Shop Sales Data Report

Introduction

This report delves into a comprehensive sales dataset, analyzing sales performance and product trends among salesmen. It aims to uncover insights for sales strategy formulation and business enhancement. By examining sales data and comparing product performance, it identifies top salesmen, analyzes product popularity, and understands sales trends. These insights are invaluable for optimizing strategies and driving business growth.

Questionaries

1. Compare all the salesmen based on 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?

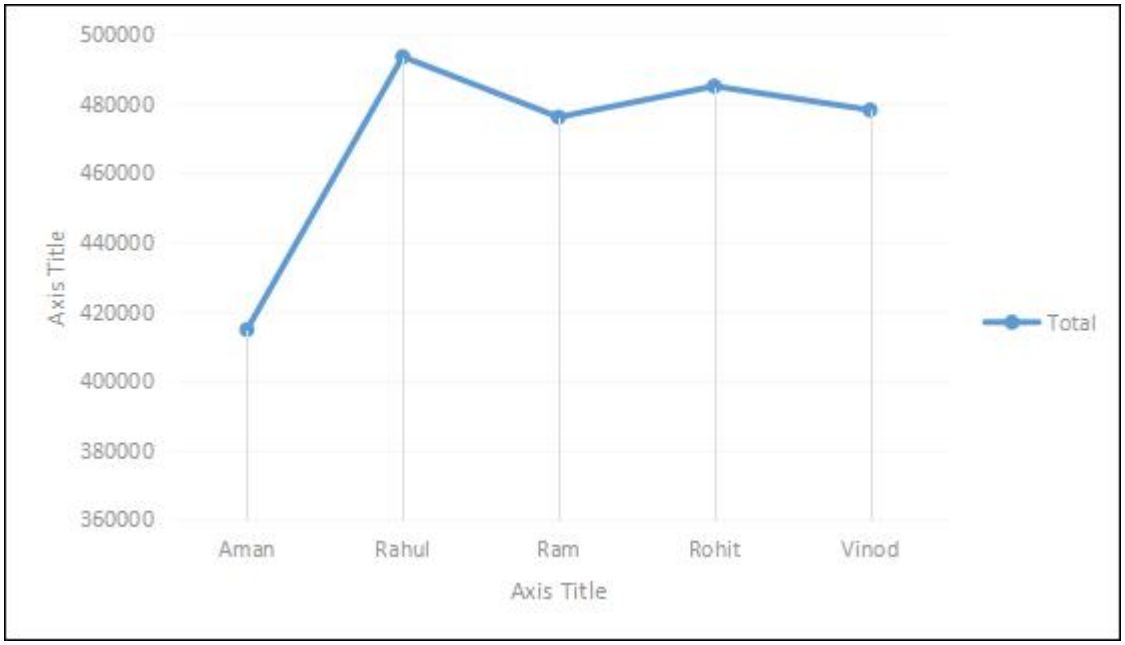
4. Which item yield most average profit?

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

Analytics

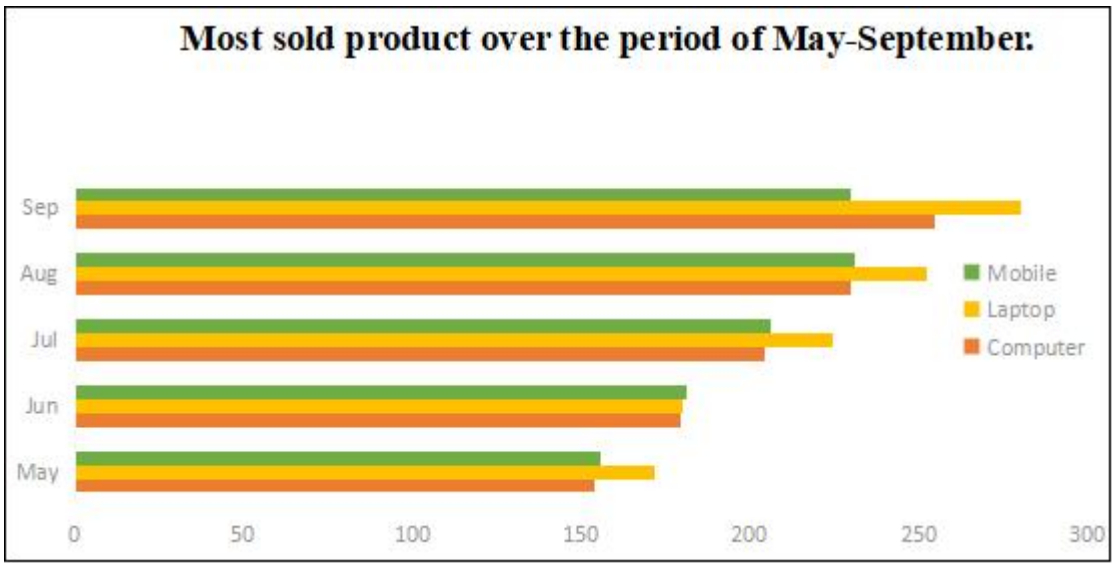
Q 1. Compare all the salesmen on the basis of profit earn.

