

Shop Sales Data Report

1. Introduction:

This dataset encapsulates a wealth of information regarding sales transactions, providing valuable insights into the dynamics of retail operations. With columns meticulously crafted to capture key facets of each transaction, including Date, Salesman, Item Name, Company, Quantity, and Amount, analysts and businesses alike gain access to a treasure trove of actionable data.

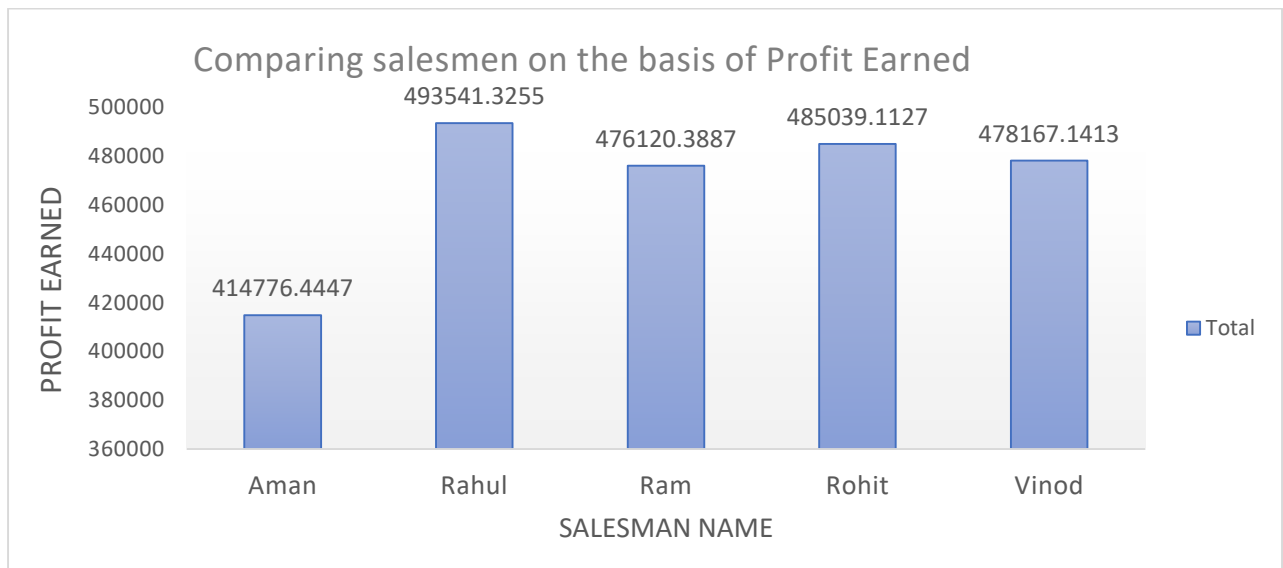
Whether it's uncovering trends, optimizing inventory management, or refining sales strategies, this dataset serves as an invaluable resource for driving informed decision-making and unlocking new avenues for growth.

2. Questionnaire:

1. Compare all the salesmen on the basis of profit earn.
2. Find out most sold product over the period of May-September.
3. Find out which of the two product sold the most over the year Computer or Laptop?
4. Which item yield most average profit?
5. Find out average sales of all the products and compare them.

3. Analytics:

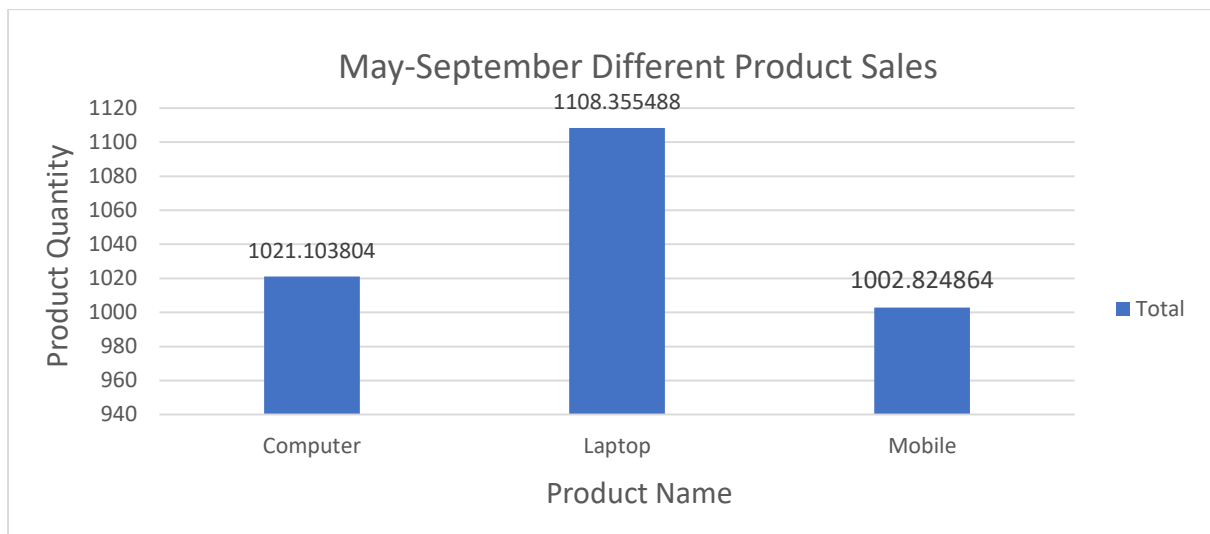
Q1. Compare all the salesmen on the basis of profit earn.



