

# **Data-Driven Innovations In Supply Chain Management With Qlik Insights**

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# The Business Problem:

This innovative project is poised to revolutionize the supply chain management paradigm by leveraging Qlik's advanced analytics capabilities to drive data-driven decision-making, optimize logistics, and streamline forecasting and inventory management processes.

- By harnessing the power of Qlik's data-driven insights, this project aims to transform the supply chain management landscape, enhancing operational efficiency, responsiveness, and overall business performance.
- This groundbreaking project seeks to redefine the future of supply chain management by employing Qlik's cutting-edge analytics to optimize logistics, forecasting, and inventory management, and unlock new levels of operational efficiency and responsiveness.
- This project is designed to transform the supply chain management ecosystem by leveraging Qlik's advanced analytics capabilities to drive data-driven insights, optimize business processes, and elevate operational efficiency and responsiveness to new heights.
- By leveraging Qlik's data-driven insights, this project aims to create a more agile, responsive, and efficient supply chain management system, capable of driving business growth, improving customer satisfaction, and reducing operational costs.
- This project is poised to revolutionize the supply chain management industry by harnessing the power of Qlik's advanced analytics to drive data-driven decision-making, optimize logistics, and streamline forecasting and inventory management processes, resulting in enhanced operational efficiency and responsiveness.

## Business Requirements

- Develop a comprehensive data integration framework to consolidate and centralize disparate supply chain data sources, providing a unified view of the entire ecosystem.
- Harness Qlik's advanced visualization capabilities to design intuitive, interactive, and dynamic dashboards, empowering stakeholders with actionable insights into supply chain performance and trends.
- Leverage Qlik's advanced analytics features to analyze historical logistics data, uncover hidden patterns, and optimize transportation routes, resulting in reduced costs and improved efficiency.
- Implement real-time tracking and monitoring solutions to enhance end-to-end visibility into the movement of goods, minimizing lead times, and reducing transportation costs through optimized route planning and scheduling.
- Deploy real-time analytics to facilitate swift decision-making in response to unforeseen events, changes in demand, or supply chain disruptions, ensuring a proactive, agile, and responsive supply chain that can adapt to changing market conditions.

# Literature Survey

A comprehensive review of the project theme reveals a growing body of research and scholarly articles focused on utilizing data-driven insights and advanced analytics to revolutionize supply chain management. The literature underscores the critical role of data analytics in transforming traditional supply chain processes, with studies highlighting the effectiveness of leveraging advanced analytics tools, such as Qlik, to enhance visibility and decision-making in supply chain operations.

The research emphasizes the positive impact of advanced analytics on logistics optimization, forecasting accuracy, and inventory management efficiency. Moreover, the literature explores the broader landscape of data-driven supply chain transformations, delving into diverse analytical techniques and technologies. Successful implementations demonstrate notable improvements in operational efficiency and responsiveness across various industry sectors.

The literature also examines the challenges and opportunities associated with the adoption of data-driven insights in supply chain contexts. Findings highlight the need for organizations to develop robust data governance frameworks and cultivate a data-driven culture to fully unlock the potential benefits.

# Social Or Business Impact.

## **Social Impact Analysis:**

By revolutionizing supply chain management through data-driven insights and advanced analytics, this project can contribute to social sustainability and responsible business practices. By optimizing logistics, forecasting, and inventory management, organizations can reduce waste, minimize carbon emissions, and promote ethical sourcing and fair labor practices. This can lead to positive social impacts, such as improved working conditions, reduced environmental footprint, and increased access to sustainable products and services for consumers.

## **Business Impact Analysis:**

The project's focus on data-driven insights and advanced analytics can lead to significant business benefits, including enhanced operational efficiency, improved decision-making, and increased competitiveness. By leveraging Qlik's capabilities, organizations can gain real-time visibility into their supply chain operations, identify patterns, and optimize transportation routes, leading to reduced lead times, lower transportation costs, and improved customer satisfaction. Additionally, the project can help organizations proactively manage risks, mitigate supply chain disruptions, and enhance their overall supply chain resilience, ultimately contributing to long-term business success and sustainability.

