

Title: Data Analysis and Insights for Strategic Decision-Making

SALES PERFORMANCE DASHBOARD PROJECT

Team Name: Trend Trackers

Batch-2

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INTRODUCTION



Overview of Power BI:

- A Microsoft tool for visualizing data and sharing insights.
- Offers interactive dashboards and easy data transformation.

Significance in Sales Visualization:

Tracks KPIs, identifies trends, and drives decisions.

Scope of the Project:

- Create a sales dashboard to analyze trends, monitor revenue, and evaluate performance.
- Provide actionable insights to optimize strategies.





ABOUT THE DATASET



Attributes:

- Transaction Details: Order ID, Order Date, Ship Date, Ship Mode.
- Customer Information: Customer Name, Segment, Region.
- Product Details: Product ID, Category, Sub-Category, Sales, Profit.
- Returns Information: Status of returns.
- Sales Metrics: Quantity, Discount, Payment Mode.

Purpose of Selecting This Dataset:

- To create a comprehensive sales dashboard that visualizes:
- Sales trends over time.
- Performance metrics like revenue, profit, and product-wise analysis.
- Return trends and their impact on profitability.



PROJECT PLAN & OBJECTIVES



Goals of the Dashboard Project:

- Track sales performance across regions, time periods, and product categories.
- Monitor the impact of product returns on profitability.
- Provide actionable insights for stakeholders to optimize strategies.

Key Insights Addressed:

- Revenue & Profit: Identifies top-performing regions and customer segments.
- Discounts & Returns: Analyzes their impact on profitability.
- Product Performance: Highlights best and worst-performing products.
- Sales Trends: Shows sales trends across different time periods.

- **Workflow**: Data Preparation: Cleaned and merged data, Apply Dax formulas.
 - Visualization: Created charts with slicers.
 - Analysis: Calculated KPIs and trends.

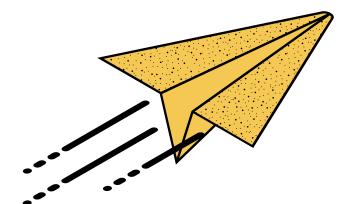


DATA TRANSFORMATION



Techniques Used:

- Changed data types and promoted headers.
- Removed unnecessary columns and replaced values.
- Merged columns and sorted rows for better organization.



Transformation Steps:

- Data Cleaning: Ensured data accuracy and removed redundancies.
- Data Integration: Prepared a unified dataset by merging relevant columns and adjusting formats.

Purpose of Transformation:

- Enhanced data usability for accurate insights.
- Prepared a clean dataset for creating reliable and interactive Power BI dashboards.



APPLYING DAX FORMULAS



Key DAX Formulas Used:

1. Average Order Value: Calculated average revenue per order to gauge customer spending.

```
Average Order Value = SUM('intership_with_returns (2)'[Sales Amount]) / DISTINCTCOUNT('intership_with_returns (2)'[Order ID])
```

2.Total Sales: Summed up sales figures to track overall performance.

```
total sales = Sum('intership_with_returns (2)'[Sales])
```

3.Gross Profit: Derived gross profit by subtracting cost from sales.

```
Gross profit = [total sales]-[TotalCost]
```

4. Average Sales: Calculated average sales across different categories and time periods.

```
avg of sales = AVERAGE ( 'intership_with_returns (2)'[Sales])
```

5. Total Orders: Aggregated order counts for detailed insights.

```
total orders = DISTINCTCOUNT('intership_with_returns (2)'[Order ID])
```



6.Cost Amount: Tracked total costs for calculating margins.

```
CostAmount =
[total sales] - [Gross profit]
```

7.Order Count: Counted total orders to assess customer activity.

```
Order Count = DISTINCTCOUNT('intership_with_returns (2)'[Order ID])
```

8. Sales Month-to-Date: Monitored trends for current and previous sales periods.

```
sales Month to Date:Sales MTD = TOTALMTD([total sales], 'intership_with_returns (2)'[Sales Date])
```