Answer:

Aman earned a profit of 43476.4, Ram earned-476120.38, Rohit earned 485039.11, Vinod earned 478167.14. Rahul earned 493541.37 which makes him the salesman with highest profit.

Q2. Find out most sold product over the period of May-September.

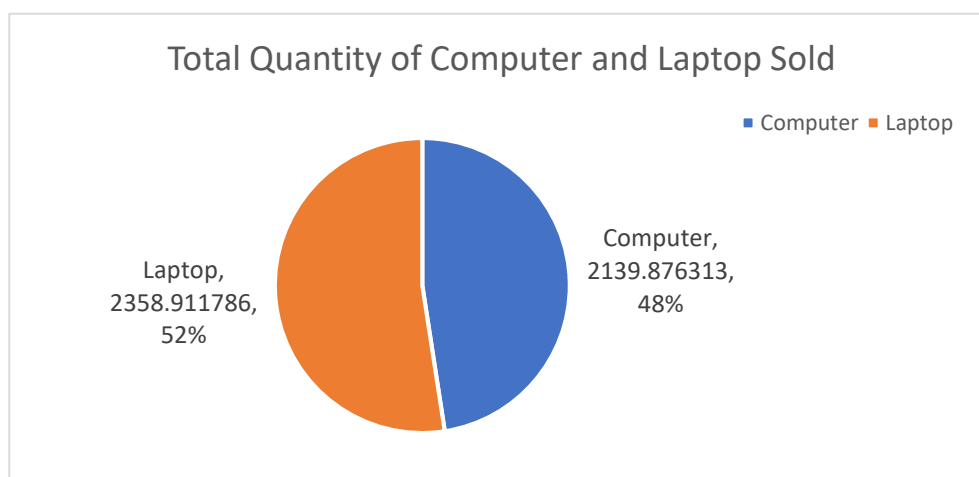


Date	Qty	Item Name
01-05-2019	14	Computer
02-05-2019	14	Laptop
03-05-2019	14	Mobile
04-05-2019	15	
05-05-2019	15	
06-05-2019	15	
07-05-2019	15	
08-05-2019	15	

Answer:

After Filtering out the Months from May to September, Laptop made the most Sales.

