@YT 2023

Microsoft Excel Mini Task

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@YT 2023

LIST OF CONTENT

01 Data Description

The Superstore Sales data provides sales data for a fictional retail company, including information on products, orders and customers. It is often used to practice data analytics.

This Excel dataset includes the following variables:

- Order ID - A unique identifier for each order.
- Customer ID - A unique identifier for each customer.
- Order Date - The date of the order placement.
- Ship Date - The date the order was shipped.
- Ship Mode - The shipping mode for the order (e.g. standard, same-day).
- Segment - The customer segment (e.g. Consumer, Corporate, Home Office).
- Region - The region where the customer is located (e.g. West, Central, East).
- Category - The category of the product purchased (e.g. Furniture, Technology, Office Supplies).
- Sub-Category - The sub-category of the product purchased (e.g. Chairs, Desktops, Paper).
- Product Name - The name of the product purchased.

- Sales - The sales revenue for the product purchased.
- Quantity - The number of units of the product purchased.
- Discount - The discount applied to the product purchased.
- Profit -The profit generated by the product purchased.

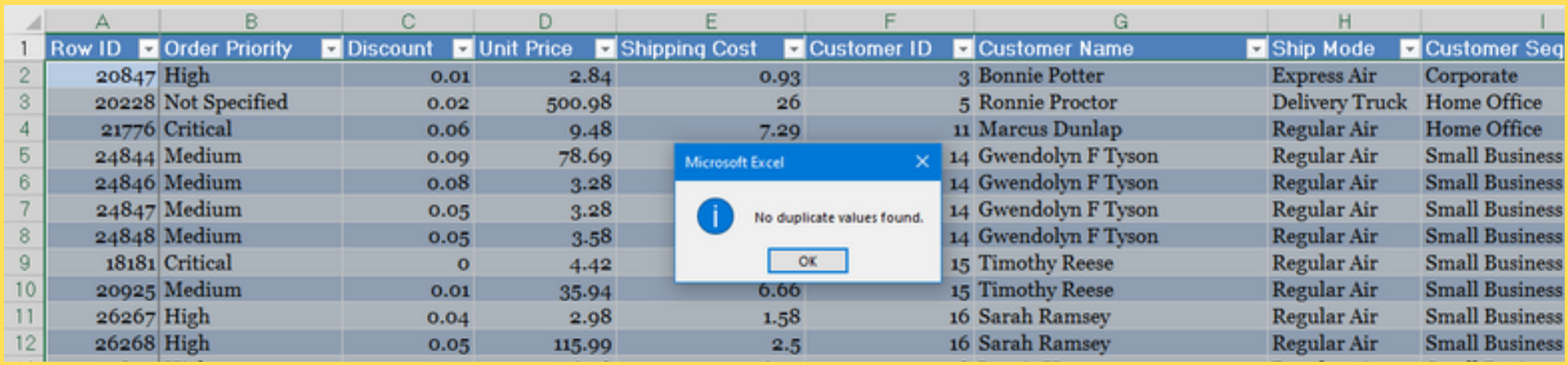
Data source: https://hackernoon.com/15-excel-datasets-for-data-analytics-beginners; no 1.

02 Data Preparation

- The first thing that I did was format raw data into table format using the shortcut command: CTRL + T. Then it will look like the picture below.

	A	B	C	D	E	F	G	H	I
1	Row ID	Order Priority	Discount	Unit Price	Shipping Cost	Customer ID	Customer Name	Ship Mode	Customer Seg
2	20847	High	0.01	2.84	0.93	3	Bonnie Potter	Express Air	Corporate
3	20228	Not Specified	0.02	500.98	26	5	Ronnie Proctor	Delivery Truck	Home Office
4	21776	Critical	0.06	9.48	7.29	11	Marcus Dunlap	Regular Air	Home Office
5	24844	Medium	0.09	78.69	19.99	14	Gwendolyn F Tyson	Regular Air	Small Business
6	24846	Medium	0.08	3.28	2.31	14	Gwendolyn F Tyson	Regular Air	Small Business
7	24847	Medium	0.05	3.28	4.2	14	Gwendolyn F Tyson	Regular Air	Small Business
8	24848	Medium	0.05	3.58	1.63	14	Gwendolyn F Tyson	Regular Air	Small Business
9	18181	Critical	0	4.42	4.99	15	Timothy Reese	Regular Air	Small Business
10	20925	Medium	0.01	35.94	6.66	15	Timothy Reese	Regular Air	Small Business
11	26267	High	0.04	2.98	1.58	16	Sarah Ramsey	Regular Air	Small Business
12	26268	High	0.05	115.99	2.5	16	Sarah Ramsey	Regular Air	Small Business

