

ADIDAS SALES REPORT

I. Introduction

A. Brief Overview of the Dataset

I recently completed a comprehensive analysis using a rich dataset of Adidas sales data from across the United States. This dataset includes a wide range of details about each sale, such as product types, sales figures, transaction counts, and regional sales information. The aim was to use this data to understand various aspects of Adidas's sales performance, uncover trends, and identify key areas of success or concern.

B. Objectives of the Analysis and Dashboard Creation

The primary goal of this project was to create an interactive and insightful dashboard using Power BI that could help stakeholders easily explore and understand the Adidas sales data. Specifically, the dashboard aims to:

- ❖ Provide a clear picture of how different retailers are performing in terms of sales.
- ❖ Identify which products and regions are driving the most revenue.
- ❖ Highlight monthly trends in sales and profits, providing a clearer understanding of seasonality and market dynamics.
- ❖ Answer key business questions like:
 - Which states are the top contributors to Adidas sales?
 - What are the most successful products, and how do they vary by sales method?
 - How do sales and profits correlate over time and across different regions?

C. High-Level BI Questions

To guide the analysis, we focused on several high-level business intelligence questions:

- Which states and regions are the most significant contributors to Adidas's overall sales?
- What are the best-selling products and sales methods, and how do they differ across various regions and retailers?
- How do sales trends change month by month, and what impact do these trends have on profit margins?
- How do different retailers and sales regions compare in terms of total sales and transaction counts?

II. Data Pre-Processing and Cleaning

A. Pre-Processing Techniques Applied

To ensure the dataset was ready for analysis, several pre-processing steps were carried out:

- **Handling Missing Values:** Any missing data entries were either filled in where possible or removed to maintain the integrity of the dataset.
- **Data Type Conversion:** Fields were converted to appropriate data types to ensure accurate analysis, such as converting sales amounts to numerical data and dates to a date format.
- **Outlier Detection and Management:** Identified outliers were carefully reviewed and managed to prevent them from skewing the results, especially in financial metrics like sales and profit.

File Home Help Table tools Column tools										
Name	Price per Unit	123	Data type	Whole number		\$ %	Whole number		\$ %	0
									Sum	Uncategorized
Retailer	Retailer ID	Invoice Date	Location Key	Product	Price per Unit	Units Sold	Total Sales	Operating Profit	Operating Margin	Sales Method
Foot Locker	1185732	Friday, January 3, 2020	New York-New York	Women's Street Footwear	40	1000	400000	140000	0.35	In-store
Foot Locker	1185732	Saturday, January 4, 2020	New York-New York	Women's Athletic Footwear	45	850	382500	133875	0.35	In-store
Foot Locker	1185732	Tuesday, January 21, 2020	New York-New York	Women's Street Footwear	40	950	380000	133000	0.35	Outlet
Foot Locker	1185732	Wednesday, January 22, 2020	New York-New York	Women's Athletic Footwear	45	825	371250	129937	0.35	Outlet
Foot Locker	1185732	Monday, January 27, 2020	New York-New York	Women's Street Footwear	40	950	380000	133000	0.35	Outlet
Foot Locker	1185732	Tuesday, January 28, 2020	New York-New York	Women's Athletic Footwear	45	800	360000	126000	0.35	Outlet
Foot Locker	1185732	Sunday, February 2, 2020	New York-New York	Women's Athletic Footwear	40	900	360000	126000	0.35	Outlet
Foot Locker	1185732	Monday, February 3, 2020	New York-New York	Women's Athletic Footwear	45	825	371250	129937	0.35	Outlet
Foot Locker	1185732	Saturday, February 8, 2020	New York-New York	Women's Street Footwear	50	900	450000	157500	0.35	Outlet
Foot Locker	1185732	Sunday, February 9, 2020	New York-New York	Women's Athletic Footwear	50	850	425000	148750	0.35	Outlet
Foot Locker	1185732	Friday, March 6, 2020	New York-New York	Women's Street Footwear	50	925	462500	161875	0.35	Outlet
Foot Locker	1185732	Saturday, March 7, 2020	New York-New York	Women's Athletic Footwear	50	900	450000	157500	0.35	Outlet
Foot Locker	1185732	Thursday, March 12, 2020	New York-New York	Women's Street Footwear	50	950	475000	166250	0.35	Outlet
Foot Locker	1185732	Friday, March 13, 2020	New York-New York	Women's Athletic Footwear	50	900	450000	157500	0.35	Outlet
Foot Locker	1185732	Wednesday, March 18, 2020	New York-New York	Women's Street Footwear	50	950	475000	166250	0.35	Outlet
Foot Locker	1185732	Tuesday, March 31, 2020	New York-New York	Women's Athletic Footwear	50	925	462500	161875	0.35	Outlet
Foot Locker	1185732	Tuesday, June 1, 2021	California-Los Angeles	Men's Athletic Footwear	45	275	123750	43312	0.35	Outlet
Foot Locker	1185732	Wednesday, June 2, 2021	California-Los Angeles	Women's Street Footwear	35	275	96250	33688	0.35	Outlet
Foot Locker	1185732	Friday, June 4, 2021	Illinois-Chicago	Men's Apparel	55	175	96250	33687	0.35	Outlet
Foot Locker	1185732	Monday, June 7, 2021	Illinois-Chicago	Men's Athletic Footwear	45	175	78750	27562	0.35	Outlet
Foot Locker	1185732	Tuesday, June 8, 2021	Illinois-Chicago	Women's Street Footwear	35	225	78750	27562	0.35	Outlet
Foot Locker	1185732	Thursday, June 10, 2021	Illinois-Chicago	Men's Apparel	55	175	96250	33687	0.35	Outlet
Foot Locker	1185732	Sunday, June 13, 2021	Illinois-Chicago	Men's Athletic Footwear	50	200	100000	35000	0.35	Outlet
Foot Locker	1185732	Monday, June 14, 2021	Illinois-Chicago	Women's Street Footwear	40	225	90000	31500	0.35	Outlet
Foot Locker	1185732	Wednesday, June 16, 2021	Illinois-Chicago	Men's Apparel	60	125	75000	26250	0.35	Outlet
Foot Locker	1185732	Saturday, June 19, 2021	Illinois-Chicago	Men's Athletic Footwear	50	150	75000	26250	0.35	Outlet
Foot Locker	1185732	Sunday, June 20, 2021	Illinois-Chicago	Women's Street Footwear	40	150	60000	21000	0.35	Outlet
Foot Locker	1185732	Tuesday, June 22, 2021	Illinois-Chicago	Men's Apparel	60	100	60000	21000	0.35	Outlet
Foot Locker	1185732	Friday, June 25, 2021	Illinois-Chicago	Men's Athletic Footwear	55	200	110000	38500	0.35	Outlet

