

WALMART SUPERSTORE DATA ANALYSIS

Problem Statement:

The Walmart Superstore wants to analyze its sales data to gain insights into its performance and identify opportunities for growth. The company has a vast amount of sales data, including information on products, customers, stores, and transactions. The main objective is to extract meaningful insights from this data to analyse the overall sales of Walmart superstore.

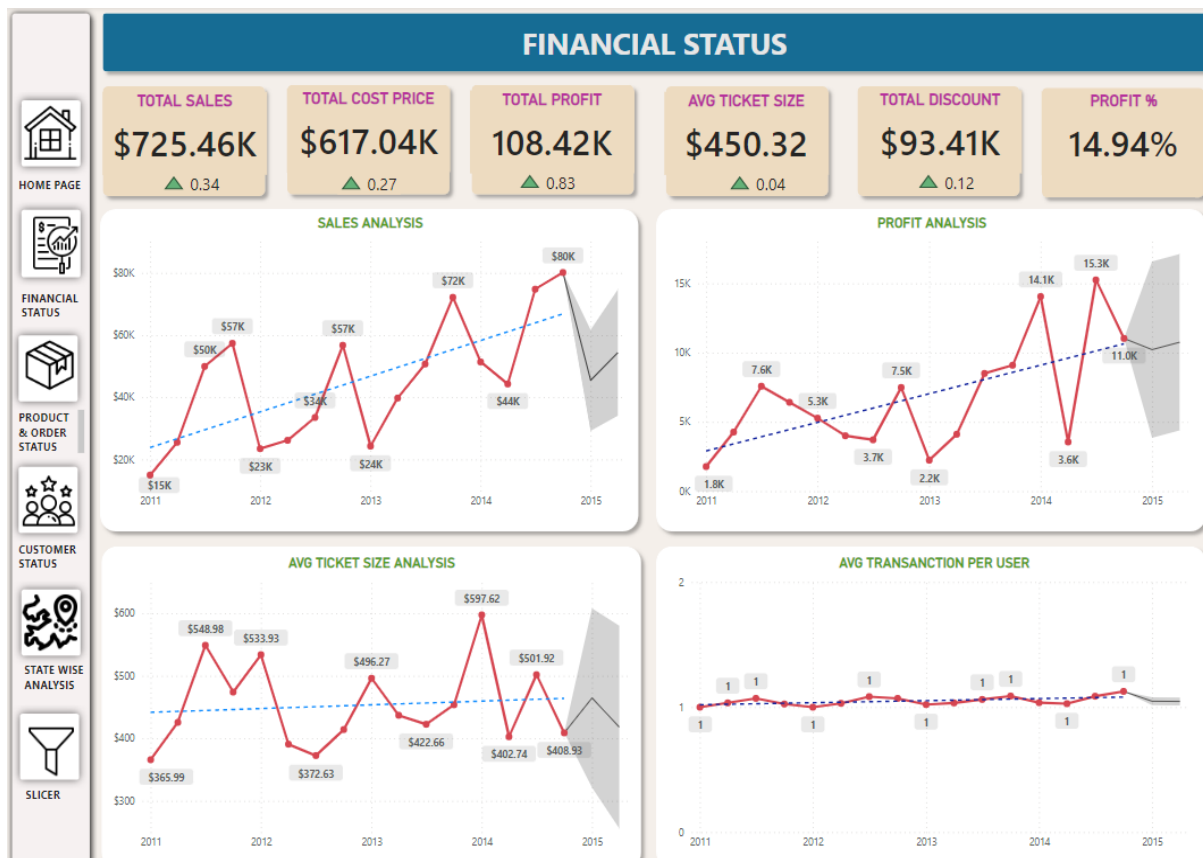
Dashboard:

The dashboard is divided into the following four main sections:

- Financial status
- Product status
- Customer status
- State-wise analysis

Each section provides a detailed overview of the corresponding aspect of the business, allowing for comprehensive analysis and insights into the performance of the company.

