REPORT ON THE DASHBOARD FOR ONLINE SALES DATASET

INTRODUCTION

This dashboard provides a comprehensive analysis of sales, logistics, and customer behavior across various dimensions. By exploring data on sales distribution by country, shipping costs by provider and warehouse location, return rates by product category, payment methods across channels, sales trends over time, order priorities, and discount patterns, this dashboard offers valuable insights into the company's operations and customer preferences. It enables stakeholders to identify key areas of demand, operational efficiency, and customer satisfaction, supporting data-driven decision-making for improved performance.

DESCRIPTION OF DATASET

The dataset contains details about online sales and it has 17 columns and 49782 rows.The dataset comprises anonymized data on online sales transactions, capturing various aspects of product purchases, customer details, and order characteristics.This dataset can be utilized for analyzing sales trends, customer purchase behavior, and order management in e-commerce or retail.It can aid in understanding the impact of discounts, payment methods, and shipment providers on sales performance and customer satisfaction.This dataset can be utilized for analyzing sales performance, customer purchasing patterns, and operational efficiency in order management.It can help in evaluating the effects of discounts and payment methods on sales, optimizing inventory by studying product demand, and improving customer satisfaction through better shipping and return handling.

COLUMNS	DESCRIPTION
InvoiceNo	A unique identifier for each sales transaction (invoice).

StockCode	The code representing the product stock-keeping unit (SKU).
Description	A brief description of the product.
Quantity	The number of units of the product sold in the transaction.
InvoiceDate	The date and time when the sale was recorded.
UnitPrice	The price per unit of the product in the transaction currency.
CustomerID	A unique identifier for each customer.
Country	The customer's country.
Discount	The discount applied to the transaction, if any.
PaymentMethod	The method of payment used for the transaction (e.g., PayPal, Bank Transfer).
ShippingCost	The cost of shipping for the transaction.
Category	The category to which the product belongs (e.g., Electronics, Apparel).
SalesChannel	The channel through which the sale was made (e.g., Online, In-store).
ReturnStatus	Indicates whether the item was returned or not.

| ShipmentProvider	The provider responsible for delivering the order (e.g., UPS, FedEx).
WarehouseLocation	The warehouse location from which the order was fulfilled.
OrderPriority	The priority level of the order (e.g., High, Medium, Low).

Sales over Country:

A map visual shows the distribution of sales across different countries. The purple circles represent the concentration of sales, with larger circles indicating higher sales volume.The map reveals that sales are primarily concentrated in certain countries in Europe and North America. Larger purple circles, such as those in countries like Germany and the UK, suggest these areas are major sales hubs. This may indicate strong market presence or customer demand in these regions.

Map based on Longitude (generated) and Latitude (generated). Color shows sum of Quantity. Size shows sum of Quantity. Details are shown for Country.

Shipping Cost per Provider/Location:

This bar chart compares shipping costs across different shipment providers (DHL, FedEx, Royal Mail, UPS) and warehouse locations. Each color represents a warehouse location, allowing us to see variations in shipping costs depending on the provider and location.Slight variations can be seen between providers, with some warehouses (like Berlin and London) appearing to have marginally lower shipping costs overall. This may point to efficient logistics or better cost management at certain warehouses.
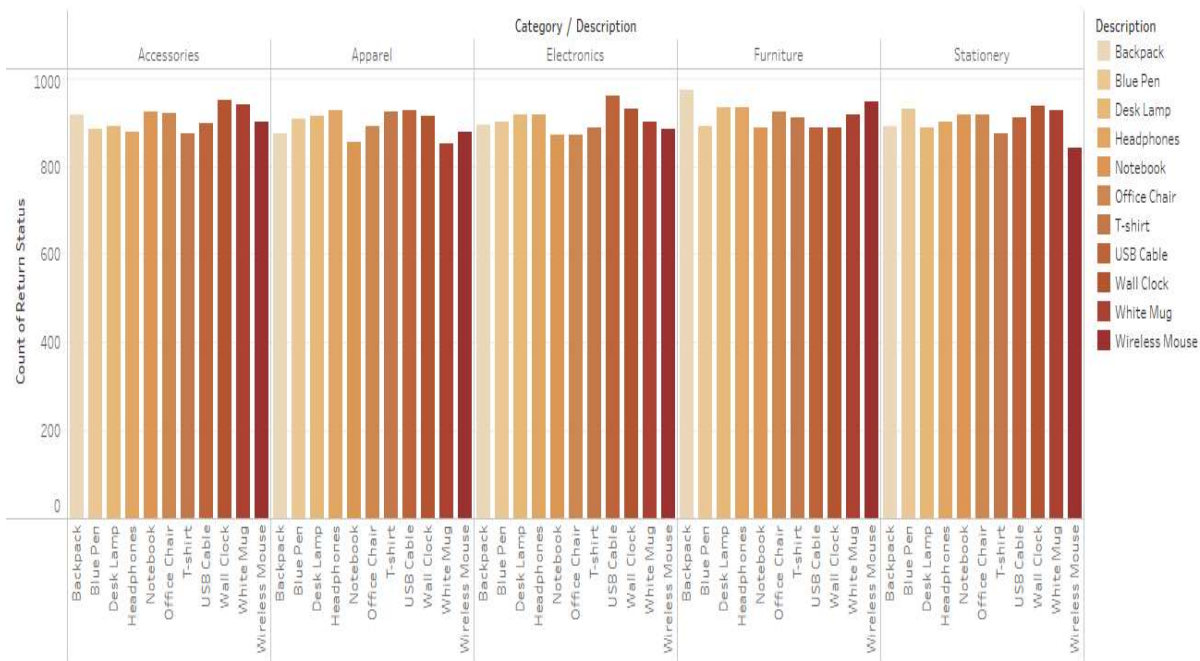

Shipping cost per Provider/Location

Sum of Shipping Cost for each Warehouse Location broken down by Shipment Provider. Color shows details about Warehouse Location.
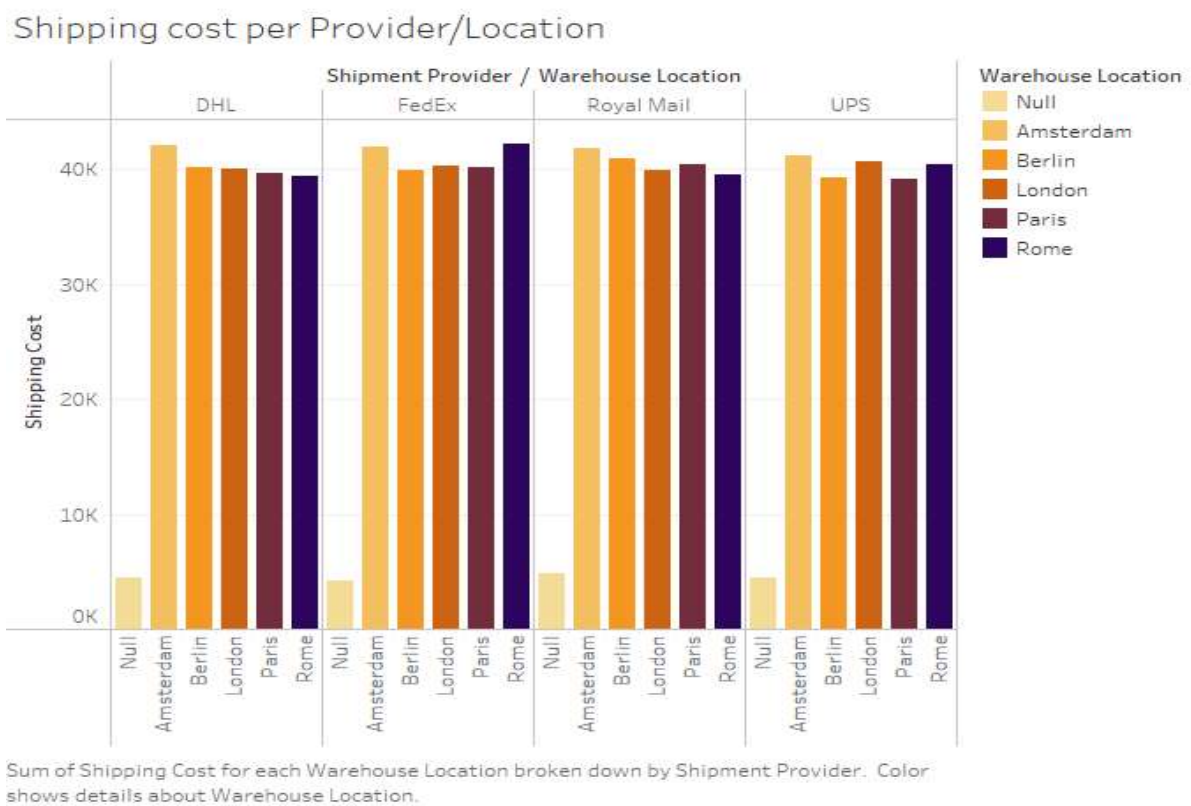
Return Status per Category:

This bar chart displays the count of product returns by category and description, showing how many times items in categories like Accessories, Apparel, Electronics, etc., are returned. The height of the bars indicates the frequency of returns for each product type.Within each category, specific items such as "Blue Pen" and "Notebook" are

returned more frequently. This could imply quality or customer satisfaction issues with these products, or it could suggest a higher volume of sales leading to more returns.


Count of Return Status for each Description broken down by Category. Color shows details about Description.

Payment Method over Quantity/Channel:

A scatter plot reveals the relationship between the payment method, sales channel, and quantity sold for various products. The plot differentiates between in-store and online sales channels, with points showing the quantity sold per item for each payment method.In the scatter plot, in-store purchases tend to have higher quantities across all payment methods, suggesting customers prefer making larger purchases in-store. Additionally, "Bank Transfer" and "Credit Card" are the most frequently used payment methods for higher quantities, likely due to convenience or preference for secure payment options when buying larger quantities.

Payment method over Quantity/Channel
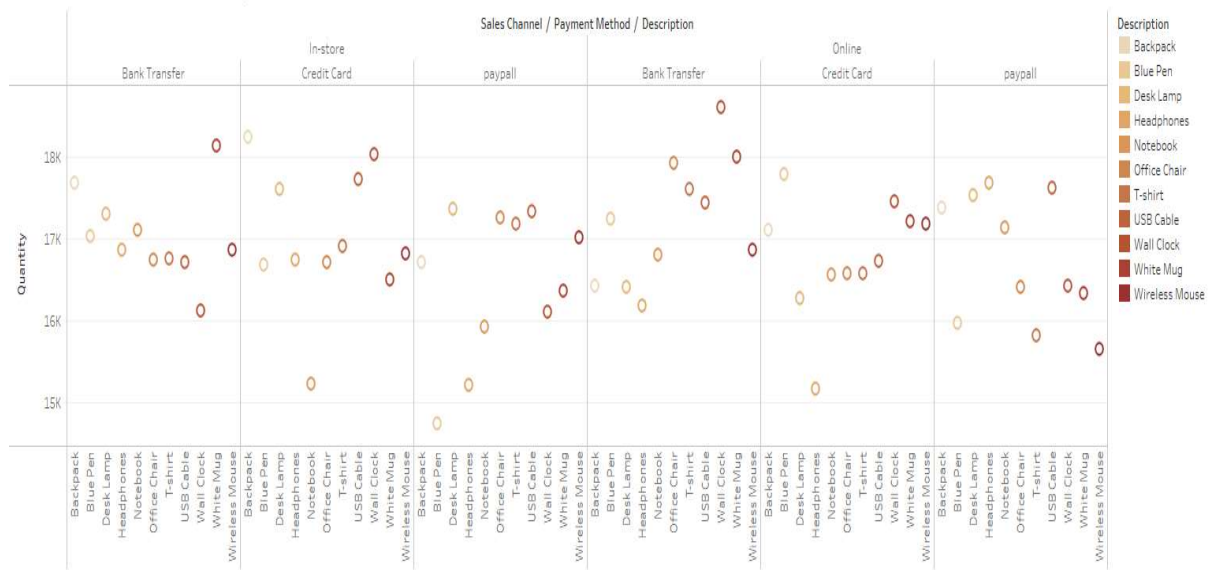
Sum of Quantity for each Description broken down by Sales Channel and Payment Method. Color shows details about Description.

