Region Sales

AI Data Analytics by Reinier
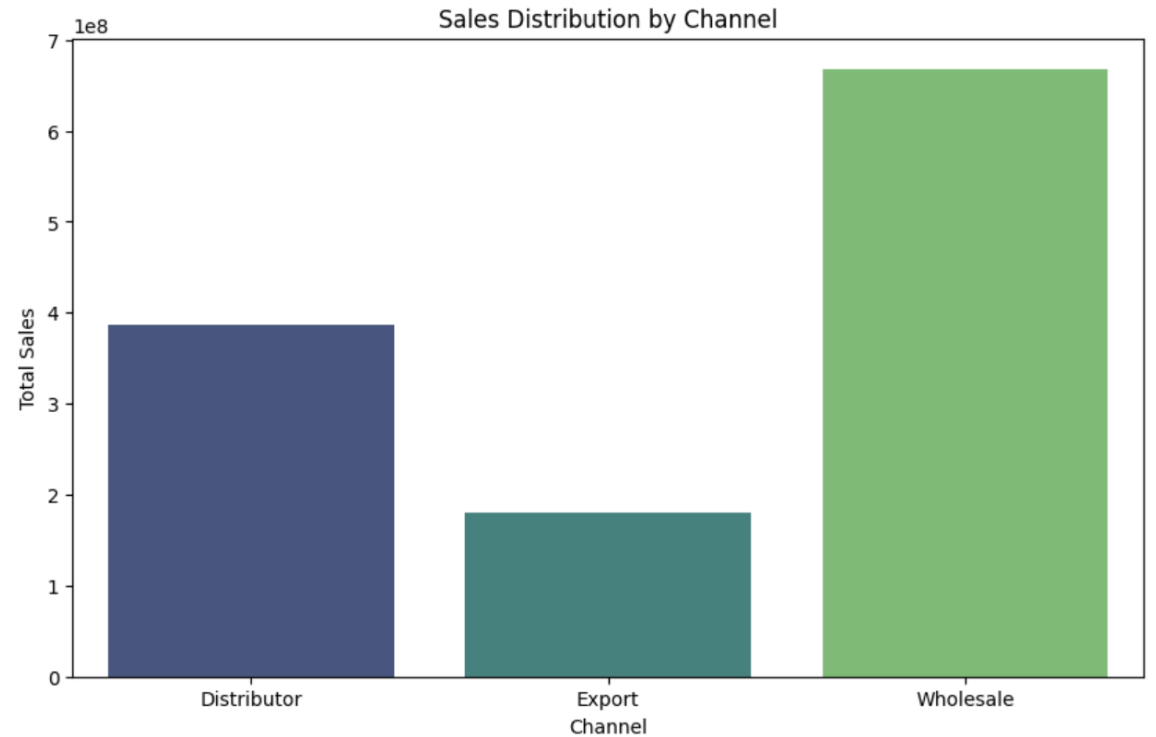
Region Sales

- This project aims to analyse and visualize regional sales data to uncover trends, evaluate profitability, and support strategic decision-making.

- **Business Questions:**

- Inconsistent revenue and profit performance across U.S. regions

- Lack of visibility into seasonal swings, top SKUs, and channel profitability

- **Goal**: Leverage 5 years of historical data to pinpoint growth levers and optimize strategy

- Source: Region Sales Dataset.xls

- Gui: Google Colab

- Libraries:
    - import pandas as pd
    - import numpy as np
    - import matplotlib.pyplot as plt
    - import seaborn as sns

- Indications:
    - Strong 0.6 – 1.0
    - Mediocre 0.3 >0.6
    - Light 0.15 > 0.3
    - None < 0.15

Region Sales

- **Approch**

- **Data Cleaning and Preparation**: Address any missing values, duplicates, or data type inconsistencies in the relevant dataframes. Merge Dataframes: Combine the sales_orders_df, customers_df, regions_df, and products_df based on common columns to create a comprehensive dataset for analysis.

- **Exploratory Data Analysis (EDA)**: Analyze sales trends over time (e.g., by year, month). Identify top customers, products, and regions by sales. Investigate the distribution of sales by channel.

- **Visualize Key Findings**: Create visualizations

- **Summarize** the key findings and provide actionable insights based on the analysis.