ANS: The comparison of all the salesmen on the basis of profit earned and the line chart shows that the rahul has the highest profit earned with value 493541.3255, compared to all the salesmen.



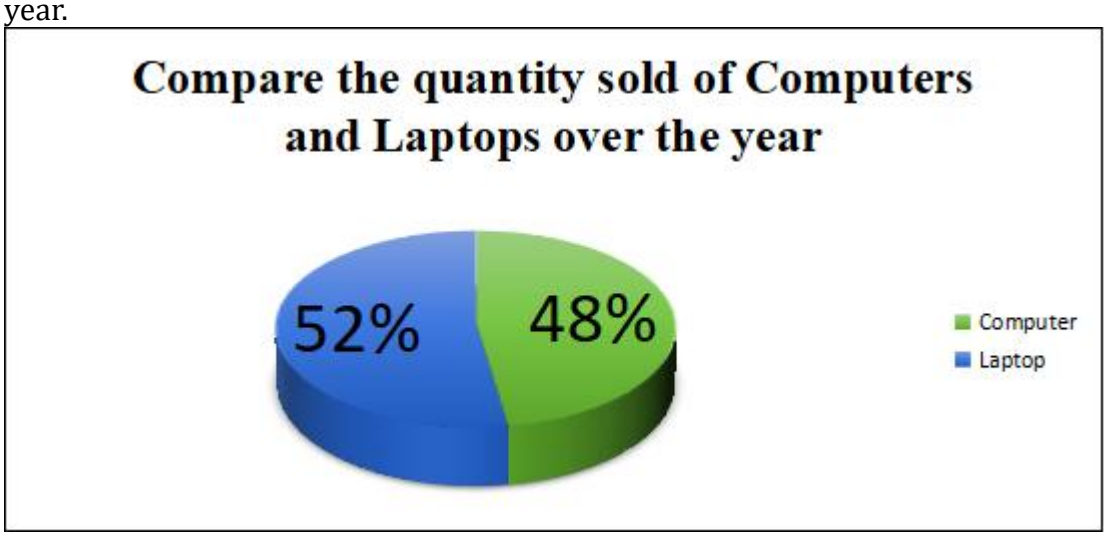
Q2. Find out most sold product over the period of May-September.

ANS: To pinpoint the most sold product from May to September, we analyze sales data within this time frame. Aggregating product quantities across all transactions reveals that the Laptop was the best-selling item, particularly in September, with sales totaling 280.1970249 units.



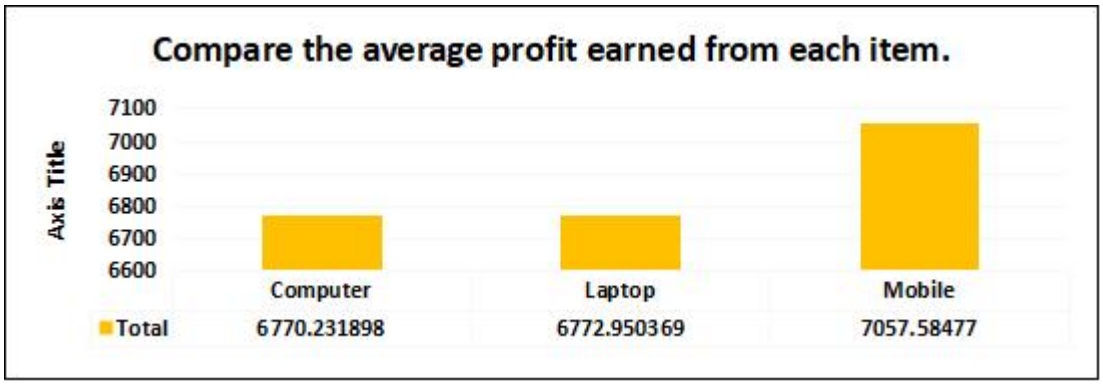
Q3. Find out which of the two product sold the most over the year Computer or Laptop?

ANS: Between computers and laptops, laptops were the best-selling product with 2,358.911786 units sold, compared to computers with 2,139.876313 sold over year.



