



Data Analysis Using Excel Project

Data Visualization Track – ITI Assiut Branch

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1- Data Cleaning

- Here are some process I did to ensure data cleaning
 - Check null values
 - Remove duplicates

2- Data Transformation

- **Steps to transform our data in Sales Table**
 - Ensure Formats of all columns.
 - Insert Table for each sheet for proper manipulation.
 - Add a new column called Cost_per_Unit and get the data from product Table.
 - Add a new Columns called Sales to calculate the sales of each transaction.

2- Data Transformation (cont....)

- Add a new Column called Revenue to calculate the revenue of each transaction.
- Get the products names and Category from Product Table using VLoopUp function.
- Get the customers names from Customers Table using VLookup function.
- Add a new Column called Total_Cost to calculate the cost of the transaction.

3- Forming Questions

- I stated some questions for guiding the process of analysis of the given data.
 - How have sales and revenue trends evolved over time?
 - Which months experienced high or low sales and revenue?
 - What is the geographical regions of sales and revenue?
 - What is the distribution of sales and revenue by category?

3- Forming Questions (cont..)

- What are the top-selling and top-revenues products?
- Who customers have made top orders in terms of total sales?
- What is the geographical distribution of customers?
- What is the age distributions of the customers?
- what is the gender distributions of the customers?

4- Create Pivot Tables

- I created 14 Pivot Tables to summarize the data and extract insights. Here are some examples

Total Sales By Categories							
Sum of Sales	Column Labels						
Row Labels	▼	Apparel	Electronics	Health	Home Goods	Toys	Grand Total
Jan	\$	39,712.41	\$ 28,131.04	\$ 20,479.54	\$ 25,276.91	\$ 33,976.76	\$ 147,576.66
Feb	\$	39,565.34	\$ 25,466.94	\$ 22,593.80	\$ 29,164.28	\$ 35,003.55	\$ 151,793.91
Mar	\$	39,421.62	\$ 20,831.23	\$ 28,392.57	\$ 35,682.59	\$ 26,055.61	\$ 150,383.62
Apr	\$	29,270.90	\$ 23,882.03	\$ 22,892.63	\$ 28,749.74	\$ 31,168.65	\$ 135,963.95
May	\$	40,537.37	\$ 24,122.60	\$ 31,661.54	\$ 28,178.81	\$ 29,455.03	\$ 153,955.35
Jun	\$	40,498.74	\$ 22,408.35	\$ 32,146.00	\$ 24,488.89	\$ 32,484.12	\$ 152,026.10
Jul	\$	40,825.88	\$ 30,583.34	\$ 36,945.14	\$ 32,804.83	\$ 29,124.58	\$ 170,283.77
Aug	\$	31,530.15	\$ 32,304.95	\$ 23,527.57	\$ 25,787.70	\$ 37,335.88	\$ 150,486.25
Sep	\$	43,805.62	\$ 31,036.45	\$ 25,954.74	\$ 27,611.85	\$ 21,078.25	\$ 149,486.91
Oct	\$	41,458.59	\$ 34,036.48	\$ 21,753.85	\$ 29,934.49	\$ 34,571.21	\$ 161,754.62
Nov	\$	35,745.56	\$ 27,036.06	\$ 21,821.87	\$ 28,146.05	\$ 42,396.05	\$ 155,145.59
Dec	\$	41,995.33	\$ 33,012.40	\$ 35,036.11	\$ 31,169.23	\$ 31,266.83	\$ 172,479.90
Grand Total	\$	464,367.51	\$ 332,851.87	\$ 323,205.36	\$ 346,995.37	\$ 383,916.52	\$ 1,851,336.63

Total Sales By Product Categories	
Row Labels	Sum of Sales
Apparel	\$ 464,367.51
Electronics	\$ 332,851.87
Health	\$ 323,205.36
Home Goods	\$ 346,995.37
Toys	\$ 383,916.52
Grand Total	\$ 1,851,336.63

Total Revenue By Product Categories	
Row Labels	Sum of Revenue
Apparel	\$ 256,774.91
Electronics	\$ 136,781.14
Health	\$ 167,703.33
Home Goods	\$ 191,618.24
Toys	\$ 168,625.68
Grand Total	\$ 921,503.30

