

Walmart sales analysis

A COMPREHENSIVE SQL ANALYSIS OF SALES TRENDS, PRODUCT PERFORMANCE, AND CUSTOMER INSIGHTS

Executive summary

This project delves into Walmart sales data to understand customer behavior patterns, product performance metrics, and overall sales trends from the first quarter of the year for 3 branches in different cities

Objectives

- **Understand customer behavior:** Analyze how customers shop across various timeframes and demographics.
- **Evaluate product performance:** Identify top-selling products and areas for improvement.
- **Optimize sales strategies:** Gain insights to drive better sales decisions.

Results

This analysis helps the business to optimize sales and customer engagement.

- **Profitable Periods:** Identified peak sales times (Holidays , weekends).
- **Customer Insights:** Analyzed preferences by time, gender, and location.
- **Top Products:** Pinpointed high-performing product lines.
- **Payment Trends:** Examined usage patterns throughout the time of day month and season

-General

DATA DESCRIPTION

Field	Type
quantity	int
tax_pct	float(6,4)
total	decimal(12,4)
date	datetime
time	time
payment	varchar(15)
cogs	decimal(10,2)
gross_margin...	float(11,9)
gross_income	decimal(12,4)
rating	float(2,1)

FEATURED COLUMNS

time_of_day
day_name
month_name
season
week_event

PRODUCT LINE

Food and beverages
Health and beauty
Sports and travel
Fashion accessories
Home and lifestyle
Electronic accessories

-Time based

-- HOW DO SALES VARY BY DAY OF THE WEEK?

Weekend like Saturday has the highest total sales, followed by Sunday. This suggests that the business might benefit from weekend promotions or extended hours, Weekdays have a consistent drop in sales: Sales throughout the weekdays seem to be relatively consistent, with a slight decrease each day.

Actions:

Investigate weekend trends, Consider weekday promotions, Analyze customer behavior could help with targeted marketing campaigns.

day_name	total_sales
Saturday	56120.8095
Tuesday	51482.2455
Thursday	45349.2480
Sunday	43937.4810
Friday	43848.4095
Wednesday	42803.4180
Monday	37344.7830

-- WHICH TIME OF DAY HAS THE HIGHEST AVERAGE SALES?

It seems that customers tend to spend the most money in the afternoons based on this data.

Action:

- Segmenting the data by day of the week to see if the spending patterns are consistent throughout the week. Thursdays or Fridays might see higher afternoon sales compared to Mondays.
- getting deeper analysis if there are any product categories that sell better during afternoons. This could help with targeted promotions or staffing adjustments.

time_of_day	avg_sales
Afternoon	325.20373803
Morning	322.33955526
Evening	320.19877273

Sales performance

-- HOW DO PRODUCT LINES AFFECT TOTAL SALES?

the most revenue, with "Food and Beverages" leading in total sales, followed by "Fashion Accessories" and "Sports and Travel". "Health and Beauty" has the lowest total sales among the listed categories.

Actions:

- Market Research to understand Customer Preferences by Conduct surveys and focus groups to understand what customers like and dislike about each product line.
- Promotions and Discounts such as Seasonal Promotions and Loyalty Programs Offers discounts and promotions during peak shopping seasons and Implement loyalty programs to encourage repeat purchases.

product_line	total_sales
Food and beverages	56144.8440
Fashion accessories	54305.8950
Sports and travel	53936.1270
Home and lifestyle	53861.9130
Electronic accessories	53783.2365
Health and beauty	48854.3790

-- NUMBER OF SALES MADE IN EACH TIME OF THE DAY PER WEEKDAY

Evenings have the highest sales, based on the data, evenings seem to be the time period with the most sales, followed by afternoons and mornings.

Actions:

- Target evening promotions or campaigns during evenings to capitalize on the higher sales volume.
- Optimize staffing for evenings, If the business has variables of staffing levels throughout the day, you might allocate more staff towards evenings to ensure proper customer service during peak hours.

time_of_day	total_sales
Evening	58
Afternoon	52
Morning	22

Customer

-- WHICH DAY FO THE WEEK HAS THE BEST AVG RATINGS?

Mon, Tue and Friday are the top best days for good ratings **Customers tend to rate their experience higher on Mondays and Fridays:** This could be because people are generally more positive at the beginning and end of the workweek and have a less cluttered schedules.

