

Optimizing Walmart Myanmar Sales: A Customer & Branch Analysis





hello! I am Mou Sarkar . In this project, I have utilized SQL queries to solve questions related to Optimize Sales Strategy through Customer Segmentation and Branch Performance Analysis.



Introduction

This project involves analyzing the "walmartSalesData.csv" dataset, which contains sales information from Walmart stores in Myanmar for the year 2019. The dataset provides a comprehensive overview of sales transactions, capturing various attributes essential for detailed analysis.

Problem Statement

Optimize Sales Strategy through Customer Segmentation and Branch Performance Analysis.

Overview of the Data

Invoice ID	Branch	City	Customer	Gender	Product line	Unit price	Quantity	Tax %	Total	Date	Time	Payment	cogs	gross margin	gross income	Rating
750-67-81-A	A	Yangon	Member	Female	Health and beauty	74.69	7	26.1415	548.972	05-01-2019	13:08:00	Ewallet	522.83	4.7619	26.1415	9.1
226-31-31-C	C	Naypyitaw	Normal	Female	Electronic accessories	15.28	5	3.82	80.22	08-03-2019	10:29:00	Cash	76.4	4.7619	3.82	9.6
631-41-31-A	A	Yangon	Normal	Male	Home and lifestyle	46.33	7	16.2155	340.526	03-03-2019	13:23:00	Credit card	324.31	4.7619	16.2155	7.4
123-19-11-A	A	Yangon	Member	Male	Health and beauty	58.22	8	23.288	489.048	27-01-2019	20:33:00	Ewallet	465.76	4.7619	23.288	8.4
373-73-71-A	A	Yangon	Normal	Male	Sports and travel	86.31	7	30.2085	634.379	08-02-2019	10:37:00	Ewallet	604.17	4.7619	30.2085	5.3
699-14-31-C	C	Naypyitaw	Normal	Male	Electronic accessories	85.39	7	29.8865	627.617	25-03-2019	18:30:00	Ewallet	597.73	4.7619	29.8865	4.1
355-53-51-A	A	Yangon	Member	Female	Electronic accessories	68.84	6	20.652	433.692	25-02-2019	14:36:00	Ewallet	413.04	4.7619	20.652	5.8
315-22-51-C	C	Naypyitaw	Normal	Female	Home and lifestyle	73.56	10	36.78	772.38	24-02-2019	11:38:00	Ewallet	735.6	4.7619	36.78	8
665-32-91-A	A	Yangon	Member	Female	Health and beauty	36.26	2	3.626	76.146	10-01-2019	17:15:00	Credit card	72.52	4.7619	3.626	7.2
692-92-51-B	B	Mandalay	Member	Female	Food and beverages	54.84	3	8.226	172.746	20-02-2019	13:27:00	Credit card	164.52	4.7619	8.226	5.9
351-62-01-B	B	Mandalay	Member	Female	Fashion accessories	14.48	4	2.896	60.816	06-02-2019	18:07:00	Ewallet	57.92	4.7619	2.896	4.5
529-56-31-B	B	Mandalay	Member	Male	Electronic accessories	25.51	4	5.102	107.142	09-03-2019	17:03:00	Cash	102.04	4.7619	5.102	6.8
365-64-01-A	A	Yangon	Normal	Female	Electronic accessories	46.95	5	11.7375	246.488	12-02-2019	10:25:00	Ewallet	234.75	4.7619	11.7375	7.1
252-56-21-A	A	Yangon	Normal	Male	Food and beverages	43.19	10	21.595	453.495	07-02-2019	16:48:00	Ewallet	431.9	4.7619	21.595	8.2
829-34-31-A	A	Yangon	Normal	Female	Health and beauty	71.38	10	35.69	749.49	29-03-2019	19:21:00	Cash	713.8	4.7619	35.69	5.7
299-46-11-B	B	Mandalay	Member	Female	Sports and travel	93.72	6	28.116	590.436	15-01-2019	16:19:00	Cash	562.32	4.7619	28.116	4.5
656-95-91-A	A	Yangon	Member	Female	Health and beauty	68.93	7	24.1255	506.636	11-03-2019	11:03:00	Credit card	482.51	4.7619	24.1255	4.6
765-26-61-A	A	Yangon	Normal	Male	Sports and travel	72.61	6	21.783	457.443	01-01-2019	10:39:00	Credit card	435.66	4.7619	21.783	6.9
329-62-11-A	A	Yangon	Normal	Male	Food and beverages	54.67	3	8.2005	172.211	21-01-2019	18:00:00	Credit card	164.01	4.7619	8.2005	8.6
319-50-31-B	B	Mandalay	Normal	Female	Home and lifestyle	40.3	2	4.03	84.63	11-03-2019	15:30:00	Ewallet	80.6	4.7619	4.03	4.4
300-71-41-C	C	Naypyitaw	Member	Male	Electronic accessories	86.04	5	21.51	451.71	25-02-2019	11:24:00	Ewallet	430.2	4.7619	21.51	4.8
371-85-51-B	B	Mandalay	Normal	Male	Health and beauty	87.98	3	13.197	277.137	05-03-2019	10:40:00	Ewallet	263.94	4.7619	13.197	5.1
273-16-61-B	B	Mandalay	Normal	Male	Home and lifestyle	38.2	2	3.32	69.72	15-03-2019	12:20:00	Credit card	66.4	4.7619	3.32	4.4
636-48-81-A	A	Yangon	Normal	Male	Electronic accessories	34.56	5	8.64	181.44	17-02-2019	11:15:00	Ewallet	172.8	4.7619	8.64	9.9