Top 10 Products By Sales	
Row Labels	Sum of Sales
PROD042	\$ 32,399.79
PROD019	\$ 30,785.58
PROD056	\$ 30,432.98
PROD048	\$ 30,409.20
PROD044	\$ 30,183.06
PROD006	\$ 30,128.40
PROD063	\$ 29,925.19
PROD026	\$ 29,594.45
PROD074	\$ 29,510.75
PROD036	\$ 29,238.53
Grand Total	\$ 302,607.93

Top 10 Products By Revenue	
Row Labels	Sum of Revenue
PROD056	\$ 28,744.52
PROD073	\$ 27,069.74
PROD023	\$ 26,013.00
PROD054	\$ 24,277.43
PROD060	\$ 23,662.05
PROD021	\$ 23,533.16
PROD069	\$ 23,072.26
PROD031	\$ 22,819.65
PROD074	\$ 21,782.35
PROD004	\$ 20,476.63
Grand Total	\$ 241,450.79

4- Create Pivot Tables (cont..)

Count of Customer_ID		Column Labels		
Row Labels		Female	Male	Grand
18-25		156	151	307
26-35		145	151	296
36-45		141	158	299
46-55		155	136	291
56-65		152	155	307
Grand Total		749	751	1500

Total Customers By Region	
Row Labels	Count of Customer_ID
East	368
North	346
South	385
West	401
Grand Total	1500

Top N Customers	
Row Labels	Sum of Sales
Customer_183	\$ 4,462.07
Customer_1065	\$ 4,359.84
Customer_174	\$ 4,105.04
Grand Total	\$ 12,926.95

Number Of Customers in each Age	
Row Labels	Count of Customer_ID
18-25	307
26-35	296
36-45	299
46-55	291
56-65	307
Grand Total	1500

Count of Custo		Column Labels			
Row Labels	East	North	South	West	Grand Total
Female	201	162	193	193	749
18-25	39	37	38	42	156
26-35	34	34	34	43	145
36-45	45	24	40	32	141
46-55	42	32	44	37	155
56-65	41	35	37	39	152
Male	167	184	192	208	751
18-25	34	37	37	43	151
26-35	40	34	37	40	151
36-45	37	43	35	43	158
46-55	26	29	41	40	136
56-65	30	41	42	42	155
Grand Total	368	346	385	401	1500

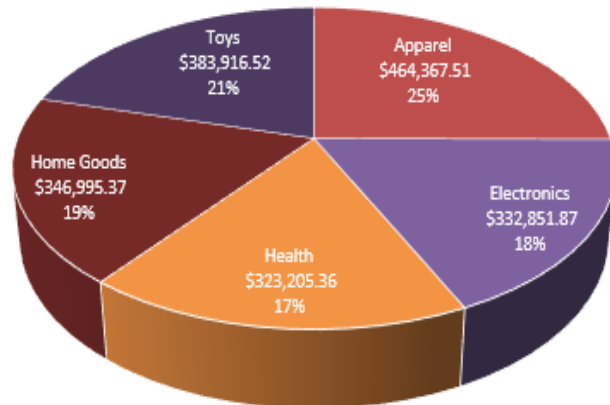
5- Visualizing Data

- I have created some charts to show and answer the questions at the beginning.
- Charts include:
 - Column chart
 - Clustered columns chart
 - Pie chart
 - Donut chart
 - Line chart
 - Adding some icons for more readability
- And I added some slicer for filtering.

5- Visualizing Data (cont ...)

