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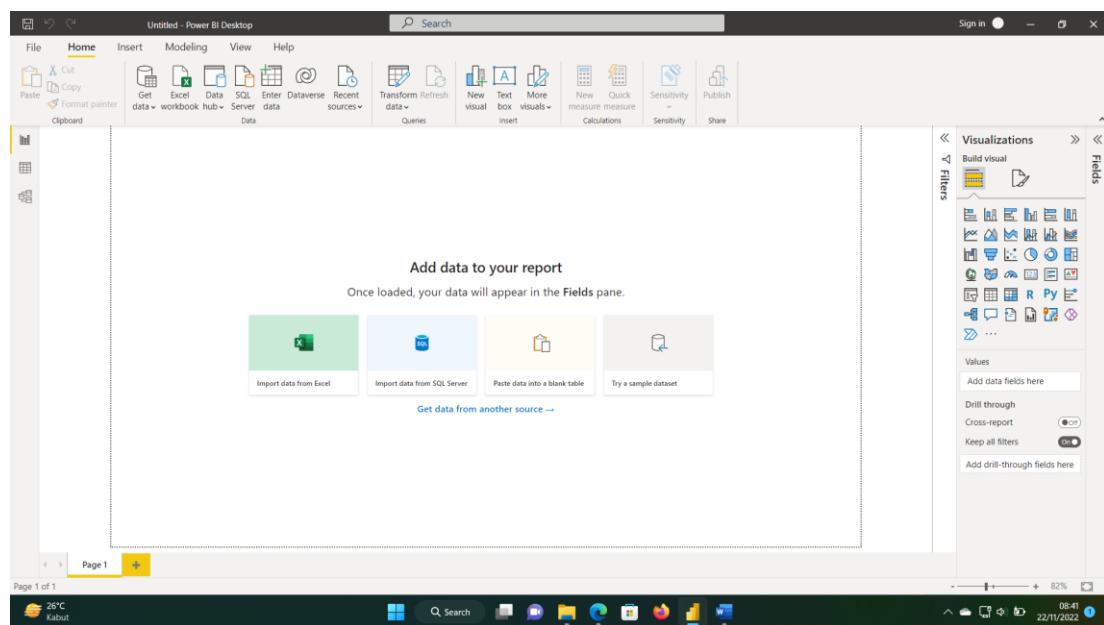
KOM : C

