
Data Analysis Techniques

Unlocking Insights with PivotTables, Slicers, and Sorting



Importance of data analysis in decision-making:

- Data analysis is crucial for informed decision-making in various domains, including business, finance, and research.
- It enables organizations to identify trends, patterns, and outliers, leading to strategic insights and actionable recommendations.

Objective of the presentation:

- Our objective is to familiarize you with PivotTables, Slicers, and Sorting techniques in Excel

image of pivot table, and slicer

Understanding PivotTables:-

- PivotTables are powerful data summarization tools in Excel
- They dynamically aggregate and organize data.
- It providing a flexible way to explore and visualize trends and patterns.
- They automatically calculate summaries, such as sums, averages, counts, and percentages, based on the selected data fields.

Creating a PivotTable

Take a clean data set for better result:-

A	B	C	D	E	F	G	H
Sales Past Three Years							
2013 - 2015							
Year	Month	Type	Salesperson	Region	Sales	Units	Order #
2013	January	Ice Cream	Bishop	West	\$2,395.50	1597	001
2013	January	Ice Cream	Bishop	West	\$11,761.50	7841	002
2013	January	Frozen Yogurt	Bishop	West	\$8,943.00	5962	003
2013	January	Ice Cream	Bishop	West	\$2,395.50	1597	004
2013	January	Ice Cream	Bishop	West	\$11,761.50	7841	005
2013	January	Frozen Yogurt	Bishop	West	\$8,943.00	5962	006
2013	January	Frozen Yogurt	Lee	Central	\$14,596.50	9731	007
2013	January	Tasty Treats	Lee	Central	\$8,793.00	5862	008
2013	January	Frozen Yogurt	Lee	Central	\$14,596.50	9731	009
2013	January	Tasty Treats	Lee	Central	\$8,793.00	5862	010
2013	January	Ice Cream	Parker	North	\$4,666.00	5623	011
2013	January	Ice Cream	Parker	North	\$7,318.50	4879	012
2013	January	Ice Cream	Parker	North	\$4,666.00	5623	013
2013	January	Ice Cream	Parker	North	\$7,318.50	4879	014
2013	January	Popsicles	Pullen	South	\$3,553.50	2369	015
2013	January	Popsicles	Pullen	South	\$3,553.50	2369	016
2013	January	Frozen Yogurt	Watson	Central	\$14,596.50	9731	017
2013	January	Tasty Treats	Watson	Central	\$8,793.00	5862	018
2013	January	Frozen Yogurt	Watson	Central	\$14,596.50	9731	019
2013	January	Tasty Treats	Watson	Central	\$8,793.00	5862	020
2013	February	Ice Cream	Bishop	West	\$4,887.00	3258	021
2013	February	Ice Cream	Bishop	West	\$4,887.00	3258	022

