

Problem Statement for Walmart Sales Analysis

Title: Data-Driven Insights for Optimizing Walmart's Sales and Customer Experience

Overview:

Walmart processes a vast number of daily transactions across multiple branches. To enhance operational efficiency, customer satisfaction, and financial performance, it is crucial to analyze sales trends, payment methods, peak business hours, and product performance. This project aims to leverage data analytics to derive insights that will help in optimizing staffing, inventory management, and marketing strategies.

Key Business Problems and Analytical Questions

1. Payment Method Analysis

Q1: What are the different payment methods, and how do they impact the number of transactions and quantity sold?

- Understanding which payment method is most frequently used can help improve transaction efficiency and optimize checkout processes.

Q2: What is the proportion of each payment method used?

- Identifying the percentage of transactions processed via different payment methods helps in payment gateway optimization and promotions.

Q3: What is the most common payment method for each branch?

- Analyzing the preferred payment method by branch allows targeted improvements in payment processing.
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2. Sales Performance Across Branches

Q4: What is the total revenue generated by each branch?

- Determining which branches generate the most revenue can guide resource allocation and promotional strategies.

Q5: Which are the top three best-performing branches based on total sales?

- Identifying high-performing branches allows Walmart to replicate successful strategies across other locations.

Q6: Which branch has the highest average customer rating?

- A highly-rated branch indicates superior service quality and customer satisfaction, serving as a benchmark for improvement.
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3. Product Performance and Customer Satisfaction

Q7: What is the average profit margin for each product category?

- Understanding profit margins helps optimize pricing strategies and inventory management.

Q8: Which product category has the lowest rating in each branch?

- Identifying poorly rated product categories can help in quality improvement or removal decisions.

Q9: Which product category has the highest rating in each branch?

- Recognizing top-rated categories allows Walmart to focus marketing efforts and promotions effectively.

Q10: What is the total quantity of items sold per category?

- Determining the best-selling categories helps in inventory planning and demand forecasting.
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4. Customer Traffic and Peak Hours

Q11: What are the busiest hours of the day for each branch?

- Identifying peak transaction hours helps in staffing decisions and optimizing checkout counters.

Q12: What is the busiest day of the week for each branch?

- Knowing the highest footfall day allows Walmart to adjust inventory levels and staffing accordingly.

Q13: How can sales be categorized into different shifts (Morning, Afternoon, Evening), and what is the invoice distribution across these shifts?

- Understanding when customers shop the most allows better workforce planning and promotional timing.
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5. Business Strategy and Operational Efficiency

Q14: How can transaction volume, ratings, and category sales be leveraged to improve customer experience and optimize operations?

- **Using data-driven insights, Walmart can improve service efficiency, customer retention, and business profitability.**
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Conclusion:

By addressing these business questions, Walmart can enhance customer experience, improve operational efficiency, and drive revenue growth. The insights gained will help in making data-backed decisions regarding inventory, staffing, promotions, and customer service improvements.
