AMAZON SALES ANALYSIS CAPSTONE PROJECT

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Purpose , overview and scope of the project

The main goal of this project is to gain understanding from amazon sales data, exploring the various factors that influence sales across different branches.

This involves a comprehensive analysis of a company sales data to understand product performance, customer behaviour and sales trends.The project will entill detail preprocessing and explotary data analysis to extract insights with the goal of delivering a standerd recommendation that enable the company to optimize the sales strategies,enhance customer satisfaction and bright growth.

Objective

The main objective of this Amazon sales analysis project is to gain insights into sales data to identify factors affecting sales across different branches, enabling the development of strategies to optimize sales performance and improve overall business outcomes.

Business Problem

- The company faces a major challenge in sales across three different cities and improving customer satisfaction in the compettive e_commerce market by the necessity to graspthe diverse factors impacting sales three unique branches

Project Diagram
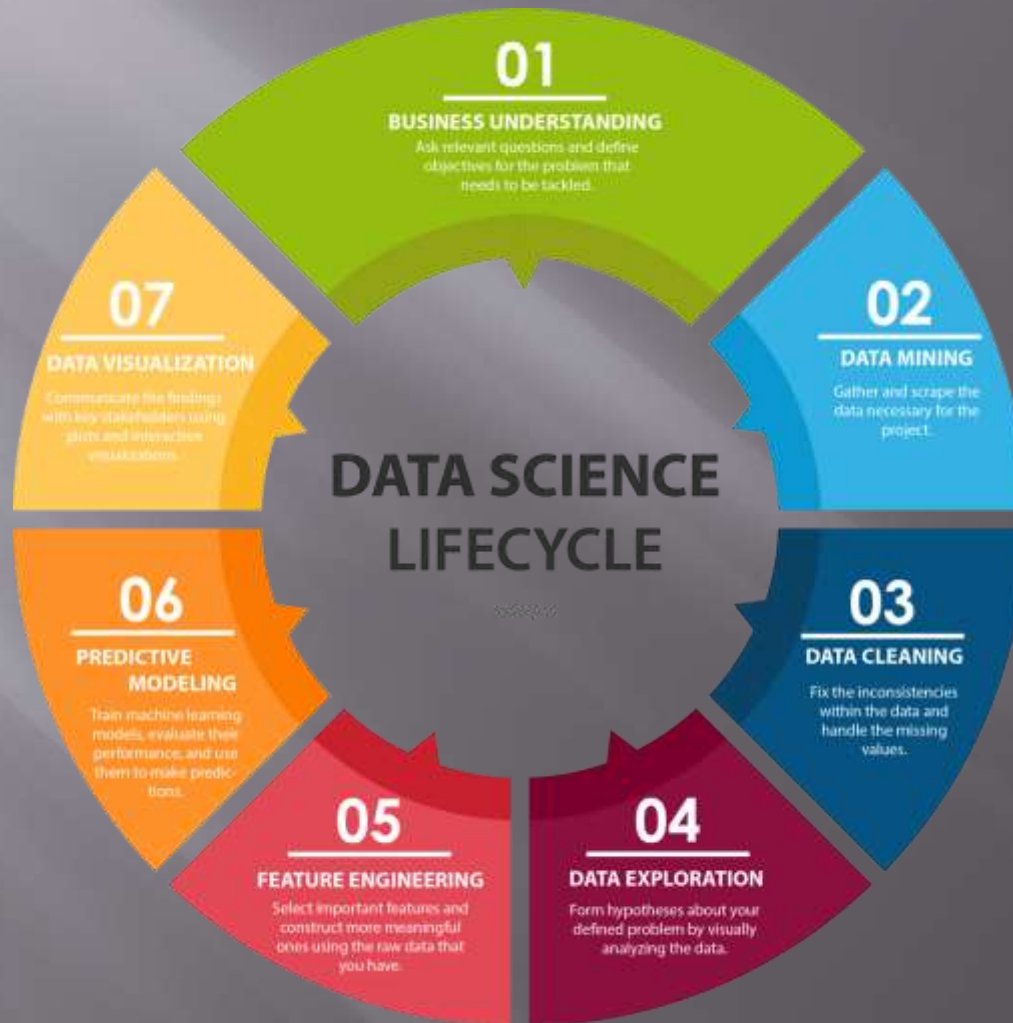
Data Collection And Understanding

Data collection:

Used the primary data and importing to excel.