9.Previous Year Sales: Compared current sales to last year for performance analysis.

```
PreviousYearSales =

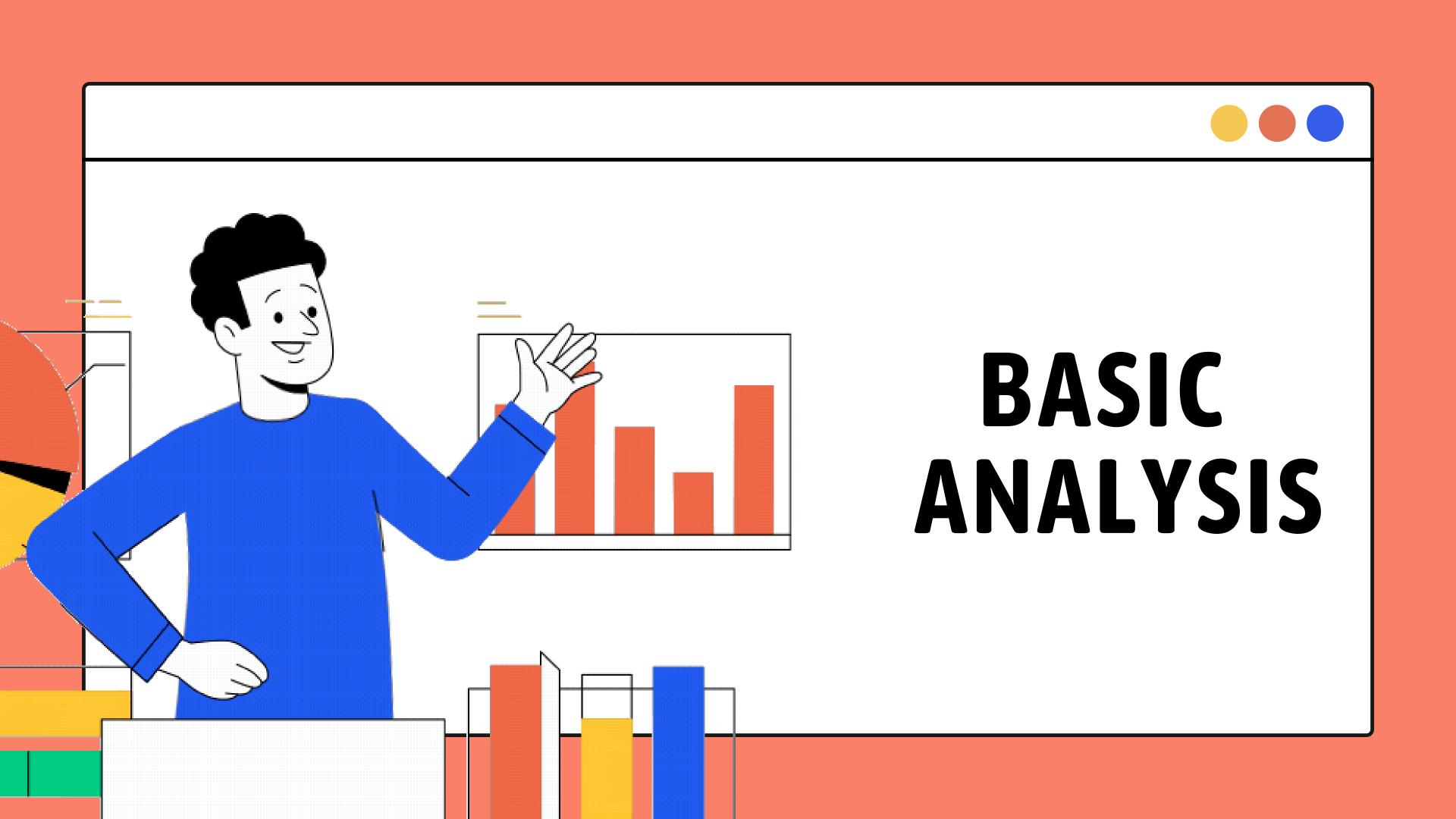
CALCULATE(
    SUM('intership_with_returns (2)'[Sales Amount]),
    SAMEPERIODLASTYEAR('intership_with_returns (2)'[Sales Date])
```

10.Profit Margin: Analyzed profitability as a percentage of sales.

```
Profit_Margin = DIVIDE(SUM('intership_with_returns (2)'[Profit]), SUM('intership_with_returns (2)'[Sales]), 0) * 100
```

11. Segment Sales: Evaluated sales performance by customer segments.

```
Segment_Sales = SUMX(
    FILTER('intership_with_returns (2)', 'intership_with_returns (2)'[Segment] = "Home Office"),
    'intership_with_returns (2)'[Sales]
```





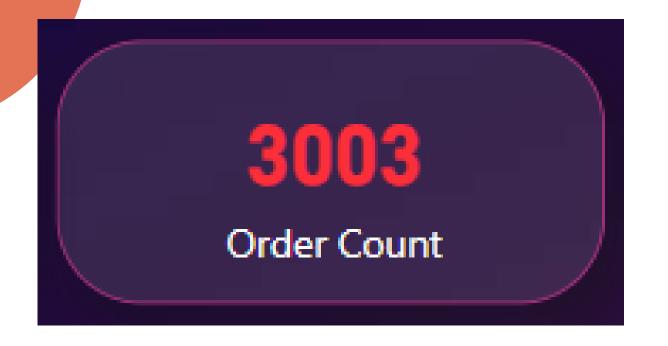
Category Analysis

- Details: Analyzes sales by Technology, Furniture, and Office Supplies.
- Use: Identifies the best-performing categories for targeted campaigns.



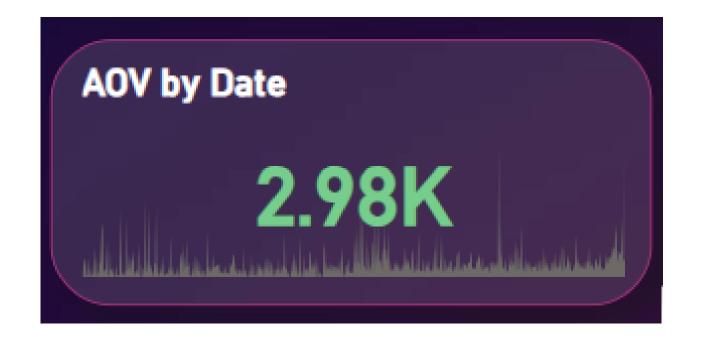
Sum of Sales per Unit

- Details: Highlights the average sales per unit value (471.06).
- Use: Determines product pricing efficiency and profitability.



Order Count

- Details: Displays the total number of orders for 2019 and 2020.
- Use: Helps in tracking yearly growth or decline in order volume.