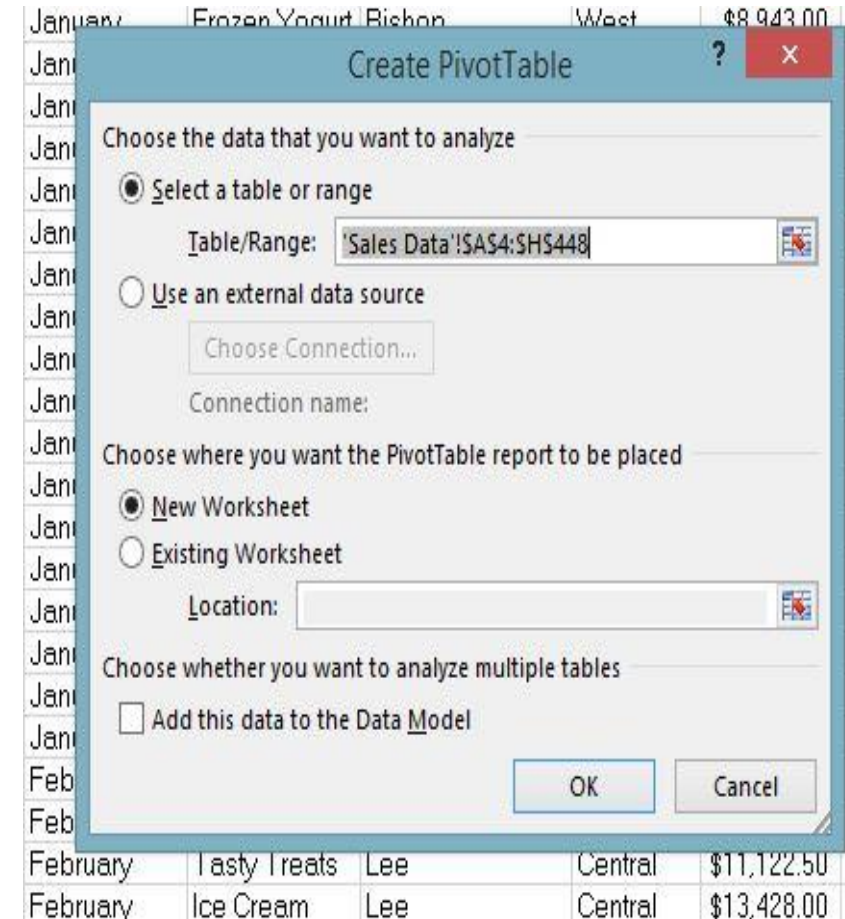
The sample data *

Insert Pivot Tables

- Click on any cell in a data set.
- On the Insert tab, in the Tables group, click PivotTable.



- A dialog box will appear. Excel will auto-select your dataset. It will also create a new worksheet for your pivot table.



Drag Fields:-

To get the total sales of each salesperson, drag the following fields to the following areas.

- Salesperson field to Rows area.
- Sales field to Values area.

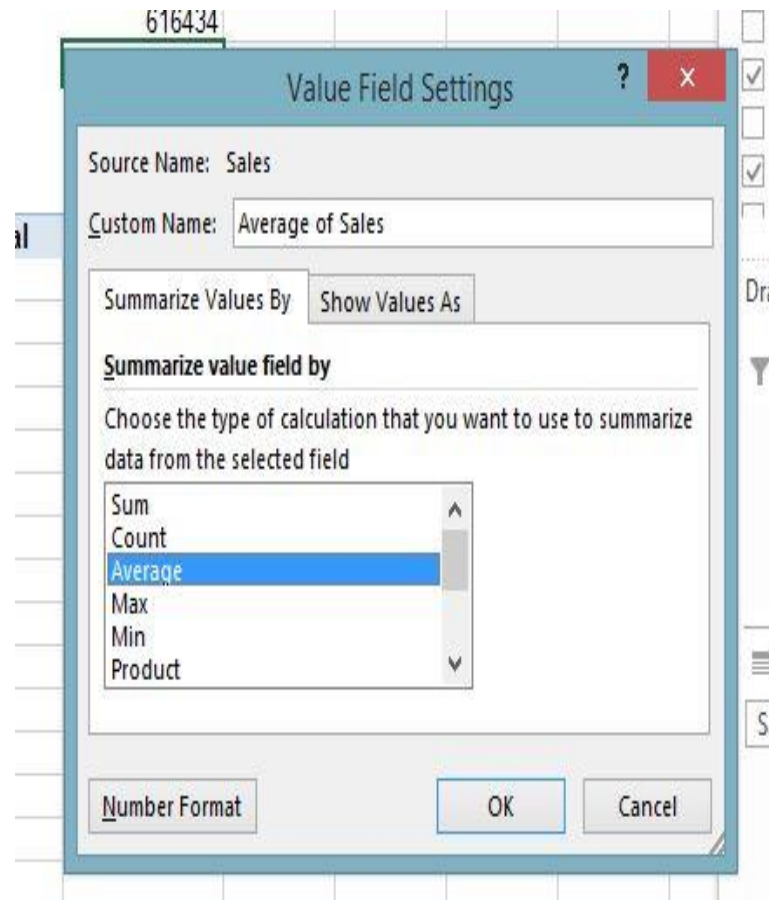
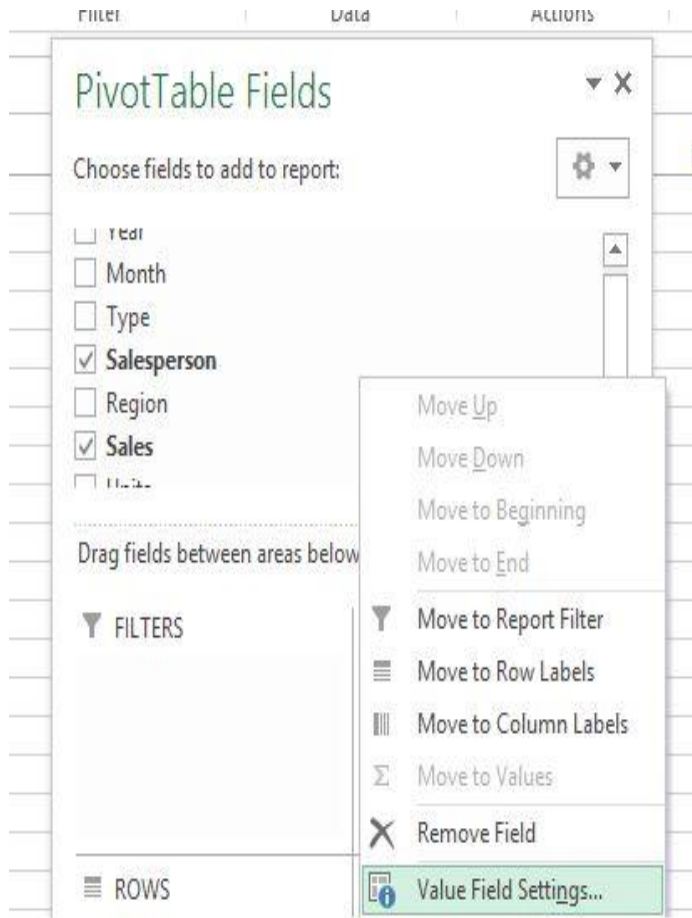
The screenshot displays an Excel spreadsheet with a PivotTable and the PivotTable Fields task pane. The PivotTable is located in the range A3:B9 and shows the sum of sales for each salesperson. The task pane on the right is titled 'PivotTable Fields' and shows the configuration for the PivotTable.

