Ex05

Introduction: Power BI provides various transformation features. Some very straight forward, whereas there are few a bit challenging to use.

Objective: Learn how to use Pivot & Unpivot Transformations.

Pre-requisites:

- 1) Understand how to load data from MS Excel
- 2) Basic transformation in Power BI.

Steps:

Part-1: Prepare Data Workbook

- 1. Copy from Ex04.xlsx and rename it as "Ex04.xlsx". We will extend the data set from Exercise 4.
- 2. From the workbook Ex05.xlsx just created, add a new worksheet "Pivoted Data" as below:

)•∂•∓			Ex05.	xlsx - Excel			Sign in 🖬 —	o ×
File	Home Insert	Page Layout Formulas	Data Review View	Developer My Own Ta	b Help Power Pivot	* *			∕⊊ Share
Paste Clipboard		· 🖿 • 🕭 • 🔺 = =				al Format as Cell In:	rart Delete Format	AutoSum * Arr Point Fill * Sort & Find & Clear * Filter * Select * Editing	^
G9		• : × ✓ fx	r						~
	А	В	С	D	Е	F	G	Н	I ^
1									
2									
3									
4									
5		Region	2019	2020	2021				
6		North	1000		2000				
7		Center	3000	1000	2000				
8		South		2000	4000				
9									
10									¥
< >>	Lists En	nployee Pivoted Data	(+)			: (E II	+ 235%

Part-2: To Unpivot Data

3. Crate new Power BI project with name "Ex05.pbix".



4. From the main UI, select load Excel data source:

8 99		Ex0	15 - Power BI Desktop	
File Home Ir	nsert Mode View Help			
Paste Copy	Get Excel Power BI SQL Enter Rec	Transform Refresh	New Text More	New
💞 Format painter	data v datasets Server data source		visual box visuals v	measur
Clipboard	Data	Queries	Insert	Calc
5. In the "Open" dialo	og box, select excel workbook "ExO3	.xlsx" you just create	ed:	
> 👆 Downloads	Name			
> 🁌 Music	📬 Demo.xlsx			
> 💽 Pictures	Ex05.xlsx			

6. From the "Navigator" dialog box, select worksheet "Pivoted Data" only. (Don't load at this moment):

Pivoted Data

Navigator

	Q
Display Options 🔹	C.
⊿ 📕 Ex05.xlsx [6]	
🔲 📰 TblDepartment	
🔲 📰 TblEmployee	
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🗆 🌐 Employee	
🗆 🌐 Lists	
✓ Ⅲ Pivoted Data	

Column1	Column2	Column3	Column4
Region	2019	2020	2021
North	1000	null	2000
Center	3000	1000	2000
South	null	2000	4000

7. While still under "Navigator" dialog box, press the "Transform Data" button at the bottom right of the dialog box to open the Query Editor:

Queries [1]	<		A ^B _C Column1	1 ² 3 Column2	1 ² 3 Column3	1 ² 3 Column4	Query Settings
Pivoted Data		1	Region	2019	2020	2021	▲ PROPERTIES
		2	North	1000	null	2000	Name
		3	Center	3000	1000	2000	Pivoted Data
		4	South	null	2000	4000	All Properties
							A APPLIED STEPS
							Source Navigation
							× Changed Type

8. Beware that something not right about the header. This is due to the header seems fulfill the format of record, therefore Power BI mistaken it is a record. To overcome this problem, we need to promote the first row as header.