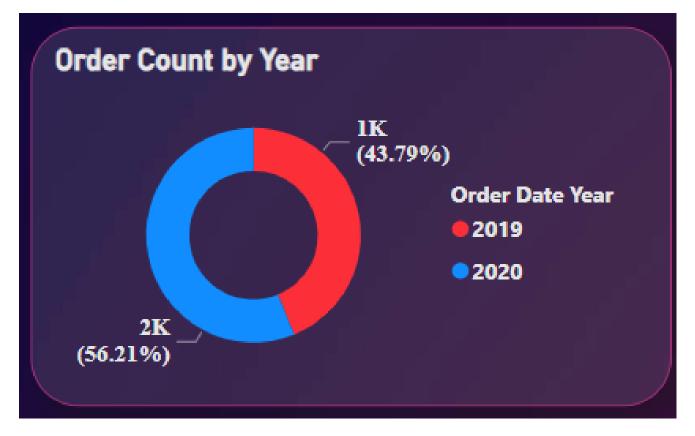
Average Order Value (AOV):

- Details:Displays daily trends of the average value per order.
- Use: Useful for understanding revenue patterns and planning promotional strategies.



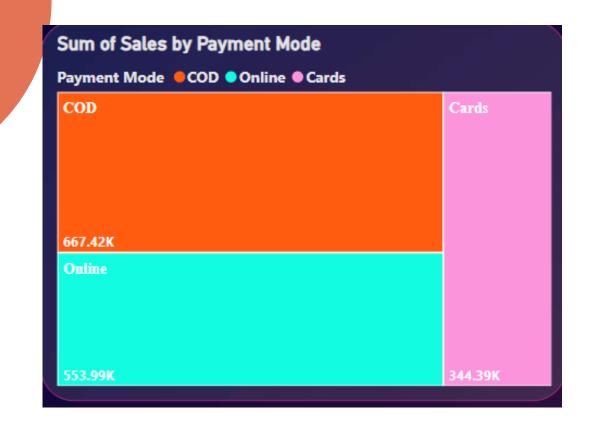
Total Products Sold:

- Details: Highlights the total of 22K products sold.
- Use: Assists in monitoring sales targets and inventory planning.



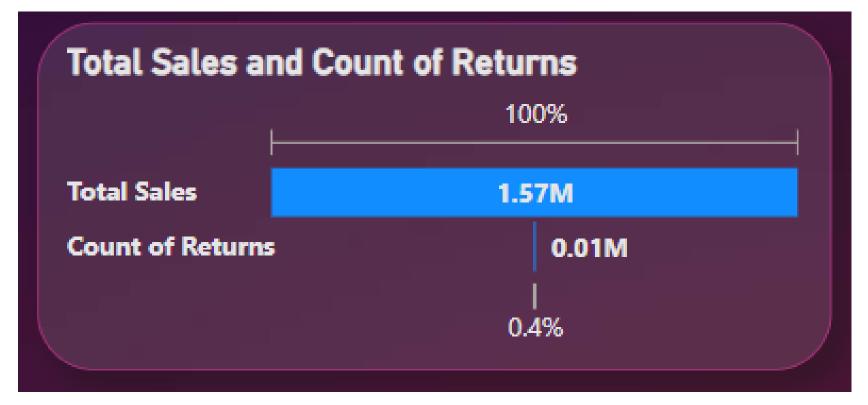
Order Count by Year:

- Details:Shows the growth in orders between 2019 and 2020.
- Use: Helps track yearly sales performance and identify growth trends.



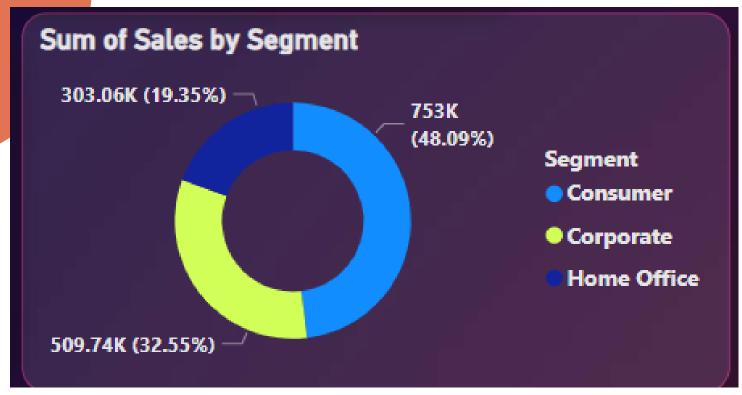
Payment Mode Analysis:

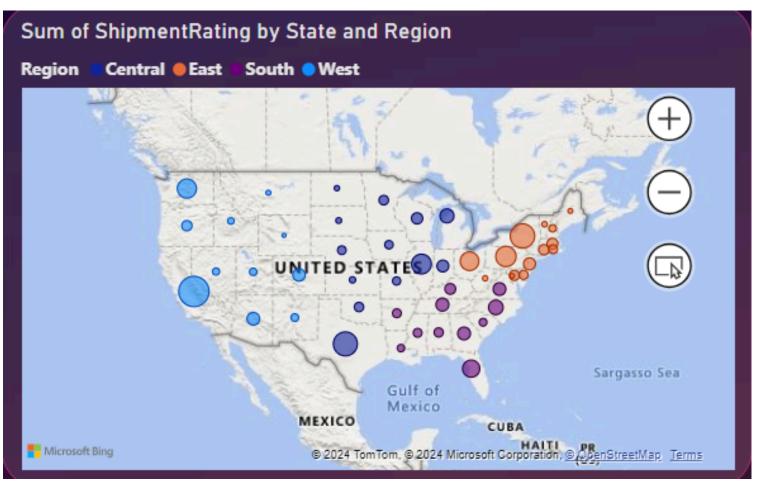
- Details:Compares sales from COD, online payments, and card payments.
- Use: Identifies customer preferences for better payment experience planning.



Sales and Returns:

- Details:Displays overall sales with a 0.4% return rate.
- Use: Shows product quality and customer satisfaction levels.