- Check the duplicate data in the menu data, then remove the duplicate. From the picture below, we know that no duplicates were found.



@YT 2023

- Create a new column to get data managers by region from sheet users. To obtain such data, we use the index match with the formula: =INDEX(Users!$B$2:$B$5,MATCH([Region],Users!$A$2:$A$5,0))

	A	S	T	U	V	W	X	Y	Z	AA	A
1	Row ID	Postal Code	Order Date	Ship Date	Profit	Quantity ordered new	Sales	Order ID	Manager		
2	20847	98221	01/07/2015	01/08/2015	4.56	4	13.01	88522	William		
3	20228	91776	06/13/2015	06/15/2015	4390.3665	12	6362.85	90193	William		
4	21776	7203	02/15/2015	02/17/2015	-53.8096	22	211.15	90192	Erin		
5	24844	55372	05/12/2015	05/14/2015	803.4705	16	1164.45	86838	Chris		
6	24846	55372	05/12/2015	05/13/2015	-24.03	7	22.23	86838	Chris		
7	24847	55372	05/12/2015	05/13/2015	-37.03	4	13.99	86838	Chris		
8	24848	55372	05/12/2015	05/13/2015	-0.71	4	14.26	86838	Chris		
9	18181	11787	04/08/2015	04/09/2015	-59.82	7	33.47	86837	Erin		
10	20925	11787	05/28/2015	05/28/2015	261.8757	10	379.53	86839	Erin		
11	26267	13210	02/12/2015	02/15/2015	2.63	6	18.8	86836	Erin		
12	26268	13210	02/12/2015	02/14/2015	652.7331	10	945.99	86836	Erin		

- Create a new column to extract day and month from column order date. To obtain such data, we use the formula:

1. =TEXT([@[Order Date]],"dddd") for day.
2. =TEXT([@[Order Date]],"mmmm") for month.

	A	S	T	U	V	W	X	Y	Z	AA	AB
1	Row ID	Postal Code	Order Date	Ship Date	Profit	Quantity ordered n	Sales	Order ID	Manager	Day	Month
2	20847	98221	01/07/2015	01/08/2015	4.56	4	13.01	88522	William	Wednesday	January
3	20228	91776	06/13/2015	06/15/2015	4390.3665	12	6362.85	90193	William	Saturday	June
4	21776	7203	02/15/2015	02/17/2015	-53.8096	22	211.15	90192	Erin	Sunday	February
5	24844	55372	05/12/2015	05/14/2015	803.4705	16	1164.45	86838	Chris	Tuesday	May
6	24846	55372	05/12/2015	05/13/2015	-24.03	7	22.23	86838	Chris	Tuesday	May
7	24847	55372	05/12/2015	05/13/2015	-37.03	4	13.99	86838	Chris	Tuesday	May
8	24848	55372	05/12/2015	05/13/2015	-0.71	4	14.26	86838	Chris	Tuesday	May
9	18181	11787	04/08/2015	04/09/2015	-59.82	7	33.47	86837	Erin	Wednesday	April
10	20925	11787	05/28/2015	05/28/2015	261.8757	10	379.53	86839	Erin	Thursday	May
11	26267	13210	02/12/2015	02/15/2015	2.63	6	18.8	86836	Erin	Thursday	February
12	26268	13210	02/12/2015	02/14/2015	652.7331	10	945.99	86836	Erin	Thursday	February

- Because the data we're using can be said to be pretty clean or good, then it's going straight to pivot table creation and data visualization. But before that, we'll answer some questions below to support data visualization later.

