Superstore Sales Performance Analysis

Using

Python and Tableau
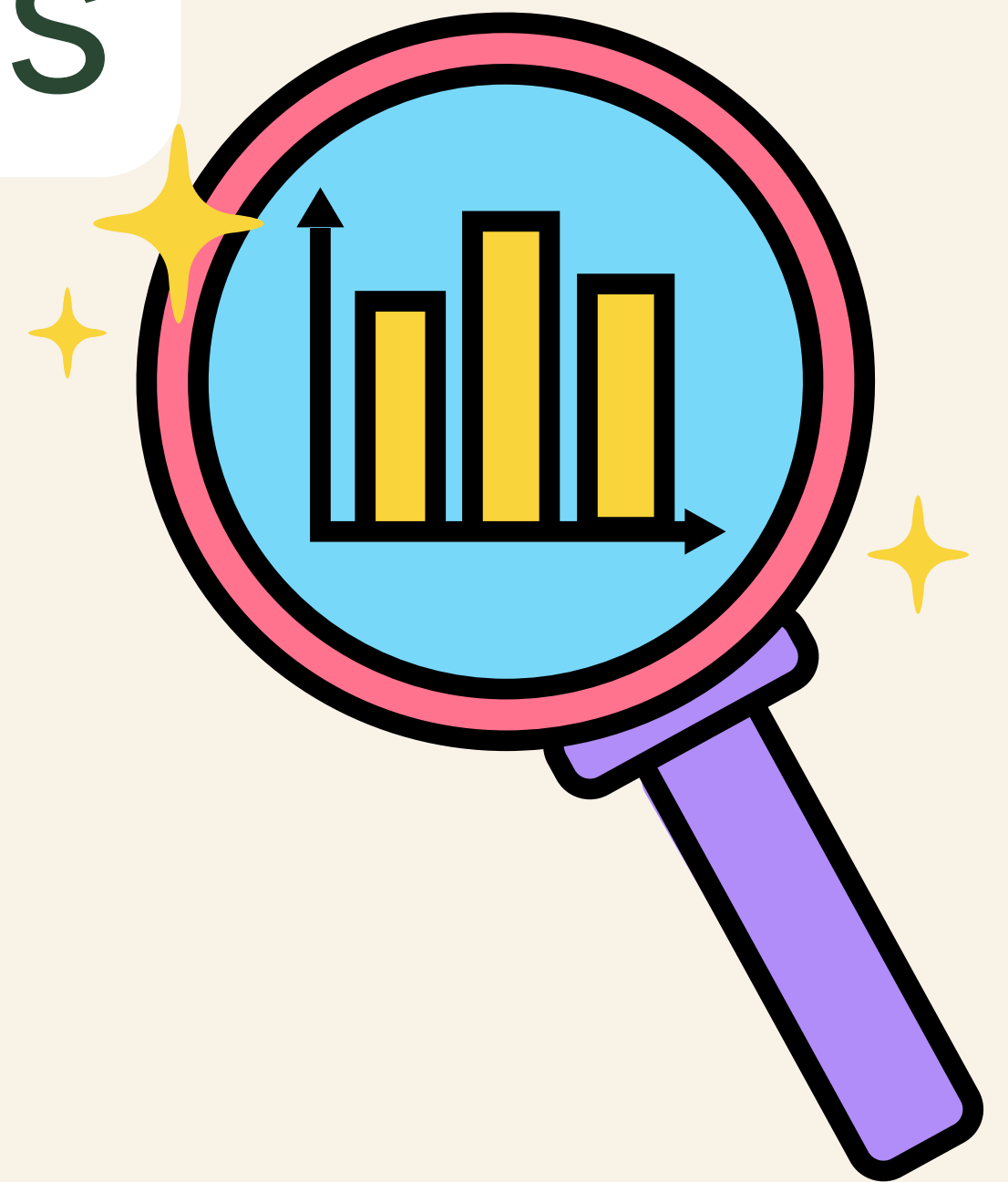
I - Introduction

This presentation explores key insights from the **Superstore sales dataset**, focusing on analyzing sales performance and delivery efficiency.
It identifies key trends, areas for improvement, and provides actionable insights for better decision-making.

Alba Castro

II - Data Preprocessing

-The data preprocessing involved:
- Checking for missing values and duplicates to ensure data integrity.
- Missing Postal Codes were imputed using the most frequent value (mode).
- Duplicates were assessed based on Order ID to confirm uniqueness.