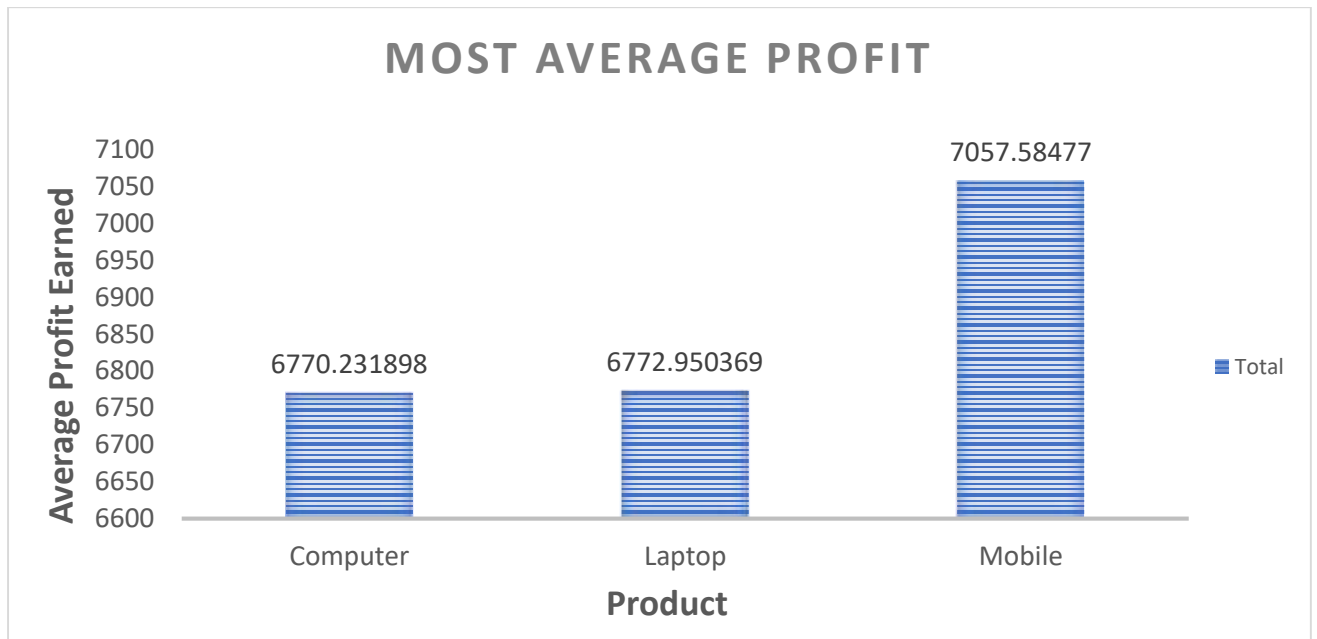
Q3. Find out which of the two product sold the most over the year Computer or Laptop?



Answer:

Laptop was sold more than Computer over the year.

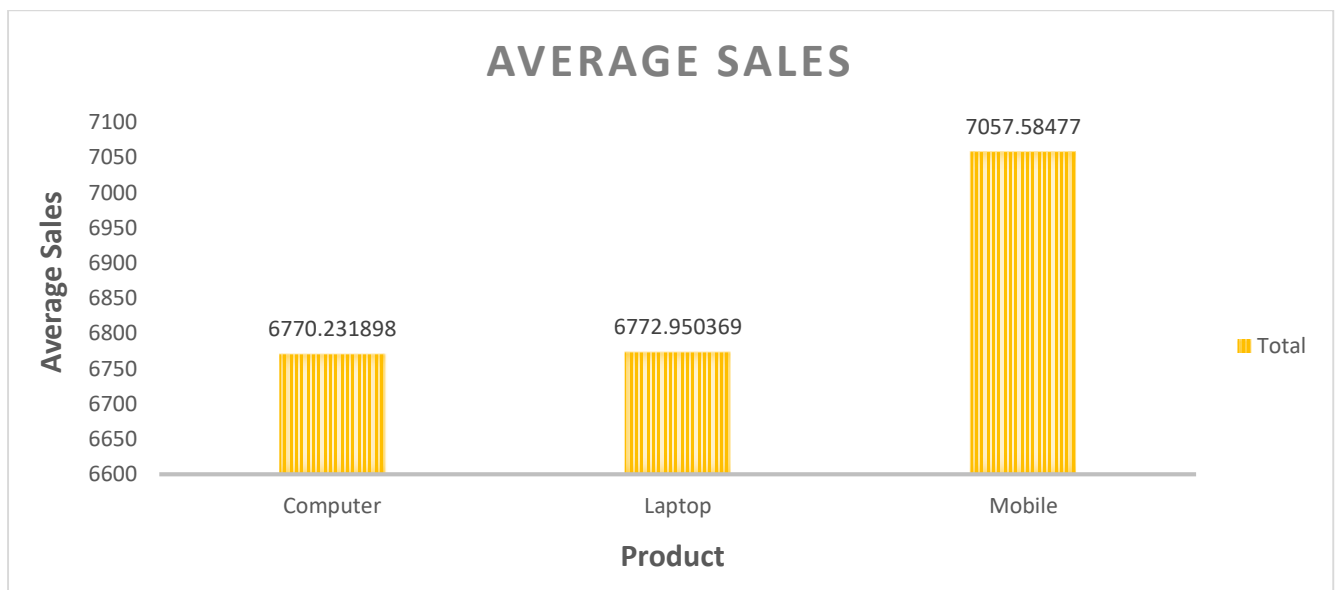
Q4. Which item yield most average profit?



Answer:

Mobile has the highest average profit out of all other products.