Row Labels	Sum of Sales
Bishop	616434
Lee	758328
Parker	809169
Pullen	541107
Watson	691020
Grand Total	3416058

The PivotTable Fields task pane shows the following configuration:

- Choose fields to add to report:** Salesperson, Sales
- Drag fields between areas below:**
- FILTERS:** (Empty)
- COLUMNS:** (Empty)
- ROWS:** Salesperson
- VALUES:** Sum of Sales
- Defer Layout Update:** (Unchecked)
- UPDATE:** (Button)

Value Field Settings



Row Labels	Average of Sales
Bishop	6849.266667
Lee	7899.25
Parker	7933.029412
Pullen	6441.75
Watson	9597.5
Grand Total	7693.824324

Now we got the Avreage value without formula

PivotTable Layout

- Rows: Organize data along the vertical axis, providing a hierarchical structure for categorization.
- Columns: Arrange data horizontally, defining the dimensions of analysis.
- Values: Calculate summary statistics, such as sums, averages, counts, or percentages.
- Filters: Enable data filtering based on specific criteria, allowing users to focus on relevant subsets.

Source Data

Quantity	Revenue
15	270
20	200
25	1,150
14	100
16	400
40	510
20	70
10	92
29	350
10	128
30	660
30	276
10	530
50	500
90	2,250
50	150
25	1,000
25	75
15	52

Pivot Table

Row Labels	Sum of Revenue
Midwest	10402
Northeast	5349
South	20533.25
West	34268.75
Total	70553

PivotTable Fields

Choose fields to add to report:

- ☐ Customer
- ☒ Region
- ☐ Product
- ☐ Quantity
- ☒ Revenue

Drag fields between areas below:

FILTERS	COLUMNS

ROWS	VALUES
Region	Sum of Revenue

Filtering and calculating

The pivot table performs its magic by filtering and calculating the data for each cell in the values area

	J	K	L	M	N	O
1	Pivot Table					
2	Row Labels	Sum of Revenue				
3	Midwest	10,402				
4	Northeast	5,349				
5	South	20,533				
6	West	34,269				
7	Total	70,553				
8						