# Understanding the Data

The dataset contains metadata about the columns in the CSV files. The columns are described as follows:

## Product Information

- Type Count: Product type and count
- Days for shipping (real): Actual product shipment days
- Days for shipment (scheduled): Scheduled days for product preparation
- Benefit per item: Profit earned per product
- Product Category Id: Product category ID
- Product Category: Product category
- Product: Product name
- Product Image: Product image
- Product Price: Product price

## Customer Information

- Customer City: Customer's city
- Customer Country: Customer's country
- Customer Email: Customer's email
- Customer Fname: Customer's first name
- Customer ID: Customer order ID
- Customer Lname: Customer's last name
- Customer Segment: Customer type
- Customer State: Customer's state
- Customer Street: Customer's address
- Customer Zipcode: Customer's area code

## Order Information

- Order City: Customer's city
- Order Country: Customer's country
- Order Customer ID: Customer ID
- Order Date (DateOrders): Customer order date
- Order Item Product Price: Product price
- Order Item Profit Ratio: Profit ratio
- Order Item Quantity: Number of orders placed
- Order Profit Per: Product profit
- Order Region: Order region
- Order State: Order state
- Order Status: Order delivery status
- Order Zipcode: Customer's area code

## Sales and Delivery Information

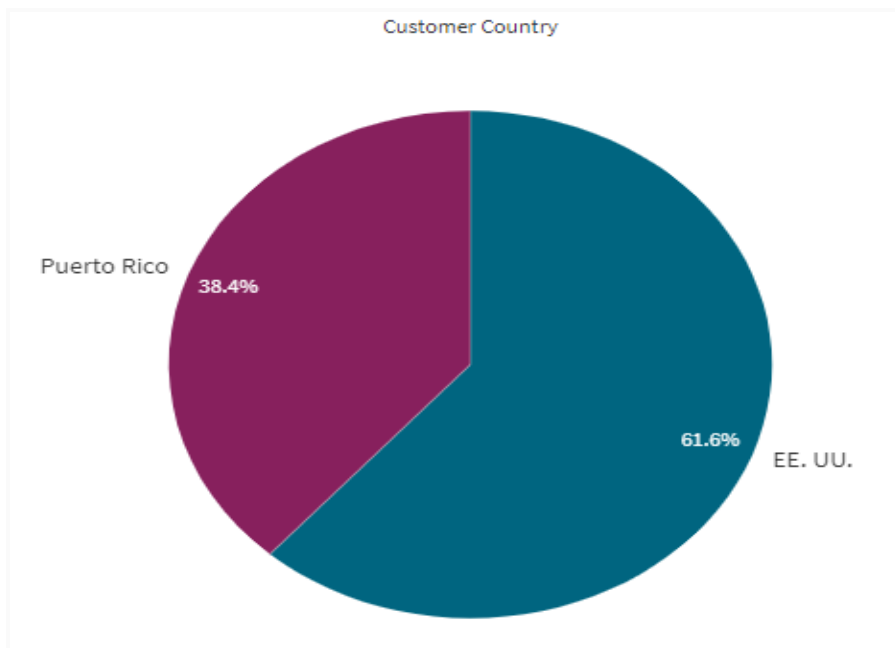
- Sales: Total number of sales
- Sales per customer: Number of products purchased by the customer
- Delivery: Product delivery date
- Late\_delivery\_risk: Percentage of late delivery risk
- Market: Top 10 country markets

# Data Visualisations

In our increasingly data-driven world, it's more important than ever to have accessible ways to view and understand data. Employees and business owners at every level need to have an understanding of data and of its impact.

That's where data visualization comes in handy. With the goal of making data more accessible and understandable, data visualization in the form of dashboards is the go-to tool for many businesses to analyze and share information.

