Microsoft | Power BI

Sales Dashboard WWI

View in Power BI

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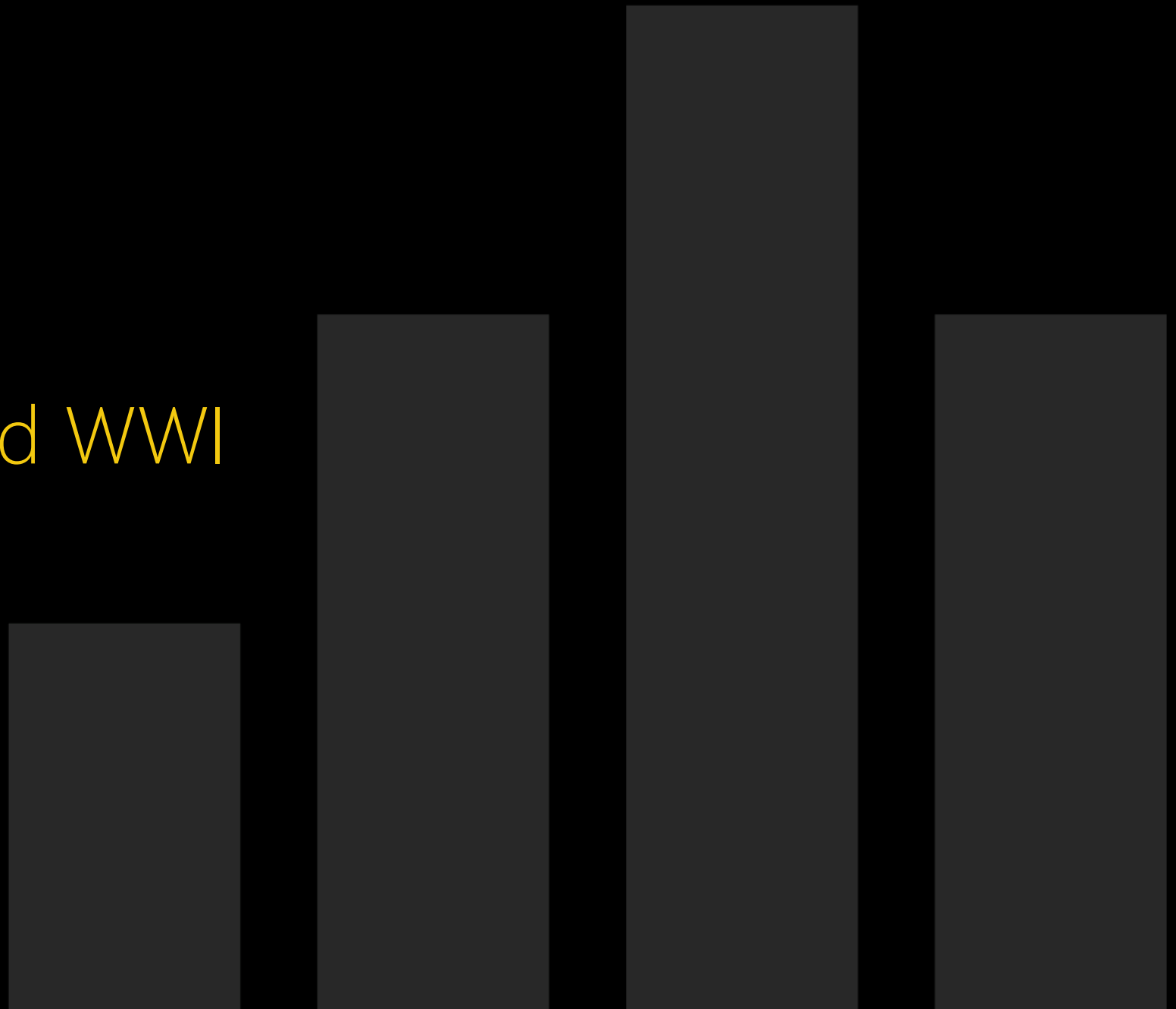


Introduction

Business intelligence (BI) is crucial for organizations aiming to gain insights, enhance decision-making, and achieve strategic objectives. This project leverages BI methodologies and tools to analyze sales, profits, and other key metrics within an organization. The project's primary objective is to transform raw data into meaningful visualizations that support strategic decision-making. The report outlines the objectives, methodology, data preparation, and dashboard development for the business.