1. HOW MANY UNIQUE CITIES DOES THE DATA HAVE?

```
select distinct(City) from walmartsalesdata;
```

Result Grid	
	City
▶	Yangon
	Naypyitaw
	Mandalay



2. In which city is each branch?

```
select city, Branch from walmartsalesdata  
group by city, Branch;
```

Result Grid

	city	Branch
1	Yangon	A
2	Naypyitaw	C
3	Mandalay	B



3. How many unique product lines does the data have?

```
select distinct(product_line) from walmartsalesdata;
```

	product_line
1	Health and beauty
2	Electronic accessories
3	Home and lifestyle
4	Sports and travel
5	Food and beverages
6	Fashion accessories



4. What is the most common payment method?

```
select Payment, count(*) count from walmartsalesdata  
group by Payment  
order by count desc limit 1;
```

Payment	count
Ewallet	345

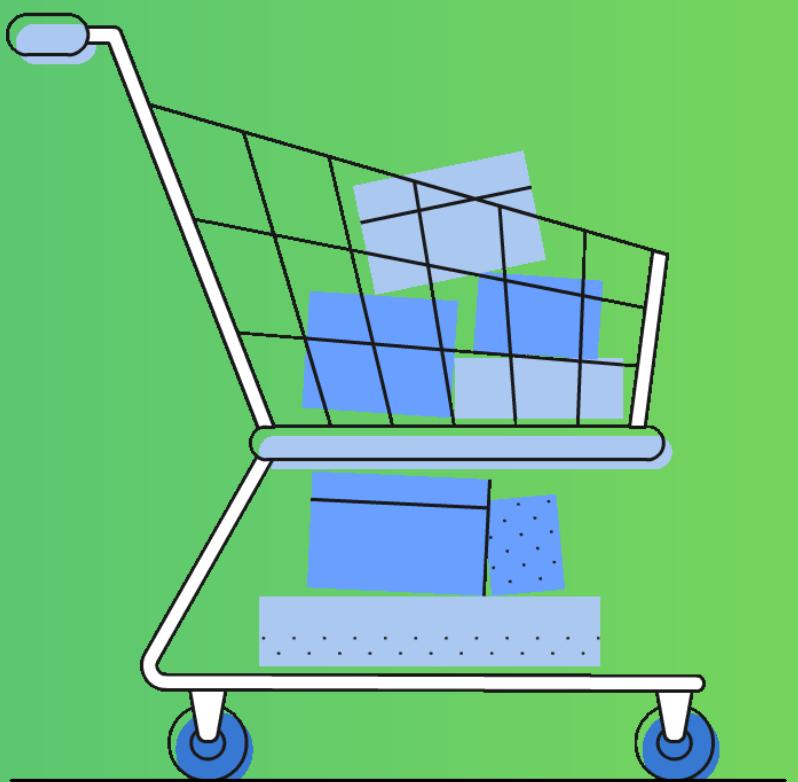


5. What is the most selling product line?

```
select product_line, count(*) count from walmartsalesdata  
group by product_line  
order by count desc limit 1;
```

