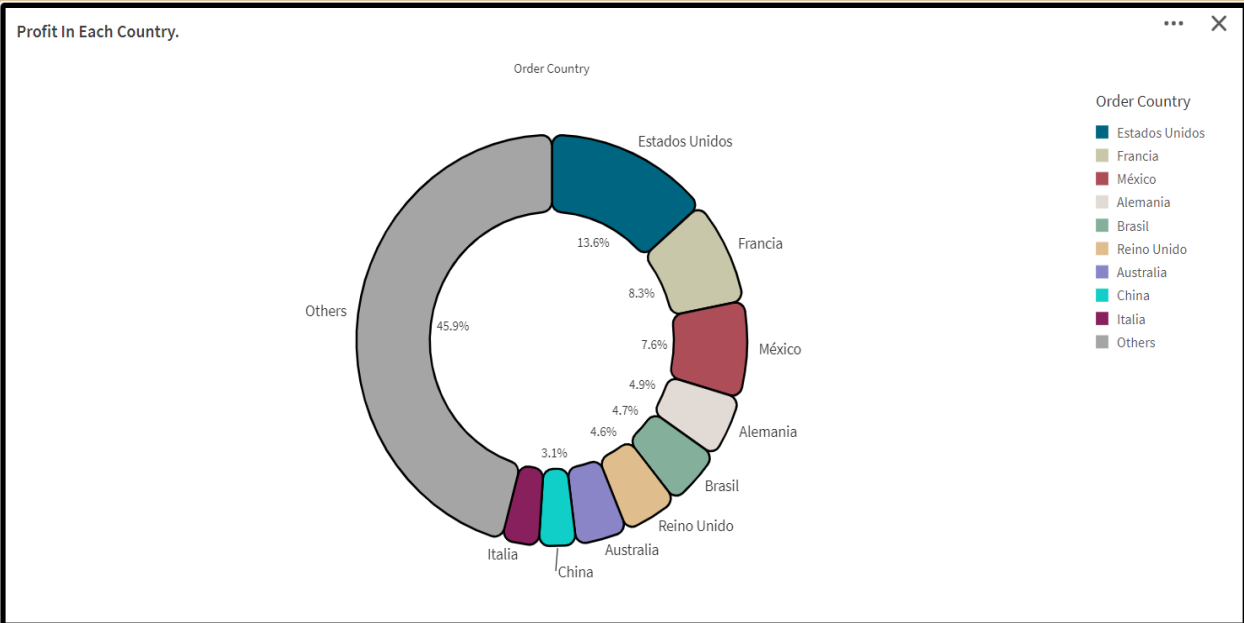
4.1 Prepare the data for Visualization

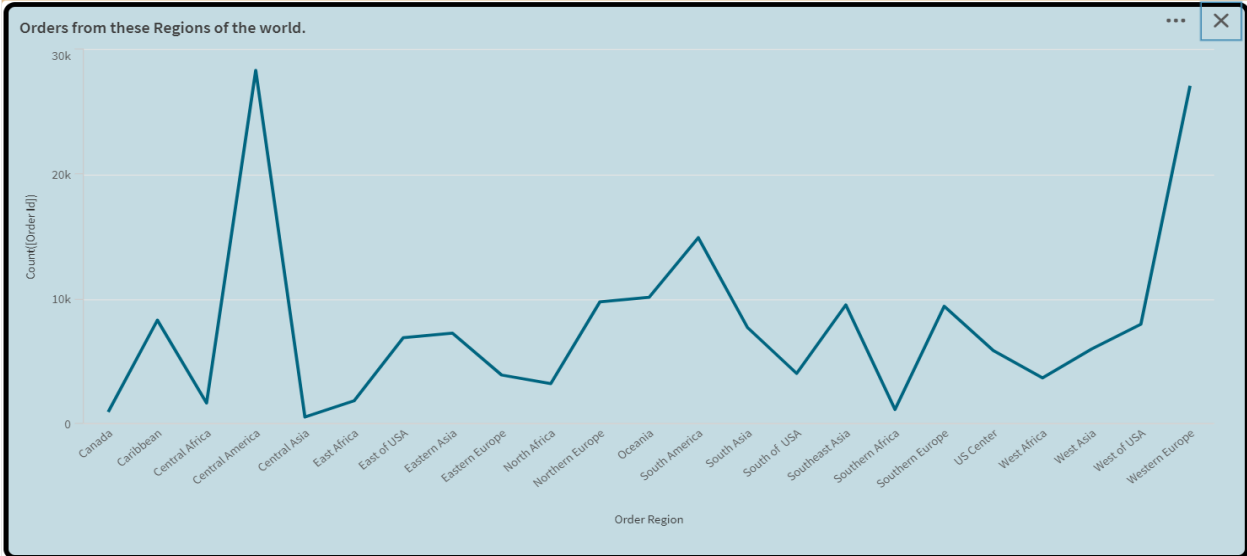
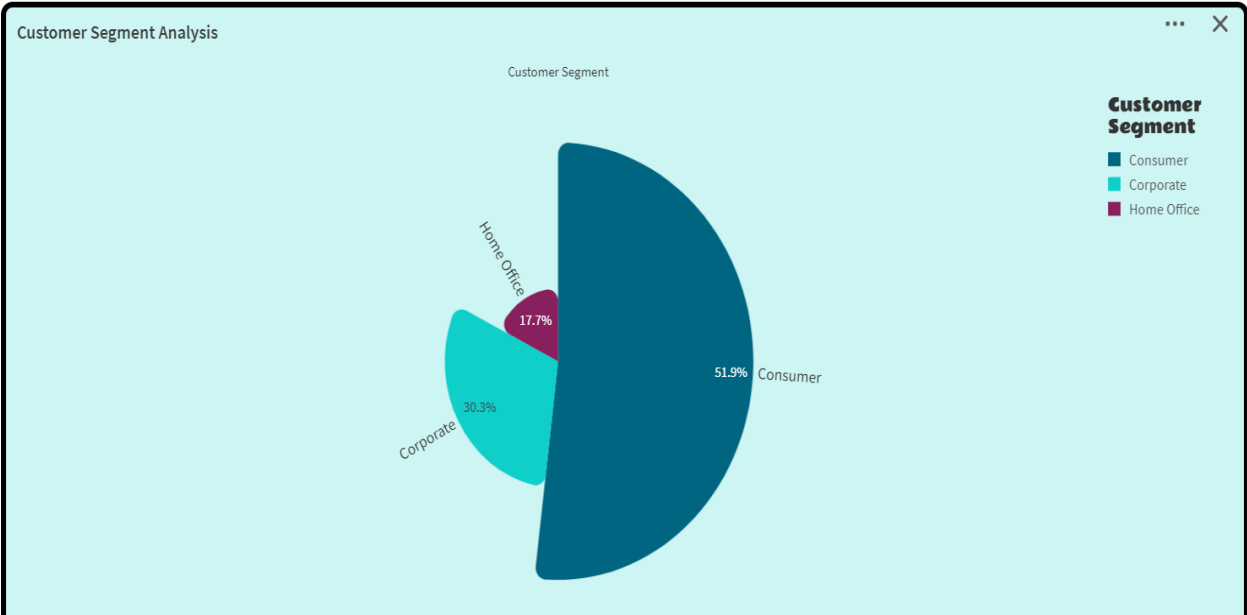
Data preparation involves cleaning, transforming, and exploring the data to ensure it is suitable for visualization. This includes removing irrelevant data, handling missing values, and structuring data for easy interpretation.