Sales over Time:

This line chart tracks the quantity of sales over the years from 2020 to 2025, providing insight into sales trends over time. The quantity of sales is marked on the vertical axis, while the timeline is on the horizontal axis.The line chart shows a steady increase in sales from 2020 to 2023, followed by a slight drop from 2024. This overall upward trend suggests growth, but the decline in 2024 may indicate a market saturation, a seasonal dip, or external factors affecting sales, which may warrant further investigation.
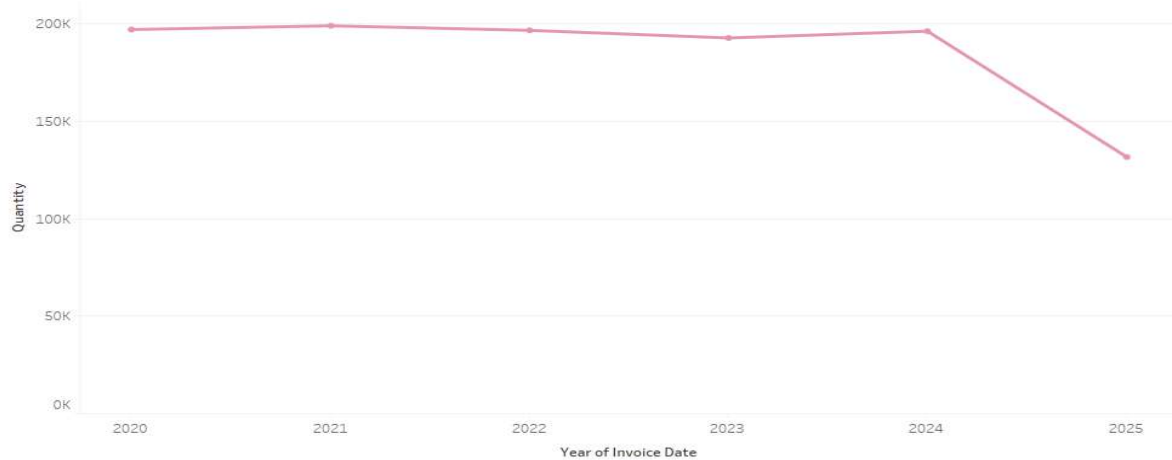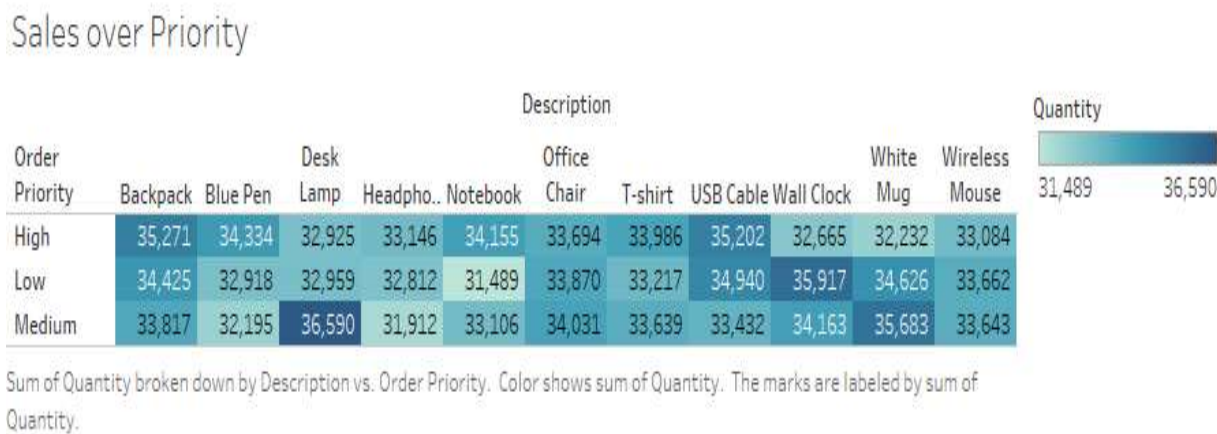

The trend of sum of Quantity for Invoice Date Year.

Sales over Priority:

A heat map displays sales quantities for various products based on order priority levels (High, Medium, Low). Darker shades indicate higher sales, enabling quick identification of popular products by order priority.The heat map reveals that High-priority orders are more frequently associated with items like "USB Cable," "Backpack," and "Blue Pen," suggesting these items are either in high demand or often prioritized by customers. Medium and Low-priority orders are more evenly distributed across different products. This may help in understanding customer priorities and ensuring that high-demand items are stocked adequately.

