Analysis to increase the sale in aluminum and glass trade business

The Mid Term report for the BDM capstone Project

Submitted by

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Content

1. Executive Summary

This report presents an analysis of sales volume and sales value for ohm Sai Aluminium house from April to September,2024. It focus on the total number of transactions and revenue made, and what customers prefer whether they cared about price or quality. This analysis highlights the overall performance of shop sales volume and sales value as well as customer preferences.

Data collected include date over time period of 24 weeks(April-September) with sales volume and sales value and customers feedback. Over the six months, the Ohm Sai Aluminium house had 120 transactions, selling about 58,759 units of various products. There is about 490 units transaction average, indicating strong customer base. Total amount of money earned from these is ₹50,128,525. This is large amount which shown that shop did well during these period. But main reason behind such good demand is constructions of two flyovers near town, and a cement factory leads to shifting of many people near it.

Overall, Ohm Sai Aluminium house performed well during this period, but sales are affected by seasonal changes. The analysis suggests the shop can adjust pricing strategy based on customer preferences.

Tools used for analysis is excel and python libraries. Excel used for basic calculation and organizing data. And python libraries like panda ,numpy and matplotlib is used for sort, spot patterns and, to create chart and graph respectively.

2. Proof of Originality

Letter from organisation	image
Image from firm	image
Interaction video	video
Data	Data
Drive link	Link

3. Metadata

For sheet 1:

Product Name	Datatype	Description
Date	Date	Day, Month and year
Aluminium	Numerical	Total demand of aluminium at shop in given month and year including sheet and rod (in Kg).
Mica	Numerical	Total demand of Mica at shop in given month and year (in Piece)
Ply	Numerical	Total demand of Ply Made product in given month and year (in feet)
Glass	Numerical	Total demand for glass in given month and year (in Square feet)
Hardware (locks, screw etc)	Numerical	Total demand for hardware at shop in given month and year (in Piece)
Sales volume	Numerical	Amount of unit sold on given time.
Sales value	Numerical	Amount of revenue collected of given time.

For sheet 2:

Columns	Value	Description
Price preference mica	Integer	Represents the price preferences of customers for mica products over time.
Quality preference mica	Integer	Represents the quality preferences of customers for mica products over time.
Price preference Aluminium	Integer	Represents the price preferences of customers for

		aluminium products over time.
Quality preference Aluminium	Integer	Represents the quality preferences of customers for aluminium products over time.
Price preference Glass	Integer	Represents the price preferences of customers for glass products over time.
Quality preference Glass	Integer	Represents the quality preferences of customers for glass products over time.

4. Descriptive Statistical

Sales Volume	
Count	120
Sum	58759
Mean	489.65
Median	500
Mode	450
Min	120
Max	800
Variance	30381.30
Standard Deviation	174.30

The descriptive statistics of sales volume can analysis following observations:

Total observation are 120.

The sum of sale volume is 58759 tells the total sales of product from April to September in 2024. The central tendency can be summary measure for whole data. The mean of sale volume is 489.65 units shows that shop that strong base in market for his business. The median is 500 units which shows that half of transactions above this value have consistent performance. And 450 units of Mode shows highest demand frequency at shop. The minimum sale at shop is 120 units and maximum sales found is 800 units. Their difference shows large range(680 units) of sales volume. The 174.30 units of standard deviation show large dispersed of data.

Sales Value (in INR)	
Count	120
Sum	..... ₹ 50128525
Mean	₹ 417737
Median	₹ 195000
Mode	₹ 146250
Variance	2.07E+11
Standard Deviation	455188.5
Max	₹ 1600000
Min	₹ 15000

The descriptive statistics of sales value can analysis following observations:

Total observation are 120.

The sum of sale values is ₹ 50,128,525 tells the total sales of product from April to September in 2024 which is significantly large number. The central tendency can be summary measure for whole data. The mean of sale value is ₹417737 shows that shop

has very good performance. The median is ₹195000 which shows that half of transactions have value above this value shows skewness in data. And ₹146250 of Mode shows highest purchase frequency at shop. The minimum transaction at shop is ₹15000 and maximum transaction is ₹1600000 shows board spread of purchase.