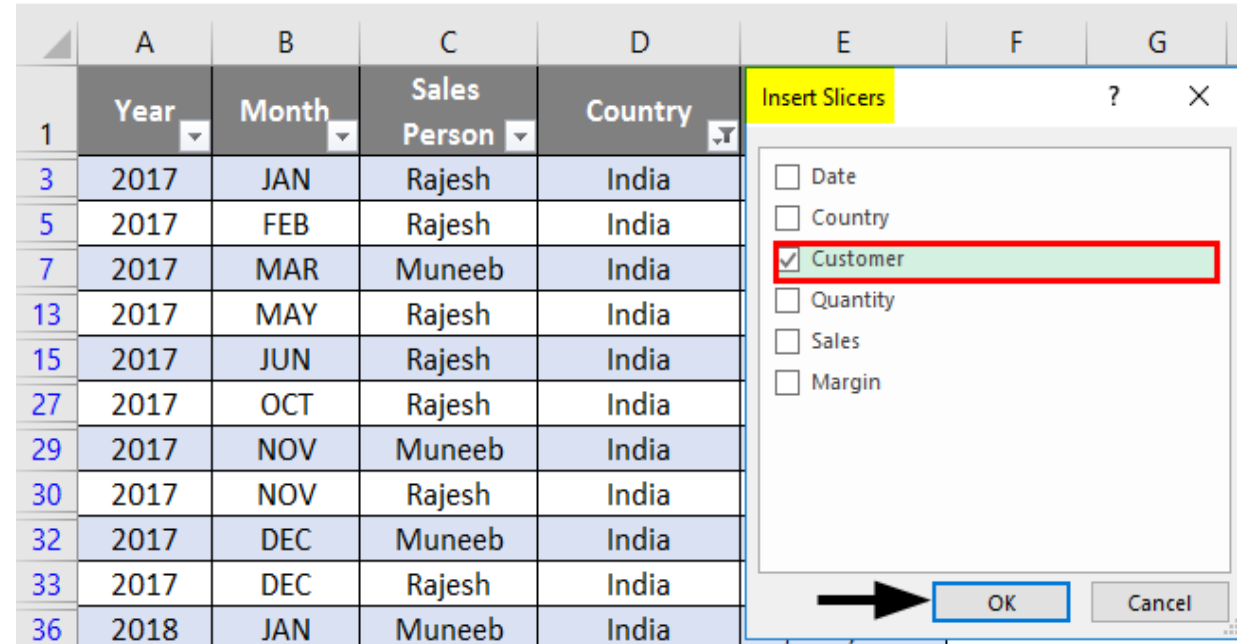
Filter & Calculate
Sum of Revenue for the
Northeast Region.

Introduction to Slicers:-

Slicers are visual filters that allow users to interactively filter data in PivotTables, PivotCharts, and Excel Tables.

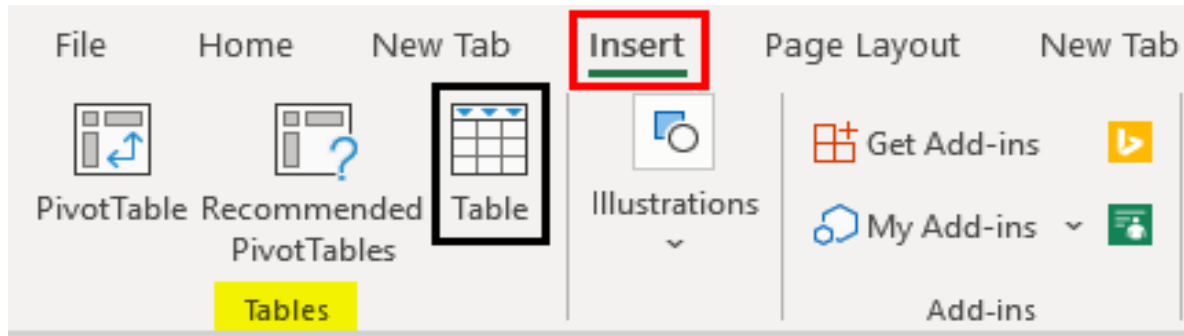
They provide a user-friendly interface for data filtering, enhancing the interactivity and usability of Excel reports and dashboards.

Slicer in Excel



Visual representation of Slicers in action

Click on Insert tab > select Table under the Tables option menu.



