

## Walmart Business Problems – Data Analysis Objectives

This document outlines 15 business questions addressed through the Walmart dataset using SQL and data visualization tools. Each question is designed to extract meaningful insights that can drive decision-making across sales, customer experience, profitability, and operational efficiency.

### Q1. Analyze Payment Methods and Sales

Question:

What are the different payment methods, and how many transactions and items were sold with each method?

Purpose:

To understand customer preferences for payment methods and optimize payment processing strategies.

### Q2. Identify the Highest-Rated Category in Each Branch

Question:

Which category received the highest average rating in each branch?

Purpose:

To promote well-rated categories in specific branches, improving customer satisfaction and marketing.

### Q3. Determine the Busiest Day for Each Branch

Question:

What is the busiest day of the week for each branch based on number of transactions?

Purpose:

To manage peak-day staffing and inventory more effectively.

### Q4. Analyze Category Ratings by City

Question:

What are the average, minimum, and maximum ratings for each category in each city?

Purpose:

To tailor promotions and product strategies for regional customer preferences.

### Q5. Calculate Total Profit by Category

Question:

What is the total profit for each category, ordered from highest to lowest?

Purpose:

To identify the most profitable categories for pricing and inventory focus.

Q6. Determine the Most Common Payment Method per Branch

Question:

What is the most frequently used payment method in each branch?

Purpose:

To help streamline branch-level payment processes.

Q7. Analyze Sales Shifts Throughout the Day

Question:

How many transactions occur in each shift (Morning, Afternoon, Evening)?

Purpose:

To optimize staff shifts and restocking plans by time of day.

Q8. Identify Branches with Highest Revenue Decline Year-Over-Year

Question:

Which 5 branches saw the largest drop in revenue from 2022 to 2023?

Purpose:

To investigate declining branches and plan recovery actions.

Q9. Top 3 Performing Categories Overall

Question:

What are the top 3 categories by total revenue across all branches?

Purpose:

To prioritize and promote high-performing product lines.

Q10. Find Average Profit Margin per Branch

Question:

What is the average profit margin in each branch?

Purpose:

To assess profitability and refine pricing or cost strategies by location.

Q11. Monthly Revenue Trend for 2023

Question:

How does total revenue vary each month in 2023?

Purpose:

To spot seasonality and forecast revenue patterns.

Q12. Top 5 Branches with Highest Revenue per Transaction

Question:

Which 5 branches generate the most revenue per transaction?

Purpose:

To identify high-efficiency branches and adopt best practices elsewhere.

### Q13. Hourly Sales Trends

Question:

How do transaction count and revenue vary by hour of the day?

Purpose:

To support time-based promotions and staffing optimization.

### Q14. Top Category by Profit in Each City

Question:

Which category brings the highest profit in each city?

Purpose:

To guide location-specific inventory and marketing strategies.

### Q15. Transaction Volume Growth Rate per Branch (Month over Month)

Question:

What is the month-over-month transaction growth rate for each branch in 2023?

Purpose:

To monitor performance trends and spot early signs of decline or growth.