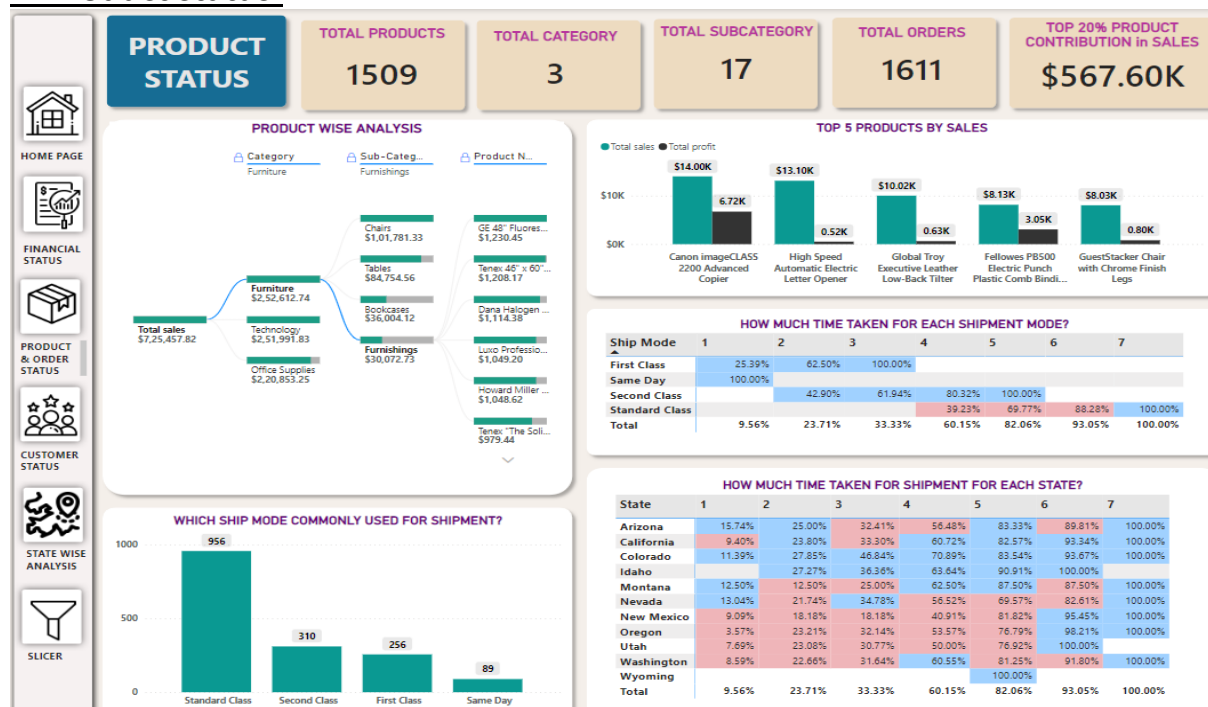
1.Financial status:



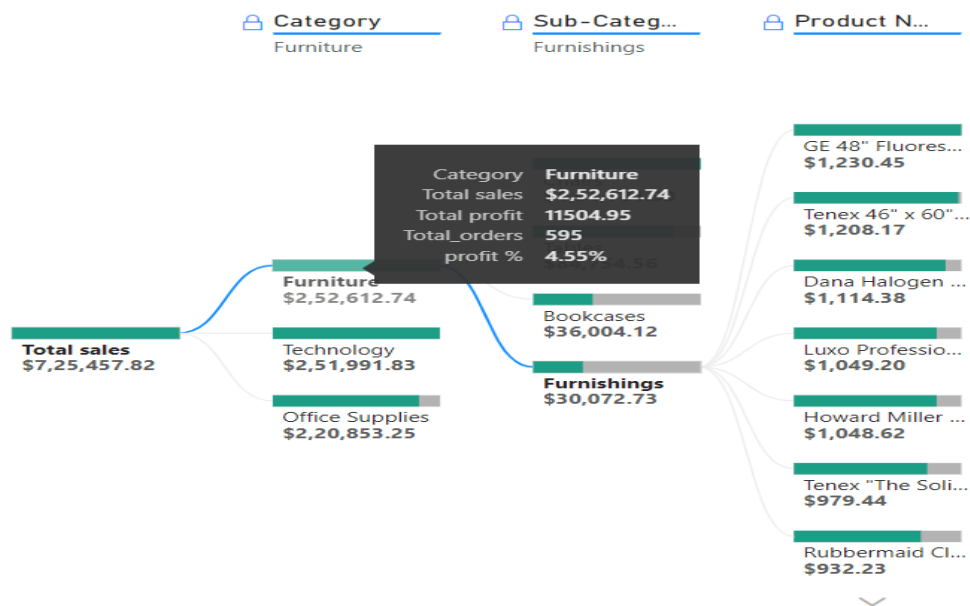
The financial status section of the dashboard includes the following metrics and data:

