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:

85	• ∂ - ∓		-	Ex05.	xlsx - Excel			Sign in 🖬 —	o ×
File	Home Insert	Page Layout Formulas I	Data Review View	Developer My Own Ta	b Help Power Pivot				$\mathcal{P}_{\!$
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	А	В	С	D	Е	F	G	Н	
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 4		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			Ex05 - Power BI Desktop	
File Home Ir	sert Mode View	Help		
Cut	Get Excel Power BI SQL	Enter Recent Transform Re	efresh New Text More	New
💞 Format painter	data v datasets Server	data sources v data v	visual box visuals v	measur
Clipboard	Data	Queries	Insert	Calc
5. In the "Open" dialo	og box, select excel workbo	ook "Ex03.xlsx" you just o	created:	
> 👆 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

Videos

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Display Options 🔹	Ŀ
🖌 📕 Ex05.xlsx [6]	
TblDepartment	
TblEmployee	
TblRace	
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✓ 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
							APPLIED STEPS
							Source Navigation
							imes Changed Type

8. Beware that something is 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:

📙 д 🗢 Ex05 - Power Query Editor									
File Home Isfo	orm Ad	d Column View	Tools	Help					
	nspose verse Rows unt Rows	7 Detect Data Type	1, 2 - 5, - - ↓ - 1, 1 ↓ - 1, 	Split Forma	ABC 123 Parse ▼ 123 Parse ▼	\overline{X}_{Σ} Statistic	t 10 ² cs Standard Scientifi	,00 ,00 G G G G G G G G G G G G G G G G	ding -
Table		Any Colum	n	Tex	t Column		Number Col	umn	
Queries [1] <		umn1 💌	1 ² 3 Column2	v	1 ² 3 Column3	T 1	1 ² 3 Column4	-	C
Pivoted Data	1 Region			2019		2020		2021	-
	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 plumns, select "Unpivot Columns":

File Home Transfo	orm Ad	d Column View	Tools He	elp			
Group, Lise First Row	erse Rows	Data Type: Whole Nu		Unpivot Co		Columns	∑ Statistics × ☐ Trigonomet
By as Headers ▼ 1 Cou Table	unt Rows	■ Rename Any Co	lumn		her Columns	unselect	e all but the currently ed columns into e-value pairs.
Queries [1] <		ion 💌	1 ² 3 2019	*	1 ² 3 2020	Ψ.	1 ² 3 2021 -
Pivoted Data	1 North			1000		null	2000
	2 Center			3000		1000	2000
	3 South			null		2000	4000

13. You should get the following result:

	A ^B _C Region	A ^B _C Attribute	1 ² 3 Value	*
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

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

oup	le clicks the generated col	umn headers of rename th	iem as for wing:
	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 clicks the generated column header rename them as for wing:

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,

📕 🔚 🗢 Ex05 - Power Que ditor										
File Home Ti	Transform Ac	ld Column View	Tools	Help						
	日 Transpose 日 Reverse Rows 日 Count Rows	Data Type: Text ▼ ⑦ Detect Data Type ■ Rename		Split Format	ABC Extr		∑ ∑ Statistics Stand			
Table		Any Colum	n	Text	Column					
Queries [1]	< A ^B _C Re	gion 💌	Pivot Colum	in in the currently se	lected		-			
📰 Pivoted Data	1 North		column to	create new column	is.		1000			
•	2 North		supported	n 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	blumn		×
Use the name	s in column "Year" to create new columns.		
Values Columr Sales ▷ Advanced op	Select where the cell values for the new columns come from.		
	out Pivot Column		
		OK	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