Sales by Segment and Category:

- Details:Segments like Consumer, Corporate, and Home Office, and categories like Technology are analyzed.
- Use: Identifies the most profitable customer type and product category.

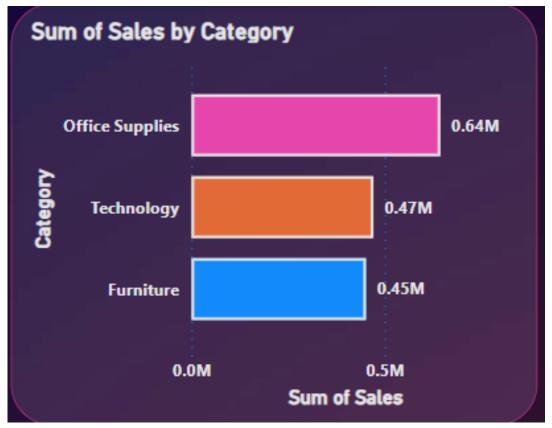
Regional Sales Analysis:

- Details:Shows sales performance across regions and states.
- Use: Focuses on improving underperforming areas.



Total Returns by State

- Details: Analyzes the number of returns across states, highlighting California as the highest.
- Use: Helps focus on regions with higher returns to improve customer satisfaction and reduce returns.



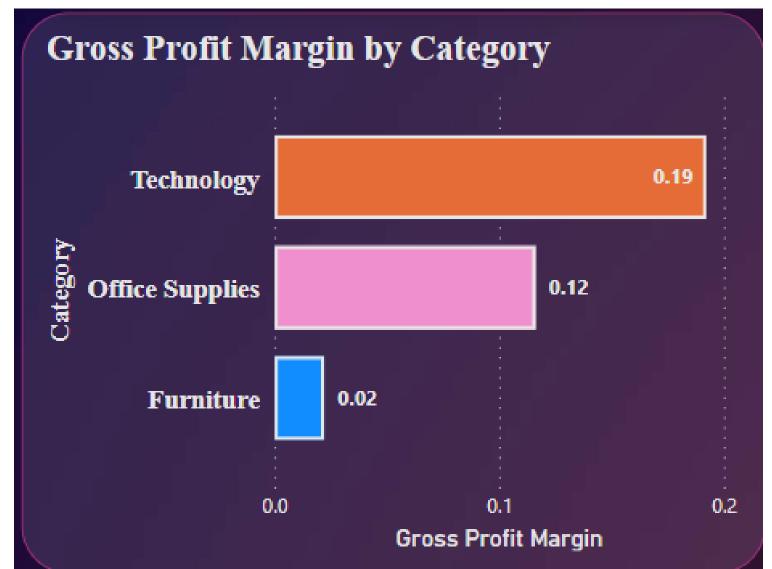
Sum of Sales by Category

- Details: Analyzes sales distribution across Technology,
 Furniture, and Office Supplies.
- Use: Identifies the best-performing categories for targeted campaigns and inventory planning.



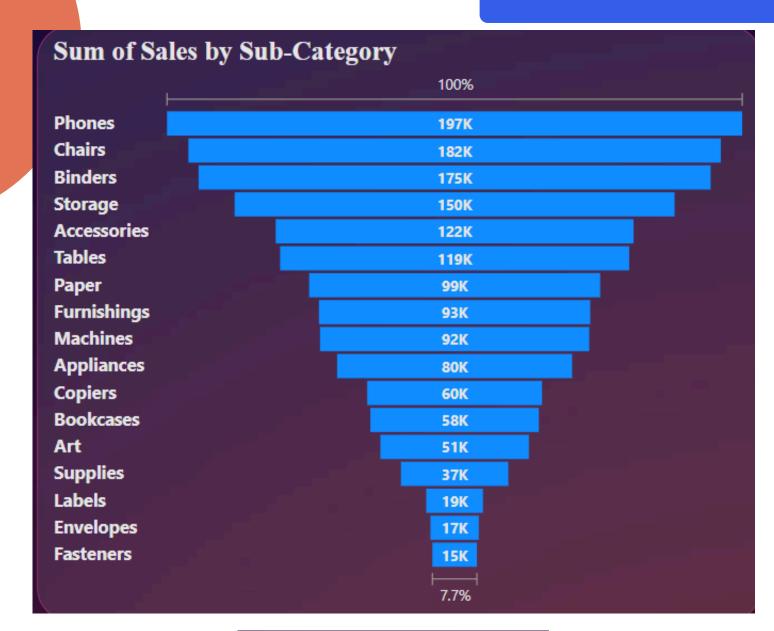
Total Sales (1.57M)

- Details:Displays the total sales revenue generated.
- Use: Provides a quick snapshot of overall business performance.



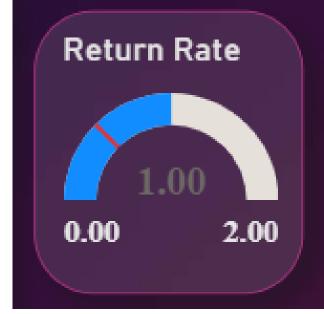
Gross Profit Margin by Category

- Details:Shows gross profit margins for Technology,
 Furniture, and Office Supplies categories.
- Use: Helps identify the most profitable categories for better resource allocation.