- Total sales: **\$725.46k**
- Total cost price: **\$617.04k**
- Total profit: **\$108.42k**
- Average ticket size: **\$450.32**
- Total discount: **\$93.41k**
- Profit percentage: **14.94%**
- The high average ticket size of \$450.32 suggests strong customer loyalty and satisfaction.
- The profit percentage of 14.94% indicates healthy profitability from the company's operations.
- The total discount of \$93.41k may be a concern, as it may indicate that the **company is losing potential revenue by offering too many discounts.**
- The total sales of \$725.46k and total cost price of \$617.04k provide a comprehensive overview of the company's revenue and expenses, allowing stakeholders to assess the overall financial health of the business.
- The customer status section of the dashboard has identified a potential issue with the average transaction per user over the last four years. **The data suggests that customers are not buying products from the company more than once during this time period, which could indicate a problem with customer retention or satisfaction.** This insight can be used to investigate the underlying causes of the issue and develop strategies to improve customer loyalty and increase repeat purchases.
- **The lack of repeat purchases by customers over the last four years can have a negative impact on the average ticket size of customers.** Since customers are not returning to make additional purchases, the total amount they spend with the company is likely to be lower than it could be if they were making repeat purchases. Addressing this issue and improving customer retention could lead to an increase in the average ticket size of customers and ultimately contribute to the long-term growth and success of the business.

2. Product status:



- The product status section includes data on the company's products, categories, and orders.
- The company has a total of 1509 products across three main categories and 17 subcategories.
- There have been 1611 orders placed for these products, indicating a steady level of demand.
- **The top 20% of products contribute approximately 78.3% to the total sales of \$725.46k, with a total contribution of \$567.60k, according to the data in the product status section of the dashboard.**



The product status section of the dashboard provides sales and profit data for the three main categories of products: furniture, technology, and office supplies.

- Furniture sales total \$252,612, with a profit of \$11,504.
- Technology sales total \$251,991.83, with a profit of \$44,303.65.
- Office supplies sales total \$220,853.25, with a profit of \$52,609.85.
- **The profit percentage for each category is as follows: furniture at 4.56%, technology at 17.56%, and office supplies at 23.85%.**

These insights can be used to evaluate the profitability of each category and identify areas for improvement or growth. For example, the relatively low profit percentage for furniture may indicate that the company needs to adjust pricing or marketing strategies for these products. Similarly, the higher profit percentage for office supplies may suggest an opportunity to expand this category or focus on promoting higher-margin products within it.

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Ship Mode	1	2	3	4	5	6	7
First Class	25.39%	62.50%	100.00%				
Same Day	100.00%						
Second Class		42.90%	61.94%	80.32%	100.00%		
Standard Class				39.23%	69.77%	88.28%	100.00%
Total	9.56%	23.71%	33.33%	60.15%	82.06%	93.05%	100.00%