II - Data Preprocessing Cont...

- Additionally, the 'Order Date' and 'Ship Date' columns were converted to datetime format for accurate time-based analysis.
- Delivery time was calculated by subtracting the 'Order Date' from the 'Ship Date' to enhance the dataset for further exploration and insights.

II - Data Preprocessing Cont...

Essential libraries were imported to facilitate data manipulation and visualization.
The following libraries were utilized:

- **Pandas:** For data manipulation and analysis.
- **Matplotlib:** For creating static, interactive, and animated visualizations.
- **Seaborn:** For enhancing data visualization with a more informative and attractive interface.

III – Analysis Questions

1. *Total Sales By Shipping Mode.*
2. *Avg. Delivery Time By Shipping Mode.*
3. *Correlation between Sales and Delivery Time.*
4. *Sales by State and Region.*
5. *Sales by Customer Segment and Region.*
6. *Total Sales by Product Category.*
7. *Total Sales by Year.*
8. *Total Sales by Month for 2018*

IV - The Dashboard

Link:

https://public.tableau.com/app/profile/shahd.qabel/viz/DEPI_GRAD_PROJECT/Dashboard2

V - Business Solutions

Sales Solutions for Free Shipping Based on Order Value

We offer free shipping based on the total value of the customer's purchase, with different shipping modes applied according to the order value:

- **Case 1 :** If the total order value is between 2,000 and 3000 , the customer will receive free shipping using the Standard shipping mode. Other shipping modes will incur charges.
- **Case 2 :** If the order value is between 3,000 and 4,000, the customer qualifies for free shipping with the Second class shipping mode. Other modes, including Same Day and First class , are excluded.
- **Case 3 :** For orders between 4,000 and 5,000, the customer gets free shipping with the First class shipping mode. Same Day shipping is not available for free.
- **Case 4 :** If the order is 5,000 or more, the customer will receive free shipping with the Same Day shipping mode.

Boost Sales with Convenient Pickup Options: Fast, Free, and Nearby!

Why Introduce Pick-Up Points?

- No shipping fees when choosing a nearby pick-up location, making purchases more appealing.
- Faster Delivery Options because orders are available for collection sooner than standard delivery, improving customer satisfaction.
- Enhanced Customer Experience as clear instructions at checkout and real-time product availability updates make the process seamless.
- Increased Sales through Incentives: Offer exclusive discounts or promotions for customers opting for pick-up, driving more orders.

V - Business Solutions Cont...

Applying BCG Matrix on Sub-Categories

1. Cash Cows:
- Chairs (322,823)
- Phones (327,782)

Solutions:
- Focus on maintaining market leadership.
- Optimize costs and improve operational efficiency.
- Introduce loyalty programs to retain existing customers.
- Minimize marketing efforts, as these products sell themselves.

2. Stars:
- Copiers (146,248)
- Machines (189,239)

Solutions:
- Invest in marketing to continue growth.
- Innovate and develop new features to attract more customers.
- Expand distribution channels to reach new markets.
- Ensure the products stay competitive by constantly updating their offerings.

Applying BCG Matrix on Sub-Categories

3. Question Marks:
- Bookcases (113,813)
- Furnishings (89,212)

Solutions:
- Conduct market research to understand why sales are lower.
- Invest in targeted marketing and product development to increase market share.
- Consider partnerships or bundling these products with high-selling ones to boost visibility.
- Evaluate over time to see if further investment or divestment is the right move.

4. Dogs:
- Fasteners (3,002)
- Labels (12,348)
- Art (26,705)
- Envelopes (16,128)

Solutions:
- Consider discontinuing or divesting these products to focus on more profitable areas.
- Reduce costs associated with these products.
- If they serve niche markets, find ways to automate production or sales to maintain minimal operational cost.
- Explore cross-selling with more popular categories to try and boost sales.

Boosting Sales and Marketing through Customer Surveys

Survey Focus Areas:

1 . Product Satisfaction:
- Which products do customers prefer, and why?
- What improvements would customers like to see?

2 . Shipping Preferences:
- How do customers feel about the current shipping modes?
- Are there additional services or shipping options they'd value?

3 . Marketing Engagement:
- What channels (email, social media, etc.) do customers engage with the most?
- What types of promotions or offers motivate them to make a purchase?

Thanks

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