Q5. Find out average sales of all the products and compare them.



Answer:

Average Sales of Mobile was 7057.584, Laptops were 6772.95 and for Computer 6770.23. Mobiles had the highest sales.

Regression:

SUMMARY OUTPUT						
<i>Regression Statistics</i>						
Multiple R	0.812617					
R Square	0.660347					
Adjusted R Square	0.629469					
Standard Error	1215.119					
Observations	13					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	31576697	31576697	21.38598	0.000753	
Residual	11	16241653	14776514			
Total	12	47818350				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	244.7062	754.0557	0.32452	0.751632	-1414.96	1904.372
X Variable	0.190729	0.041243	4.624498	0.000735	0.099954	0.281505

The regression model, with a significant p-value indicates a strong positive relationship between Amount and the profit earned and the outcome variable. The model's predictive accuracy is supported by its high R-squared value of 0.660.

Correlation:

	<i>Qty</i>	<i>Amount</i>
Column 1	1	
Column 2	#DIV/0!	1

The correlation coefficient between units sold and revenue is 0.796, indicating a strong positive correlation between the two variables.

Anova (Single Factor):

The ANOVA results indicate a significant difference between the two groups , with 1 degree of freedom.

SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	15	78.56643	5.237762	2.766871		
Column 2	15	50419.05	3361.27	3416099		
ANNOVA						
Source of Variance	SS	df	MS	F	P-Value	F crit
Between Group	84472135	1	84472135	49.45528	1.2E-07	4.195972
Without Group	47825420	28	170851			
Total	1.32E+08	29				

Anova two factor with Replication:

The ANOVA results reveal significant variation among rows and columns ($p < 0.001$), with degrees of freedom (df) values of 10 respectively. The error term has a degree of freedom of 0

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	841600745	10	4160074	65535	#NUM!	#NUM!
Columns	0	0	65535	65535	#NUM!	#NUM!
Error	0	0	65535			
Total	41600745	10				

Anova two factor without Replication:

Summary	Count	Sum	Average	Variance		
4	1	7800	7800	#DIV/0!		
5	1	3000	3000	#DIV/0!		
4	1	2300	2300	#DIV/0!		
3	1	7000	7000	#DIV/0!		
3	1	1200	1200	#DIV/0!		
4	1	2506.667	2506.667	#DIV/0!		
5	1	2618.095	2618.095	#DIV/0!		
6	1	2729.524	2729.524	#DIV/0!		
7	1	2840.952	2840.952	#DIV/0!		
6	1	4500	4500	#DIV/0!		
7	1	3063.81	3063.81	#DIV/0!		
1000		39559.05	3596.277	4160074		

Descriptive Statistics:

<i>Amount</i>	
Mean	6864.457
Standard Error	113.5651
Median	6984.647
Mode	1000
Standard Deviation	2100.186
Sample Variance	4410782
Kurtosis	-0.5078
Skewness	-0.36449
Range	9279.851
Minimum	1000
Maximum	10279.85
Sum	2347644
Count	342

4. Conclusion and Review:

Conclusion:

The analysis of the shop sales dataset has revealed significant insights into various aspects of retail operations. By comparing salesmen based on profit earned, identifying the most sold products over specific periods, and assessing the performance of different items, this dataset has proven invaluable for strategic decision-making.

Through regression analysis, it was evident that there exists a strong positive relationship between the amount of sales and the profit earned, further emphasizing the importance of sales volume in driving profitability. Additionally, the correlation analysis highlighted a robust positive correlation between units sold and revenue, indicating that higher sales volumes typically lead to increased revenue.

The ANOVA tests conducted provided further insights into the variability within the dataset, highlighting significant differences between salesmen, products, and periods. These statistical analyses have enabled us to identify key trends and patterns within the data, facilitating better understanding and decision-making.

Overall, the shop sales dataset has served as a valuable resource for uncovering actionable insights and informing strategic decisions within the retail domain. By leveraging the information contained within this dataset, businesses can optimize their sales strategies, enhance inventory management practices, and ultimately drive growth and profitability.

Review:

Overall, the shop sales dataset is a valuable resource for analysts and businesses seeking to gain insights into retail operations and drive strategic decision-making. While the dataset offers comprehensive information, additional variables could further enhance its analytical capabilities and provide deeper insights into sales dynamics. Nonetheless, the dataset remains a valuable tool for optimizing sales strategies, improving inventory management practices, and ultimately driving growth and profitability within the retail sector.