Walmart Sales Analysis

This presentation explores the sales data of Walmart, a retail giant with a vast network of stores and online presence. We will delve into a comprehensive analysis of sales trends, patterns, and key insights.

- Generic Questions
- Product questions
- Sales Questions
- Customer Questions

Business (Generic Questions)

```sql
-- 1.How many unique cities does the data have?
SELECT DISTINCT
    city
FROM
    walmartsales;
```

Output

	city
▶	Yangon
	Naypyitaw
	Mandalay

```sql
-- 2.In which city is each branch?
SELECT DISTINCT
    city, branch
FROM
    walmartsales;
```

Output

	city	branch
▶	Yangon	A
	Naypyitaw	C
	Mandalay	B

Walmart

Business (Product Questions)

```sql
-- 1. How many unique product lines does the data have?
SELECT DISTINCT product_line
FROM walmartsales;
```

Output

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

```sql
-- 2.What is the most common payment method?
SELECT payment_methods, COUNT(Payment_methods) AS max_payment
FROM walmartsales
GROUP BY Payment_methods;
```

Output

payment_methods	max_payment
Credit card	311
Ewallet	345
Cash	344

```sql
-- 3. What is the most selling product line?
SELECT
    Product_line, COUNT(product_line) AS cnt
FROM walmartsales
GROUP BY product_line
ORDER BY cnt DESC;
```

Output

Product_line	cnt
Fashion accessories	178
Food and beverages	174
Electronic accessories	170
Sports and travel	166
Home and lifestyle	160
Health and beauty	152

Walmart

Business (Product Questions)

```sql
-- 4.What is the total revenue by month?
SELECT month_name, SUM(total) AS monthsale
FROM walmartsales
GROUP BY month_name
ORDER BY monthsale DESC;
```

Output

month_name	monthsale
January	116292.11
March	109455.74
February	97219.58

```sql
-- 5.What month had the largest COGS?
SELECT month_name, SUM(cogs) AS maxcogs
FROM walmartsales
GROUP BY month_name
ORDER BY maxcogs DESC;
```

Output

month_name	maxcogs
January	110754.16
March	104243.34
February	92589.88

```sql
-- 6.What product line had the largest revenue?
SELECT product_line, SUM(total) AS maxrevenue
FROM walmartsales
GROUP BY product_line
ORDER BY maxrevenue DESC;
```

Output

product_line	maxrevenue
Food and beverages	56144.96
Sports and travel	55123.00
Electronic accessories	54337.64
Fashion accessories	54306.03
Home and lifestyle	53861.96
Health and beauty	49193.84

Walmart

Business (Product Questions)

```sql
-- 7. What is the city with the largest revenue?
SELECT city, branch, SUM(total) AS cityrevenue
FROM walmartsales
GROUP BY city , branch
ORDER BY cityrevenue DESC;
```

Output

city	branch	cityrevenue
Naypyitaw	C	110568.86
Yangon	A	106200.57
Mandalay	B	106198.00

```sql
-- 8. What product line had the largest VAT?
SELECT product_line, ROUND(SUM(vat), 2) AS largestVAT
FROM walmartsales
GROUP BY product_line
ORDER BY largestVAT DESC;
```

Output

product_line	largestVAT
Food and beverages	2673.56
Sports and travel	2624.9
Electronic accessories	2587.5
Fashion accessories	2586
Home and lifestyle	2564.85
Health and beauty	2342.56

```sql
-- 9.Fetch each product line those product line showing "Good", "Bad".
-- Good if its greater than average sales.
SELECT product_line,
    CASE
        WHEN sum(quantity) > avg(Quantity) THEN "Good" ELSE "Bad"
    END AS remark
FROM walmartsales
GROUP BY product_line;
```

Output

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

Walmart

Business (Product Questions)

```sql
-- 10. Which branch sold more products than average product sold?
SELECT branch, SUM(quantity) AS qty
FROM walmartsales
GROUP BY branch
HAVING qty > AVG(quantity);
```

Output

branch	qty
A	1859
C	1831
B	1820

```sql
-- 11.What is the most common product line by gender?
WITH ranked_sales AS (
    SELECT gender, product_line, COUNT(gender) AS total_count,
           RANK() OVER (PARTITION BY product_line ORDER BY COUNT(gender) DESC) AS rn
    FROM walmartsales
    GROUP BY gender, product_line
)
SELECT gender, product_line, total_count
FROM ranked_sales
WHERE rn = 1;
```