1. What is the total revenue generated by the store?

Total revenue	$ 1,924,337.88	=SUM(Table1[Sales])

2. Which category of products contributes the most to sales?

Category	Sales	Formula
Office Supplies	$ 985,531.76	=SUMIF(Table1[Product Category],$AB$9:$AB$11,$X$7:$X$1953)
Furniture	$ 424,683.28	=SUMIF(Table1[Product Category],$AB$9:$AB$11,$X$7:$X$1953)
Technology	$ 506,349.15	=SUMIF(Table1[Product Category],$AB$9:$AB$11,$X$7:$X$1953)
Contribute most to sales	Office Supplies	=INDEX(AB9:AB11,MATCH(MAX(AC9:AC11),AC9:AC11,0))

3. Which region has the highest sales and which one has the lowest?

Region	Sales	Formula
Central	$448,284.70	=SUMIF($P$2:$P$1953,AB16,X2:X1953)
East	$513,099.31	=SUMIF($P$2:$P$1953,AB17,X3:X1954)
South	$376,134.17	=SUMIF($P$2:$P$1953,AB18,X4:X1955)
West	$461,908.49	=SUMIF($P$2:$P$1953,AB19,X5:X1956)
Highest sales	East	=INDEX($AB$16:$AB$19,MATCH(MAX($AC$16:$AC$19),$AC$16:$AC$19,0))
Lowest sales	South	=INDEX($AB$16:$AB$19,MATCH(MIN($AC$16:$AC$19),$AC$16:$AC$19,0))

4. What is the average profit margin of the store?

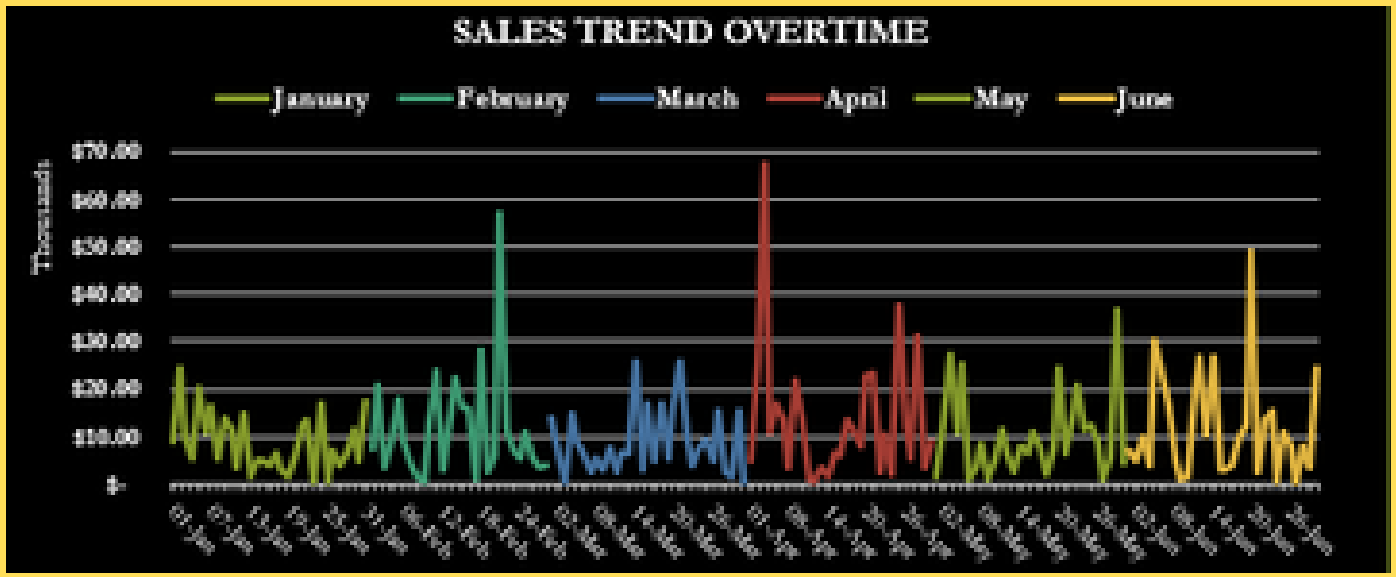
Average profit margin	$ 114.79	=AVERAGE(Table1[Profit])