Data Source

The data for this project is sourced from the WideWorldImporters dataSet, containing detailed information about the company's sales, customers, products, and transactions. The key tables in the dataSet are :

- **Dimension.City:** Geographic locations of customers .
- **Dimension.Customer:** Customer details .
- **Dimension.Date:** Time-based transaction data.
- **Dimension.Employee:** Employee details .
- **Dimension.StockItem:** Product details .
- **Fact.Sale:** Sales transactions.

Project Objectives

interactive dashboards that provide insights into sales and profitability.

The key objectives are :

- **Data Transformation:** Structuring raw transactional data into accessible visualizations .
- **Dashboard Development:** Creating three dashboards—Sales, Profit, and Detail .
- **Performance Monitoring:** Enabling real-time tracking of business performance .
- **Dimensional Modeling:** Implementing a Star Schema for effective queries.

Business Questions

The dashboards are designed to answer critical business questions:

- What are the total sales and profits over time?
- How do sales and profitability vary across regions?
- Which product categories generate the highest sales?
- How do sales fluctuate by quarter and year?
- Which employees excel in sales and profitability?
- What is the impact of purchase groups on sales and profits?

Data Preparation

The data preparation process involved:

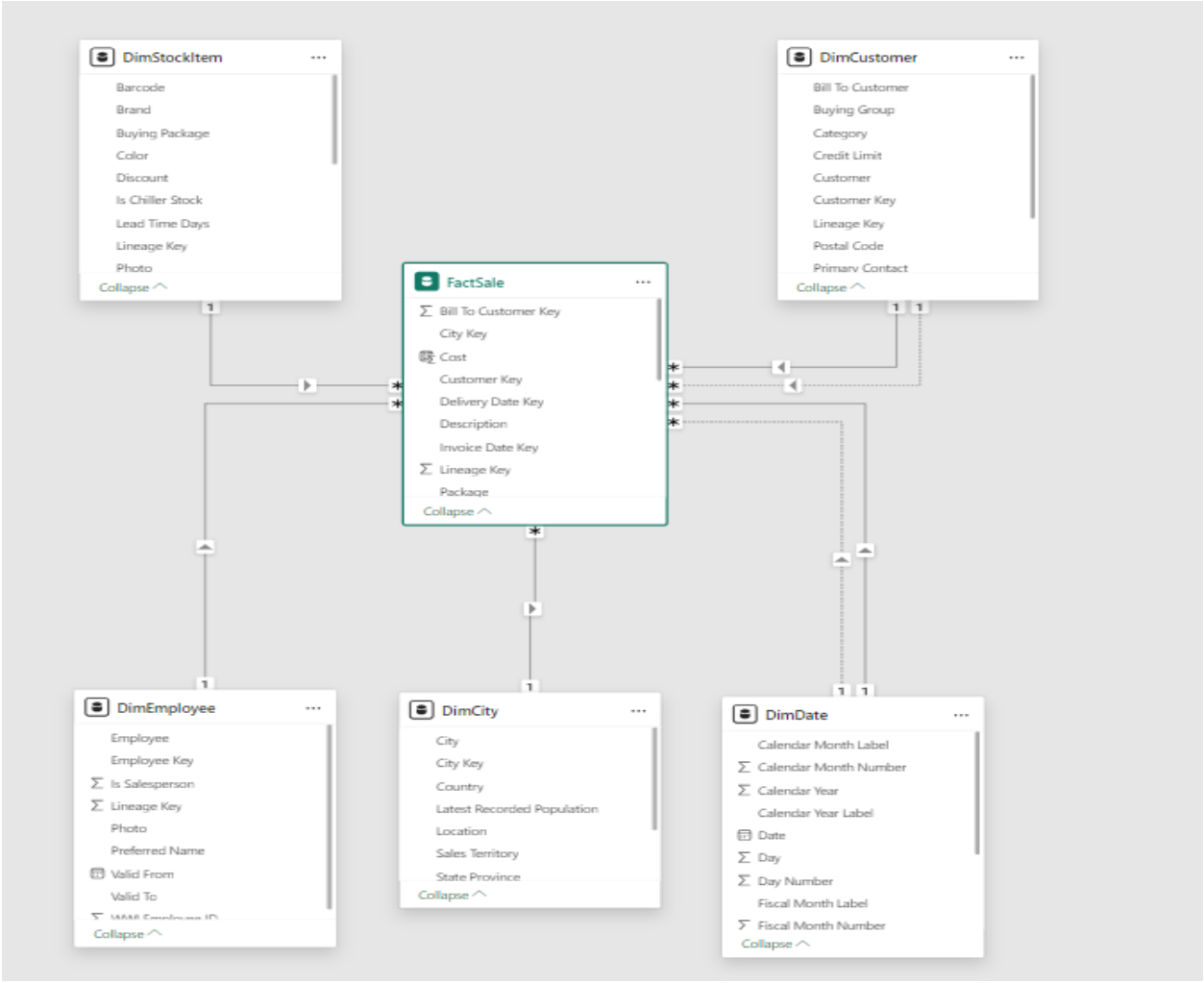
- Cleaning the raw data to handle missing values, duplicates, and inconsistencies.
- Creating new calculated columns such as Cost and Profitability.
- Validating the data to ensure accuracy and consistency.

