

1.OBJECTIVE:

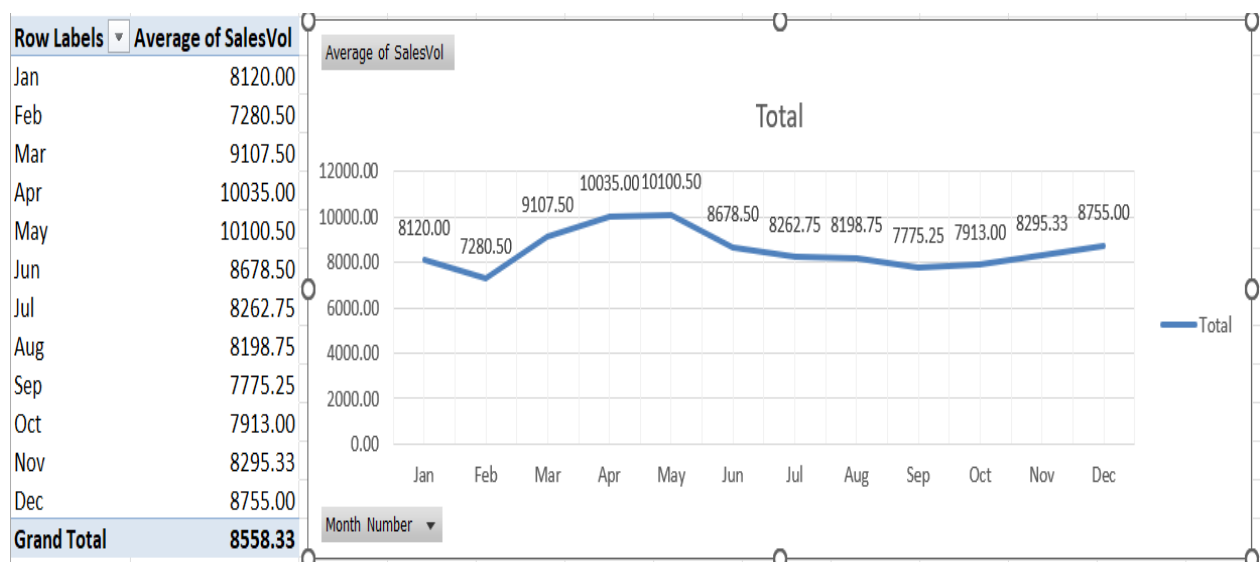
- ❖ Are soda sales afflicted by seasonality?
- ❖ Is there a trend seen on soda sales?
- ❖ What are the correlations between volume sales & media advertising (TV/Instoreads/Outdoorads/Digital)?
- ❖ What is the correlation between price and volume sales?
- ❖ What is the correlation between sales volume and promotions?
- ❖ What is the partial correlation between sales and promotion where TV/Instore/Outdoor/Digital have been partialled out?
- ❖ Which competitor and their media affect our sales the most?

2.TOOLS USED:

- ❖ Microsoft Excel

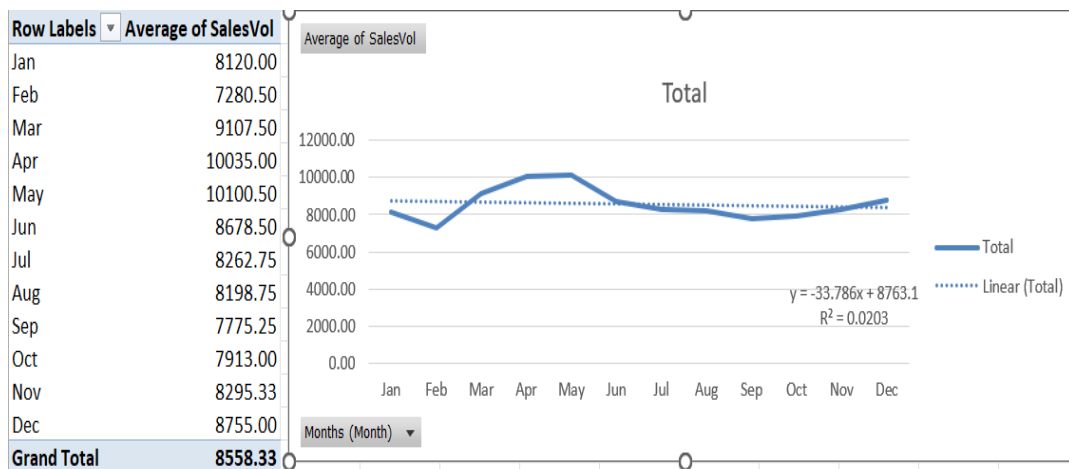
3.ANALYSIS:

- ❖ Are soda sales afflicted by seasonality?



- On the month May has highest sales volume of ₹ 10100.50
- Followed by April of ₹ 10035.
- Least sales volume for February with ₹ 7280.50.

❖ Is there a trend seen on soda sales?



- Trendline:
 - $y = -33.786x + 8763.1$
 - This means that on average, the sales decrease by 33.78 units per month.
 - The negative slope shows a slight downward trend.
 - The slope is very small, so the decrease is not significant over time.
- R² value:
 - $R^2 = 0.0203$
 - 0.0203 shows only 2.03 % of the variation in sales is explained by trendline.
 - Also a very weak linear relationship.

❖ What are the correlations between volume sales & media advertising (TV/Instoreads/Outdoorads/Digital)?

	<i>SalesVol</i>	<i>TVGrP</i>	<i>InstoreAds</i>	<i>OutdoorAds</i>	<i>Promotion</i>	<i>DigitalAds</i>
<i>SalesVol</i>	1					
<i>TVGrP</i>	0.342077	1				
<i>InstoreAds</i>	0.350967	0.045657	1			
<i>OutdoorAc</i>	0.449199	0.136289	0.093238	1		
<i>Promotion</i>	0.145759	0.078944	0.177699	-0.10783	1	
<i>DigitalAds</i>	0.07807	0.286758	0.018284	-0.4825	0.15217	1

- **Sales Volume vs TVGrP: 0.342**
 - It shows positive correlation between sales volume and TV advertisement. Which means TV advertising is positively influencing the Sales volume.
 - Also the number of ads shown in the TV increases, the sales also increase, but not strongly.

- **Sales Volume vs InstoreAds:0.350**
 - It also shows that positive correlation between sales volume and Instore Ads.
 - In store advertisement moderately influence the sales.
 - **Sales Volume vs OutdoorAds:0.449**
 - Outdoor advertisement shows the strongest correlation among the media channels.
 - It has a relatively strong impact on increasing the sales.
 - **Sales Volume vs DigitalAds:0.078**
 - The value shows that very weak positive correlation between sales volume and digital advertisement.
 - It shows that digital ads has minimal impact on sales.
- ❖ What is the correlation between price and volume sales?
- Using =CORREL in excel we can find that the correlation between price and sales volume.
 - The value is -0.447.It shows that strong negative correlation between sales volume and price.
 - That is,if sales volume increases, price will decrease.
- ❖ What is the correlation between sales volume and promotions?
- The correlation value between sales volume and promotions is 0.145.
 - It shows a weak positive correlation between sales volume and promotions.
 - That is,promotions make less impact on sales volume.
- ❖ What is the partial correlation between sales and promotion where TV/Instore/Outdoor/Digital have been partialled out?
- The value is 2.9501E-16.It is nearly equal to zero.
 - It shows that there is no relationship between sales and promotion after accounting for the effects of other media.
- ❖ Which competitor and their media affect our sales the most?
- Sales vs Comp1TV: -0.239
 - The value shows that there is moderate negative correlation between sales and competitor 1 with TV.
 - Sales vs Comp1NPapers: -0.0489

- This value shows that very weak negative correlation between sales and competitor 1 with newspaper.
 - Sales vs Comp1OOH: -0.3404
 - This value shows the strongest negative correlation between sales and competitor 1 with outdoor advertisement.
 - Sales vs Comp2NP: -0.090
 - This value shows a weak negative relationship.
- From this we can say that Competitor 1's outdoor advertising has the strongest negative impact on sales.