5. Analysis

The process of analysis are breakdown in two parts: Data collection and organizing, and Data Analysis. Data was collected in tabular form adding information about date, sales volume i.e. amount of units is sold and, sales value i.e. amount of revenue collected. Data also include customers feedback.

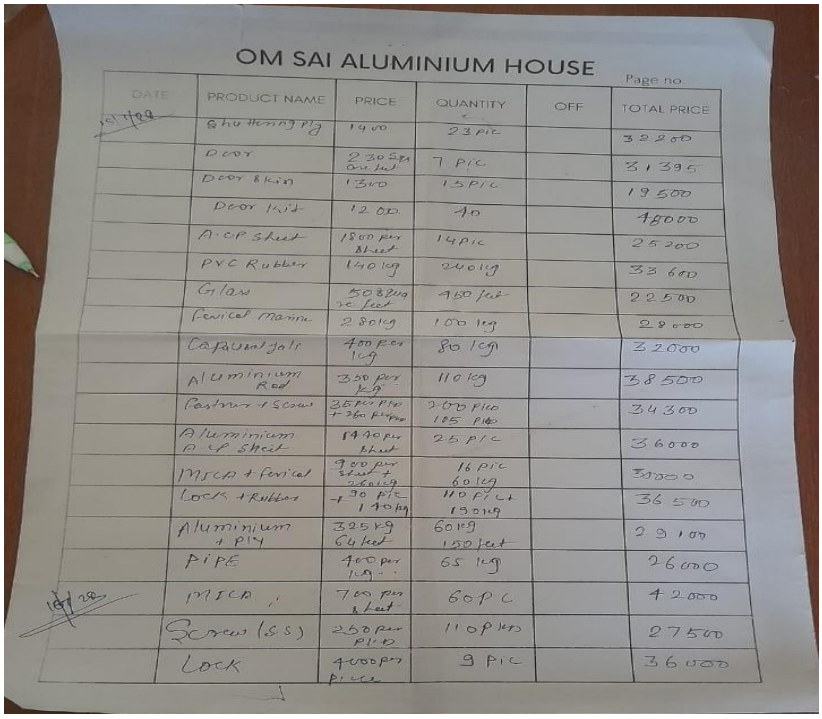
Data is organized and cleaned with help of excel and python libraries is used for analysis.

Trend Analysis:

Trend analysis helps in analysing how customers behaviour over time. This is important to determine whether there's stable behaviour on certain condition.

Descriptive analysis:

Descriptive analysis summarize the insights from data. This analysis will show how much each product taking part in total business and clear picture of the business's current performance.