Dimensional Model

The dimensional model follows a star schema, organizing data into fact and dimension tables. The Fact.Sale table serves as the central fact table, containing transactional data analyzed across various dimensions:

- **Fact.Sale:** Sales transactions.
- **Dimension.City:** Customer locations.
- **Dimension.Customer:** Customer details.
- **Dimension.Date:** Time-based analysis of sales.
- **Dimension.Employee:** Sales performance.
- **Dimension.StockItem:** Product details.

Dimensional Model



Dimensional Model

The methodology used to implement the dashboards in Power BI:

- Three dashboards were created: **Sales, Profit, and Detail**.
- Each dashboard contains interactive visualizations and filters.
- **Sales Dashboard:** Column charts, line charts, tables, and slicers.
- **Profit Dashboard:** Line charts, column charts, and tables.
- **Detail Dashboard:** Bar charts, pie charts, and tables.

Sales Dashboard WWI

Sales | Profit | Detail

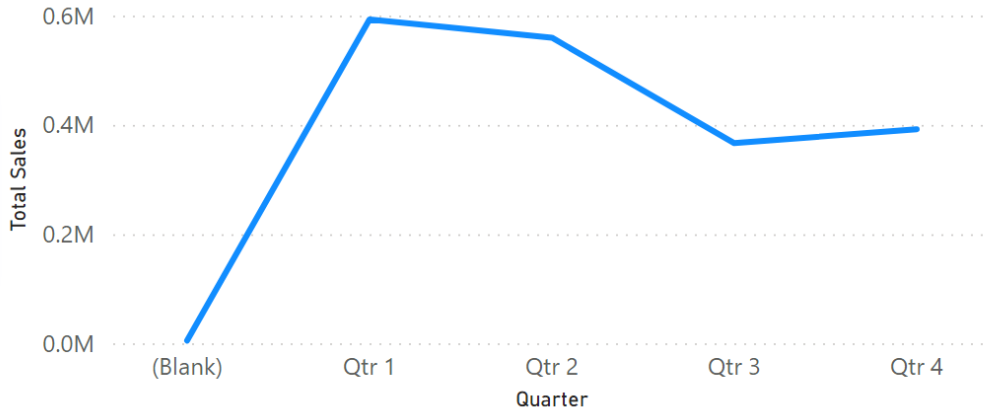
Employee
Hudson Onslow

Year
All

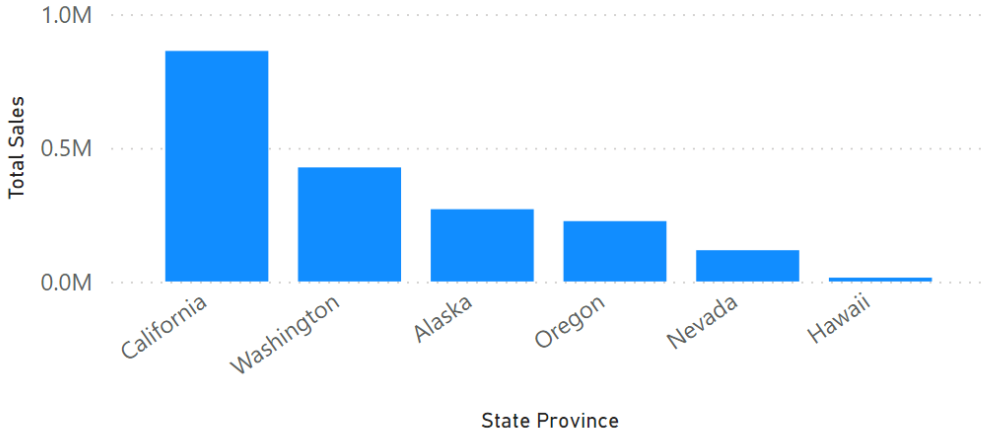
Buying Group
All

Total Sales	Total Quantity	Total Chillers Quantity	Total Dry Quantity
2.2M	100.5K	1032	99.4K