The data set*

	A	B	C	D	E
1	Year	Month	Sales Person	Country	Sales Value
2	2017	JAN	Muneeb	Oman	\$314,957
3	2017	JAN	Rajesh	India	\$92,498
4	2017	FEB	Muneeb	Oman	\$302,837
5	2017	FEB	Rajesh	India	\$132,682
6	2017	MAR	John	Saudi Arabia	\$2,050
7	2017	MAR	Muneeb	India	\$270,809
8	2017	MAR	Rajesh	Dubai	\$171,580
9	2017	APR	Muneeb	Saudi Arabia	\$620,948
10	2017	APR	Rajesh	France	\$157,725
11	2017	MAY	John	France	\$3,016
12	2017	MAY	Muneeb	Oman	\$373,977
13	2017	MAY	Rajesh	India	\$108,346
14	2017	JUN	Muneeb	Oman	\$333,574
15	2017	JUN	Rajesh	India	\$120,029
16	2017	JUL	John	Saudi Arabia	\$60,614
17	2017	JUL	Muneeb	Oman	\$226,127
18	2017	JUL	Rajesh	France	\$89,675

- Select all the data across A1 to E93 and insert a table for these ranges. It will pop up a new window called Create Table with all the ranges we have selected to insert Table. Click on the **OK** button.

	A	B	C	D	E
1	Year	Month	Sales Person	Country	Sales Value
2	2017	JAN	Muneeb	Oman	\$314,957
3	2017	JAN	Rajesh	India	\$92,498
4	2017	FEB			\$2,837
5	2017	FEB			\$2,682
6	2017	MAR			\$2,050
7	2017	MAR			\$2,809
8	2017	MAR			\$1,580
9	2017	APR			\$2,948
10	2017	APR	Rajesh	France	\$157,725
11	2017	MAY	John	France	\$3,016
12	2017	MAY	Muneeb	Oman	\$373,977
13	2017	MAY	Rajesh	India	\$108,346
14	2017	JUN	Muneeb	Oman	\$333,574
15	2017	JUN	Rajesh	India	\$120,029
16	2017	JUL	John	Saudi Arabia	\$60,614
17	2017	JUL	Muneeb	Oman	\$226,127
18	2017	JUL	Rajesh	France	\$89,675

Create Table

Where is the data for your table?

=SA\$1:\$E\$93

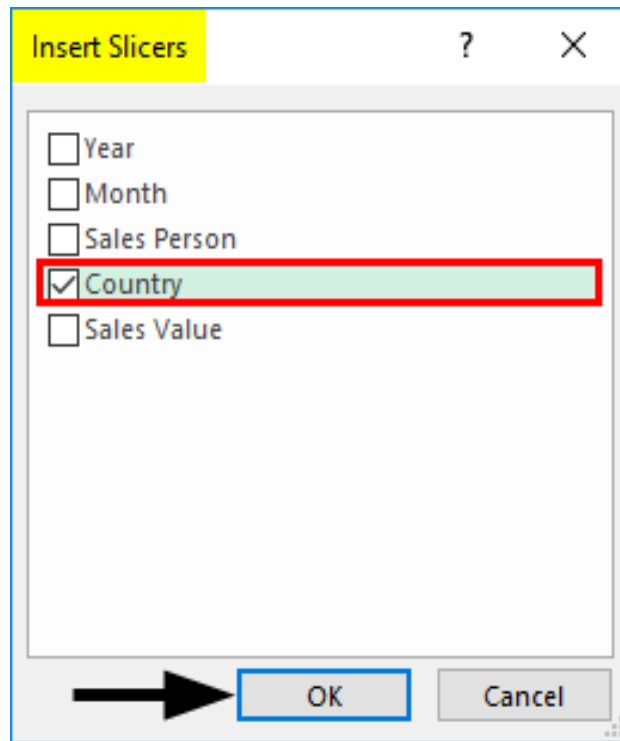
☒ My table has headers

OK

Cancel

	A	B	C	D	E
1	Year	Month	Sales Person	Country	Sales Value
2	2017	JAN	Muneeb	Oman	\$314,957
3	2017	JAN	Rajesh	India	\$92,498
4	2017	FEB	Muneeb	Oman	\$302,837
5	2017	FEB	Rajesh	India	\$132,682
6	2017	MAR	John	Saudi Arabia	\$2,050
7	2017	MAR	Muneeb	India	\$270,809
8	2017	MAR	Rajesh	Dubai	\$171,580
9	2017	APR	Muneeb	Saudi Arabia	\$620,948
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11	2017	MAY	John	France	\$3,016
12	2017	MAY	Muneeb	Oman	\$373,977
13	2017	MAY	Rajesh	India	\$108,346
14	2017	JUN	Muneeb	Oman	\$333,574
15	2017	JUN	Rajesh	India	\$120,029
16	2017	JUL	John	Saudi Arabia	\$60,614
17	2017	JUL	Muneeb	Oman	\$226,127
18	2017	JUL	Rajesh	France	\$89,675

Insert slicer to the dataset



Click on any country(Feild) to apply Filter.