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Foot Locker	1185732	Sunday, June 20, 2021	Illinois-Chicago	Women's Street Footwear	40	150	60000	21000	0.35	Outlet
Foot Locker	1185732	Tuesday, June 22, 2021	Illinois-Chicago	Men's Apparel	60	100	60000	21000	0.35	Outlet
Foot Locker	1185732	Friday, June 25, 2021	Illinois-Chicago	Men's Athletic Footwear	55	200	110000	38500	0.35	Outlet

B. Creation of Calculated Columns

To enhance the analysis, several calculated columns were added to the dataset:

- **Sales Margin:** Calculated to show the profit margin for each sale, providing insight into profitability.

- **Year and Month Columns:** Extracted from the date field to facilitate detailed time-based analysis, making it easier to identify trends and patterns over specific periods.

III. Data Modelling

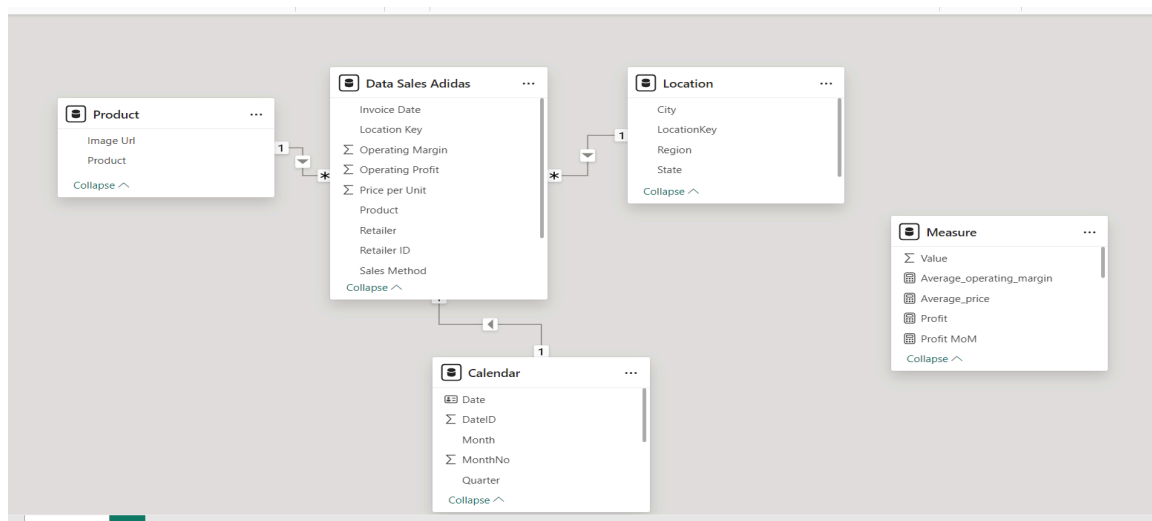
A. Creation of Fact and Dimension Tables