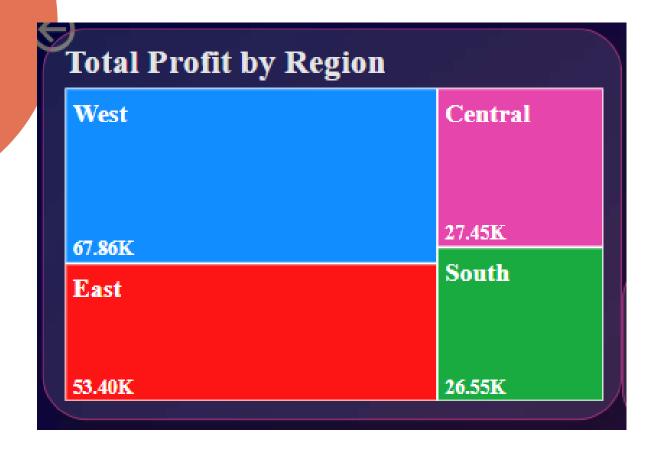
Sum of Sales by Sub-Category

- Details:Breaks down sales by sub-categories like Phones, Chairs, and Binders.
- Use: Identifies top-selling sub-categories to focus marketing and stocking efforts.



Return Rate (1.00)

- Details:Displays the rate of product returns relative to sales.
- Use: Monitors return trends to address quality issues or improve product satisfaction.



Total Profit by Region

- Details: Analyzes profit contributions from regions (West, East, Central, South).
- Use: Identifies the most profitable regions (e.g., West) for prioritizing sales strategies.



Sum of Sales by Product Name

- Details: Highlights sales performance of top products like 3D Systems Cube Printer and Canon ImageCLASS.
- Use: Helps pinpoint best-selling products to focus inventory and marketing efforts.



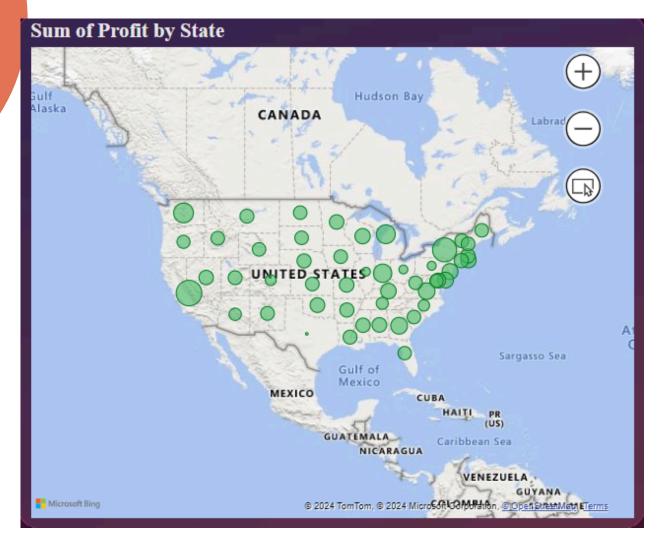
Total Profit (175.26K)

- Details:Displays the overall profit generated within a specific time frame.
- Use: Helps assess the financial health and profitability of the business.

Average Order Value 265.35

Average Order Value (265.35)

- Details:Tracks the average amount spent per customer order.
- Use: Useful for evaluating customer purchasing patterns and sales efficiency.



Profit by State

- Details: Highlights the geographic distribution of profits across different states.
- Use: Assists in identifying high-performing regions and areas for improvement.



Sales Growth Rate (1.77)

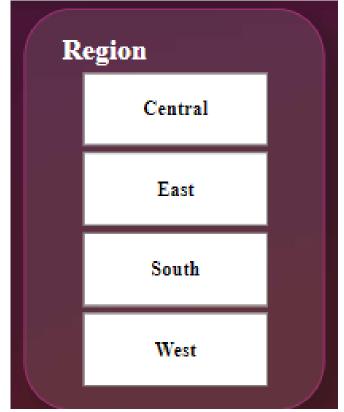
- Details:Measures the rate of sales increase over a specific period.
- Use: Aids in tracking growth trends and evaluating sales strategies.





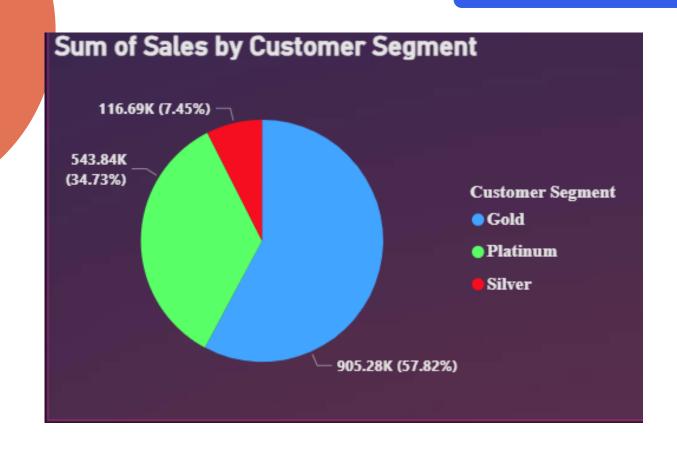
Profit and Sales by Segment

- Details: Details: Compares profit and sales for Consumer,
 Corporate, and Home Office segments.
- Use: Focuses on the most profitable segments for growth strategies.



Sales by Region

- Details: Visualizes total sales divided by regions (Central, East, West, and South).
- Use: Determines which regions are performing better in terms of sales.