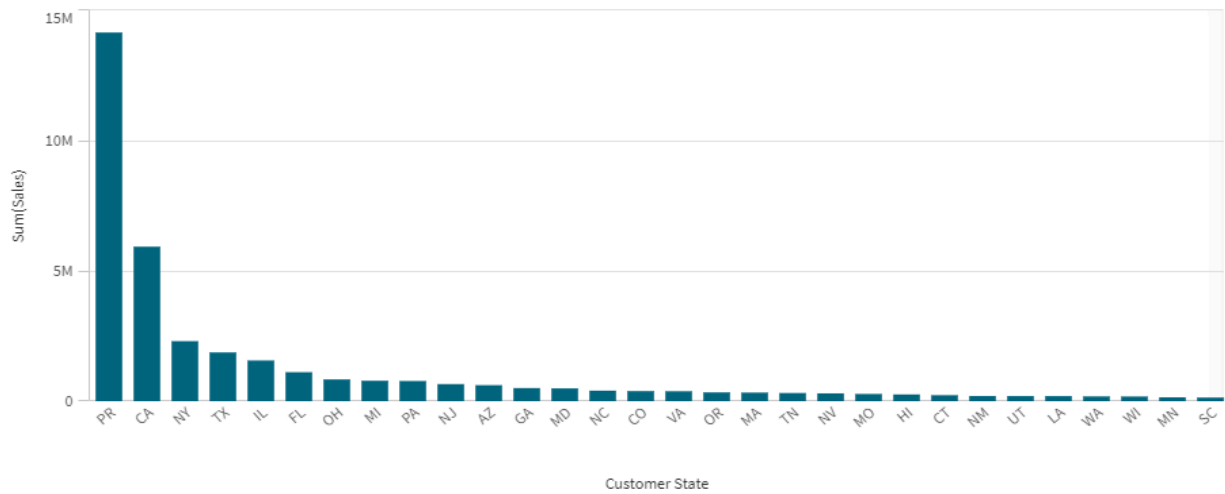
The importance of data visualization is simple: it helps people see, interact with, and better understand data. Whether simple or complex, the right visualization can bring everyone on the same page, regardless of their level of expertise.