@YT 2023

03 Pivot Table & Data Visualization

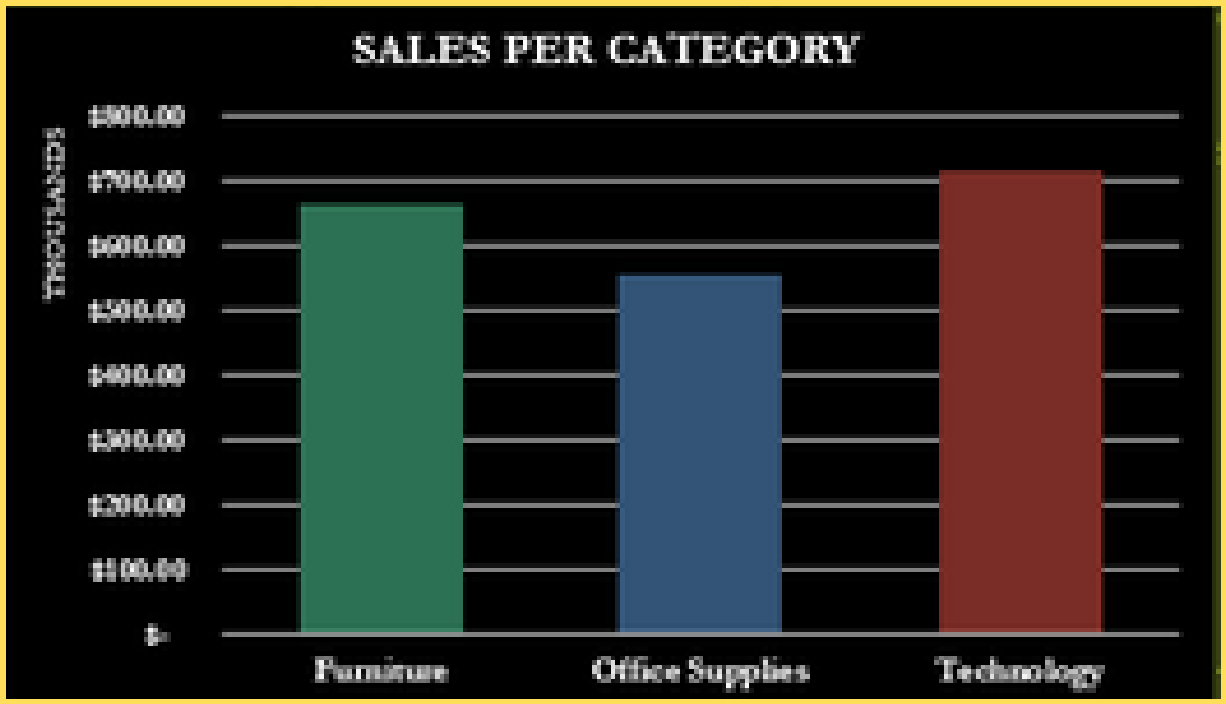
Pivot Table is an Excel feature that is commonly used to manage and display data in a practical way, so users can convert data sets into an easy-to-read table. Before the data can be visualized, the pivot table must be defined first. In this case study, we're going to show some data taken from the dataset, Pivot Table is an Excel feature that is commonly used to manage and display data in a practical way, so users can convert data sets into readable tables. Before data can be viewed, a pivot table must be defined first. In this case study, we will show some data taken from the dataset, namely: revenue sales, number of transactions, total product sold, total transaction count, average profit, top product category sales, top product category sold, sales per product category, top 5 customers sales, percentage comparison order by ship mode, sales trend, and comparison product by costumer segment.