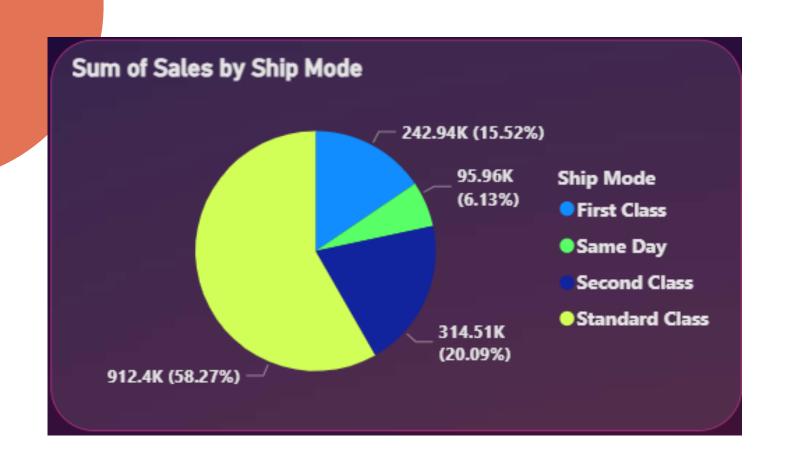
Customer Segmentation:

- Details:Breaks down customers into Gold, Platinum, and Silver segments.
- Use: Prioritizes the segments contributing the most revenue.



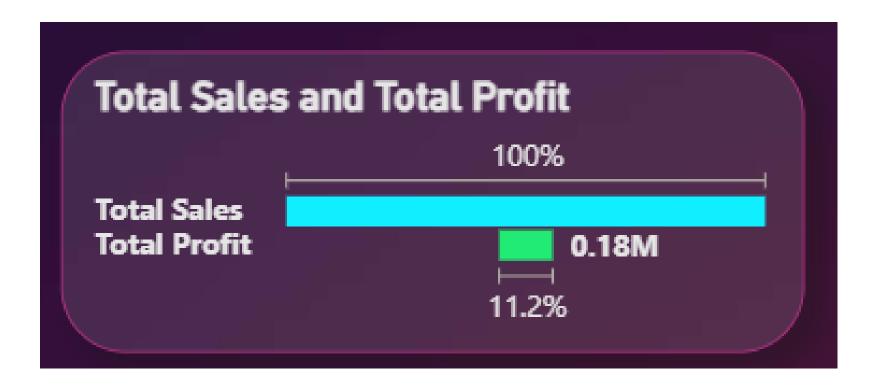
Shipment Rating by Days to Ship

- Details: Rates shipments based on delivery time (e.g., 4-6 days).
- Use: Improves shipment efficiency and ensures timely delivery.



Shipping Modes:

- Details: Highlights the efficiency of different shipping methods.
- Use: Optimizes logistics and reduces delivery delays.



Total Sales and Total Profit

- Details: Highlights total sales (1.57M) and profit (0.18M) with an 11.2% margin.
- Use: Evaluates overall business performance.



Sales by Month and Year

- Details: Compares monthly sales trends for 2019 and 2020.
- Use: Helps identify peak-performing months where sales were the highest.



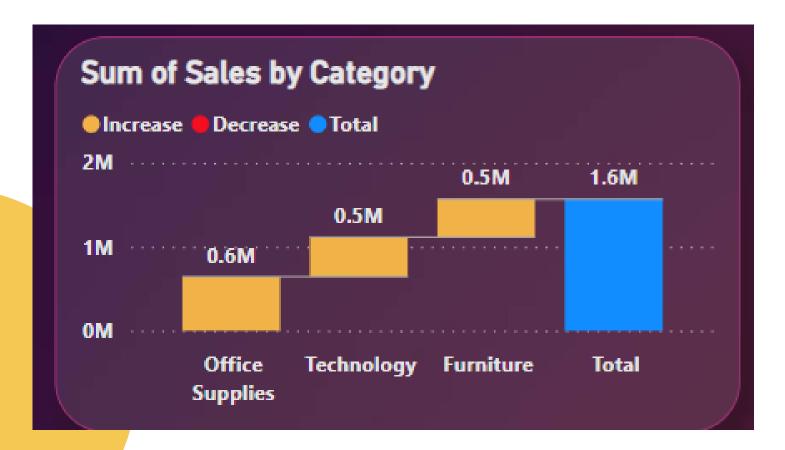
Profit by Month and Year

- Details: Displays the profit trends for each month in 2019 and 2020.
- Use: Tracks profitability consistency and identifies months with higher or lower profit margins.



Sales and Profit by Quarter-Year

- Details: Tracks sales and profit performance for each quarter across both years.
- Use: Useful for understanding seasonal trends and preparing quarterly targets.



Category:

- Details: Allows analysis of Technology, Office Supplies, and Furniture categories.
- Use: Helps focus on the most profitable or underperforming category.

11.19
Profit_Margin

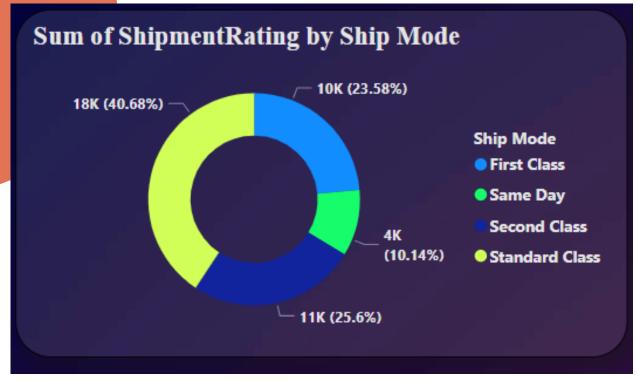
Profit Margin

- Details: Displays the overall profit margin as a percentage (11.19%) across all sales.
- Use: Helps measure the profitability of the business by analyzing how much profit is made relative to sales revenue.

773
Total Unique Customers

Total Unique Customers

- Details: Tracks customer base growth.
- Use: Guides marketing and customer acquisition strategies.