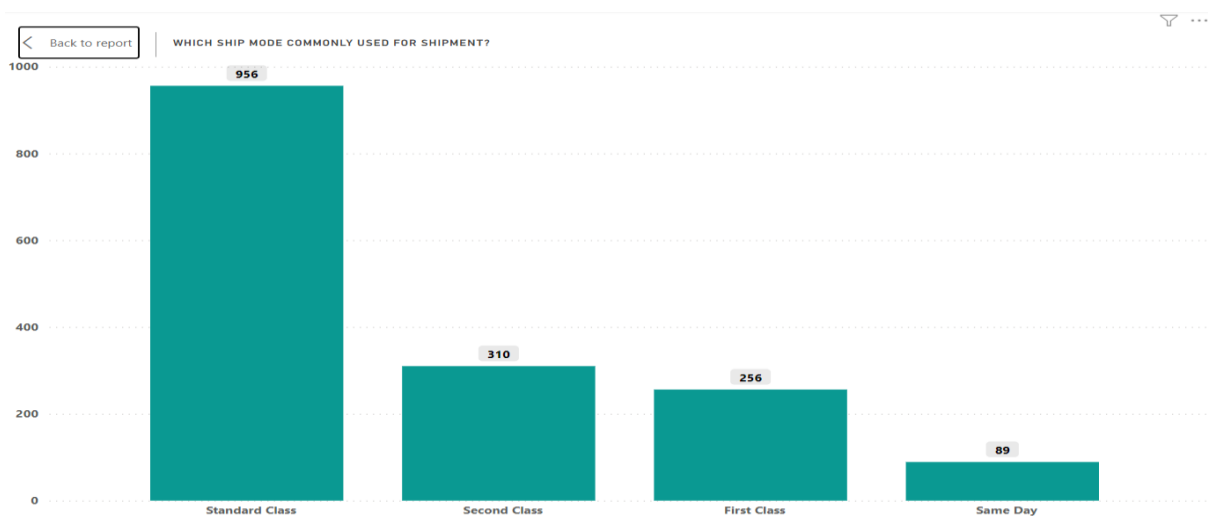
- The shipment mode section of the dashboard includes data on the four available shipping options: first class, same day, second class, and standard class.
- **The estimated shipping times for these options are 3 days for first class, 1 day for same day, 5 days for second class, and 7 days for standard class.**
- It's important to note that these are shipping days, not delivery days. The actual time it takes for a package to be delivered may be longer depending on factors such as distance and processing time.
- By analyzing this data, stakeholders can identify the most popular shipping options and evaluate their effectiveness in meeting customer expectations. They can also use this information to make strategic decisions about pricing and delivery times based on shipping costs and customer demand.

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HOW MUCH TIME TAKEN FOR SHIPMENT FOR EACH STATE?

State	1	2	3	4	5	6	7
Arizona	15.74%	25.00%	32.41%	56.48%	83.33%	89.81%	100.00%
California	9.40%	23.80%	33.30%	60.72%	82.57%	93.34%	100.00%
Colorado	11.39%	27.85%	46.84%	70.89%	83.54%	93.67%	100.00%
Idaho		27.27%	36.36%	63.64%	90.91%	100.00%	
Montana	12.50%	12.50%	25.00%	62.50%	87.50%	87.50%	100.00%
Nevada	13.04%	21.74%	34.78%	56.52%	69.57%	82.61%	100.00%
New Mexico	9.09%	18.18%	18.18%	40.91%	81.82%	95.45%	100.00%
Oregon	3.57%	23.21%	32.14%	53.57%	76.79%	98.21%	100.00%
Utah	7.69%	23.08%	30.77%	50.00%	76.92%	100.00%	
Washington	8.59%	22.66%	31.64%	60.55%	81.25%	91.80%	100.00%
Wyoming					100.00%		
Total	9.56%	23.71%	33.33%	60.15%	82.06%	93.05%	100.00%