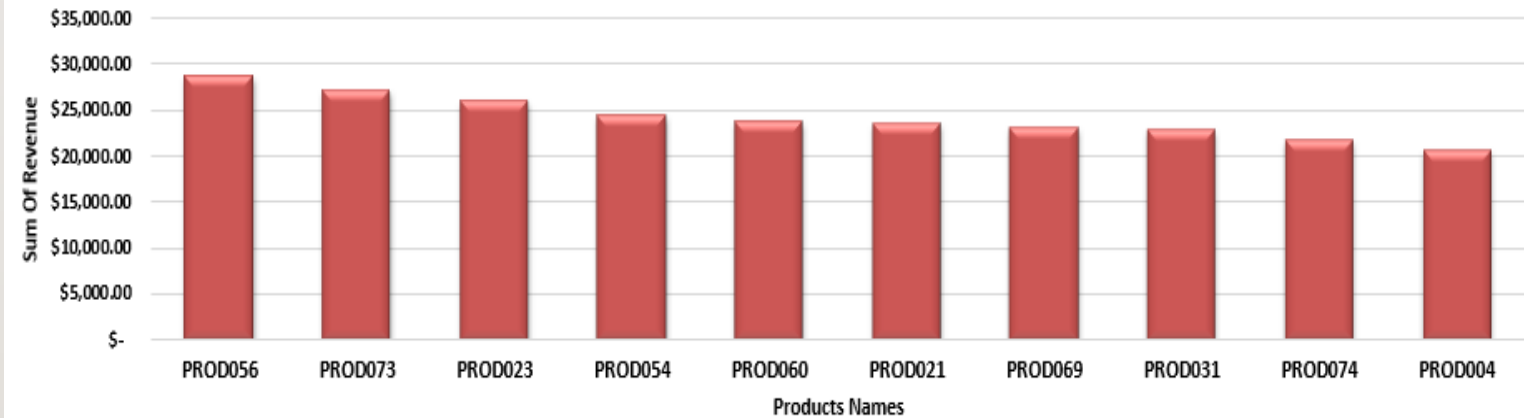
Sum of Sales

Total Sales By Product Categories



Sum of Revenue

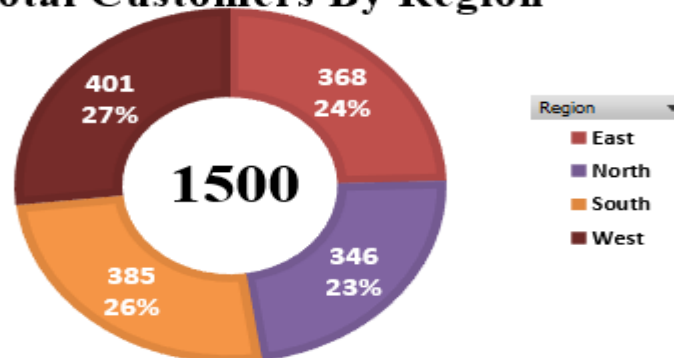
Top 10 Products By Revenue



Product_ID

Count of Customer_ID

Total Customers By Region



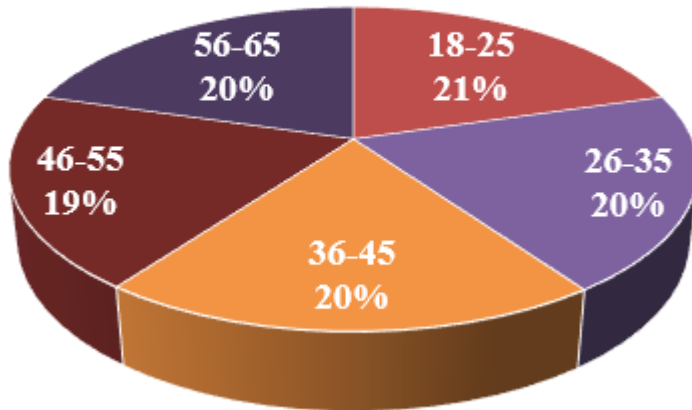
Region

- East
- North
- South
- West

5- Visualizing Data (cont ...)