Microsoft PowerBI

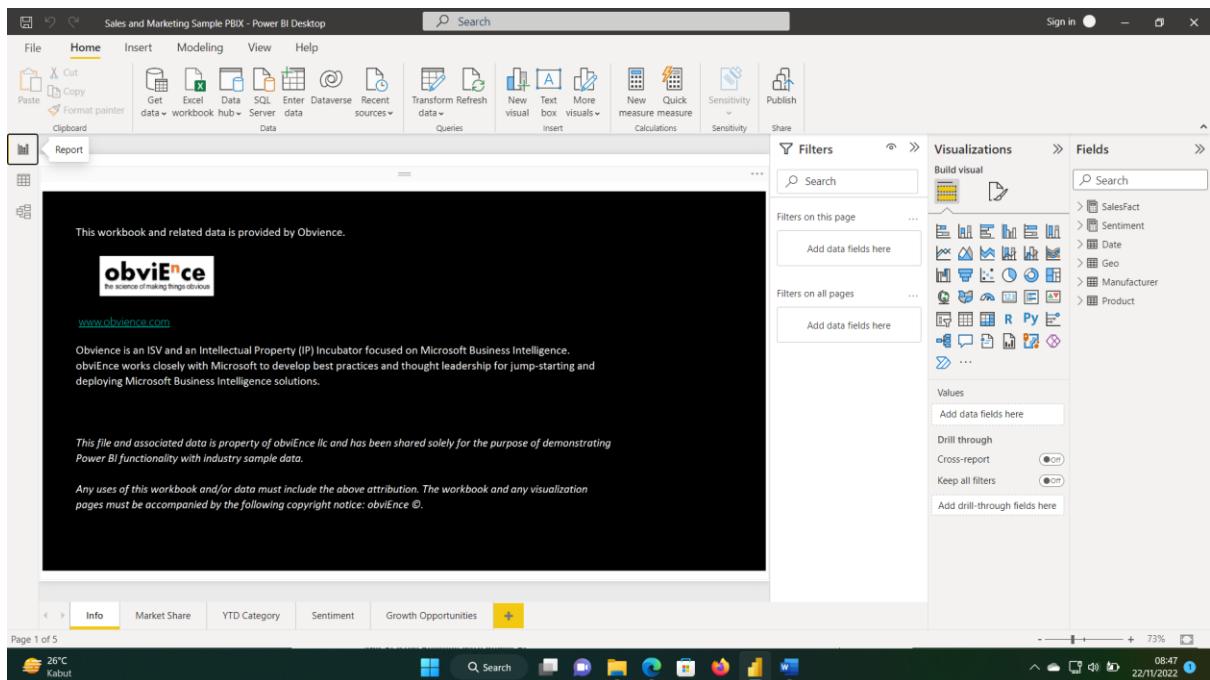
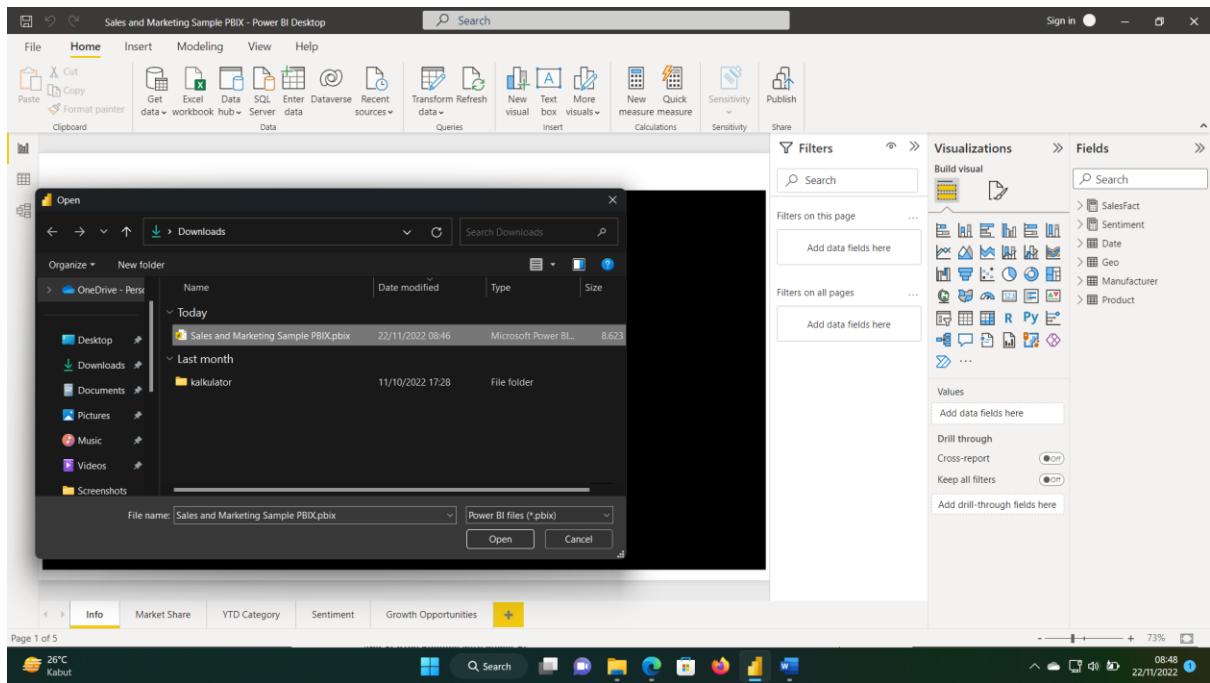
PowerBI merupakan software yang memiliki fungsi untuk menggabungkan, menganalisis, membuat visualisasi, dan membagikan data. Semua fitur itu dikemas dalam tampilan yang intuitif. Tak hanya itu, Power BI sangat terintegrasi dengan Excel, Azure, dan produk-produk Microsoft lainnya. Ini tentu memudahkan proses pengolahan data.