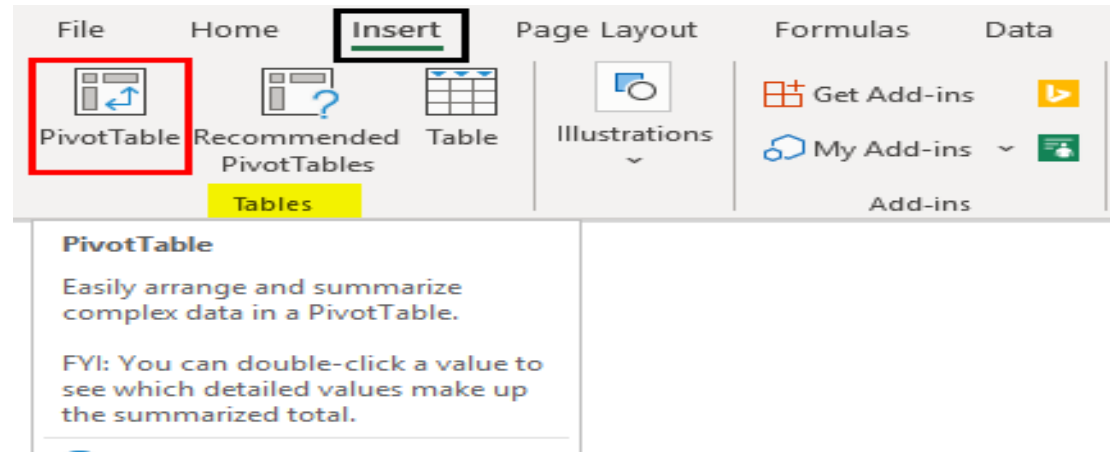
	A	B	C	D	E	F	G	H
1	Year	Month	Sales Person	Country	Sales Value	Country		
2	2017	JAN	Muneeb	Oman	\$314,957	Dubai		
3	2017	JAN	Rajesh	India	\$92,498	France		
4	2017	FEB	Muneeb	Oman	\$302,837	India		
5	2017	FEB	Rajesh	India	\$132,682	Oman		
6	2017	MAR	John	Saudi Arabia	\$2,050	Pakistan		
7	2017	MAR	Muneeb	India	\$270,809	Saudi Arabia		
8	2017	MAR	Rajesh	Dubai	\$171,580			
9	2017	APR	Muneeb	Saudi Arabia	\$620,948			
10	2017	APR	Rajesh	France	\$157,725			
11	2017	MAY	John	France	\$3,016			
12	2017	MAY	Muneeb	Oman	\$373,977			
13	2017	MAY	Rajesh	India	\$108,346			
14	2017	JUN	Muneeb	Oman	\$333,574			
15	2017	JUN	Rajesh	India	\$120,029			
16	2017	JUL	John	Saudi Arabia	\$60,614			
17	2017	JUL	Muneeb	Oman	\$226,127			
18	2017	JUL	Rajesh	France	\$89,675			