Result Grid | Filter Rows

	product_line	count
	Fashion accessories	178



6. What is the total revenue by month?

```
select date_format(Date, '%Y-%m') as month, sum(Total) total_revenue from walmartsalesdata  
group by date_format(Date, '%Y-%m')  
order by total_revenue desc ;
```

Result Grid | Filter Rows:

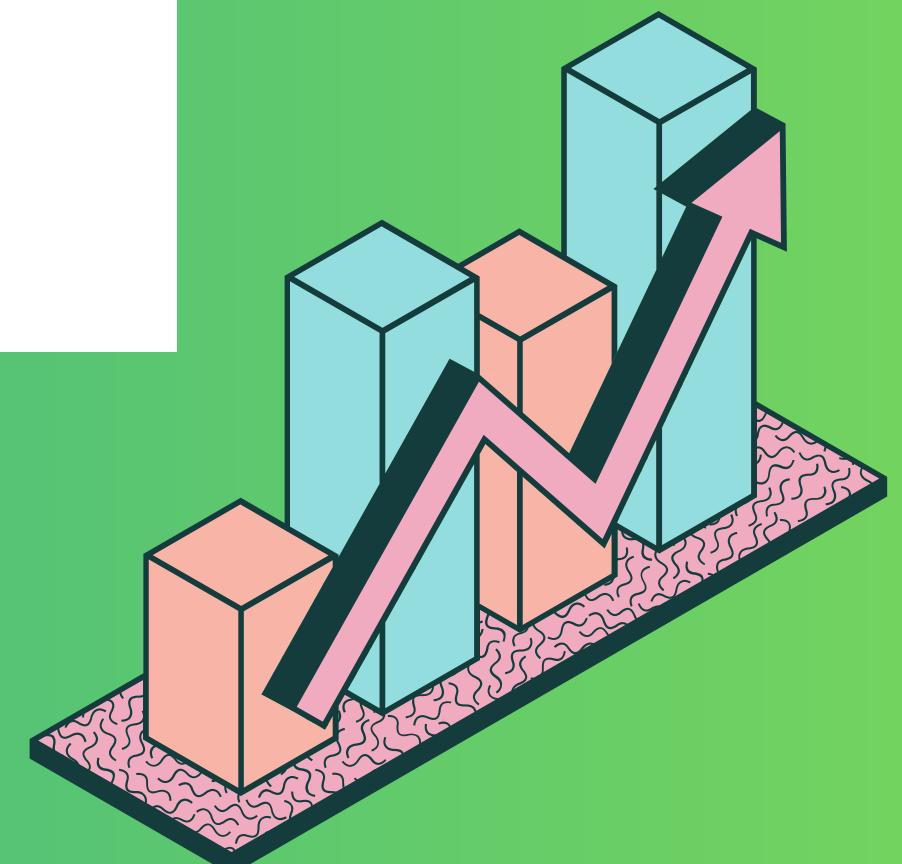
	month	total_revenue
*	2019-01	116291.86800000005
	2019-03	109455.50700000004
	2019-02	97219.37399999997



7.What month had the largest COGS?

```
SELECT DATE_FORMAT(Date, '%Y-%m') AS month,  
SUM(cogs) AS total_cogs  
FROM walmartsalesdata  
GROUP BY DATE_FORMAT(Date, '%Y-%m')  
ORDER BY total_cogs DESC LIMIT 1;
```

month	total_cogs
2019-01	110754.1600000002



8. What product line had the largest revenue?

```
select product_line, sum(Total) revenue from walmartsalesdata  
group by product_line  
order by revenue desc limit 1;
```

product_line	revenue
Food and beverages	56144.844000000005



9. What is the city with the largest revenue?

```
select city, sum(Total) revenue from walmartsalesdata  
group by city  
order by revenue desc limit 1;
```

Result Grid | Filter Rows:

city	revenue
Naypyitaw	110568.70649999994



10. What product line had the largest VAT?

```
select product_line, sum(`Tax 5%`) vat from walmartsalesdata  
group by product_line  
order by vat desc limit 1;
```

Result Grid | Filter Rows:

product_line	vat
Food and beverages	2673.563999999994



11. Which branch sold more products than average product sold?

```
SELECT Branch, SUM(Quantity) AS total_quantity  
FROM walmartsalesdata  
GROUP BY Branch  
HAVING total_quantity > (SELECT AVG(Quantity) FROM walmartsalesdata);
```