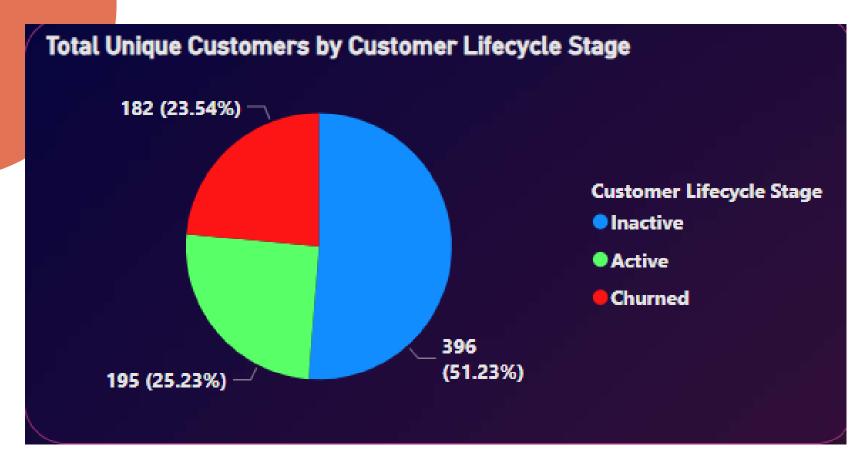


Shipment Rating by Ship Mode

- Details: Shows the distribution of shipments across different delivery methods (e.g., First Class, Standard Class).
- Use: Helps optimize logistics and improve delivery efficiency.

Returns and Shipment Ratings

- Details: Analyzes trends in product returns and shipment quality over time.
- Use: Identifies potential issues with product quality or delivery methods.



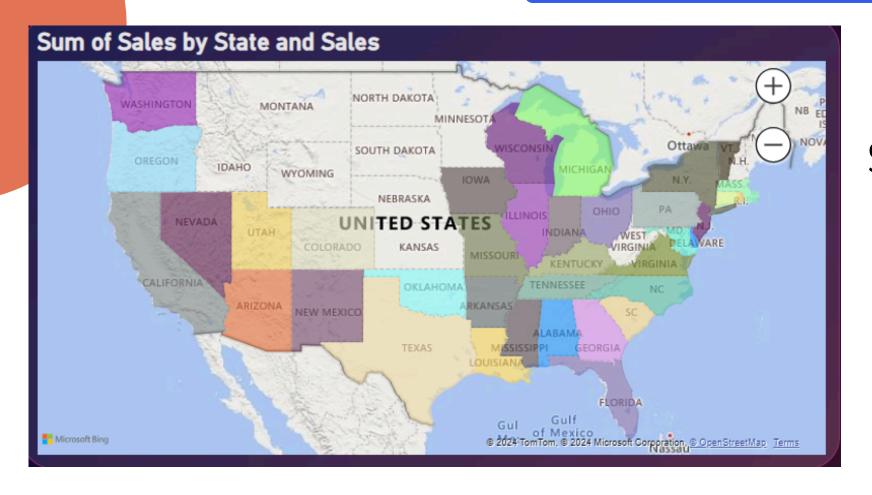
Total Unique Customers by Customer Lifecycle Stage

- Details:Tracks customer journey and retention.
- Use: Identifies customer segments for targeted marketing.



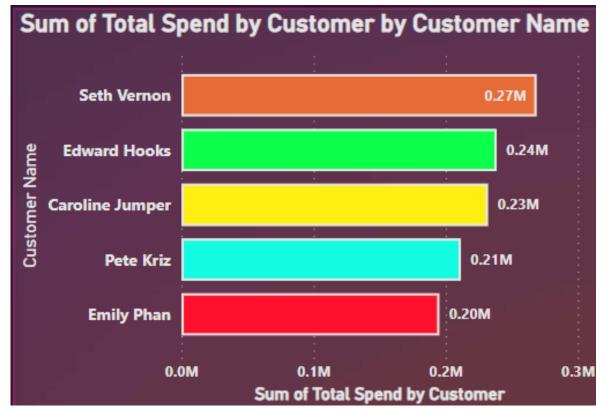
Sum of Sales and Sum of Profit by City

- Details: Compares city-level sales and profit performance.
- Use: Guides regional sales and marketing strategies.



Sum of Sales by State and Sales

- Details: Visualizes sales distribution across states.
- Use: Identifies top-performing states for strategic focus.



Sum of Total Spend by Customer by Customer Name

- Details:Ranks customers by spending.
- Use: Prioritizes customer relationships and loyalty programs.



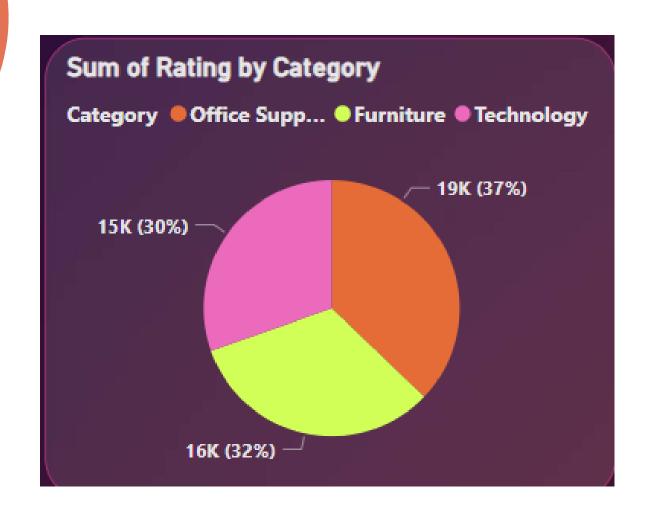
Sum of Sales by Region

- Details:Compares sales figures across different geographical regions (West, East, Central, South).
- Use Case: Helps identify high-performing and lowperforming regions, informing sales and marketing strategies.



