

Walmart Business Problems

1. Analyze Payment Methods and Sales

- **Question:** What are the different payment methods, and how many transactions and items were sold with each method?
- **Purpose:** This helps understand customer preferences for payment methods, aiding in payment optimization strategies.

2. Identify the Highest-Rated Category in Each Branch

- **Question:** Which category received the highest average rating in each branch?
- **Purpose:** This allows Walmart to recognize and promote popular categories in specific branches, enhancing customer satisfaction and branch-specific marketing.

3. Determine the Busiest Day for Each Branch

- **Question:** What is the busiest day of the week for each branch based on transaction volume?
- **Purpose:** This insight helps in optimizing staffing and inventory management to accommodate peak days.

4. Calculate Total Quantity Sold by Payment Method

- **Question:** How many items were sold through each payment method?
- **Purpose:** This helps Walmart track sales volume by payment type, providing insights into customer purchasing habits.

5. Analyze Category Ratings by City

- **Question:** What are the average, minimum, and maximum ratings for each category in each city?
- **Purpose:** This data can guide city-level promotions, allowing Walmart to address regional preferences and improve customer experiences.

6. Calculate Total Profit by Category

- **Question:** What is the total profit for each category, ranked from highest to lowest?
- **Purpose:** Identifying high-profit categories helps focus efforts on expanding these products or managing pricing strategies effectively.

7. Determine the Most Common Payment Method per Branch

- **Question:** What is the most frequently used payment method in each branch?
- **Purpose:** This information aids in understanding branch-specific payment preferences, potentially allowing branches to streamline their payment processing systems.

8. Analyze Sales Shifts Throughout the Day

- **Question:** How many transactions occur in each shift (Morning, Afternoon, Evening) across branches?
- **Purpose:** This insight helps in managing staff shifts and stock replenishment schedules, especially during high-sales periods.

9. Identify Branches with Highest Revenue Decline Year-Over-Year

- **Question:** Which branches experienced the largest decrease in revenue compared to the previous year?
- **Purpose:** Detecting branches with declining revenue is crucial for understanding possible local issues and creating strategies to boost sales or mitigate losses.

Visualization-Based Insights

1. Analyze Sales Distribution by Category

- **Question:** What is the distribution of total sales across product categories?
- **Purpose:** Reveals which categories generate the highest revenues and highlights under-performing segments that may need promotion or inventory adjustments.

2. Evaluate Category-Level Customer Satisfaction

- **Question:** What is the average customer rating for each product category?
- **Purpose:** Pinpoints categories with exceptional or poor customer satisfaction, guiding quality improvements and marketing priorities.

3. **Assess Ratings Across Spending Tiers**

- **Question:** What is the average customer rating across different transaction amount ranges?
- **Purpose:** Shows whether higher- or lower-value purchases influence satisfaction, informing pricing strategies and loyalty programs.

4. **Compare Transaction Value by Shift and Payment Method**

- **Question:** What is the average transaction value by shift and payment method?
- **Purpose:** Identifies the most lucrative payment options during specific times of day, aiding staffing, payment processing, and promotional decisions.

5. **Examine Overall Rating Distribution**

- **Question:** What is the distribution of customer ratings across all transactions?
- **Purpose:** Provides a holistic view of customer sentiment, detecting skewness or outliers that signal service or product issues.

6. **Correlate Spending with Rating Levels**

- **Question:** How does average transaction amount vary across different customer rating levels?
- **Purpose:** Explores the relationship between spending and satisfaction, revealing whether high-value customers are also the most (or least) satisfied and guiding retention efforts.