Output

gender	product_line	total_count
Male	Electronic accessories	86
Female	Fashion accessories	96
Female	Food and beverages	90
Male	Health and beauty	88
Male	Home and lifestyle	81
Female	Sports and travel	88

```sql
-- 12.What is the average rating of each product line?
select product_line,round(avg(rating),2) as avg_rating
from walmartsales
group by product_line
order by avg_rating;
```

Output

product_line	avg_rating
Home and lifestyle	6.84
Sports and travel	6.92
Electronic accessories	6.92
Health and beauty	7
Fashion accessories	7.03
Food and beverages	7.11

Business (Sales Questions)

```sql
-- 1.Number of sales made in each time of the day per weekday
SELECT time_of_day, COUNT(*) AS total_sales
FROM walmartsales
WHERE day_name = 'Monday'
GROUP BY time_of_day;
```

Output

time_of_day	total_sales
AFTERNOON	48
Evening	56
MORNING	21

```sql
-- 2.Which of the customer types brings the most revenue?
SELECT customer_type, SUM(total) AS max_revenue
FROM walmartsales
GROUP BY customer_type ORDER BY max_revenue DESC;
```

Output

customer_type	max_revenue
Member	164223.81
Normal	158743.62

```sql
-- 3.Which city has the largest tax percent/VAT (value added Tax)?
SELECT city, ROUND(AVG(VAT), 2) AS VAT
FROM walmartsales
GROUP BY city ORDER BY vat DESC;
```

Output

city	VAT
Naypyitaw	16.05
Mandalay	15.23
Yangon	14.87

```sql
-- 4. Which customer type pays the most in VAT?
SELECT customer_type, ROUND(SUM(vat),2) AS total_vat
FROM walmartsales
GROUP BY customer_type ORDER BY total_vat DESC;
```

Output

customer_type	total_vat
Member	7820.16
Normal	7559.21

Business (Customer Questions)

```sql
-- 1. How many unique customer types does the data have?
select distinct customer_type
from walmartsales;
```

Output

customer_type
Normal
Member

```sql
-- 2.How many unique payment methods does the data have?
SELECT distinct payment_methods
from walmartsales;
```

Output

payment_methods
Credit card
Ewallet
Cash

```sql
-- 3.What is the most common customer type?
select customer_type, count(customer_type) as commontype
from walmartsales
group by customer_type
order by commontype desc;
```

Output

customer_type	commontype
Member	501
Normal	499

```sql
-- 4.Which customer type spemd the most?
select customer_type,sum(total) as most_purchase
from walmartsales
group by customer_type
order by most_purchase desc;
```

Output

customer_type	most_purchase
Member	164223.81
Normal	158743.62

Business (Customer Questions)

```sql
-- 5.which  is the gender of most of the customers?
select gender,count(*) as most_gender
from walmartsales
group by gender
order by most_gender desc;
```

Output

gender	most_gender
Female	501
Male	499

```sql
-- 6. What is the gender distribution per branch?
select branch,gender,count(*) as gender_distribution
from walmartsales
group by branch,gender
order by branch;
```

Output

branch	gender	gender_distribution
A	Female	161
A	Male	179
B	Female	162
B	Male	170
C	Female	178
C	Male	150

```sql
-- 7.Which time of the day do customers give most ratings?
select count(rating) as most_rating,time_of_day
from walmartsales
group by time_of_day
order by most_rating desc;
```

Output

most_rating	time_of_day
432	Evening
377	AFTERNOON
191	MORNING

Business (Customer Questions)

```sql
-- 8. Which time of the day do customers give most ratings per branch?
select time_of_day,branch,count(rating) as most_rating_per_branch
from walmartsales
group by branch,time_of_day
order by most_rating_per_branch desc;
```

Output

time_of_day	branch	most_rating_per_branch
Evening	B	148
Evening	C	143
Evening	A	141
AFTERNOON	C	126
AFTERNOON	A	126
AFTERNOON	B	125
MORNING	A	73
MORNING	B	59
MORNING	C	59

```sql
-- 9. Which day of the week has the best average ratings per branch?
select time_of_day,
round(avg(rating),2) as avg_rating
from walmartsales
group by time_of_day
order by avg(rating) desc
limit 1;
```

Output

time_of_day	avg_rating
AFTERNOON	7.03

```sql
-- 10.Which day of the week has the best average ratings per branch?
select branch,day_name,round(avg(rating),2) as rating
from walmartsales
group by branch,day_name
order by rating desc
limit 1;
```

Output

branch	day_name	rating
B	Monday	7.34