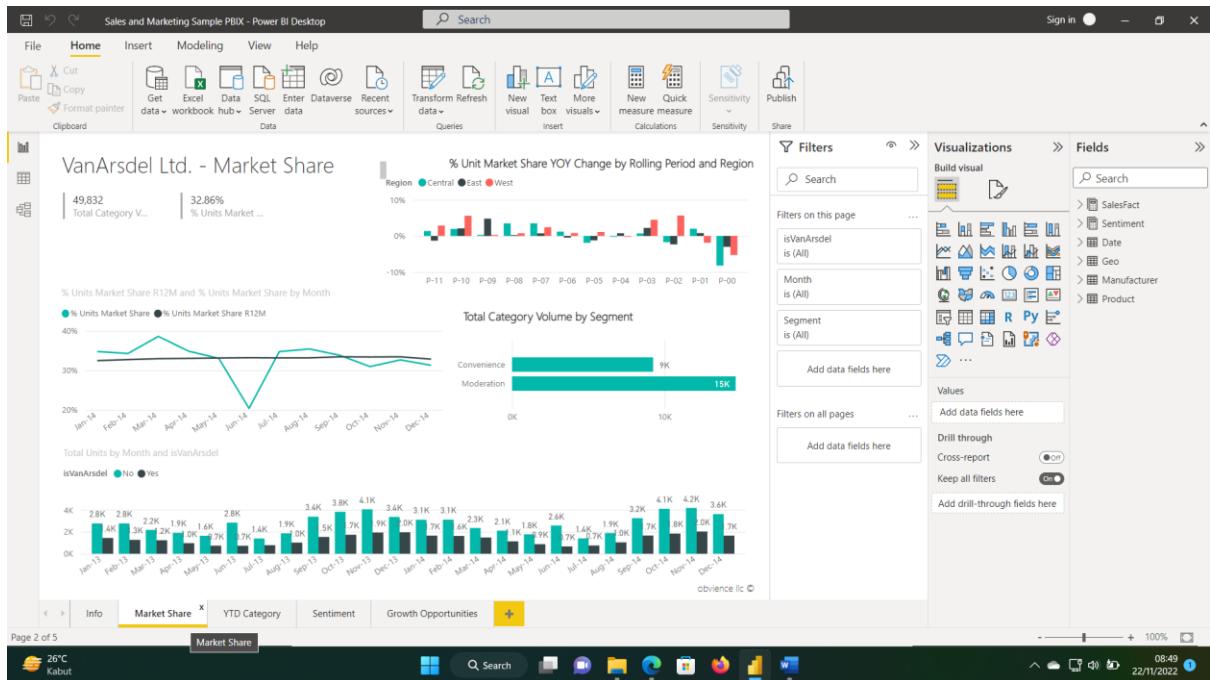
Building Blocks of Power BI: Visualizations

Semua yang dilakukan di Microsoft Power BI dibagi menjadi beberapa blok penyusun dasar. Setelah memahami blok bangunan ini, dapat mengembangkannya masing-masing dan mulai membuat laporan yang rumit dan rumit. Lagi pula, hal-hal yang tampaknya rumit pun dibangun dari blok bangunan dasar. Misalnya, membuat bangunan dari kayu, baja, beton, dan kaca, dan membuat mobil dari logam, kain, dan karet. Tentu saja, bangunan dan mobil juga bisa menjadi dasar atau rumit, tergantung pada pengaturan blok bangunan dasar tersebut.



Untuk menginput data kedalam PowerBI adalah dengan mengklik Button Get Data pada PowerBI, lalu klik Import Data From Excel, Select Table, dan data berhasil diinput kedalam PowerBI.





Building Blocks of Power BI: Datasets

Bagian penting dan memungkinkan dari Power BI adalah banyak konektor datanya. Apakah data yang inginkan ada di Excel atau database Microsoft SQL Server; di Azure atau Oracle; atau di layanan seperti Facebook, Salesforce, atau MailChimp, Power BI memiliki konektor data bawaan yang memungkinkan terhubung dengan mudah ke data tersebut, memfilternya jika perlu, dan membawanya ke kumpulan data. Kita akan mempelajari selengkapnya tentang memuat data ke Power BI di pelajaran mendatang.

Setelah memiliki kumpulan data, dapat mulai membuat visualisasi yang menunjukkan bagian yang berbeda dengan cara yang berbeda — dan mendapatkan wawasan berdasarkan apa yang lihat. Di situlah laporan masuk.