@YT 2023



Pivot table sales trend overtime by January to June in 2015

Column Labels						
January	February	March	April	May	June	Grand Total
$ 8,860.06						$ 8,860.06
$ 24,319.92						$ 24,319.92
$ 10,134.42						$ 10,134.42
$ 5,470.58						$ 5,470.58
$ 20,160.51						$ 20,160.51
$ 11,123.41						$ 11,123.41
$ 16,551.82						$ 16,551.82
$ 5,388.84						$ 5,388.84
$ 13,926.83						$ 13,926.83
$ 11,520.37						$ 11,520.37
$ 3,355.12						$ 3,355.12
$ 14,882.67						$ 14,882.67
$ 1,772.04						$ 1,772.04
$ 5,200.19						$ 5,200.19
$ 4,829.95						$ 4,829.95
$ 3,964.13						$ 3,964.13
$ 6,667.69						$ 6,667.69
$ 2,987.38						$ 2,987.38
$ 1,652.89						$ 1,652.89
$ 6,109.01						$ 6,109.01
$ 12,281.51						$ 12,281.51
$ 13,513.64						$ 13,513.64
$ 765.90						$ 765.90
$ 16,805.47						$ 16,805.47
$ 445.25						$ 445.25
$ 7,035.73						$ 7,035.73
$ 4,036.39						$ 4,036.39
$ 6,617.65						$ 6,617.65

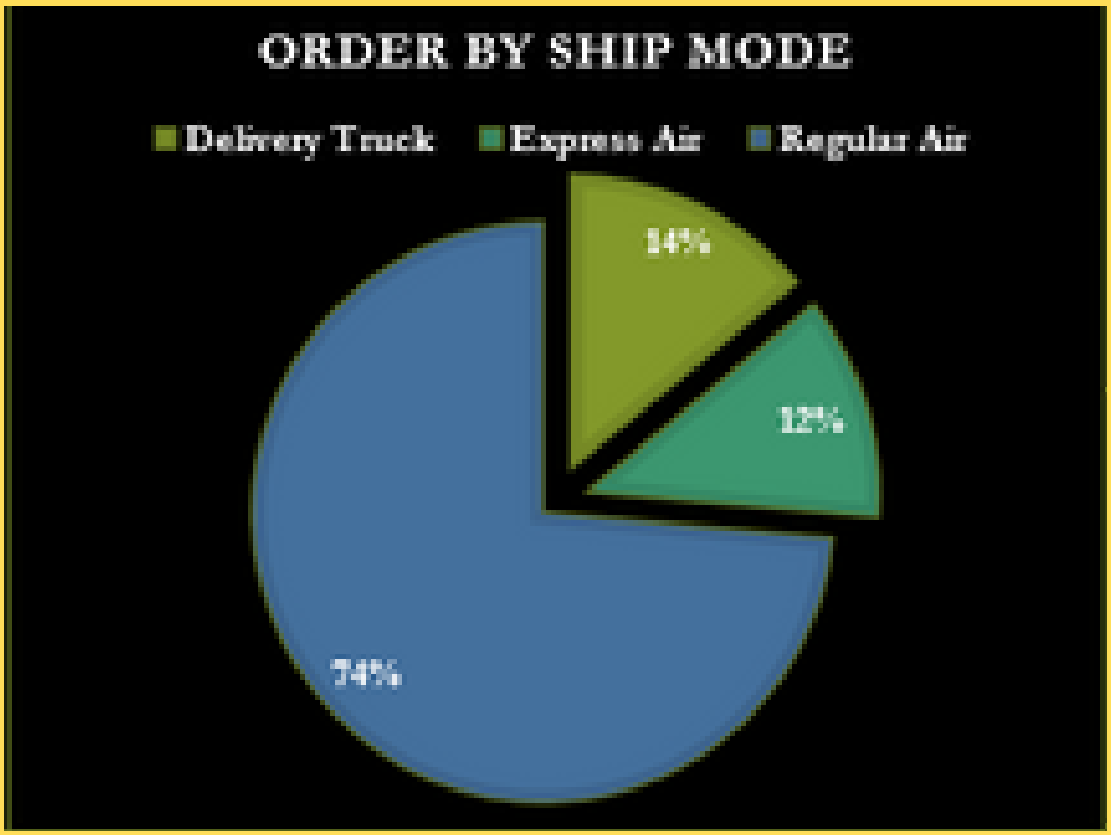


Pivot table total sales per product category

Product categ		Sum of Sales
Furniture	$	660,704.31
Office Supplies	$	551,368.62
Technology	$	712,264.95
Grand Total	**$**	**1,924,337.88**