OM SAI ALUMINIUM HOUSE

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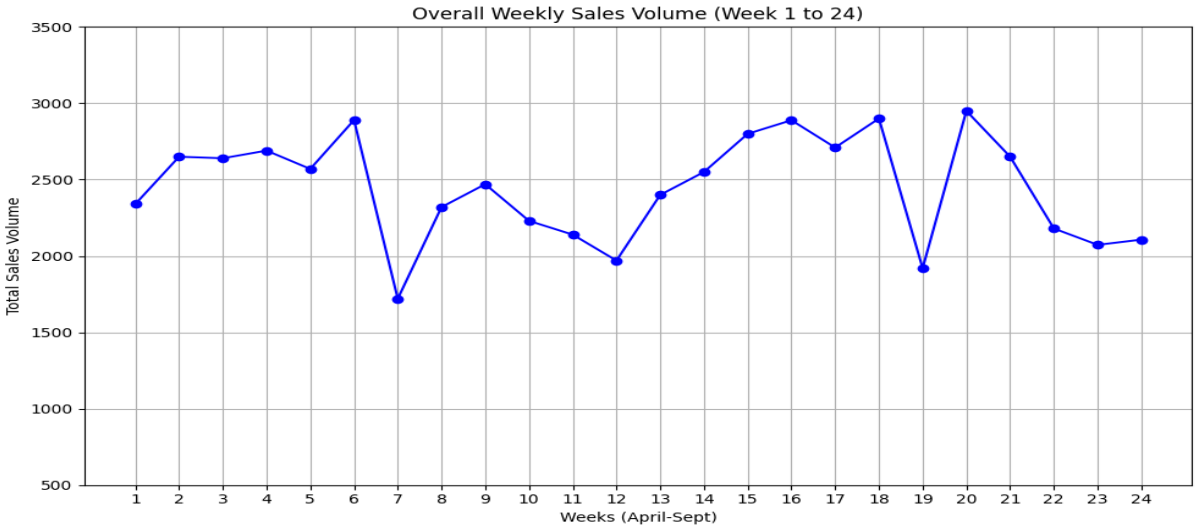
DATE	PRODUCT NAME	PRICE	QUANTITY	OFF	TOTAL PRICE
	Shutering ng	1400	23 PIC		32200
	Door	2305Rs Per Set	7 PIC		31395
	Door Skin	1340	13 PIC		19500
	Door Kit	1200	40		48000
	A.C.P Sheet	1800 per Sheet	14 PIC		25200
	PVC Rubber	140 kg	240 kg		33600
	Glass	50 Rs per sq feet	450 feet		22500
	Fevicol marine	280 kg	100 kg		28000
	Capsule Jolly	400 Per kg	80 kg		32000
	Aluminium Rod	350 per kg	110 kg		38500
	Pastrun + Screw	35 Rs Pkt + 250 Pkt Pcs	200 Pkt 105 Pkt		34300
	Aluminium A.C.P Sheet	1440 per Sheet	25 PIC		36000
	MICA + fevicol	900 per Sheet + 250 kg	16 PIC 80 kg		38000
	Lock + Rubber	30 PIC + 140 kg	110 PIC + 190 kg		36500
	Aluminium + PLY	325 kg 64 feet	60 kg 150 feet		29100
	PIPE	400 per kg	65 kg		26000
	MICA "	700 per Sheet	60 PC		42000
	Screw (SS)	250 per Pkt	110 Pkts		27500
	Lock	4000 per Piece	9 PIC		36000

6. Result and Finding:

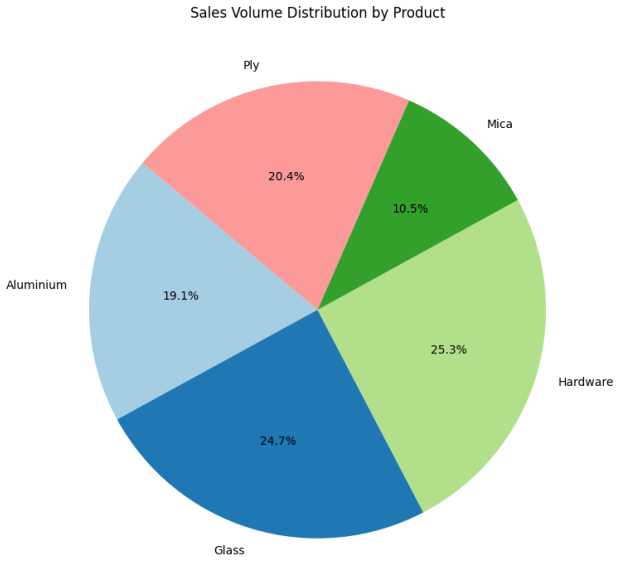
6.1 Sales volume:

Trend analysis:



The line chart illustrate the sales volume of overall product of Ohm Sai Aluminium house over the time from April to September,2024. From chart there is constant performance during week 1 to 6 but there is sharp decrease during week 7 and same sharp decrease during week 19. Such fluctuation is due to seasonal effect like during loo(heat waves) and rainy reasons sales volume decrease. The product is most affected by such reason will be discussed later.