Sales and Marketing Sample PBIX - Power BI Desktop

File Home Help Table tools

Name Date

Mark as date Table Calendars Manage relationships Relationships New Quick measure column Calculations

Structure

Data MonthNo MonthName MonthID Month Quarter Year RunningMonths Running Year Running Months Rolling Period Rolling Period Sort MonthIndex

Table: Date (6,209 rows)

26°C Kubit 08:54 22/11/2022

Sales and Marketing Sample PBIX - Power BI Desktop

File Home Help Table tools

Name Product

Mark as date Table Calendars Manage relationships Relationships New Quick measure column Calculations

Structure

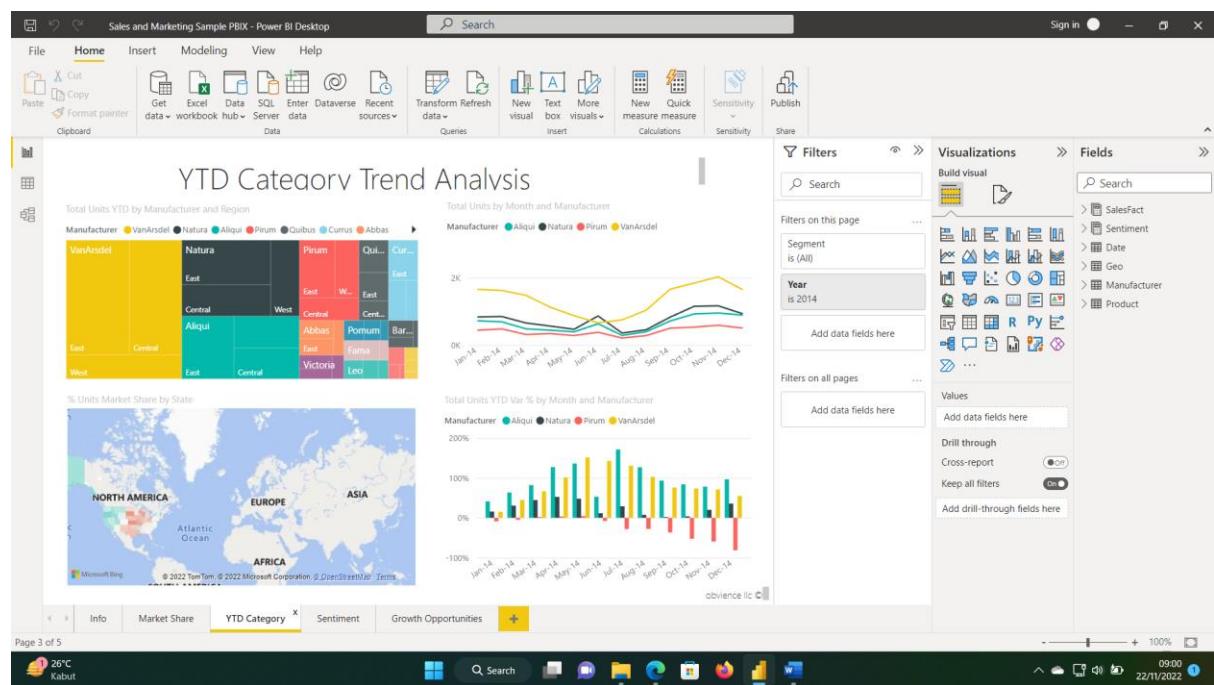
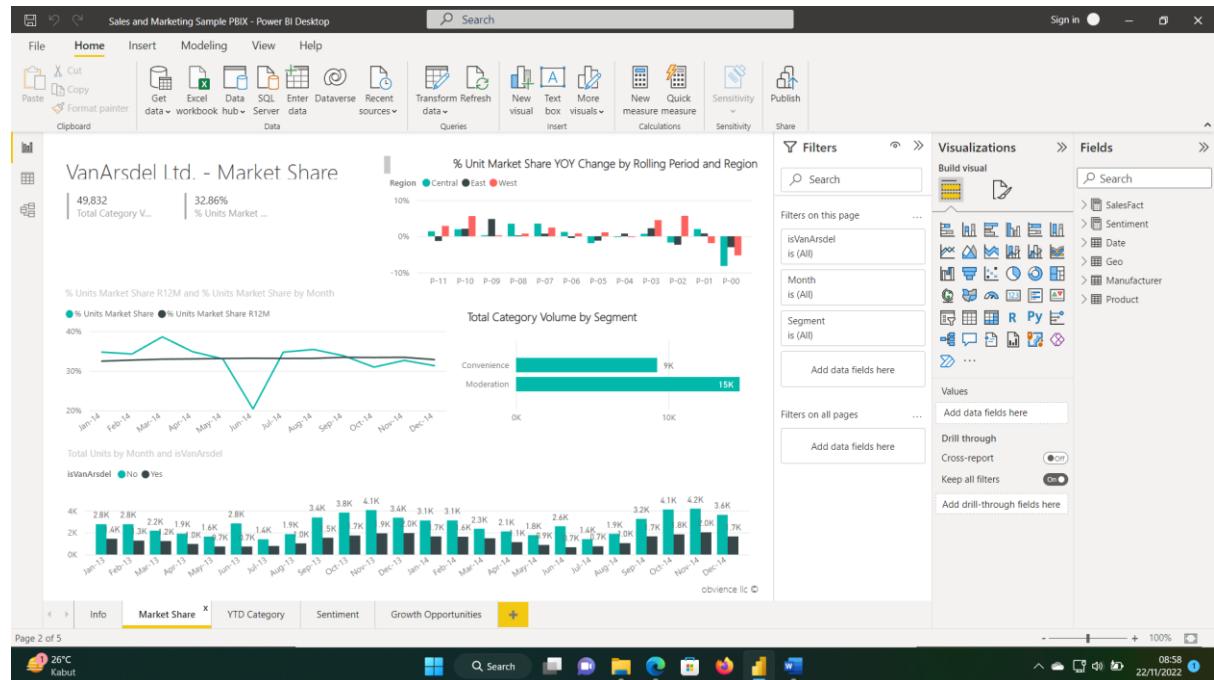
Manufacturer Category Segment Product ProductID IsVanArdel IsCompeteHide ManufacturerID IsCompete