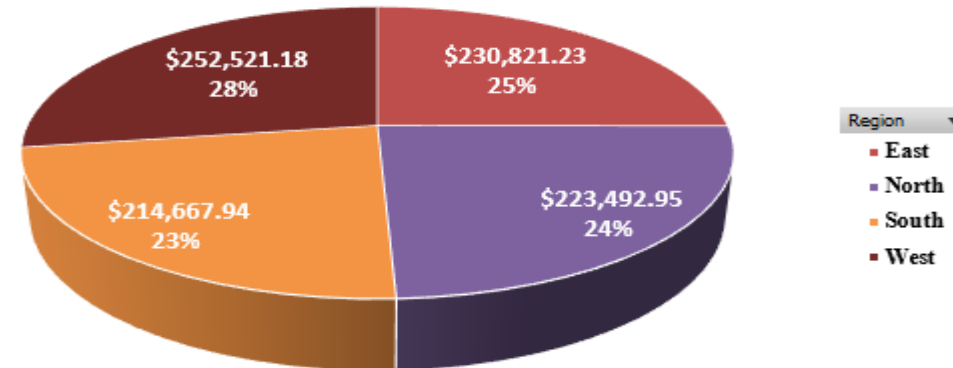
Count of Customer_ID

Number Of Customers in each Age



Sum of Revenue

Total Revenue in By Region



Region

- East
- North
- South
- West

1

Name

Customer_183

Total Sales

\$4,462.07

2

Name

Customer_1065

Total Sales

\$4,359.84

3

Name

Customer_174

Total Sales

\$4,105.04

6- Building the Final Dashboard

- Finally, I collected some important visuals and build the dashboard.

