

SUPERMARKET SALES ANALYSIS

1. Cities where supermarket are located

Branch	City
A	Yangon
B	Mandalay
C	Naypyitaw

The branches are located in 3 cities in Burma.

2. Total of transactions and sales by Branch

Branch	sales	total_sales
A	340	106200.37
B	332	106197.67
C	328	110568.71

The largest number of transactions take place in Branch A, however, Branch C has the highest total_sales.

The total number of sales per-Branch is similar.

3. Proportion of women and men who buy in branches

Branch	Gender	total_gender	total_sales
A	Female	161	53269.17
A	Male	179	52931.20
B	Male	170	53269.38
B	Female	162	52928.30
C	Female	178	61685.46
C	Male	150	48883.24

In Branches A and B it was men who bought the most; while in C there were many more women. In Branch A and B the total sales by gender are similar; while in Branch C the total sales are much higher for female (\$ 61685.46) than for male (\$ 48883.24).

4. Product_line preferences according to Gender discriminating by branch

Branch A

Branch	Product_line	Gender	total_sales
A	Electronic accessories	Female	9966.30
A	Electronic accessories	Male	8350.82
A	Fashion accessories	Female	9836.22
A	Fashion accessories	Male	6496.29
A	Food and beverages	Male	10163.34
A	Food and beverages	Female	6999.76
A	Health and beauty	Male	6882.86
A	Health and beauty	Female	5714.90
A	Home and lifestyle	Female	12636.81
A	Home and lifestyle	Male	9780.38
A	Sports and travel	Male	11257.52
A	Sports and travel	Female	8115.18

The biggest difference is given in the following Producto line:

- Home and lifestyle (F>M)
- Sport and travel (M>F)
- Food and beverages (M>F)
- Fashion accessories (F>M)

Men mostly buy products line "Sport and travel" and "Food and beverages".

Women mostly buy products line "Home and lifestyle" and "Fashion accessories".

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Branch B

Branch	Product_line	Gender	total_sales
B	Electronic accessories	Male	8884.93
B	Electronic accessories	Female	8166.51
B	Fashion accessories	Female	9081.49
B	Fashion accessories	Male	7331.82
B	Food and beverages	Female	10510.00
B	Food and beverages	Male	4704.89
B	Health and beauty	Male	13580.31
B	Health and beauty	Female	6400.35
B	Home and lifestyle	Female	9557.13
B	Home and lifestyle	Male	7992.03
B	Sports and travel	Male	10775.38
B	Sports and travel	Female	9212.82

The biggest difference is given in the following Producto line:

-Health and beauty (M>F)

-Food and beverages (F>M)

Men mostly buy products line "Health and beauty".

Women mostly buy products line "Food and beverages".

Branch C

Branch	Product_line	Gender	total_sales
C	Electronic accessories	Male	9999.76
C	Electronic accessories	Female	8969.22
C	Fashion accessories	Female	11519.69
C	Fashion accessories	Male	10040.38
C	Food and beverages	Female	15661.16
C	Food and beverages	Male	8105.70
C	Health and beauty	Male	10169.59
C	Health and beauty	Female	6445.74
C	Home and lifestyle	Female	7842.93
C	Home and lifestyle	Male	6052.62
C	Sports and travel	Female	11246.73
C	Sports and travel	Male	4515.20

The biggest difference is given in the following Product_line:

-Food and beverages (F>M)

-Sports and travel (F>M)

-Health and beauty (M>F)

Women mostly buy products line "Food and beverages" and "Sports and travel".

Men mostly buy products line "Health and beauty".

The purchasing habits of the different regions (branches) are also different in terms of gender.

This information is useful to promote marketing campaigns that increase the sale of products; either by offering promotions and offers aimed at audiences of different genders.

5. Total sales by Customer_type and branch

Branch	Customer_type	total_sales
A	Member	53637.48
A	Normal	52562.90
B	Member	53704.69
B	Normal	52492.99
C	Member	56881.28
C	Normal	53687.42

In all branches, the Member customer type has the highest total_sales.
The biggest difference between Customer_type takes place in the Branch C.

6. Total sales by Customer_type and Gender

Branch	Customer_type	Gender	total_sales
A	Member	Male	26994.41
A	Member	Female	26643.07
A	Normal	Female	26626.10
A	Normal	Male	25936.80
B	Member	Male	26854.25
B	Member	Female	26850.43
B	Normal	Male	26415.12
B	Normal	Female	26077.86
C	Member	Female	34653.44
C	Normal	Female	27032.02
C	Normal	Male	26655.41
C	Member	Male	22227.84

If we analyze the previous query breaking down by gender, we find that in branches A and B the proportion of the M/F gender according to the customer type M/N is similar (50/50).

In Branch C there is a greater proportion of female Members, while the gender proportion in the Normal customer type is similar.

The higher total_sales that occurs in Branch C is possibly because it has a larger Member population, with the majority of purchases being made by women.

7. Popular payment method for each of the branches (Percentage)

Branch	Total_Price	Credit card	Ewallet	Cash
C	110568.7065	27.43	33.60	38.97
A	106200.3705	31.16	37.03	31.81
B	106197.6720	35.17	31.56	33.28

Payment method preferred:

Branch C: Cash

Branch A: Ewallet

Branch B: Credit card

8. Popular payment method for each of the branches according Customer_type

Branch	Customer_type	Credit card	Ewallet	Cash
A	Member	49	62	56
A	Normal	55	64	54
B	Member	63	49	53
B	Normal	46	64	57
C	Member	60	50	59
C	Normal	38	56	65

Branch A. Both customer type prefer Ewallet.