Table: Product (2,412 rows)

26°C Kubit 08:55 22/11/2022

Building Blocks of Power BI: Reports

Di Power BI, laporan adalah kumpulan visualisasi yang muncul bersama di satu atau beberapa halaman. Sama seperti laporan lain yang mungkin buat untuk presentasi penjualan atau tugas sekolah, laporan di Power BI adalah kumpulan item yang saling terkait.



Sales and Marketing Sample PBIX - Power BI Desktop

File Home Insert Modeling View Help

Cut Copy Paste Get data + Excel Data SQL Data Enter Data Dataverse Recent sources Transform Refresh New visual Text box More data + Quick measure Sensitivity Publish Share

Clipboard Data Data Sources Queries Calculations Sensitivity Share

Sentiment Analysis

68 Sentiment | 4 Sentiment Gap

VanAardel - Sentiment by Month

MfgisVanArdel ● Yes

Jul'13 Aug'13 Sep'13 Oct'13 Nov'13 Dec'13 Jan'14 Feb'14 Mar'14 Apr'14 May'14 Jun'14 Jul'14 Aug'14 Sep'14 Oct'14 Nov'14 Dec'14

Industry Sentiment by Month

MfgisVanArdel ● No

Jul'13 Aug'13 Sep'13 Oct'13 Nov'13 Dec'13 Jan'14 Feb'14 Mar'14 Apr'14 May'14 Jun'14 Jul'14 Aug'14 Sep'14 Oct'14 Nov'14 Dec'14

Filters

Region: Central (blue), East (green), West (red)

District	Sentiment
District #02	~55
District #04	~50
District #07	~50
District #08	~50
District #13	~55
District #15	~50
District #16	~55
District #18	~50
District #19	~50
District #20	~50
District #22	~50
District #23	~50
District #24	~50
District #25	~50
District #26	~50
District #28	~50
District #29	~50
District #30	~50
District #32	~50
District #33	~50
District #34	~50
District #35	~50

Visualizations

Build visual

Fields

Search

Add data fields here

Filters on this page

Filters on all pages

Add data fields here

Values

Add data fields here

Drill through

Cross-report

Keep all filters

Add drill-through fields here

Page 4 of 5

26°C Kabut 09:00 22/11/2022

Sales and Marketing Sample PBIX - Power BI Desktop

File Home Insert Modeling View Help

Cut Copy Format painter Clipboard

Get data from workbook hub Data SQL Server Data Enter data Dataverse Recent sources Queries Transform Refresh data New visual Text box Insert More visuals New quick measure measure Calculations Sensitivity Publish Share