Sales Analysis Dashboard

Total Sales



\$1,851,336.63

Total Profit



\$921,503.30

Number Of Orders



7001

Number Of Customers



1501

Category

Apparel

Electronics

Health

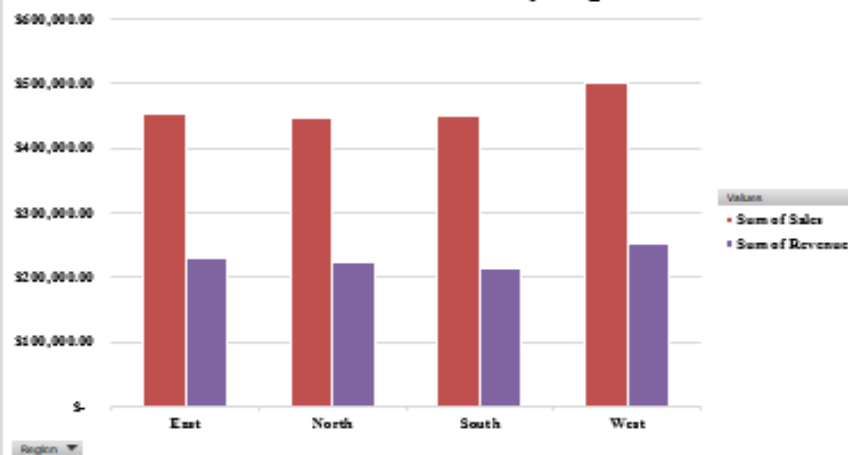
Home Goods

Toys

Sum of Sales

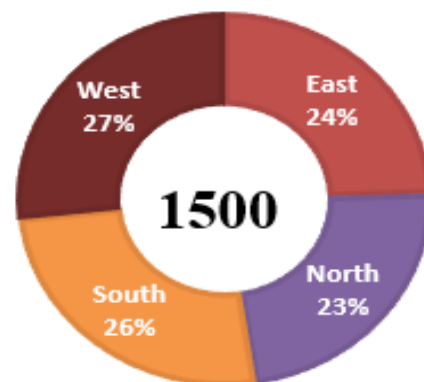
Sum of Revenue

Total Sales and Profit By Region



Count of Customer_ID

Total Customers By Region



Region

East

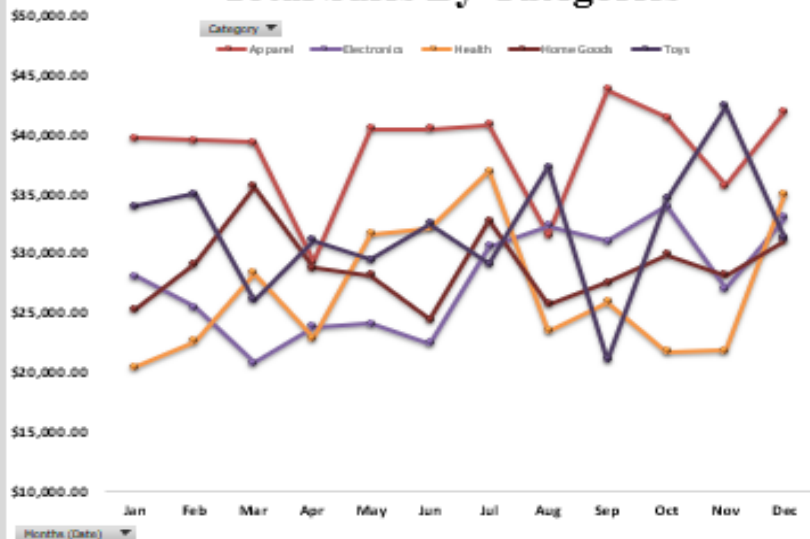
North

South

West

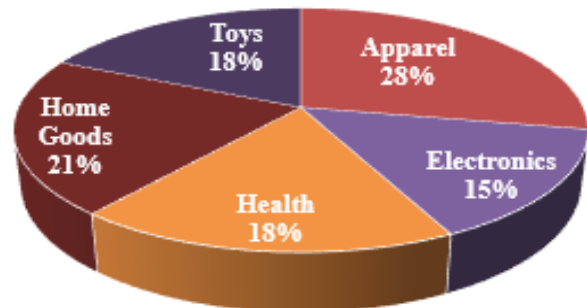
Sum of Sales

Total Sales By Categories

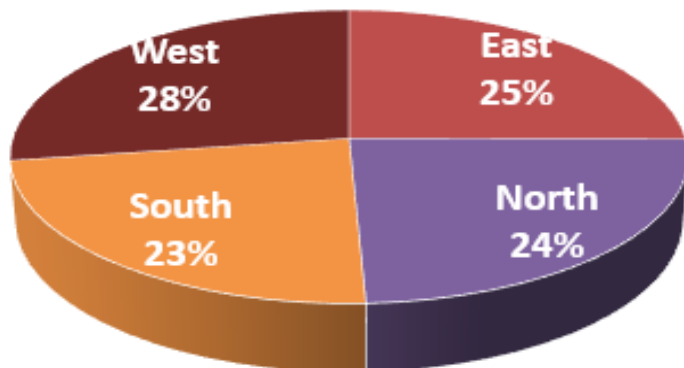


Months (Date)

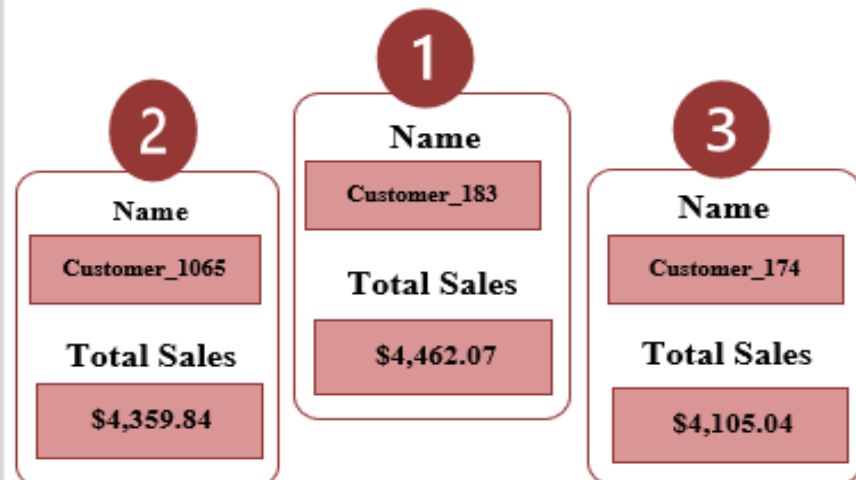
Total Revenue By Product Categories



Total Revenue in By Region



Top 3 Customers By Sales



Conclusion

- Apparel Category shows good performance in sales in most months with some drops in April and August,
- and Toys show moderate sales and appears good spikes in the end of year,
- it may be because of the Christmas since many families tend to buy toys for children

Conclusion (cont...)

- West Region contribute the most in both sales and revenue
- and has the highest sales and revenue in most Categories so it's important to have enough quantities of products in West Stocks.
- and trying to increase the sales and revenue in other region either by introducing offers, discounts or providing more various products.

A minimalist interior scene featuring a light gray wall and a wooden plank floor. A black-framed sign is mounted on the wall. The sign has a white background with a central light gray rectangle. The word 'THANKS' is written in a bold, black, serif font within this rectangle. Two thin red horizontal lines are positioned above and below the gray rectangle. The floor is made of light-colored wood planks with visible grain and knots.

THANKS