Branch B. The preferred payment method for Member Customer_type is credit card. While Normal customer_type prefers Ewallet.

Branch C. Member Customer_type prefers credit card, while Normal Customer_type prefers Cash.

9. Degree of customer satisfaction according to Product line

Product_line	Branch	Rating_total	total_sales
Food and beverages	C	467.3	23766.86
Home and lifestyle	A	450.5	22417.20
Sports and travel	A	428.2	19372.70
Food and beverages	A	420.7	17163.10
Fashion accessories	B	416.8	16413.32
Electronic accessories	A	414.7	18317.11
Sports and travel	B	403.6	19988.20
Electronic accessories	B	391.4	17051.44
Health and beauty	B	376.3	19980.66
Electronic accessories	C	371.1	18968.97
Health and beauty	C	363.9	16615.33
Fashion accessories	A	350.8	16332.51
Food and beverages	B	349.7	15214.89
Home and lifestyle	B	325.8	17549.16
Health and beauty	A	324.3	12597.75
Home and lifestyle	C	317.7	13895.55
Sports and travel	C	316.3	15761.93

The highest degree of satisfaction in general coincides with the best-selling products.

Branch C: "Food and beverages". The preference in this Branch in relation to the others is quite notable.

Branch A: "Home and lifestyle"

Except Branch B, which is the best seller, is in second place in terms of satisfaction.

10. Total sales and transactions made by product line

Product_line	Units_sold	total_sales
Fashion accessories	178	54305.90
Food and beverages	174	56144.84
Electronic accessories	170	54337.53
Sports and travel	166	55122.83
Home and lifestyle	160	53861.91
Health and beauty	152	49193.74

The highest number of units sold corresponds to "Fashion accessories", however, the highest total_sales comes from "Food and beverages".

11. Transactions and total sales by Product line and Branch

Branch	Product_line	Units_sold	total_sales
A	Home and lifestyle	65	22417.20
A	Electronic accessories	60	18317.11
A	Sports and travel	59	19372.70
A	Food and beverages	58	17163.10
A	Fashion accessories	51	16332.51
A	Health and beauty	47	12597.75
B	Fashion accessories	62	16413.32
B	Sports and travel	62	19988.20
B	Electronic accessories	55	17051.44
B	Health and beauty	53	19980.66
B	Food and beverages	50	15214.89
B	Home and lifestyle	50	17549.16
C	Food and beverages	66	23766.86
C	Fashion accessories	65	21560.07
C	Electronic accessories	55	18968.97
C	Health and beauty	52	16615.33
C	Home and lifestyle	45	13895.55
C	Sports and travel	45	15761.93

Branch A: “Home and lifestyle” has the highest total sales and transactions carried out.

Branch B: “Sport and travel” has the highest total sales and transactions carried out.

Branch C: “Food and beverages” has the highest total sales and transactions carried out.

It is observed that the trend in each Branch is different from the global one considered in point 9.

If we take 2 products to compare the consumption of the populations in each Branch, one essential (Food and beverages) and another less essential (Sport and travel) as living standard indicators, we find the following results:

-Branch C: the population prioritizes the purchase of food, and finally “Sport and travel”, which would denote a lower-income population that prioritizes basic needs.

-Branch A and B: are populations that prioritize “Sport and travel” consumption over food, indicating greater purchasing power.

12. Best selling items

branch	product_line	SUM(Quantity)
A	Home and lifestyle	371
C	Food and beverages	369
C	Fashion accessories	342
C	Electronic accessories	333
A	Sports and travel	333
A	Electronic accessories	322
B	Sports and travel	322
B	Health and beauty	320
B	Electronic accessories	316
A	Food and beverages	313
B	Fashion accessories	297
B	Home and lifestyle	295
C	Health and beauty	277
B	Food and beverages	270
C	Sports and travel	265
A	Fashion accessories	263
A	Health and beauty	257
C	Home and lifestyle	245

Branch A: “Home and lifestyle” has the highest number of units sold.

Branch B: “Sport and travel” has the highest number of units sold.

Branch C: “Food and beverages” has the highest number of units sold.

The number of units sold correlates with the higher billing made by Product_line analyzed in point 11.

It is also interesting to analyze those Product_line that have lower sales to see how to increase them.

13. Statistical analysis of total units sold monthly

Monthly	Total_us	Average_us	Std_us	Variance_us
2019-01-05	1965	5.58	2.938	8.63
2019-03-08	1891	5.48	2.806	7.873
2019-02-08	1654	5.46	3.03	9.179

The highest number of units sold took place in the month of January, followed by March and February.

The month of February being the one with the greatest variance.

14. Profits and Revenues of branches

Branch	Cost_of_goods	Profit	Revenue
A	101143.21	5057.16	106200.37
B	101140.64	5057.03	106197.67
C	105303.53	5265.18	110568.71

Profit of Branch C is greater, while in A and B they are similar.

15. Total monthly gross_income of each Branch

Branch A

Jan_gross_income	Feb_gross_income	Mar_gross_income
1841.9585	1421.9105	1793.2915

Branch B

Jan_gross_income	Feb_gross_income	Mar_gross_income
1770.2885	1639.2510	1647.4925

Branch C

Jan_gross_income	Feb_gross_income	Mar_gross_income
1925.4610	1568.3325	1771.3830

The trend of gross_income by Branch follows the general trend. It is highest in January, followed by March and February.

If we analyze by month, the month March was Branch C, February was Branch B and March Branch A.