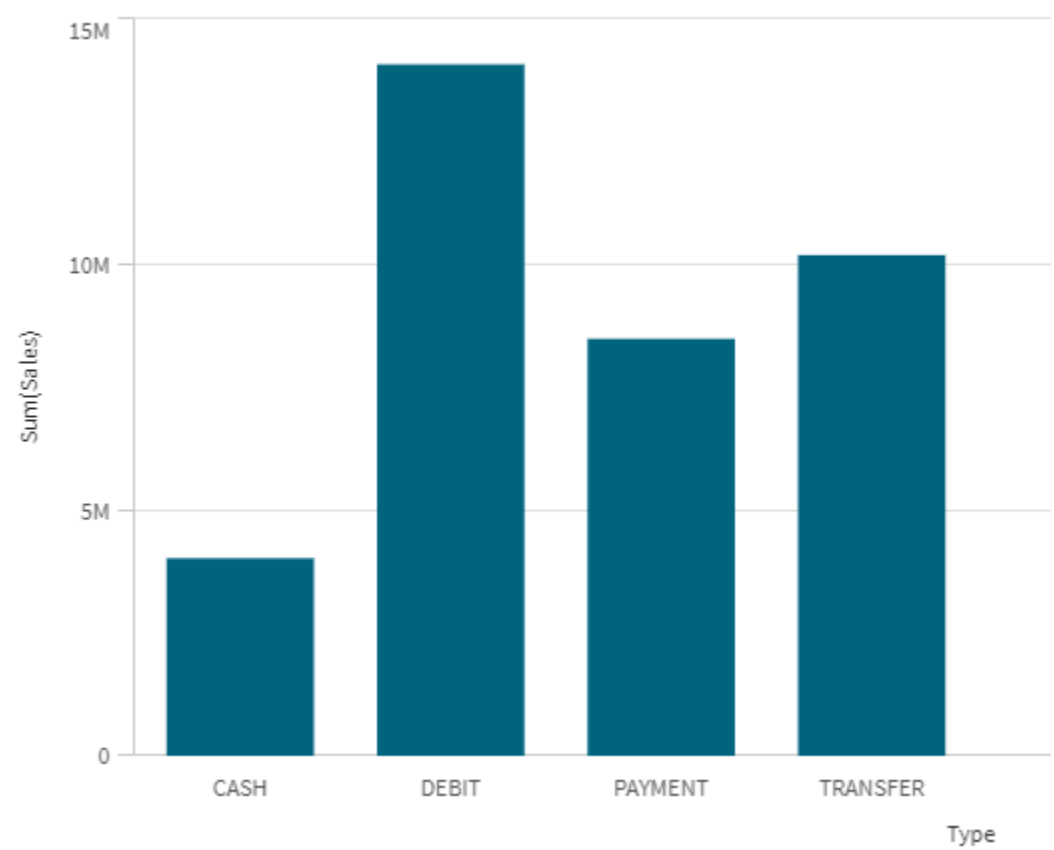


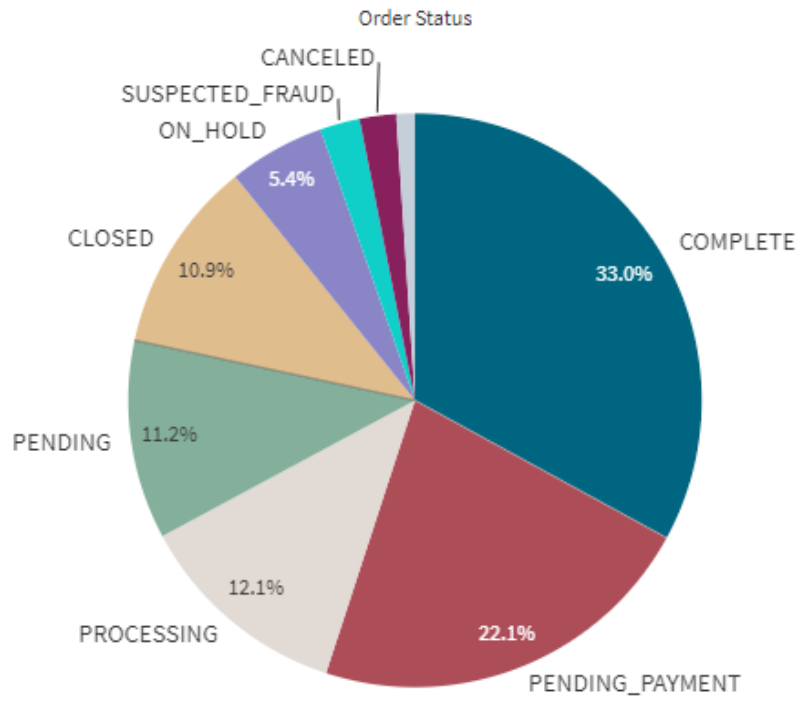
Total Sales per State