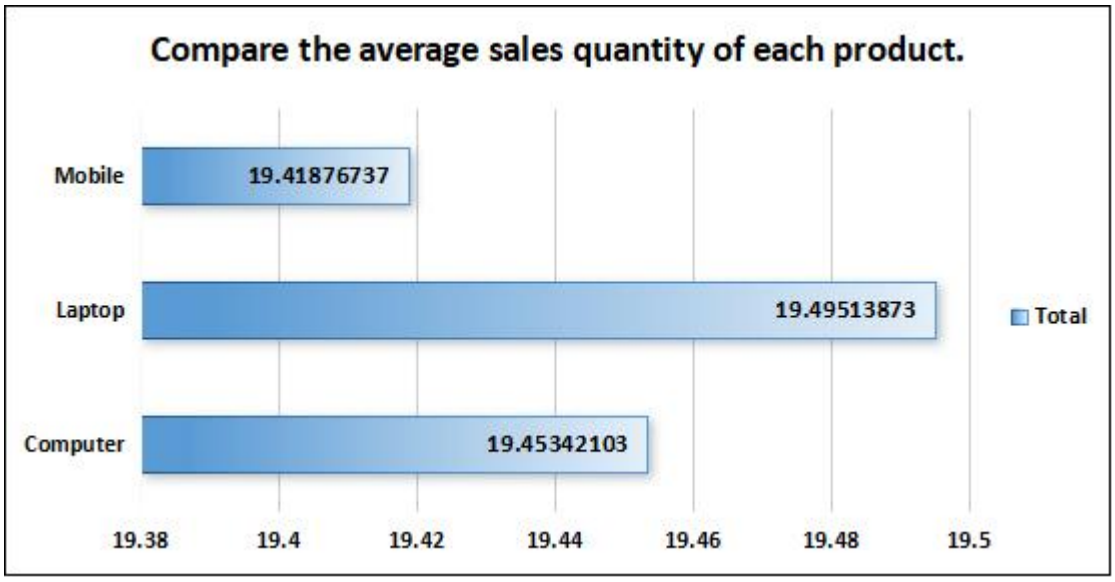
Q4 . Which item yield most average profit?

ANS: This analysis shows that the Mobile has the most Average profit earned among Mobile, Laptop, and Computer where Mobile has the average profit earned of 7057.58477.



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

ANS: The analysis shows that the average sales quantity of Laptop(19.49513873) is higher than the other products e.g. Mobile(19.41876737) and Computer(19.45342103).



Conclusion and Review

The analysis uncovers crucial insights into sales performance and product trends among salesmen. Rahul emerges as the top performer, achieving the highest profit. The Laptop emerges as the best-selling product from May to September, with peak sales in September. Laptops outperform computers in units sold throughout the year. Mobile phones yield the highest average profit among devices, while laptops demonstrate the highest average sales quantity. Though providing valuable insights, deeper exploration into sales fluctuations and product preferences could enhance understanding. Overall, the report offers actionable insights for optimizing sales strategies and maximizing revenue, supported by visualizations aiding trend comprehension and product popularity assessment.

Correlation

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

	Column 1	*Column 2*
Column 1	1	
Column 2	0.954077	1

Regression

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 0.910.

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.954076972
R Square	0.910262868
Adjusted R Square	0.909998936
Standard Error	630.0595983
Observations	342

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.37E+09	1.37E+09	3448.844	4.6E-180
Residual	340	1.35E+08	396975.1		
Total	341	1.5E+09			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2068.993161	88.47952	23.38387	9.14E-73	1894.957	2243.029	1894.957	2243.029
X Variable 1	246.4655683	4.196812	58.72686	4.6E-180	238.2106	254.7206	238.2106	254.7206

Anova (Single Factor)

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

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Column 1	342	6654.271	19.45693	66.0952		
Column 2	342	2347644	6864.457	4410782		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	8.01E+09	1	8.01E+09	3632.879	2.1E-275	3.85513
Within Groups	1.5E+09	682	2205424			
Total	9.52E+09	683				

Anova (two factor)

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: Two-Factor Without Replication				
SUMMARY	*Count*	*Sum*	*Average*	*Variance*
Row 1	2	1003	501.5	497004.5
Row 2	2	7804	3902	30388808
Row 3	2	3005	1502.5	4485013
Row 4	2	2304	1152	2635808
Row 5	2	7003	3501.5	24479005
Row 339	2	10252.82	5126.411	51884342
Row 340	2	10272.93	5136.467	52087770
Row 341	2	10293.05	5146.523	52291595
Row 342	2	10313.16	5156.58	52495819
Column 1	342	6654.271	19.45693	66.0952
Column 2	342	2347644	6864.457	4410782

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Rows	7.58E+08	341	2221714	1.014883	0.445792	1.195299
Columns	8.01E+09	1	8.01E+09	3659.913	2.1E-184	3.868873
Error	7.46E+08	341	2189134			
Total	9.52E+09	683				

Descriptive Statistics

Column1		*Column2*	
Mean	19.45693	Mean	6864.457
Standard Error	0.439614	Standard Error	113.5651
Median	19.45693	Median	6984.647
Mode	3	Mode	1000
Standard Deviation	8.129896	Standard Deviation	2100.186
Sample Variance	66.0952	Sample Variance	4410782
Kurtosis	-0.99883	Kurtosis	-0.5078
Skewness	-0.09948	Skewness	-0.36449
Range	30.30852	Range	9279.851
Minimum	3	Minimum	1000
Maximum	33.30852	Maximum	10279.85
Sum	6654.271	Sum	2347644
Count	342	Count	342