Branch	total_quantity
A	1859
C	1831
B	1820



12. What is the most common product line by gender?

```
select product_line, Gender, count(*) total from walmartsalesdata  
group by product_line, Gender  
order by total desc ;
```

product_line	Gender	total
Fashion accessories	Female	96
Food and beverages	Female	90
Health and beauty	Male	88
Sports and travel	Female	88
Electronic accessories	Male	86
Electronic accessories	Female	84
Food and beverages	Male	84
Fashion accessories	Male	82
Home and lifestyle	Male	81
Home and lifestyle	Female	79
Sports and travel	Male	78
Health and beauty	Female	64

13. What is the average rating of each product line?

```
select product_line, avg(Rating) avg_rating from walmartsalesdata  
group by product_line  
order by avg_rating desc ;
```

	product_line	avg_rating
1	Food and beverages	7.113218390804598
2	Fashion accessories	7.029213483146067
3	Health and beauty	7.003289473684212
4	Electronic accessories	6.92470588235294
5	Sports and travel	6.916265060240964
6	Home and lifestyle	6.8375



14. Which of the customer types brings the most revenue?

```
select `Customer type`, sum(Total) revenue from walmartsalesdata  
group by `Customer type`  
order by revenue desc limit 1;
```

Customer type	revenue
Member	164223.4440000002



15. Which city has the largest tax percent/ VAT (Value Added Tax)?

```
select city ,sum(`Tax 5%`) as vat from walmartsalesdata  
group by city order by vat desc limit 1;
```

Result Grid | Filter Rows:

city	vat
Naypyitaw	5265.176500000002



16. Which customer type pays the most in VAT?

```
select `Customer type`, sum(`Tax 5%`) as vat from walmartsalesdata  
group by `Customer type` order by vat desc limit 1;
```

Result Grid		Filter Rows:
	Customer type	vat
	vat	
	Member	7820.164000000002



17. How many unique customer types does the data have?

```
select count(distinct(`Customer type`)) from walmartsalesdata;
```

Result Grid	
	count(distinct(`Customer type`))
2	



18. How many unique payment methods does the data have?

```
select count(distinct ("Payment")) from walmarthsalesdata;
```

	count(distinct ("Payment"))
▶	3



19. What is the most common customer type?

```
select distinct(`Customer type`), count(*) total from walmartsalesdata  
group by `Customer type` order by Total desc limit 1;
```

Result Grid	
Customer type	total
Member	501



20. Which customer type buys the most?

```
select distinct(`Customer type`), sum(Quantity) total_buy from walmartsalesdata  
group by `Customer type` order by Total_buy desc limit 1;
```

Result Grid		Filter Row
	Customer type	total_buy
	Member	2785



21. What is the gender of most of the customers?

```
select Gender, count(*) total from walmartsalesdata  
group by Gender order by Total desc limit 1;
```

Gender	total
Female	501



22. What is the gender distribution per branch?

```
select Gender,Branch, count(*) total from walmartsalesdata  
group by Gender,Branch order by Total desc ;
```

	Gender	Branch	total
1	Male	A	179
2	Female	C	178
3	Male	B	170
4	Female	B	162
5	Female	A	161
6	Male	C	150



Insights

- The dataset has 3 unique cities which are 'Yangon', 'Naypyitaw', and 'Mandalay'.
- 'Yangon' city's branch is 'A', 'Mandalay' city's branch is 'B', and 'Naypyitaw' city's branch is 'C'.
- The most selling product line is 'Fashion accessories'.
- The most common payment method is 'Ewallet'.
- The month of January has the highest total revenue (\$116291.86) and the largest COGS (\$110754.16).
- The 'Food and beverages' product line had the largest revenue (\$56144.84).
- 'Naypyitaw' city has the largest revenue (\$110568.70).
- The 'Food and beverages' product line had the largest VAT (\$2673.56).
- Branch 'A' sold more products than the average number of products sold (1859).
- The 'Member' customer type brings in the most revenue (\$164223.44).
- The 'Member' customer type buys the most.
- 'Naypyitaw' city has the largest tax percent/VAT.
- Most of the customers are female.

**Thank you
very much!**