Slicers for Pivot Table Data

The data set

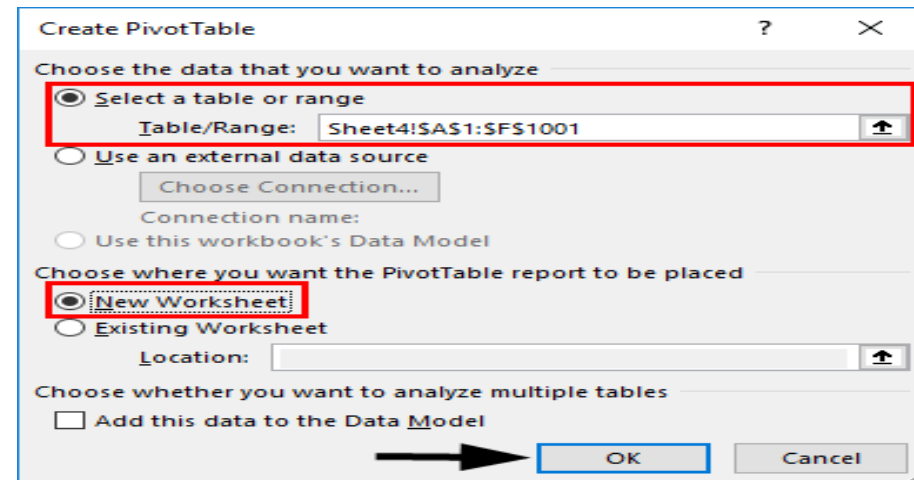
	A	B	C	D	E	F
1	Date	Country	Customer	Quantity	Sales	Margin
2	1/1/2018	Dubai	Rehanmettal	1,000	\$22,000	\$7,480
3	1/1/2018	India	Copco	1,500	\$123,200	\$43,120
4	1/1/2018	India	Fleet Management	1,500	\$44,800	\$11,200
5	1/2/2018	Oman	yale	2,000	\$93,500	\$31,790
6	1/2/2018	Dubai	Atlas Copco	700	\$48,800	\$6,832
7	1/2/2018	Saudi Arabia	Doreo	500	\$9,200	\$1,288
8	1/3/2018	Saudi Arabia	LANDOLL	599	\$15,000	\$2,100
9	1/3/2018	Saudi Arabia	LANDOLL	140	\$9,500	\$1,710
10	1/5/2018	India	Copco	1,500	\$56,000	\$14,560
11	1/5/2018	Saudi Arabia	D-Mart	1,200	\$32,500	\$9,425
12	1/5/2018	Dubai	Core Universal	1,350	\$106,400	\$20,216
13	1/5/2018	Saudi Arabia	Doreo	800	\$12,600	\$3,780
14	1/6/2018	Oman	yale	1,120	\$14,400	\$3,312
15	1/6/2018	Saudi Arabia	D-Mart	1,570	\$58,500	\$21,645

Select Data range for pivot table.



Rows: Customer, Country

Values: Quantity, Sales, Margin



Repeat same steps for slicer as discuss

File Layout Formulas Data Review View Developer Help Power Pivot **PivotTable Analyze** Design

Insert Slicer
Insert Timeline
Filter Connections

Filter

Refresh Change Data Source
Data

Actions
Calculations
Tools

PivotChart Recommended PivotTables
Show

Insert Slicer
Use a slicer to filter data visually.
Slicers make it faster and easier to filter Tables, PivotTables, PivotCharts, and cube functions.

Insert Slicers

☐ Date
☐ Country
☒ **Customer**
☐ Quantity
☐ Sales
☐ Margin

OK Cancel

	A	B	C	D	E	F	G	H
1	Row Labels	Country	Sum of Quantity	Sum of Sales	Sum of Margin	Customer		
2	Atlas Copco	Dubai	57,027	3,004,600	715,289	Atlas Copco		
3	Copco	India	54,047	2,647,000	590,512	Copco		
4	Core Universal	Dubai	57,139	2,432,900	565,422	Core Universal		
5	D-Mart	Saudi Arabia	52,054	2,397,300	583,060	D-Mart		
6	Doreo	Saudi Arabia	63,717	2,977,600	706,384	Doreo		
7	Fleet Management	India	128,244	6,629,700	1,616,486	Fleet Management		
8	Kagwar	Saudi Arabia	54,765	2,608,300	545,612	Kagwar		
9	LANDOLL	Saudi Arabia	49,636	2,915,900	699,201	LANDOLL		
10	Lemon Tree	Dubai	59,666	2,821,300	644,954			
11	Med+	Dubai	68,847	4,057,000	986,670			
12	Medi Siri	Dubai	50,189	2,673,500	627,374			
13	Office Mac	Dubai	54,325	2,810,500	677,981			
14	Rehanmettal	Dubai	67,788	3,426,000	841,773			
15	Shory K	India	46,017	2,394,000	625,566			
16	TyroVerse	Oman	57,745	2,905,100	672,327			
17	yale	Oman	38,977	2,257,800	533,421			
18	Grand Total		960,183	48,958,500	11,632,032			

	A	B	C	D	E	F	G	H
1	Row Labels	Country	Sum of Quantity	Sum of Sales	Sum of Margin	Customer		
2	Atlas Copco	Dubai	57,027	3,004,600	715,289	Atlas Copco		
3	Core Universal	Dubai	57,139	2,432,900	565,422	Core Universal		
4	Grand Total		114,166	5,437,500	1,280,711			
5								
6								
7								
8								
9								
10								
11								
12								
13								



THANK YOU