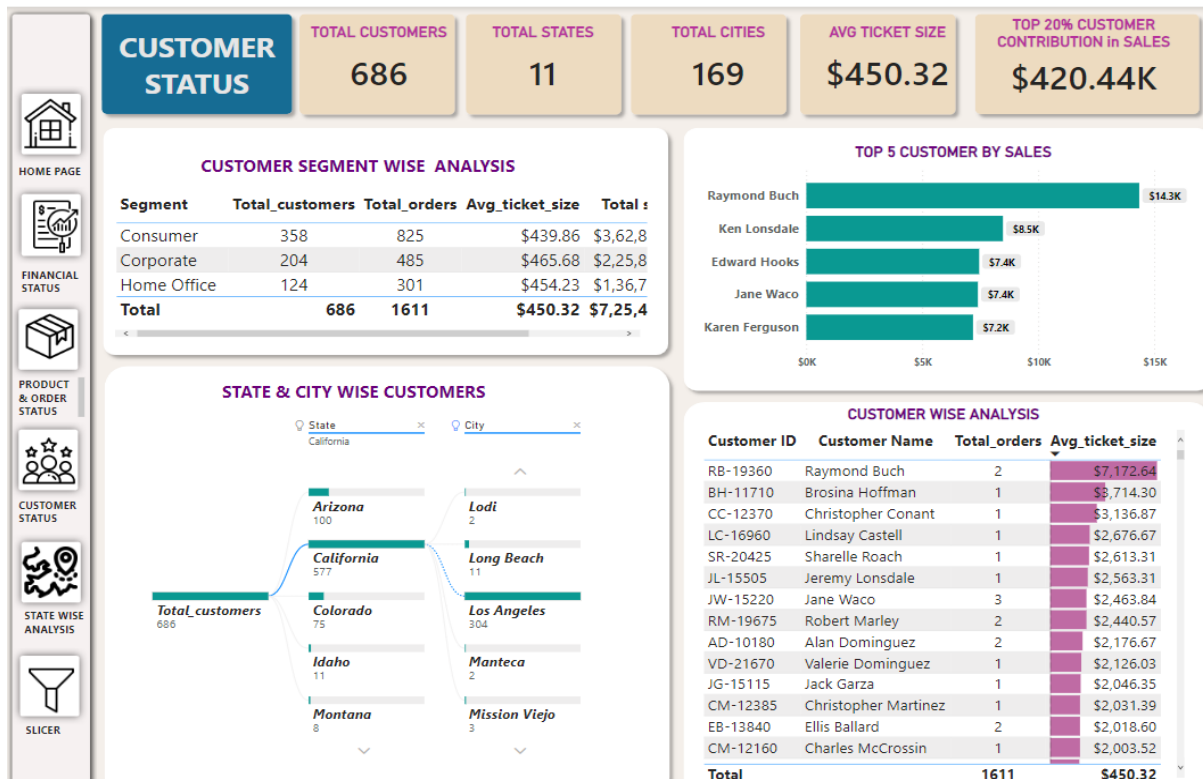
- The state-wise analysis section of the dashboard includes a table that shows the estimated shipping times for each available shipment mode in each state, allowing stakeholders to evaluate delivery times and identify areas for improvement.



- According to the state-wise analysis section of the dashboard, the most commonly used shipment mode is standard class, accounting for 59% of all orders. This information can be

useful for identifying areas where shipping times could be improved or where alternative shipping options might be needed to better meet customer demand.

3.Customer status:

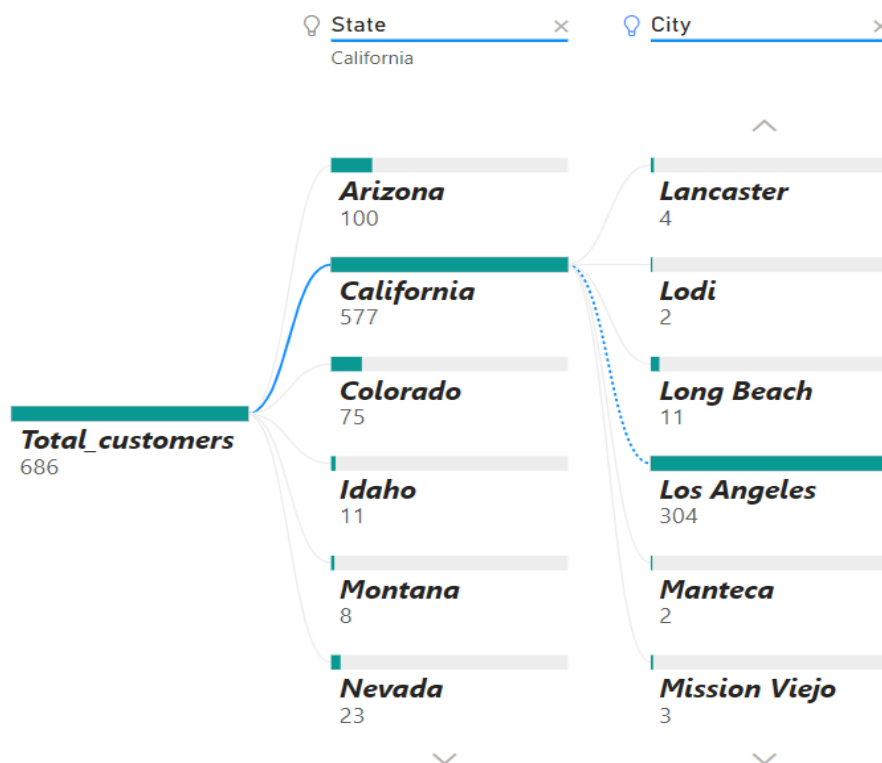


- The customer status section of the dashboard includes data on the total number of states, cities, and customers in the Walmart Superstore's customer base. As of the current analysis, there are 11 states, 169 cities, and 686 customers.
- The top 20% of customers contribute significantly to sales, with a total contribution of \$420.44k out of the total sales of \$725.46k. This represents a contribution of approximately 58% of total sales.**
- By analyzing this data, stakeholders can identify high-value customers and tailor marketing and sales efforts to better meet their needs. This can include offering personalized discounts or promotions, providing excellent customer service, and improving product offerings based on customer feedback.

Segment	Total_customers	Total_orders	Avg_ticket_size	Total sales	profit %
Consumer	358	825	\$439.86	\$3,62,880.77	15.83%
Corporate	204	485	\$465.68	\$2,25,855.27	15.25%
Home Office	124	301	\$454.23	\$1,36,721.78	12.09%
Total	686	1611	\$450.32	\$7,25,457.82	14.94%

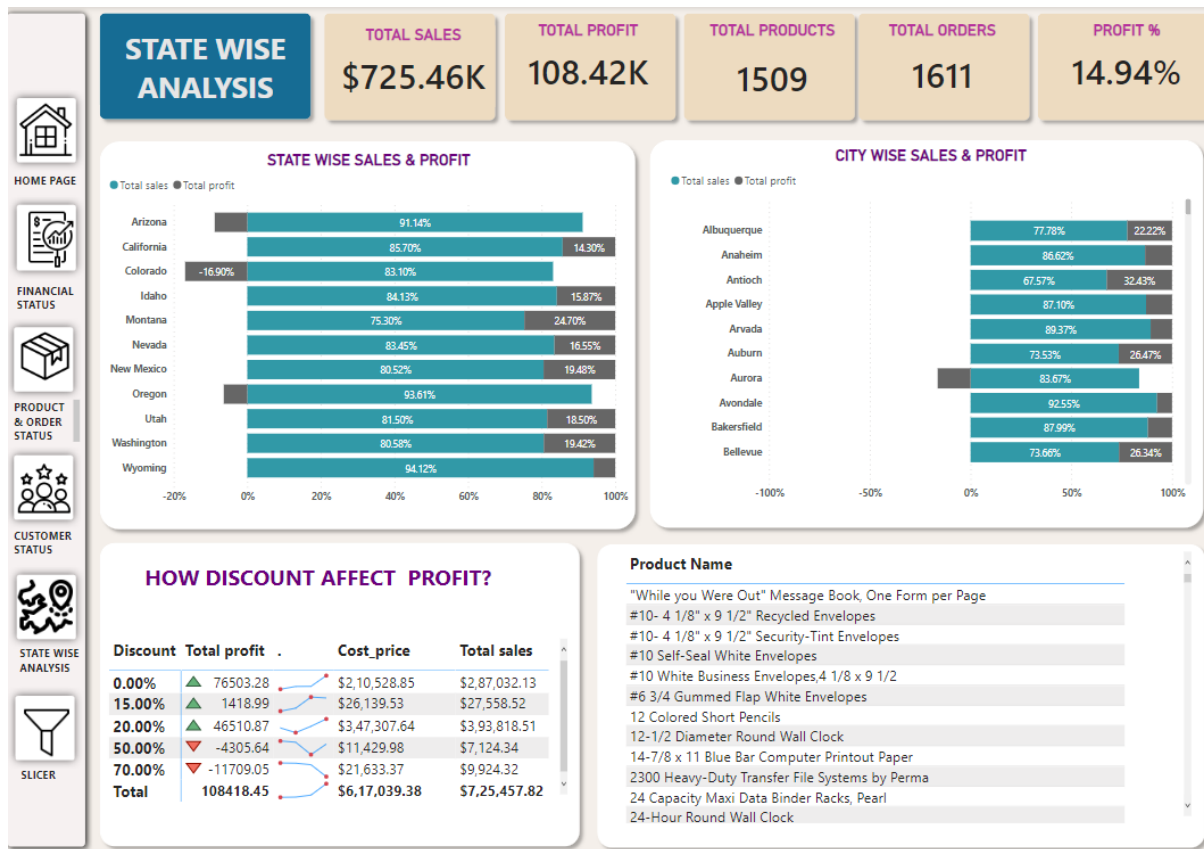
- The customer segment section of the dashboard presents data on the three customer segments of the Walmart Superstore: consumer, corporate, and home office. As of the current analysis, there are a total of 686 customers across all three segments.
- The consumer segment is the largest segment with 358 customers, followed by corporate with 204 customers and home office with 124 customers.
- On average, corporate customers have the highest ticket size at \$465.68, followed by consumers at \$439.86 and home office at \$454.23.
- In terms of total sales, the consumer segment generates the highest revenue at \$362,880.77, followed by corporate at \$225,855.27 and home office at \$136,721.78.
- Although the consumer segment generates the highest total sales with \$362880.77, it has the lowest profit margin of 15.83% compared to the corporate and home office segments with profit margins of 15.25% and 12.09% respectively.
- The data suggests that while the consumer segment is the largest and generates the highest revenue, there may be opportunities to improve profitability through cost optimization or pricing strategies. On the other hand, the corporate segment has a high ticket size and profit margin, indicating that they may be a valuable target for sales and marketing efforts.