The dataset was organized into a star schema for efficient data modeling, which is ideal for BI tools like Power BI. This involved creating:

- **Fact Table:** Contains the core transactional data, including sales amounts, profits, and the number of transactions.
- **Dimension Tables:** Organized around key attributes like Product, Retailer, Region, and Time. These tables allow for in-depth slicing and dicing of the data along multiple dimensions.

B. Creation of Relationships

Relationships between the fact and dimension tables were defined to create a star schema, optimizing the performance of the dashboard and enabling more straightforward, faster queries.



C. Creation of Measures

To derive meaningful insights, several DAX measures were created:

- **Total Sales:** Calculated as the sum of all sales amounts.
- **Average Profit Margin:** Computes the average profit margin across all sales, helping to gauge overall profitability.
- **Transaction Count:** The total number of transactions, which helps in understanding customer engagement across regions and time.

IV. Dashboard

A. Dashboard Design and Visualizations

The Adidas Sales Analysis Dashboard was designed with user experience in mind, providing easy navigation and interactive features across five pages:

Home Page: The starting point with a clean, user-friendly design that guides users through the dashboard.

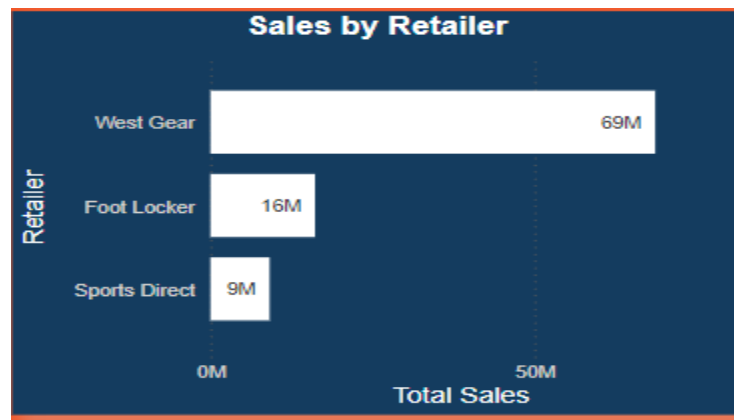


Menu Page: Features buttons that link to specific analysis pages for a more streamlined navigation experience.

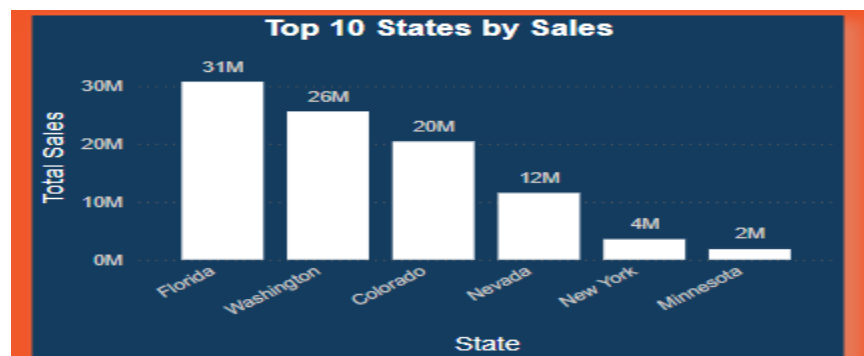


Sales Overview Page:

- **Sales by Retailer:** Displays which retailers are generating the most revenue, providing insight into partnerships and market reach.



- **Top 10 States by Sales:** Uses a bar chart to highlight the states contributing the most to sales, showing geographic concentration.



- **Sales by Region and Transaction Count:** Maps sales data to show regional performance and transaction density.
- **Sales by Month:** Tracks sales performance over time, revealing seasonal trends or shifts in consumer behavior.