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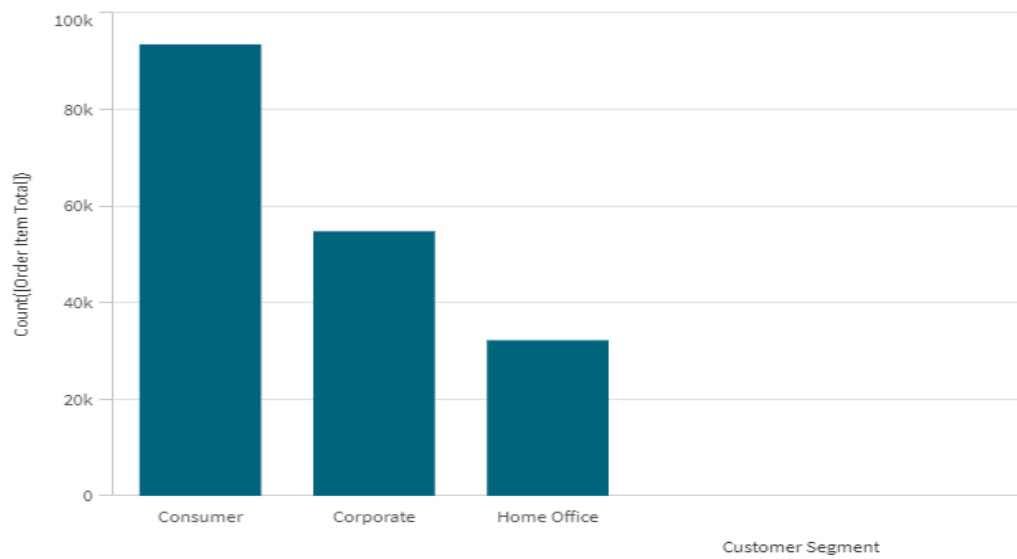