Action:

- Investigate what drives higher ratings on Mondays and Fridays: Is it because of specific promotions or staffing levels? By understanding the reasons, you can implement similar strategies throughout the week.
- Focus on improving customer experience in the middle of the week: Wednesdays seem to have the lowest satisfaction. Look into what might be causing this and address any areas for improvement in service or product quality.

day_name	avg_rating
Monday	7.13065
Friday	7.05507
Tuesday	7.00316
Sunday	6.98864
Saturday	6.90183
Thursday	6.88986
Wednesday	6.76028

-- WHICH TIME OF THE DAY DO CUSTOMERS GIVE MOST RATINGS PER BRANCH?

Branch A and C are doing well in ratings, branch B needs to do a little more to get better ratings.

Action:

- Provide targeted training for Branch B staff based on the identified gaps. This could include customer service skills, product knowledge, or handling customer complaints effectively.
- Consider incentive programs for Branch B staff to motivate them towards improving customer satisfaction.

A	time_of_day	avg_rating
	Afternoon	7.18889
	Morning	7.00548
	Evening	6.87143

B	time_of_day	avg_rating
	Morning	6.83793
	Afternoon	6.81129
	Evening	6.75102

C	time_of_day	avg_rating
	Evening	7.09859
	Afternoon	7.06667
	Morning	6.97458

product

-- WICH PRODUCTS QULIFAY WITH GOOD OR BAD PREFORMANCE?

Good Performing Product Lines:

Health and beauty, Sports and travel, Home and lifestyle, Electronic accessories.

These product lines are performing above average in terms of sales.

Poor Performing Product Lines:

These product lines are performing below average in terms of sales "Food and beverages, Fashion accessories

Action:

Good Performing Product Lines:

- Investigate what specific factors are driving high sales (market trends, promotions, product quality).
- Determine if seasonal factors or specific product features are boosting sales.
- Look into customer preferences and feedback to understand the high performance.

Poor Performing Product Lines:

- Conduct a market analysis to identify potential issues such as competition, pricing, product quality, or marketing strategies. Implement corrective actions such as improving product offerings, adjusting pricing, or enhancing promotional efforts.
- Benchmarking and Strategy Use the insights from good-performing product lines to develop strategies for improving the poor-performing ones. This could include cross-promotion, bundling products, or leveraging successful marketing tactics.
- Implement a regular review process to monitor the performance of all product lines. Use data-driven insights to make informed decisions and adjust strategies as needed.

product_line	remark
Food and beverages	Bad
Health and beauty	Good
Sports and travel	Good
Fashion accessories	Bad
Home and lifestyle	Good
Electronic accessories	Good

payment

-- WHICH PAYMENT METHODS ARE MOST USED BY CUSTOMERS DURING DIFFERENT TIMES OF THE DAY?

Evenings have the highest transaction volumes with E-wallet being the most popular payment method, followed by Cash and Credit card. Afternoons also show significant usage of E-wallet, Cash, and Credit card, while mornings have the lowest volumes, with Cash being the most used. This indicates a preference for Ewallet and Cash payments during peak times, suggesting a focus on optimizing evening operations and promoting E-wallet usage further, while also enhancing morning engagement through targeted offers.

Action:

Optimize Evening Operations:

- Ensure sufficient staffing and resources in the evenings to handle the higher transaction volumes.
- Promote evening deals and offers, leveraging the higher customer activity during this time.

Enhance Morning Engagement:

- Develop marketing strategies to increase morning transactions, such as early bird discounts or breakfast deals.
- Focus on promoting the convenience of E-wallet and Credit card payments to morning customers, who currently prefer Cash.

Customer Experience Improvements:

- Analyze why customers prefer certain payment methods at different times of the day and adjust services to enhance customer satisfaction.
- Ensure that all payment methods are equally supported and promoted to provide flexibility and convenience to customers.

time_of_day	payment	payment_count
Evening	Ewallet	152
Evening	Cash	140
Evening	Credit card	137
Afternoon	Ewallet	133
Afternoon	Cash	131
Afternoon	Credit card	112
Morning	Cash	73
Morning	Credit card	60
Morning	Ewallet	57