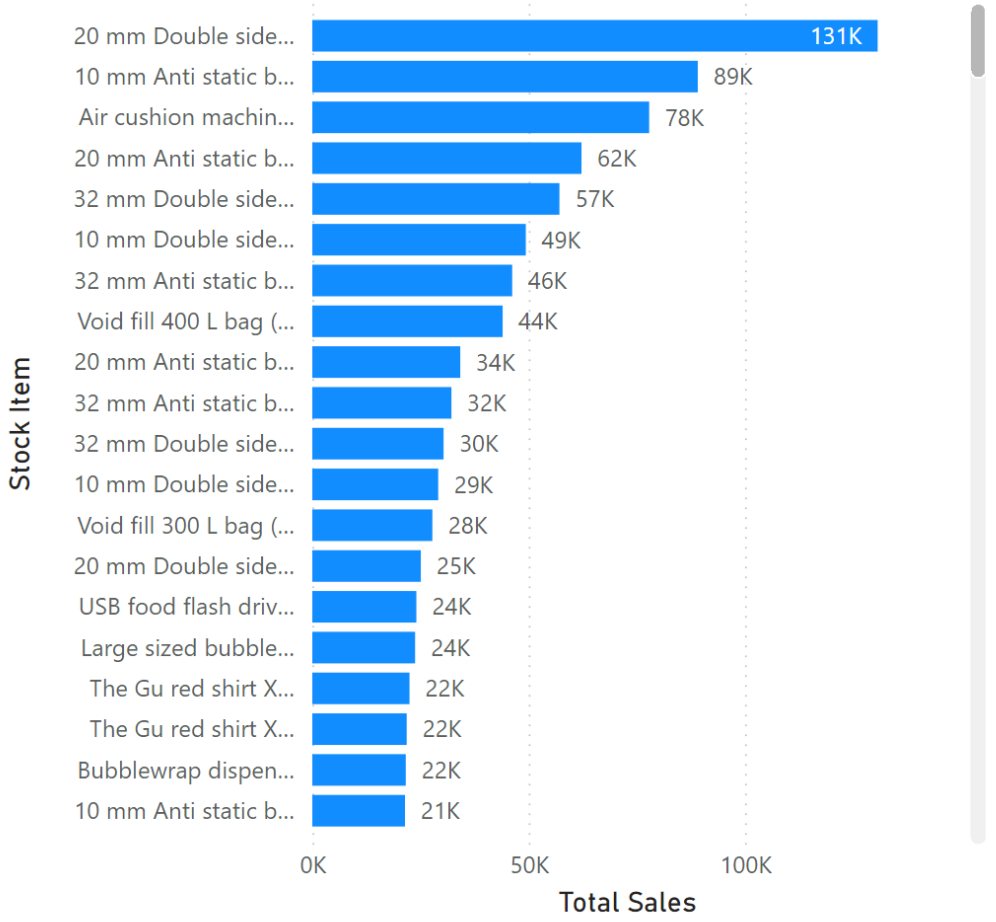
Total Sales by Quarter



Sales by State



Total Sales by Stock Item



Sales Dashboard WWI

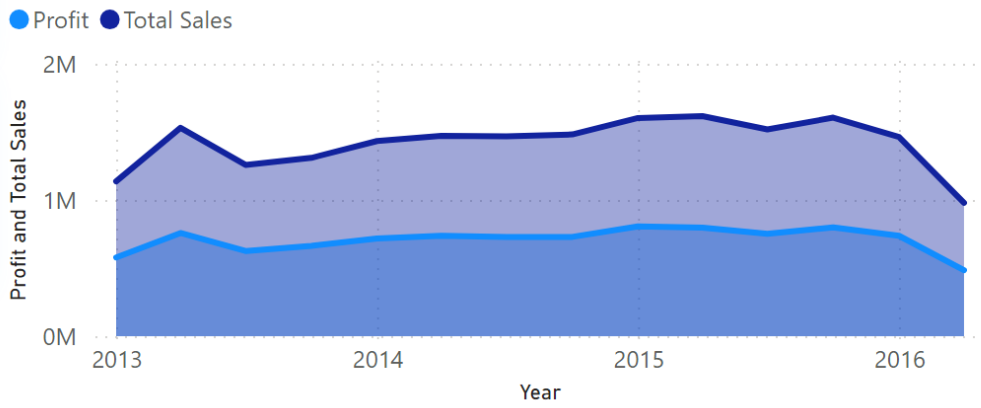
Employee
All

Year
All