Sales vs Payment Mode





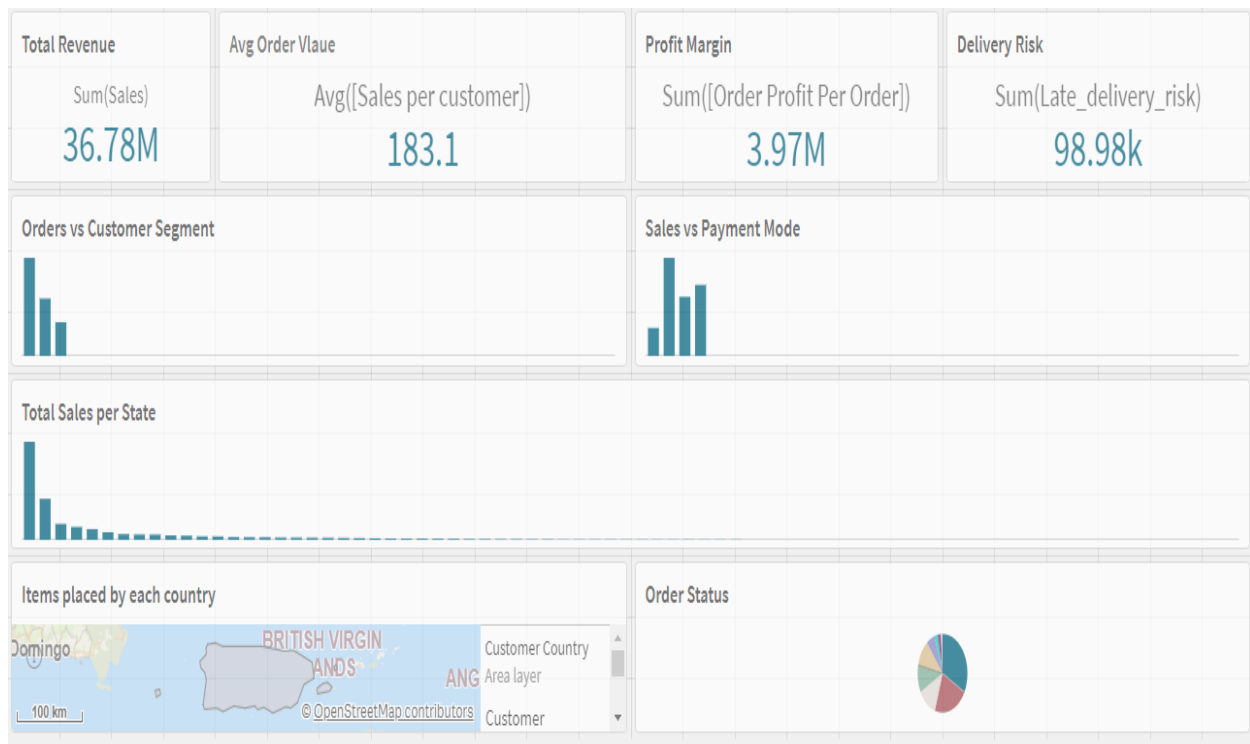
Orders vs Customer Segment



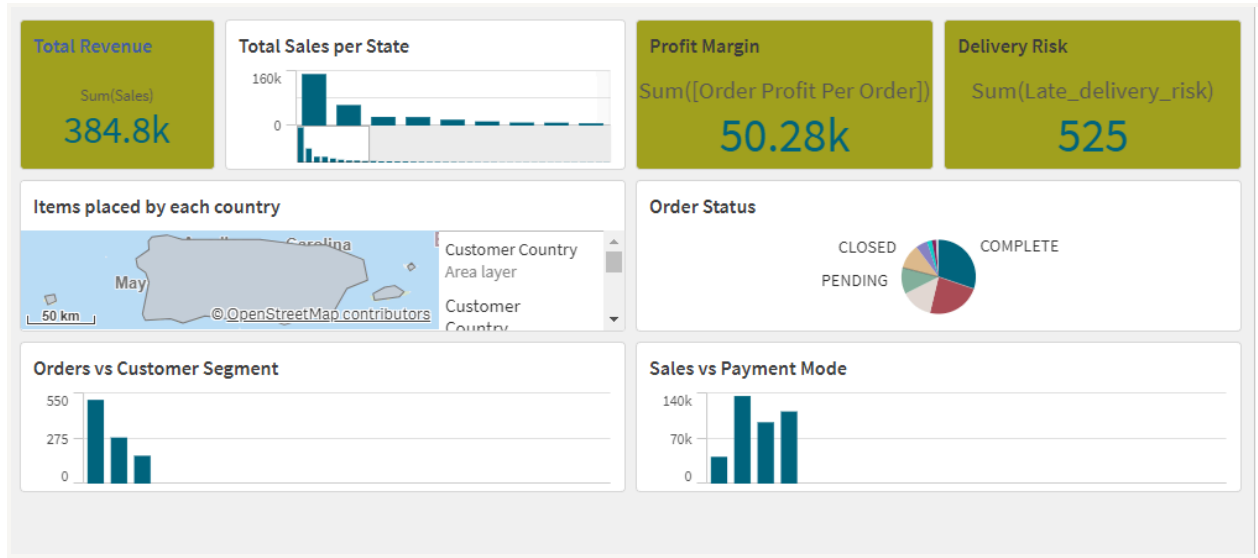
# Dashboards

A dashboard for data analytics is a tool used to multi-task, organize, visualize, analyze, and track data. The overall purpose of a data analytics dashboard is to make it easier for data analysts, decision makers, and average users to understand their data, gain deeper insights, and make better data-driven decisions.

Data dashboards are designed to connect and help extract important information from a wide variety of different data sources, services, and APIs. This information is displayed in a single, unified view via visuals such as charts, figures, graphs, and tables. An organization can have a different customizable dashboard for each department and even a dashboard for each individual project, which helps provide granular monitoring of very specific KPIs