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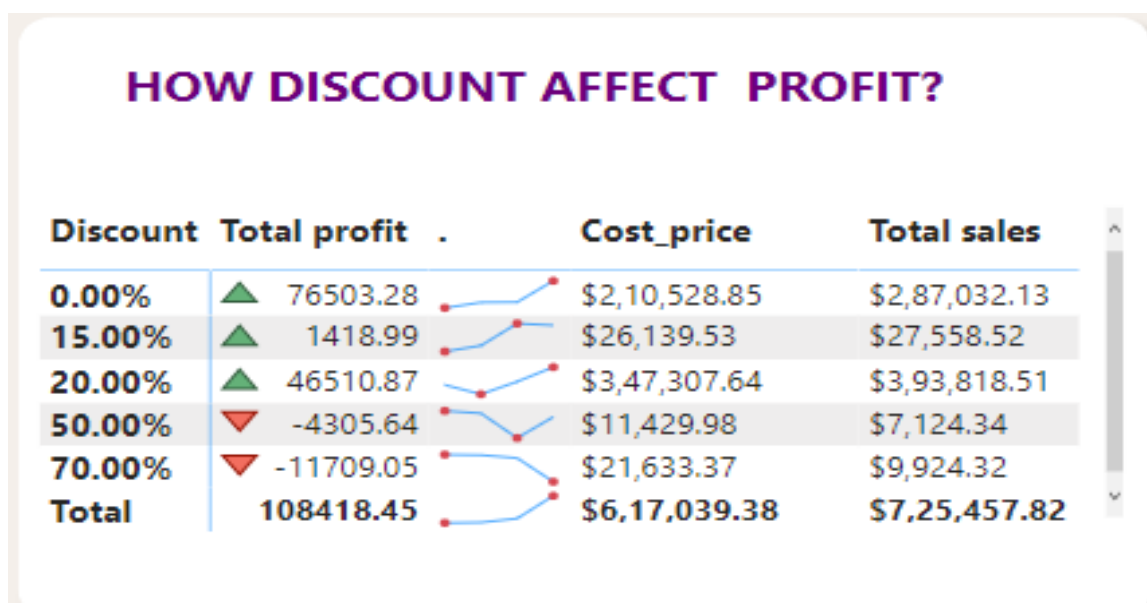


- The above chart displays the distribution of our customers by state and city.
- The majority of customers, specifically 84%, out of the total of 686 customers, are from California, with a count of 577 customers.
- Especially in Los Angeles we have 304 customers.