Region Sales

- Region Sales by channel.
- Distributor channel sales is about twice as much as sales by export channel
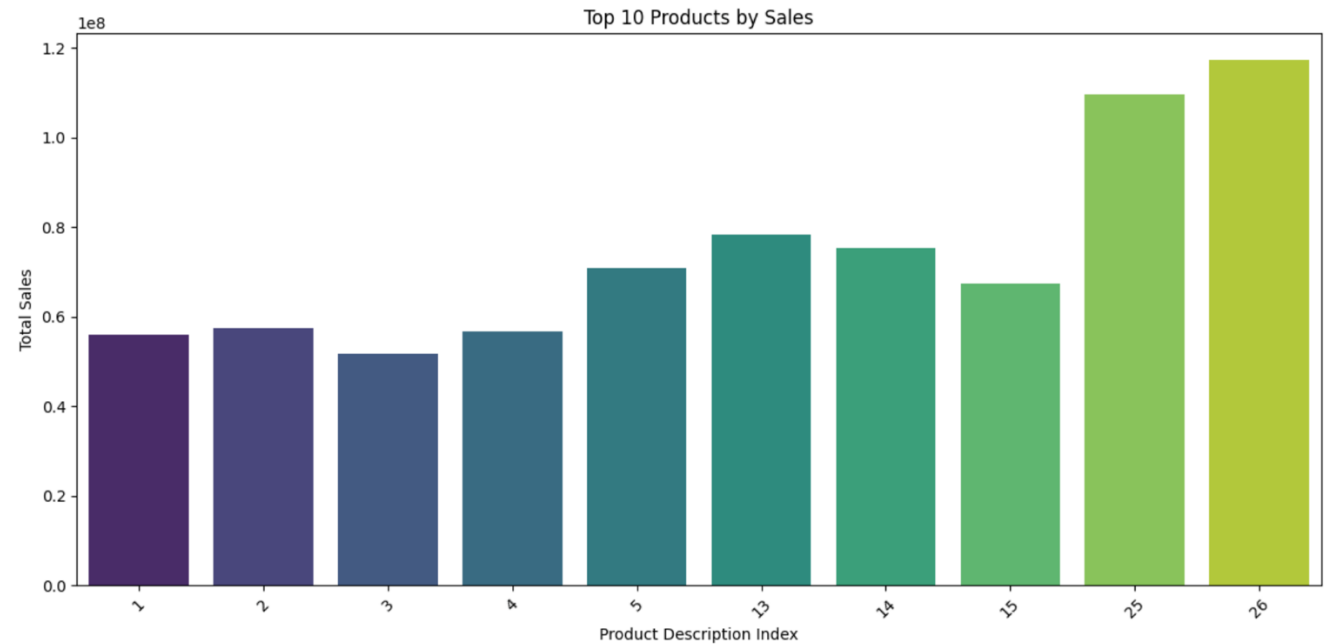

Sales Distribution by Channel

Region Sales

- Region sales data by product and channel and visualize the sales of top products within each channel using a grouped bar chart.

- Most sales are by distributor and less by export.
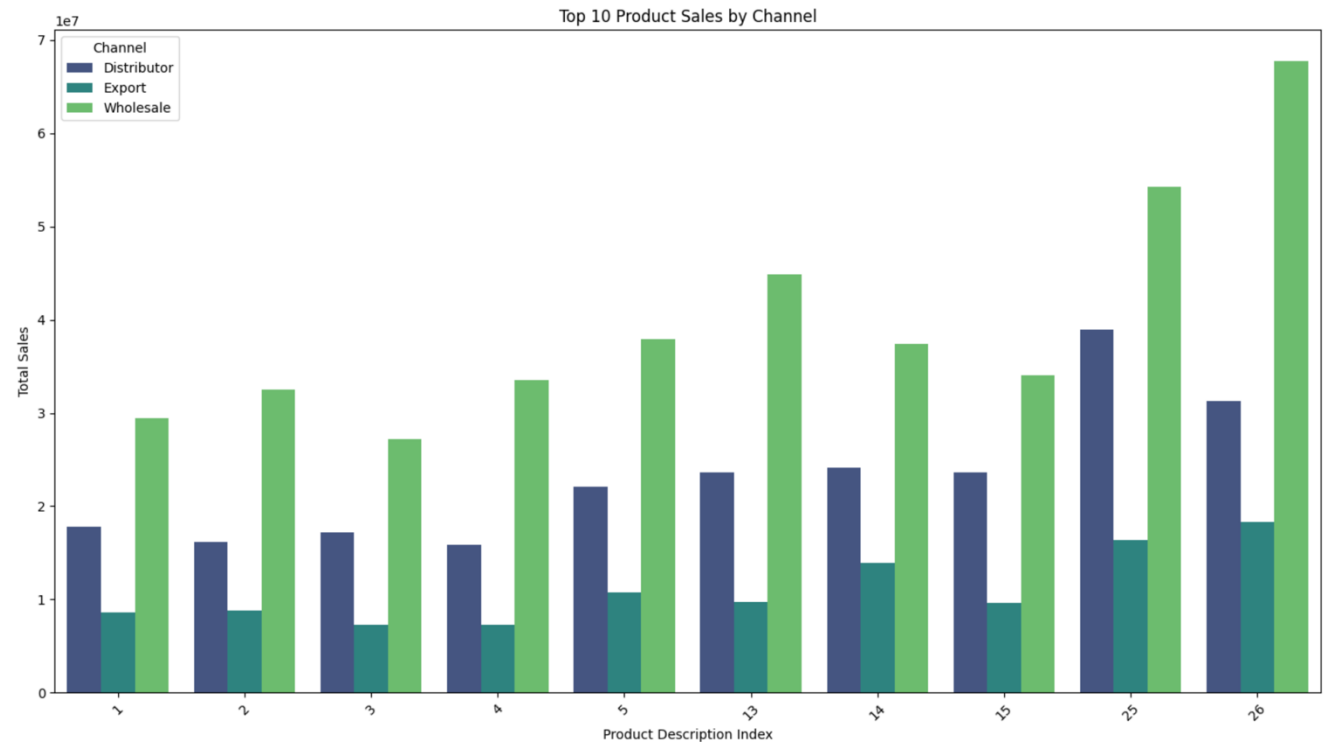
Region Sales

- Top 10 products
- Top 3 products are products numbers
- 26
- 25
- 13

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Region Sales

- Top Region Sales

	Delivery Region Index	Line Total
386	388	2464400.7
124	125	2376697.7
356	357	2274428.9
768	770	2238764.8
531	533	2231850.4

Region Sales

- Recap.
- We identified the top channels, top products, and top regions sales based on total sales.

- Remarks
- The products are nameless so the total possible market is unknown.
- Further analysis on names are possible if the are salespersons of the regions.