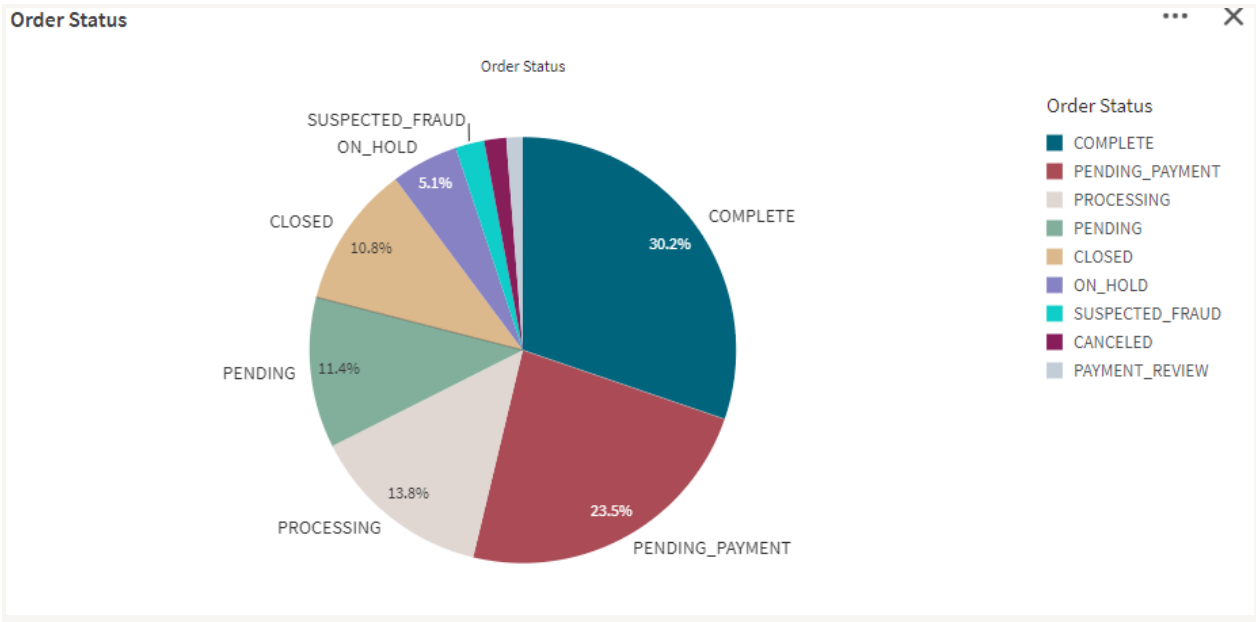
# Supply Chain Management Analysis Story



# Amount of Data Loaded :

<div># Benefit per order</div> <div># Category Id</div> <div>Abc Category Name</div> <div>🌐 Customer City</div> <div>Abc Customer Country</div> <div>Abc Customer Email</div> <div>Abc Customer Fname</div> <div># Customer Id</div> <div>Abc Customer Lname</div> <div>Abc Customer Password</div> <div>Abc Customer Segment</div> <div>Abc Customer State</div> <div>Abc Customer Street</div> <div>Abc Customer Zipcode</div> <div># Days for shipment (scheduled)</div>	<div># Days for shipping (real)</div> <div>Abc Delivery Status</div> <div># Department Id</div> <div>Abc Department Name</div> <div># Late_delivery_risk</div> <div># Latitude</div> <div># Longitude</div> <div>Abc Longitude_Latitude</div> <div>Abc Market</div> <div>🌐 Order City</div> <div>🌐 Order Country</div> <div># Order Customer Id</div> <div>📅 order date (DateOrders)</div> <div>↳ 📅 Derived fields</div> <div># Order Id</div>	<div># Order Item Cardprod Id</div> <div># Order Item Discount</div> <div># Order Item Discount Rate</div> <div># Order Item Id</div> <div># Order Item Product Price</div> <div># Order Item Profit Ratio</div> <div># Order Item Quantity</div> <div># Order Item Total</div> <div># Order Profit Per Order</div> <div>Abc Order Region</div> <div>Abc Order State</div> <div>Abc Order Status</div> <div>Abc Order Zipcode</div> <div># Product Card Id</div> <div># Product Category Id</div>
<div>Abc Order Status</div> <div>Abc Order Zipcode</div> <div># Product Card Id</div> <div># Product Category Id</div> <div>Abc Product Description</div> <div>Abc Product Image</div> <div>Abc Product Name</div> <div># Product Price</div> <div># Product Status</div> <div># Sales</div> <div># Sales per customer</div> <div>📅 shipping date (DateOrders)</div> <div>↳ 📅 Derived fields</div> <div>Abc Shipping Mode</div> <div>Abc Type</div>		

# Utilisation Of Data Filters



Orders Placed per country