4.State & city wise analysis :



- Out of the 11 states in consideration, Arizona, Colorado, and Oregon are showing negative profits.



- With 0% discount, the total profit is \$76,503.28 with a cost price of \$210,528.85 and total sales of \$287,032.13.
- With 15% discount, the total profit is \$1,418.99 with a cost price of \$26,139.53 and total sales of \$27,558.52.
- With 20% discount, the total profit is \$46,510.87 with a cost price of \$347,307.64 and total sales of \$393,818.51.
- With 50% discount, the total profit is -\$4,305.64 with a cost price of \$11,429.98 and total sales of \$7,124.34, which means the company incurred a loss.
- With 70% discount, the total profit is -\$11,709.05 with a cost price of \$21,633.37 and total sales of \$9,924.32, which means the company incurred a loss.
- When there is no discount offered, the total profit is the highest at \$76,503.28, with a cost price of \$210,528.85 and total sales of \$287,032.13.
- As the discount rate increases, the total profit decreases, with the largest discounts of 50% and 70% resulting in negative total profits of -\$4,305.64 and -\$11,709.05, respectively.
- The cost price and total sales both decrease as the discount rate increases, with the exception of the 50% discount, where the total sales are lower but the cost price is higher compared to the 20% discount.
- **Overall, the data suggests that offering high discounts can significantly reduce the total profit and may not necessarily result in higher total sales.**

Major problems that I found from this data:

1. Average transaction per user is very low.
 2. High discount rates.
1. Average transaction per user is very low: The data shows that the average transaction per user is only 1, which indicates that customers are not buying a lot of products at once. This could be due to various factors such as the product pricing, product quality, or the overall customer experience.
 2. High discount rates.: The data shows that the total profit for the 50% and 70% discount rates are negative. This indicates that the discounts offered are too high, resulting in a loss for the company. High discounts can attract customers, but they can also impact the company's profitability in the long run. It may be necessary to re-evaluate the discount strategy and find a balance between attracting customers and maintaining profitability.

How to resolve those business problems:

1.average transaction per user:

1. **Upselling and cross-selling:** Encourage customers to buy related or complementary products by offering suggestions or recommendations during the checkout process.
2. **Bundle pricing:** Offer discounts or special pricing for purchasing multiple products together. This can incentivize customers to spend more in a single transaction.
3. **Loyalty programs:** Reward customers for making larger purchases or for being frequent shoppers. This can encourage them to make larger purchases to earn more rewards.
4. **Personalized recommendations:** Use customer data and purchase history to provide personalized product recommendations that are more likely to lead to a purchase.

5. **Limited-time offers:** Create urgency by offering limited-time discounts or promotions that incentivize customers to make a purchase before the offer expires.
6. **Improved customer experience:** Invest in improving the overall customer experience to encourage customers to spend more. This can include offering faster checkout, easier navigation on the website, or providing excellent customer service.

By implementing these strategies, you can encourage customers to make larger purchases and improve the average transaction per user.

2.High discount rates:

1. **Conduct a cost-benefit analysis:** Evaluate the cost of providing discounts against the benefits that discounts bring to your business. You may find that some discounts aren't actually driving sales or customer loyalty, and you could eliminate those discounts.
2. **Limit discount availability:** Consider limiting discounts to only certain items, certain customers, or certain times of the year. This can help you control how much money you're losing from discounts.
3. **Offer alternative incentives:** Consider offering alternative incentives, such as free gifts with purchase or loyalty rewards programs, that don't involve a discount. This can help you maintain customer loyalty without cutting into your profits as much.
4. **Improve your marketing and pricing strategies:** Consider adjusting your marketing and pricing strategies to attract customers without relying on discounts. For example, you could emphasize the value and quality of your products, or offer bundling discounts for customers who buy multiple items.
5. **Negotiate with suppliers:** Work with your suppliers to negotiate better pricing on the products you sell. This can help you reduce your costs and make it easier to offer lower prices without relying on heavy discounts.