Data dictionary:

Here is the list of the column names:

Invoice_ID ,Branch , City Customer_type, Gender , Product_line , Unit_price , Quantity, Tax_pct , Total , Date , Time , Payment , cogs , gross_margin_percentage , gross _income , Rating .

Data dimensions:

Here are 17 columns and 1000 rows.

Added three extra columns for clean analysis

day-name, month_name,time_of_day.

Insights of sales data of amazon

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

Insights of product analysis:

- Food and beverages are high demand as per sales and avg rating is 7.11.

- Fashion accessories are 2nd highest leading product as per sales and avg rating is 7.03.

- Health and beauty are 3rd leading product as per sales

- Compare to all of the products homes and life

 style are lowest sales as per rating.

Insights Of Sales Data Of Amazon

Insights of sales analysis:

➢ Most of the sales afternoon Wednesday occurred

➢ Naypyitaw city has generated more revenue compare to other citites.

➢ In the month of january cost of goods solds at its peak

time_of_day	total_sales
▶ Afternoon	53
EVENING	43
Morning	22
NIGHT	15

month	cogs
January	110754.16000000002
March	104243.33999999997
February	92589.88

city	Total_revenue
▶ Naypyitaw	110568.70649999994
Yangon	106200.3705000001
Mandalay	106197.67199999996

Insights Of Sales Data Of Amazon

- ▫ <u>Insights of customer analysis:</u>
- ➤ Most products ordered by female customers compare to male customers.
- ➤ Customer type member has more revenue generated compare to normal type.

gender	product_line	total_cnt
Female	Fashion accessories	96
Female	Food and beverages	90
Male	Health and beauty	88
Female	Sports and travel	88
Male	Electronic accessories	86
Female	Electronic accessories	84
Male	Food and beverages	84
Male	Fashion accessories	82
Male	Home and lifestyle	81
Female	Home and lifestyle	79