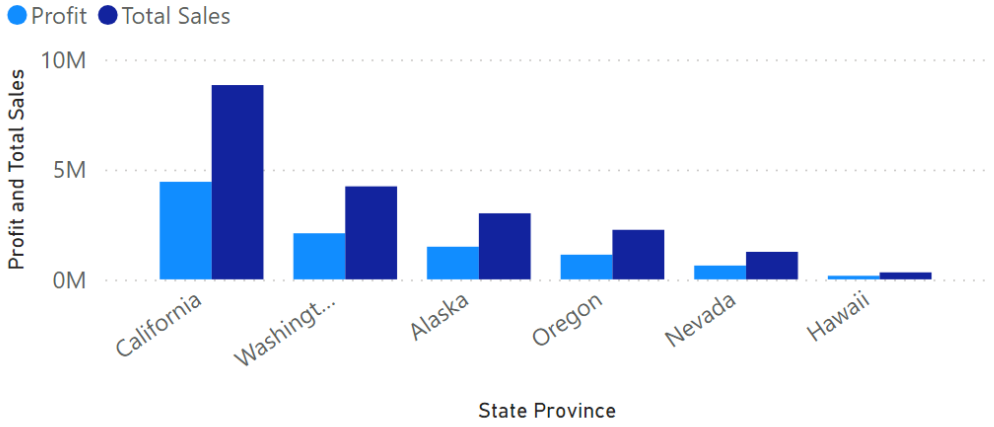
Buying Group
All

Total Sales	Total Profit	Cost	Profitability
22.9M	9.9M	10.0M	49.9%

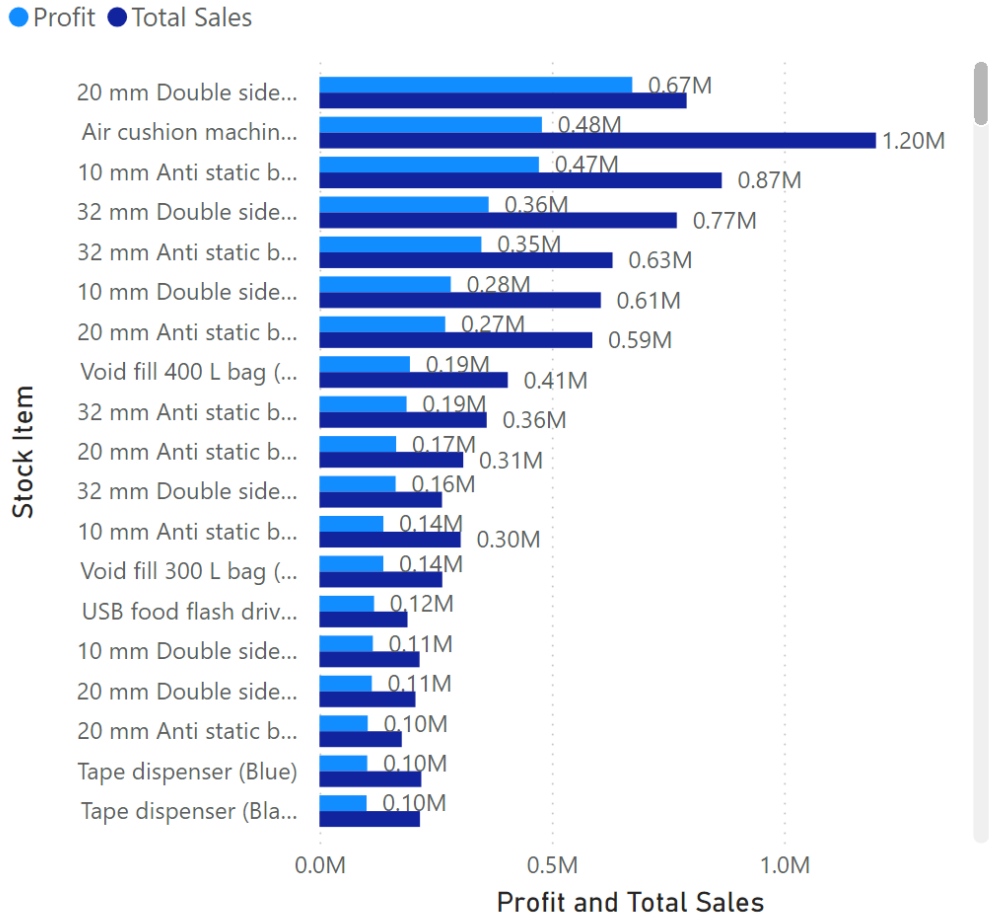
Profit and Total Sales by Year and Quarter