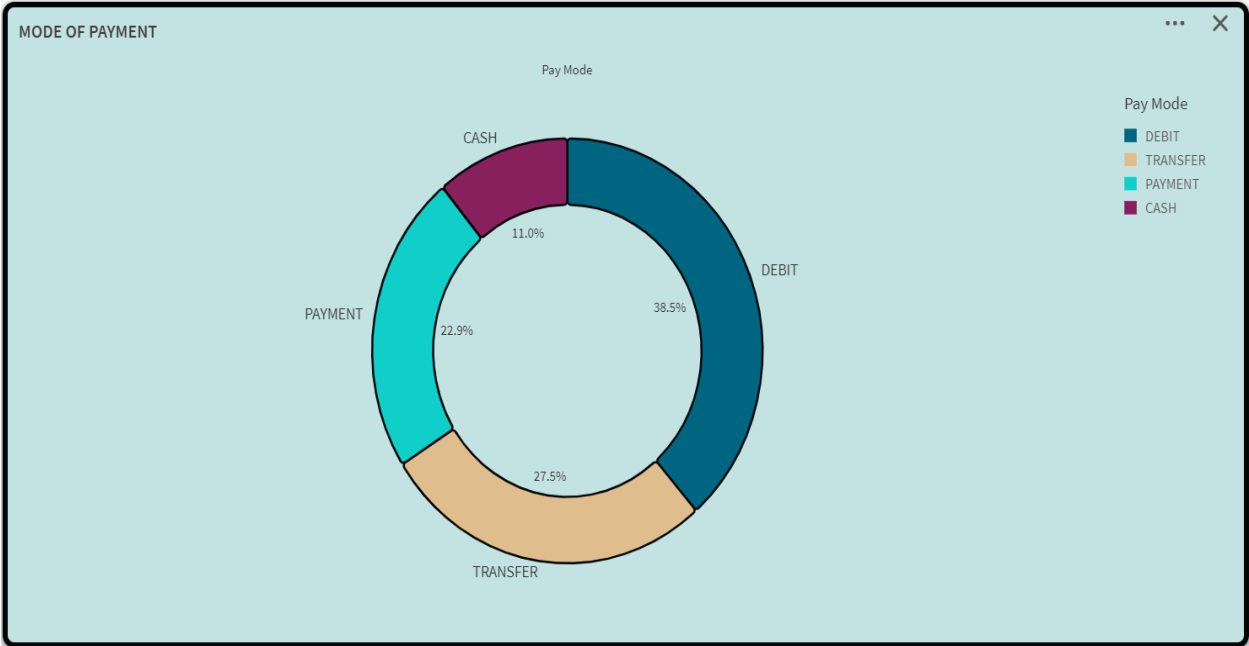
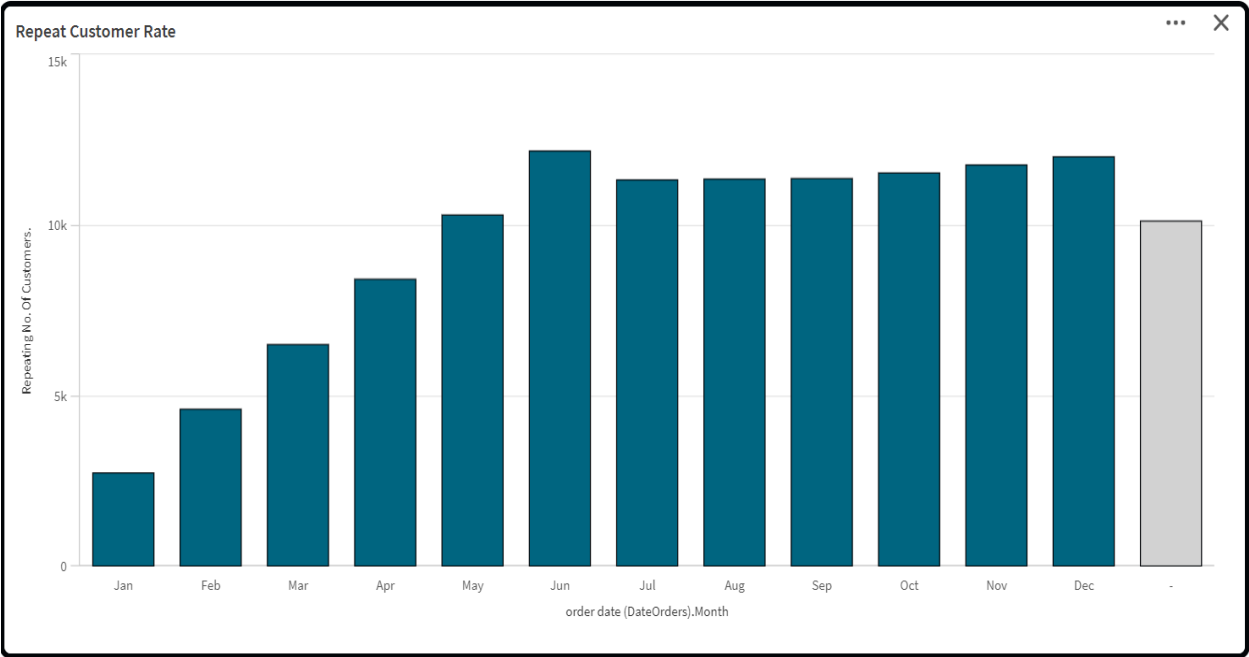
5. Data Visualizations