customer_type	total_revenue
Normal	158743.31
Member	164223.44

Screenshort Collected Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	Invoice_ID	Branch	City	Customer	Gender	Product_li	Unit_price	Quantity	Tax_pct	Total	Date	Time	Payment	cogs	gross_mar	gross_inc	Rating		
	750-67-84 A		Yangon	Member	Female	Health an	74.69	7	26.1415	548.9715	5/1/2019	13:08:00	Ewallet	522.83	4.761905	26.1415	9.1		
	226-31-30 C		Naypyitav	Normal	Female	Electronic	15.28	5	3.82	80.22	8/3/2019	10:29:00	Cash	76.4	4.761905	3.82	9.6		
	631-41-31 A		Yangon	Normal	Male	Home and	46.33	7	16.2155	340.5255	3/3/2019	13:23:00	Credit car	324.31	4.761905	16.2155	7.4		
	123-19-11 A		Yangon	Member	Male	Health an	58.22	8	23.288	489.048	27-01-201	20:33:00	Ewallet	465.76	4.761905	23.288	8.4		
	373-73-79 A		Yangon	Normal	Male	Sports and	86.31	7	30.2085	634.3785	8/2/2019	10:37:00	Ewallet	604.17	4.761905	30.2085	5.3		
	699-14-30 C		Naypyitav	Normal	Male	Electronic	85.39	7	29.8865	627.6165	25-03-201	18:30:00	Ewallet	597.73	4.761905	29.8865	4.1		
	355-53-59 A		Yangon	Member	Female	Electronic	68.84	6	20.652	433.692	25-02-201	14:36:00	Ewallet	413.04	4.761905	20.652	5.8		
	315-22-56 C		Naypyitav	Normal	Female	Home and	73.56	10	36.78	772.38	24-02-201	11:38:00	Ewallet	735.6	4.761905	36.78	8		
	665-32-91 A		Yangon	Member	Female	Health an	36.26	2	3.626	76.146	########	17:15:00	Credit car	72.52	4.761905	3.626	7.2		
	692-92-55 B		Mandalay	Member	Female	Food and	54.84	3	8.226	172.746	20-02-201	13:27:00	Credit car	164.52	4.761905	8.226	5.9		
	351-62-08 B		Mandalay	Member	Female	Fashion a	14.48	4	2.896	60.816	6/2/2019	18:07:00	Ewallet	57.92	4.761905	2.896	4.5		
	529-56-39 B		Mandalay	Member	Male	Electronic	25.51	4	5.102	107.142	9/3/2019	17:03:00	Cash	102.04	4.761905	5.102	6.8		
	365-64-05 A		Yangon	Normal	Female	Electronic	46.95	5	11.7375	246.4875	########	10:25:00	Ewallet	234.75	4.761905	11.7375	7.1		
	252-56-26 A		Yangon	Normal	Male	Food and	43.19	10	21.595	453.495	7/2/2019	16:48:00	Ewallet	431.9	4.761905	21.595	8.2		
	829-34-39 A		Yangon	Normal	Female	Health an	71.38	10	35.69	749.49	29-03-201	19:21:00	Cash	713.8	4.761905	35.69	5.7		
	299-46-18 B		Mandalay	Member	Female	Sports and	93.72	6	28.116	590.436	15-01-201	16:19:00	Cash	562.32	4.761905	28.116	4.5		
	656-95-93 A		Yangon	Member	Female	Health an	68.93	7	24.1255	506.6355	########	11:03:00	Credit car	482.51	4.761905	24.1255	4.6		
	765-26-69 A		Yangon	Normal	Male	Sports and	72.61	6	21.783	457.443	1/1/2019	10:39:00	Credit car	435.66	4.761905	21.783	6.9		
	329-62-15 A		Yangon	Normal	Male	Food and	54.67	3	8.2005	172.2105	21-01-201	18:00:00	Credit car	164.01	4.761905	8.2005	8.6		
	319-50-33 B		Mandalay	Normal	Female	Home and	40.3	2	4.03	84.63	########	15:30:00	Ewallet	80.6	4.761905	4.03	4.4		
	300-71-46 C		Naypyitav	Member	Male	Electronic	86.04	5	21.51	451.71	25-02-201	11:24:00	Ewallet	430.2	4.761905	21.51	4.8		
	371-85-57		Mandalay	Normal	Male	Health an	87.98	3	13.197	277.137	5/3/2019	10:40:00	Ewallet	263.94	4.761905	13.197	5.1		

Amazon_sales_data

```sql
4 ●    USE AMAZON;
5      -- Data Wrangling
6      -- checking null values so null values are present in this dataset.
7 ● ⊖  CREATE TABLE amazon_sales_data(
8      invoice_id VARCHAR(30) NOT NULL PRIMARY KEY,
9      branch VARCHAR(5) NOT NULL,
10     city VARCHAR(30) NOT NULL,
11     customer_type VARCHAR(30) NOT NULL,
12     gender VARCHAR(10) NOT NULL,
13     product_line VARCHAR(100) NOT NULL,
14     unit_price DECIMAL(10,2) NOT NULL,
15     quantity INT(20) NOT NULL,
16     tax_pct FLOAT(6,4) NOT NULL,
17     total DECIMAL(12, 4) NOT NULL,
18     date DATETIME NOT NULL,
19     time TIME NOT NULL,
20     payment VARCHAR(15) NOT NULL,
21     cogs DECIMAL(10,2) NOT NULL,
22     gross_margin_pct FLOAT(11,9),
```

Business Recommendation

- Focus on high-demand categories like food, fashion, and beauty while improving low-performing home products. Target Wednesday afternoons and Naypyitaw with tailored promotions. Leverage female customer preferences and encourage membership upgrades. Optimize for seasonal peaks like January. Implement feedback loops for continuous improvement to enhance sales strategies, customer satisfaction, and overall growth.

- Invest in product quality improvements,discount some products in odd days and occassion also. please chceking products and its durability and some other factors it might be help to grow the business of the company.

THANK YOU.