Sales over Priority

Order Priority	Backpack	Blue Pen	Desk Lamp	Headpho..	Notebook	Office Chair	T-shirt	USB Cable	Wall Clock	White Mug	Wireless Mouse
High	35,271	34,334	32,925	33,146	34,155	33,694	33,986	35,202	32,665	32,232	33,084
Low	34,425	32,918	32,959	32,812	31,489	33,870	33,217	34,940	35,917	34,626	33,662
Medium	33,817	32,195	36,590	31,912	33,106	34,031	33,639	33,432	34,163	35,683	33,643

Description

Quantity
31,489   36,590

Sum of Quantity broken down by Description vs. Order Priority. Color shows sum of Quantity. The marks are labeled by sum of Quantity.

Discount per Product:

A treemap visualizes the average discount given on each product type. Each section represents a product, with darker colors indicating a higher average discount rate.The treemap shows that certain items, like "Furniture," are associated with higher average discounts, as indicated by darker colors. This may suggest these items are often on promotion to drive sales or clear inventory. Products with lighter colors, such as "Apparel" have lower discounts, indicating these products might be less frequently discounted or have steady demand.

Average Discount per Category
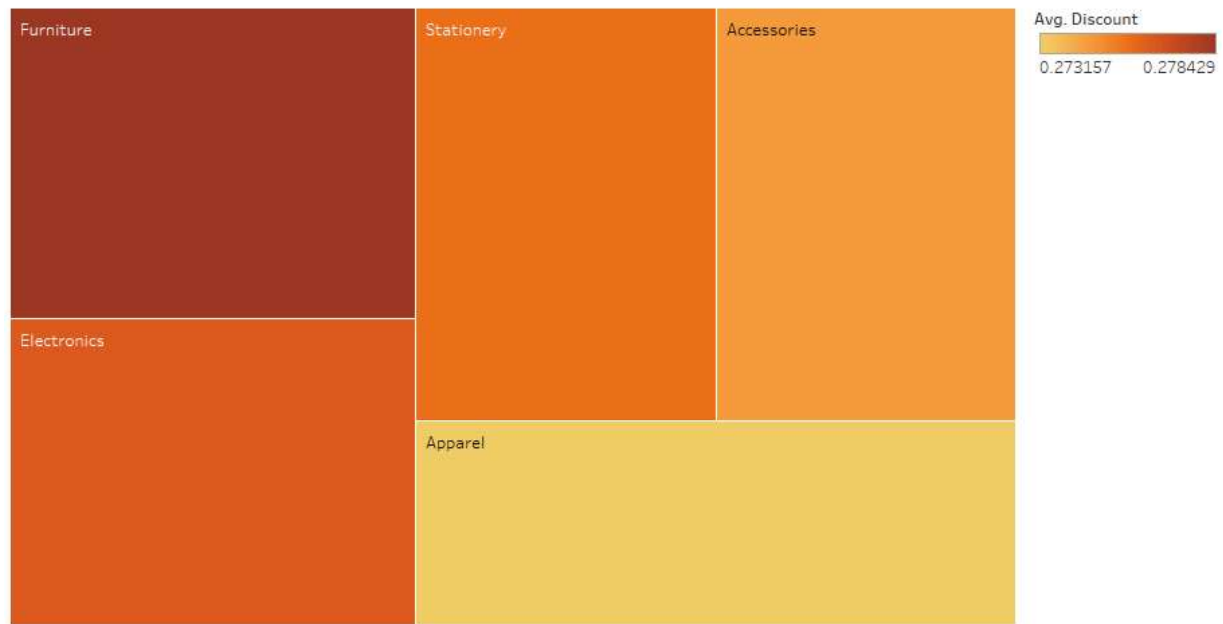
Category. Color shows average of Discount. Size shows average of Discount. The marks are labeled by Category.

CONCLUSION

The dashboard's insights reveal that the company has a strong market presence in Europe and North America, with shipping costs and returns showing patterns that could inform logistics and quality control strategies. High-priority items, such as office supplies and accessories, show strong sales, especially for in-store purchases. The analysis also highlights an upward trend in sales over time, though a slight dip in 2024 may warrant further investigation. Additionally, discount strategies appear to vary by product, with certain items receiving higher markdowns, potentially to boost sales. Overall, these findings provide a roadmap for enhancing customer satisfaction, optimizing inventory, and refining sales and discount strategies to sustain growth.