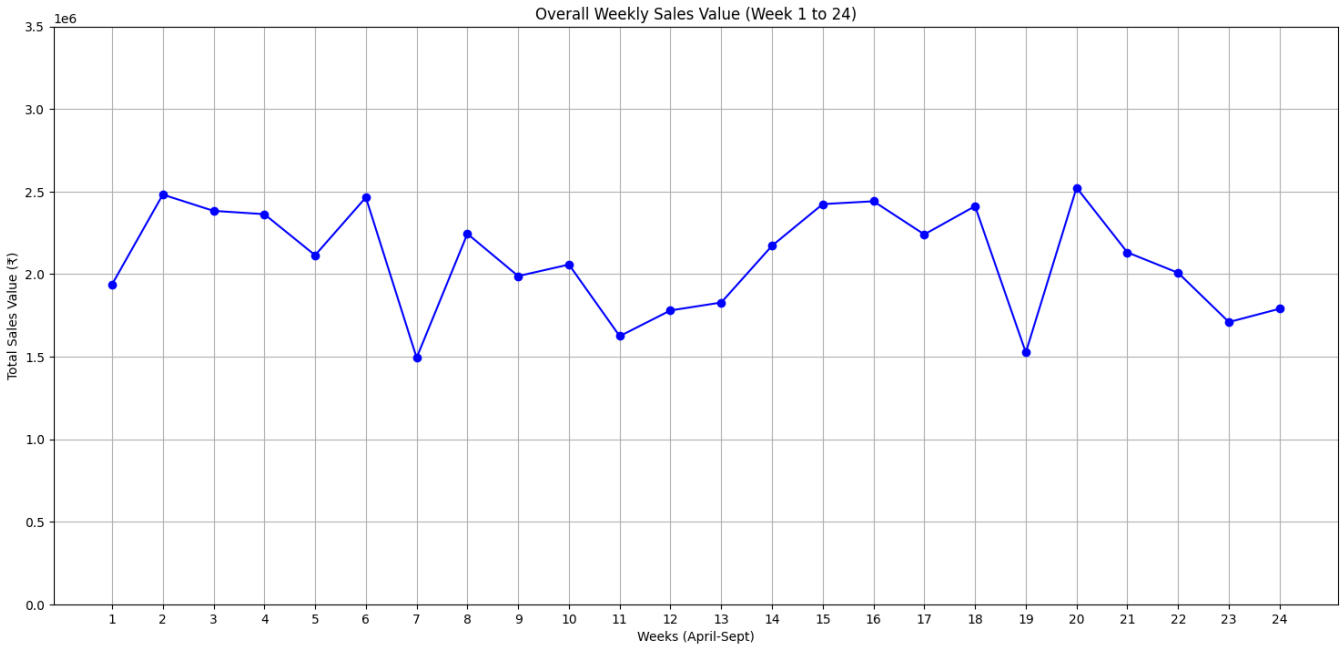
Descriptive analysis:



Glass and hardware product are most demanded in last 24 weeks at Ohm Sai house. Hardware products include lock, screw, door and door skin etc. Demand of glass in town area is unusual but reason behind is that there is construction of shopping mall and few retail shop in town which boosted the production of glass and ply demand increase.

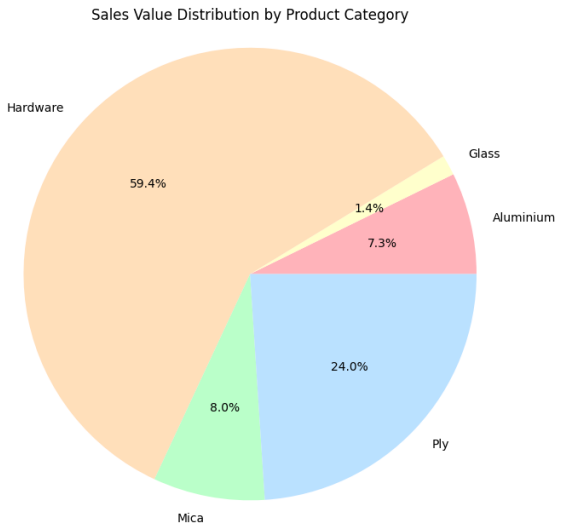
6.2 Sales value

Trend analysis:



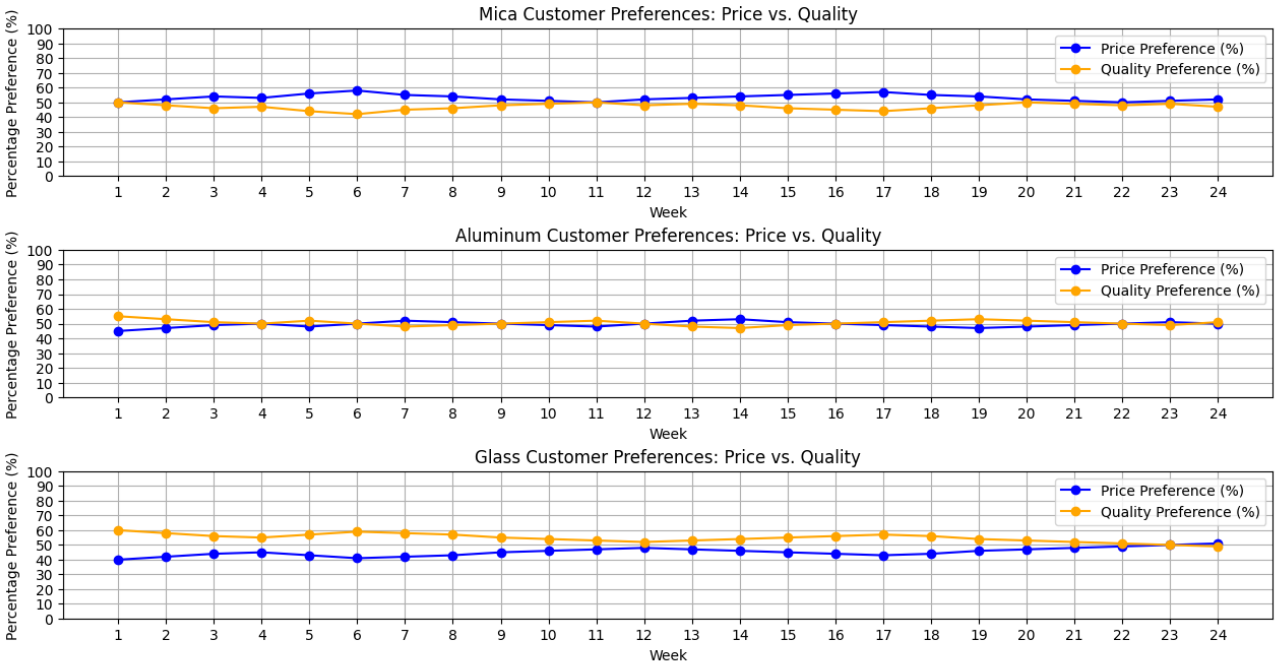
This line chart illustrate the sales value of all product over 24 weeks from April-Sept,2024. There is few fluctuation during till week 6 but sharp decrease at week 7 due to seasons. But achieve previous peak next week and increase sales value. But again sharp decrease at week 19. It reach previous peak next week put value start decreasing. Product most affecting by it will be discussed later.

Descriptive analysis:



Most of revenue made in shop came from hardware product. Hardware product including like lock, screw and door etc.

6.3 Customer Preference



For increasing quality of product it is necessary to analysis customer feedback on this regards. On mica demand customers mostly split equally between price and quality but

sometimes little more leans towards lower price rather than better quality. For aluminium, demands are more leaning towards better quality but gap between price and quality preference is not large. For glass, demands are shifted from caring about quality to preferring price , at end of week 24 preference for price and quality became same. From this analysis we can adjust price according to marketing customers care about most. How to adjust will be discussed later.