9. Under Query Editor, select the "Transform" ribbon Tab and select "Use First Row as Header" as shown below:

📕 拱 🗢 Ex05 - Powe	🔒 │ 🕞 🗢 │ Ex05 - Power Query Editor									
File Home	sform	Ad	d Column View	Tools	Help					
		Rows	👔 Detect Data Type	1,,2 - 5, - - → - → - → -	Split Forma	ABC 123 Extract ▼ tt st st abc Parse ▼	\overline{X}_{Σ} Statistic	ts Standard Scientif	,00 →.0 Rour	nding -
Table			Any Colum	n	Tex	t Column		Number Co	lumn	
Queries [1] <		A ^B C Col	umn1 🗾	1 ² 3 Column2	_	1 ² 3 Column3	▼ 1	² 3 Column4	-	C
Pivoted Data	1	Region			2019		2020		2021	- 4
	2	North			1000		null		2000	

10. You show get the following result:

Queries [1]	<		A ^B _C Region	1 ² 3 2019	1 ² 3 2020	1 ² 3 2021
Pivoted Data		1	North	1000	null	2000
		2	Center	3000	1000	2000
		3	South	null	2000	4000

11. Now multi select columns from year 2019 to 2021 (Control-Click the column headers):

	A ^B _C Region 💌	1 ² 3 2019 👻	1 ² 3 2020	1 ² 3 2021
1	North	1000	null	2000
2	Center	3000	1000	2000
3	South	null	2000	4000

12. While selecting those columns, select "Unpivot Columns":

I I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		elp		
Group Use First Row By as Headers + 10 Count Rows Table	Data Type: Whole Number ▼ 1→2 ▼ Detect Data Type	Unpivot Columns Unpivot Other Columns Unpivot Only Selected Columns	Translate	♀ Statistics < ☐ Trigonometry If Standard < ↓000000000000000000000000000000000000
Queries [1] <	gion 🔽 1 ² 3 2019	✓ 1 ² ₃ 2020		value pairs.
Pivoted Data 1 North		1000	null	2000
2 Center		3000	1000	2000
3 South		null	2000	4000

13.	You	should get the following	g result:	
		A ^B _C Region	A ^B _C Attribute	1 ² 3 Value
	1	North	2019	
	2	North	2021	
	3	Center	2019	
	4	Center	2020	
	5	Center	2021	
	6	South	2020	
	7	South	2021	

The generated columns with name "Attribute" and "Value" are by default. Why there are 7 records are generated?

auov	le click the generated colu	imn headers arename th	em as to ving:
	A ^B _C Region	A ^B _C Year	1 ² 3 Sales 👻
1	North	2019	1000
2	North	2021	2000
3	Center	2019	3000
4	Center	2020	1000
5	Center	2021	2000
6	South	2020	2000
7	South	2021	4000

14. Double click the generated column headers rename them as following:

Part-3: To Pivot Data

15. Continue from the previous steps. At this point we should have a set of Unpivoted data. Now select "Year" column:

	A ^B _C Region	A ^B C Year	1 ² 3 Sales
1	North	2019	1000
2	North	2021	2000
3	Center	2019	3000
4	Center	2020	1000
5	Center	2021	2000
6	South	2020	2000
7	South	2021	4000

16. While the column is selected,

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File Home Tra	ansform Ad	ld Column View	Tools	Help					
	Transpose Reverse Rows Count Rows	📅 Detect Data Type		Split Format Column	ABC 123 Extr		∑ ∑ Statistics Stand		
Table		Any Colum	n	Text	Column				
Queries [1] 🔨 <		gion 💌	Pivot Colum	in in the currently se	lected		-		
Pivoted Data	1 North		column to	create new column	ns.		1000		
	2 North		supported	h nested columns a	ire not		2000		
	3 Center		2019)	3000		
	4 Center		2020				1000		
	5 Center		2021				2000		
	6 South		2020				2000		
	7 South		2021				4000		

17. In the "Pivot Column" dialog box, make sure that the "Sales" is selected and press "OK" to complete:

Pivot Co	lumn		×
Use the name	in column "Year" to create new columns.		
Values Column Sales	Select where the cell values for the new columns come from.		
Advanced opt			
Learn more abo	out Pivot Column		
		ОК	Cancel

18. You should get the following result:

	A ^B _C Region	1 ² 3 2019 👻	1 ² 3 2021 👻	1 ² 3 2020 💌
1	Center	3000	2000	1000
2	North	1000	2000	null
3	South	null	4000	2000

Now the data is in Pivoted form.

19. Close & Apply