Ship mode	Count of Order ID
Delivery Truck	14%
Express Air	12%
Regular Air	74%

Pivot table comparison order by ship mode



Customer name	Sum of Sales
Yvonne Mann	$28,779.13
Rosemary O'Brien	$29,916.01
Toni Swanson	$32,194.12
Nina Horne Kelly	$48,295.12
Kristine Connolly	$50,475.31
Grand Total	**$189,659.69**

Pivot table top 5 customers sales

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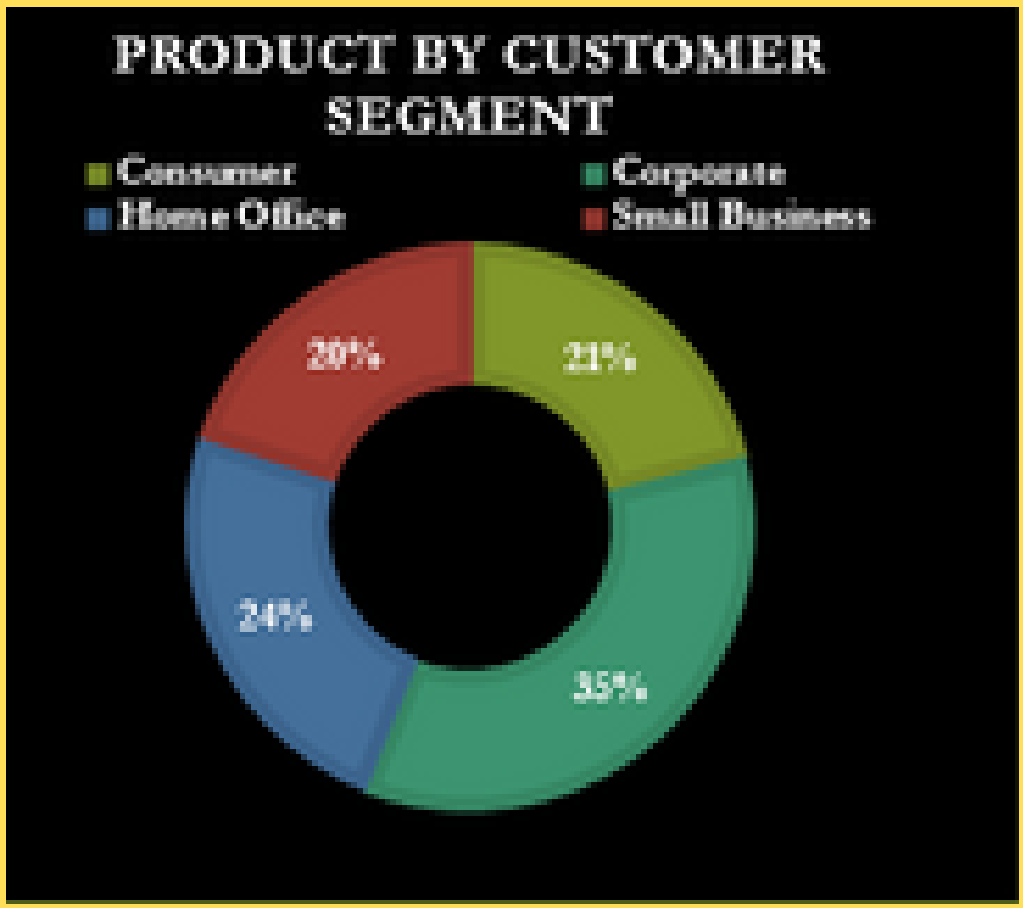
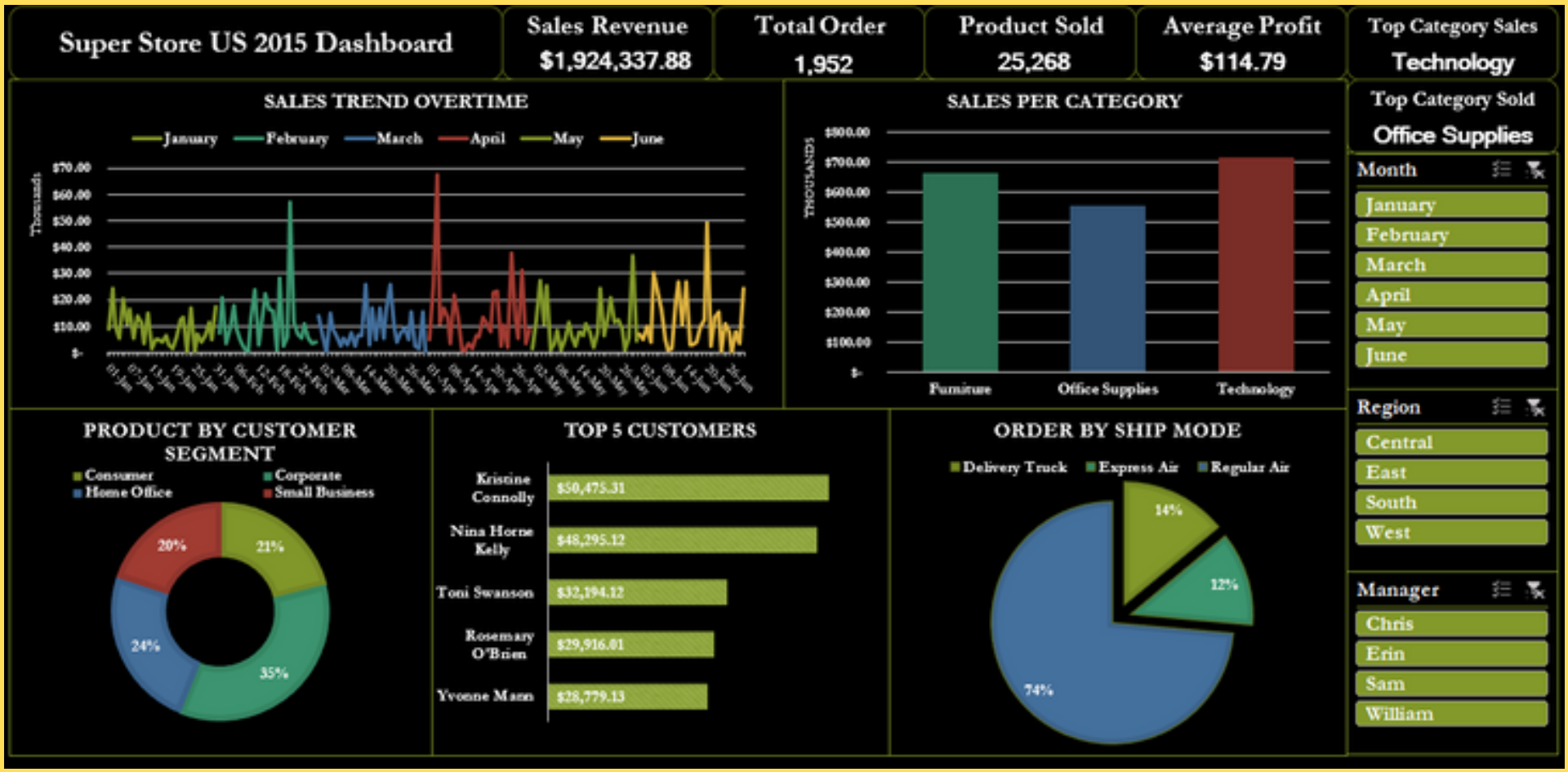
Customer segment	Count of Customer ID
Consumer	21%
Corporate	35%
Home Office	24%
Small Business	20%

Pivot table comparison product category by costumer segment



04 Dashboard



Let’s connect !

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Please like and share it!

Thanks for the support!