Count of Profit Margin by Product

- Details:Tracks the number of products within specific profit margin ranges over time.
- Use Case: Identifies trends in product profitability and helps optimize pricing and inventory strategies.



Sum of Rating by Category:

- Details: Shows the distribution of ratings across different product categories (Office Supplies, Furniture, Technology).
- Use: Helps identify which product categories are performing well or need improvement in terms of customer satisfaction.



Unique Cities:

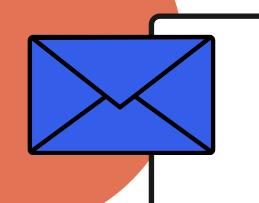
- Details: Displays the number of unique cities from where orders are placed.
- Use: Provides insight into the geographic reach of the business and potential for expansion.

FUTURE ENHANCEMENTS

- Predictive Analytics Integration: Incorporate machine learning models to predict future sales trends and customer behavior.
- Advanced Customer Segmentation: Use clustering techniques to identify more granular customer segments.
- Real-time Data Updates: Enable real-time data processing for live dashboards.
- Geospatial Analysis: Add geospatial maps to visualize regional sales performance and trends dynamically.
- Custom Alerts: Develop notifications for anomalies in sales, returns, or profit metrics.

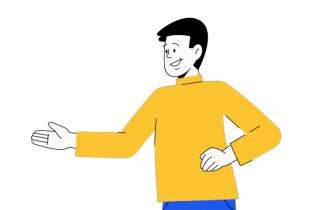


- Milestone 1: Data Cleaning and Transformation ,Completed initial data preparation steps.
- Milestone 2: DAX Formulas Development ,Created necessary measures for analysis.
- Milestone 3: Dashboard Visualization ,Designed interactive and insightful Power BI dashboards.
- Milestone 4: Advanced Analysis Implemented KPIs and trends for actionable insights.

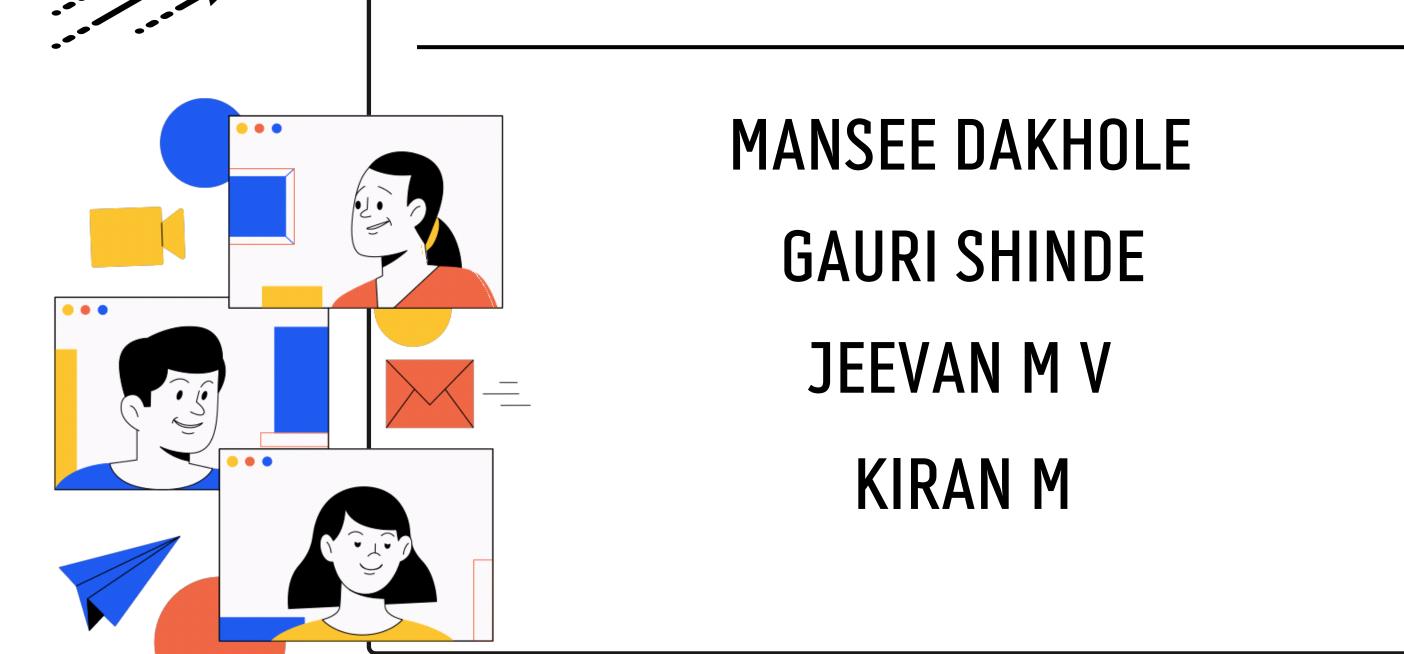


CONCLUSION

- The Sales Performance Dashboard provides a comprehensive view of sales trends, customer behavior, and product performance.
- It enables data-driven decisions to optimize strategies and enhance profitability.
- By analyzing key metrics like profit margins, return patterns, and regional sales, businesses can streamline operations, improve customer satisfaction, and maximize revenue.
- This project highlights the potential of visual analytics tools like Power BI to transform raw data into valuable insights.



TEAM MEMBERS



THANK YOU!