Profit and Sales by State



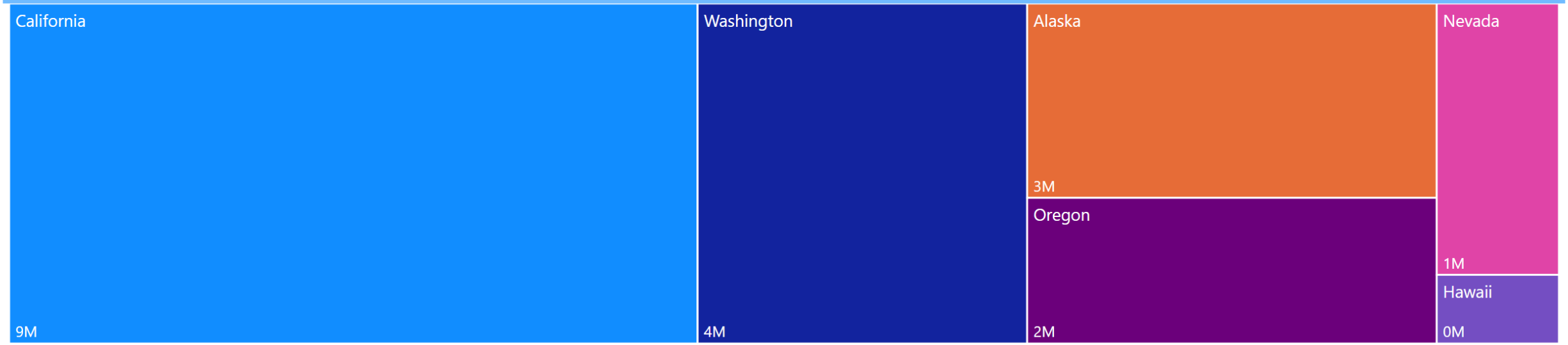
Profit and Total Sales by Stock Item



Sales Dashboard WWI

Sales | Profit | **Detail**

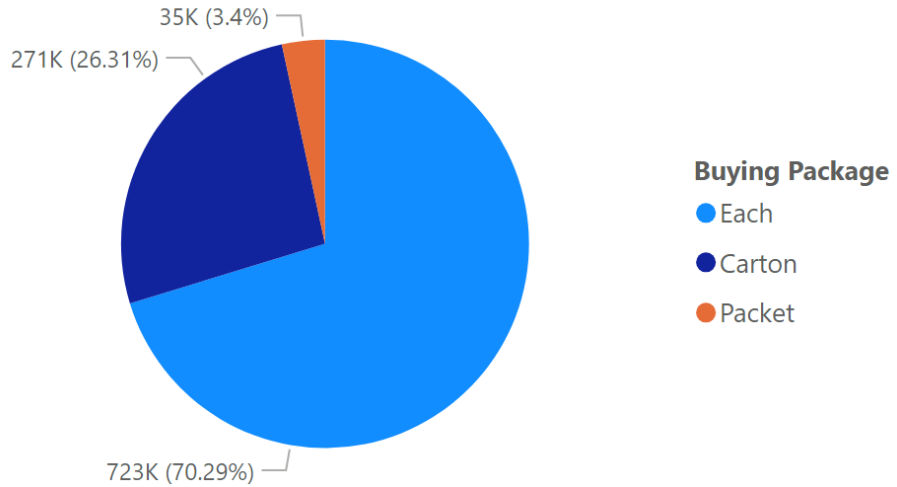
Total Excluding Tax by State Province



Details

City	Quantity	Total Excluding Tax	Tax Amount	Cost	Sum of Profit
Akhiok	30999	542737	80,917.60	283,182.70	259,554.30
San Jacinto	14870	355289	53,231.60	170,130.35	185,158.65
Fieldbrook	17297	344010	51,477.66	180,289.40	163,720.60
Wapinitia	14402	343235	51,454.66	180,150.40	163,084.60
Haycock	14640	328235	49,148.70	160,235.55	167,999.45
Knights Landing	14098	327415	49,081.85	165,919.70	161,495.30
Meadowdale	11913	325303	48,612.77	148,548.95	176,754.05
Venersborg	16405	322725	48,408.82	171,143.85	151,581.15
Placer	17120	321476	48,149.63	165,309.95	156,166.05
Kapa'a	15293	316856	47,456.92	154,904.00	161,952.00
Sekiu	17826	314760	47,214.82	158,773.55	155,986.45
Total	**1028670**	**19879589**	**2,975,484.85**	**9,955,697.30**	**9,923,891.70**

Sum of Quantity by Buying Package



Conclusion

This project demonstrates the power of BI to convert raw data into actionable insights:

- The dashboards provide valuable insights into sales and profitability.
- The Star Schema enables efficient querying and analysis.
- The project fosters data-driven decision-making and enhances business performance.

Future work could involve integrating more data sources and refining the model to tackle further business questions.