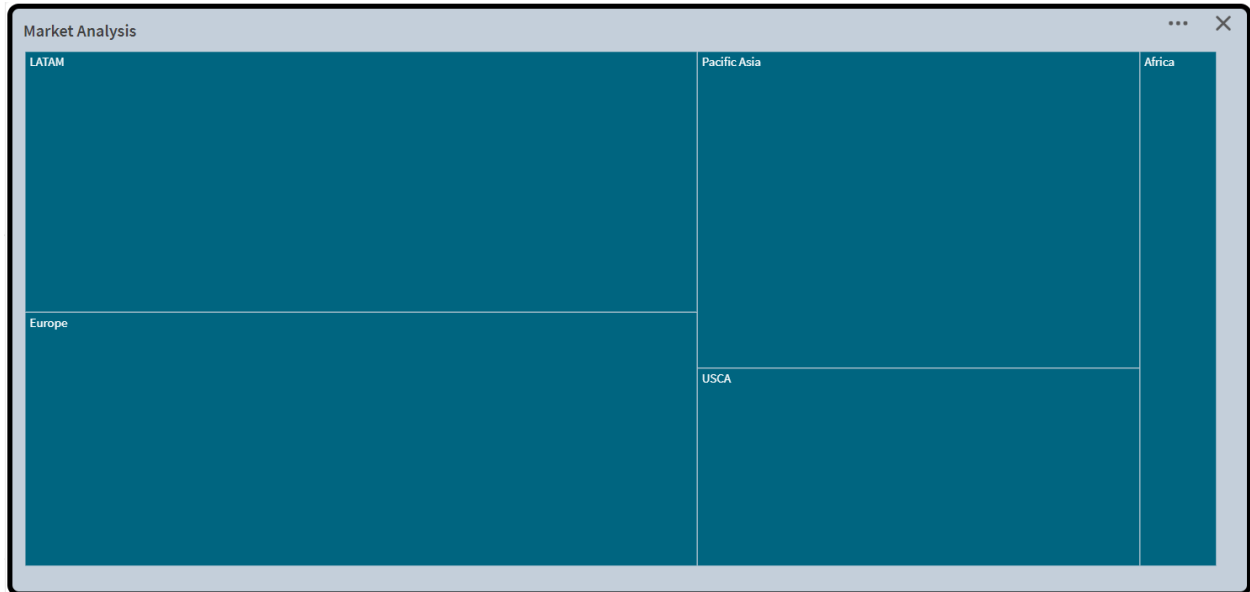
5.1 Visualizations

Various visualizations are created to analyze supply chain performance, including bar charts, line charts, heat maps, scatter plots, and pie charts. These visualizations provide insights into performance metrics, trends, and relationships between different variables.









6. Dashboard

6.1 Responsive and Design of Dashboard

The dashboard is designed to be user-friendly and responsive, ensuring accessibility across different devices. It includes interactive elements that allow stakeholders to drill down into specific data points and gain deeper insights.



7. Report

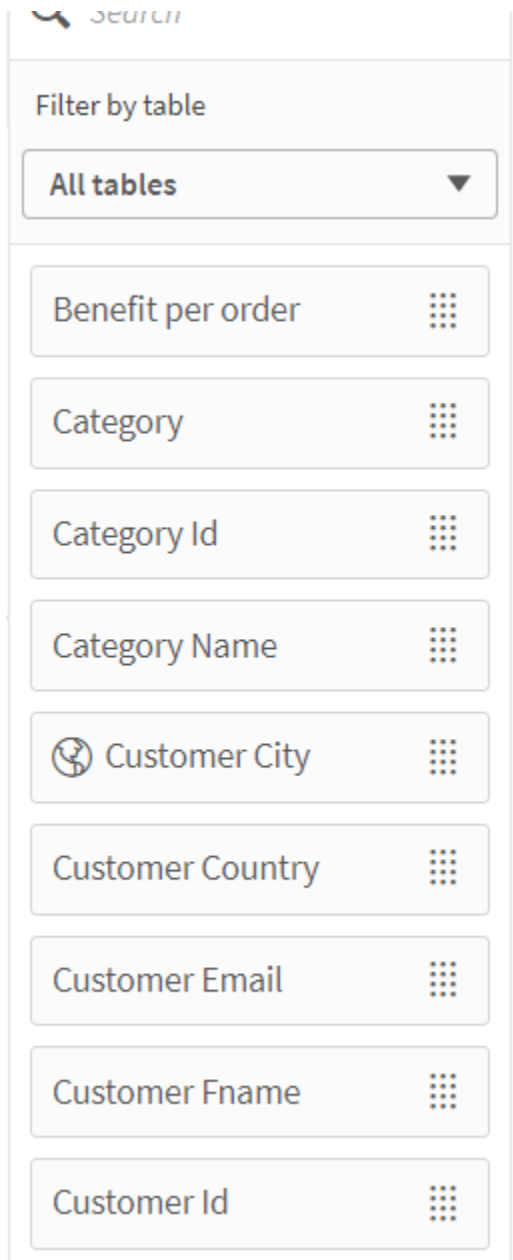
7.1 Report Creation

Reports are generated to summarize the key findings from the data analysis. These reports include detailed visualizations and narratives that highlight significant insights and recommendations for improving supply chain operations.

8. Performance Testing

8.1 Amount of Data Rendered

Performance testing involves assessing the system's ability to handle large volumes of data. This ensures that the analytics and visualizations remain fast and responsive even with extensive datasets.



SEARCH

Filter by table

All tables ▼

Benefit per order

Category

Category Id

Category Name

Customer City

Customer Country

Customer Email

Customer Fname

Customer Id

8.2 Utilization of Data Filters

The utilization of data filters is tested to ensure they effectively narrow down data to the most relevant information. This enhances the user experience by providing focused insights tailored to specific criteria.