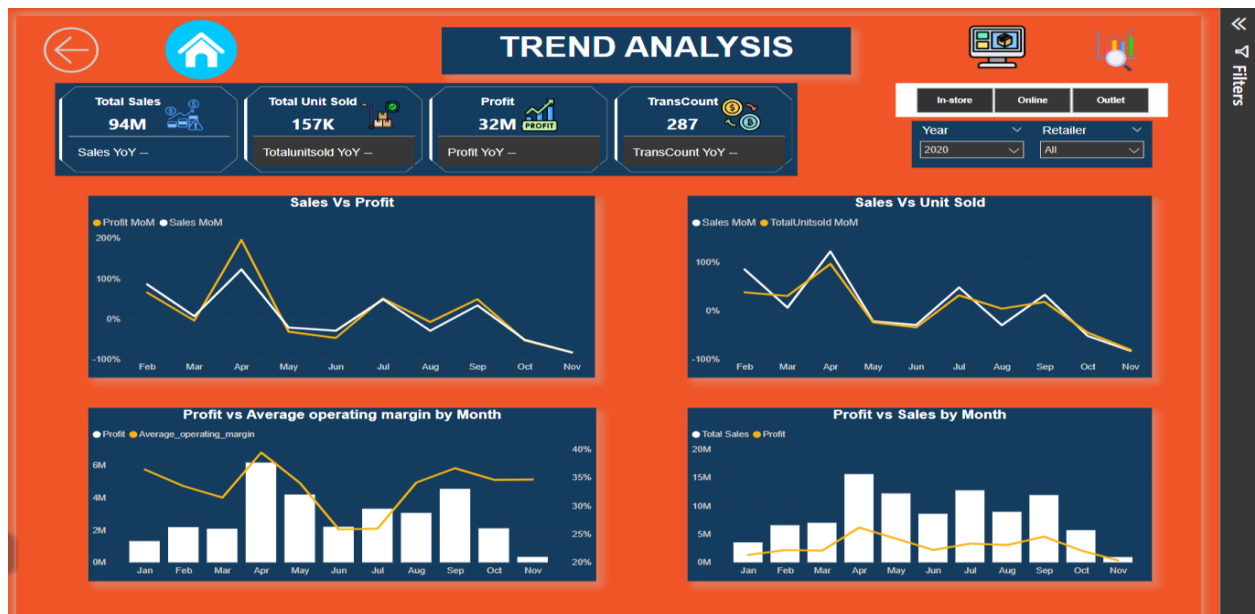
Product Analysis Page:

- **Total Sales by Sales Method:** Breaks down sales by different methods (e.g., online vs. in-store), helping identify the most effective sales channels.
- **Units Sold and Total Sales:** Provides a detailed breakdown of product performance by category, showing which products drive the most revenue and volume.



Trend Analysis Page:

- **Sales vs. Profit:** Visualizes the relationship between sales volume and profitability, highlighting which sales are most effective in driving profits.
- **Profit vs. Average Operating Margin by Month:** Examines how profit and operating margins vary over time, providing insights into cost management and pricing strategies.



Insights Gained from Graphs:

The visualizations on the dashboard provided several actionable insights:

- **Regional Performance:** The East Coast, particularly states like New York and Florida, emerged as key markets with the highest sales.
- **Product Performance:** Running shoes and sports apparel were top sellers, suggesting strong consumer demand in these categories.
- **Seasonal Trends:** Sales peaks in the summer months indicated a potential seasonal influence, possibly linked to outdoor activities and sports events.
- **Retailer Analysis:** Major retailers like Foot Locker and Dick's Sporting Goods were leading in sales, showing the strength of Adidas's presence in large retail chains.

B. Interactivity Features

The dashboard was designed to be highly interactive to enhance user engagement and exploration:

Interactive Buttons: Simple navigation between different sections of the dashboard allows users to quickly switch views and analyses.

Drill-Throughs: Users can click on data points to drill down into more detailed views, such as going from state-level to city-level data, providing deeper insights.

Filters and Slicers: Dynamic filters and slicers enable users to customize their views by various dimensions like time, region, product category, etc., allowing for tailored analyses.

V. Conclusion

The Adidas Sales Analysis Dashboard offers a powerful tool for understanding sales performance across multiple dimensions. By leveraging Power BI, we created a platform that not only showcases key sales metrics but also allows for deep exploration of the data through interactive elements and dynamic visualizations. This dashboard can help Adidas and its stakeholders make more informed decisions by uncovering hidden patterns, identifying growth opportunities, and understanding customer behavior. Whether it's tracking sales trends over time, analyzing product performance, or understanding regional dynamics, this dashboard provides the insights needed to drive strategic decision-making in the competitive retail landscape.

Explore the dashboard to discover more about Adidas's sales performance and find actionable insights to boost your strategic planning!