Growth Opportunities

Total Units and Total Units R12Ms by Month

● Total Units ● Total Units R12Ms

Total Units by Segment

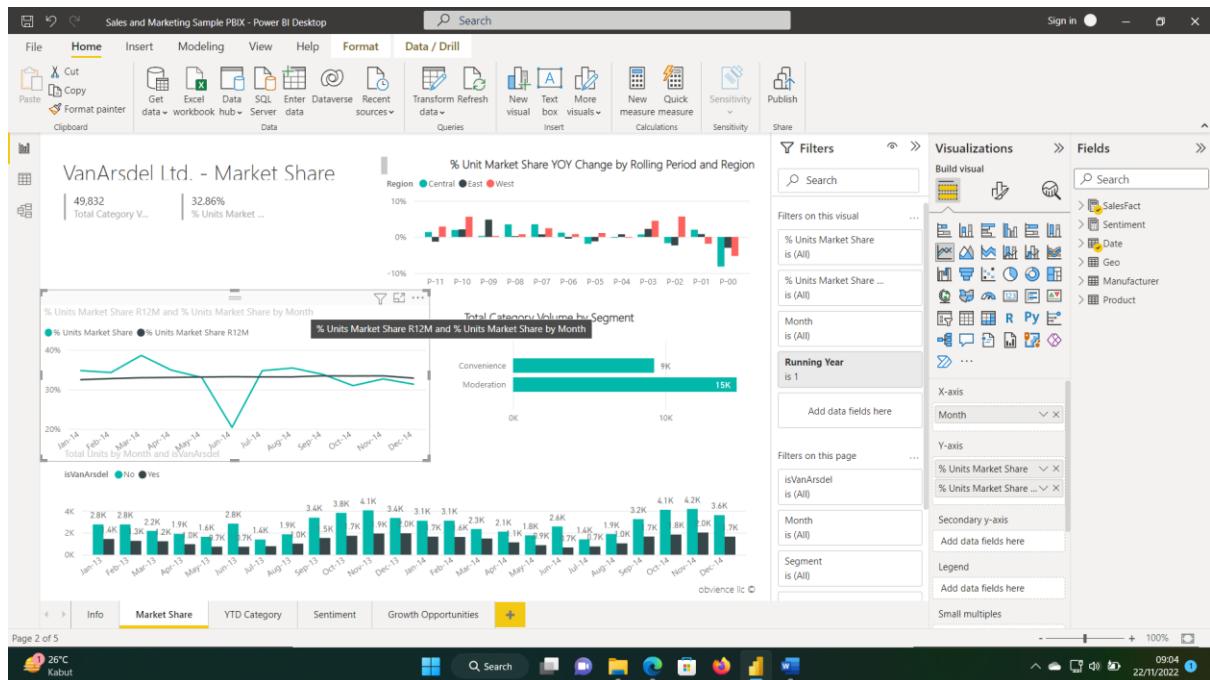
Total Units by Rolling Period and Region

Region ● Central ● East ● West

Info Market Share YTD Category Sentiment Growth Opportunities +

Building Blocks of Power BI: Dashboard and Tiles

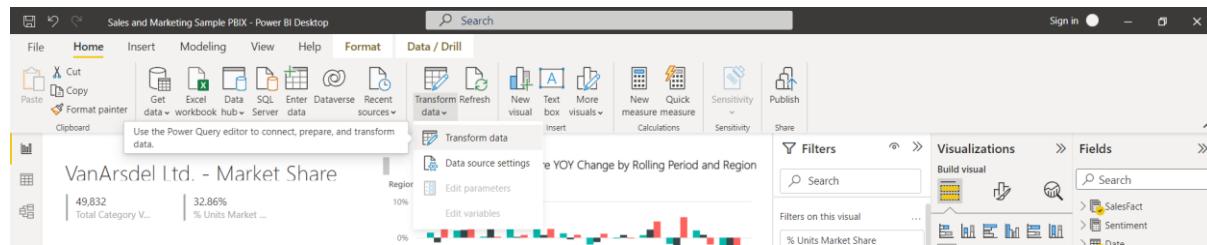
Saat siap untuk membagikan laporan, atau kumpulan visualisasi, membuat dasbor. Dasbor Power BI adalah kumpulan visual dari satu halaman yang dapat bagikan dengan orang lain. Seringkali, itu adalah kelompok visual terpilih yang memberikan wawasan cepat ke dalam data atau cerita yang coba sajikan. Dasbor harus pas di satu halaman, sering disebut kanvas (kanvas adalah latar belakang kosong di Power BI Desktop — atau layanan — tempat meletakkan visualisasi). Anggap saja seperti kanvas yang digunakan seniman atau pelukis — ruang kerja tempat membuat, menggabungkan, dan mengerjakan ulang visual yang menarik dan memikat.



Load, Clean, and Transform Data in Power BI - I

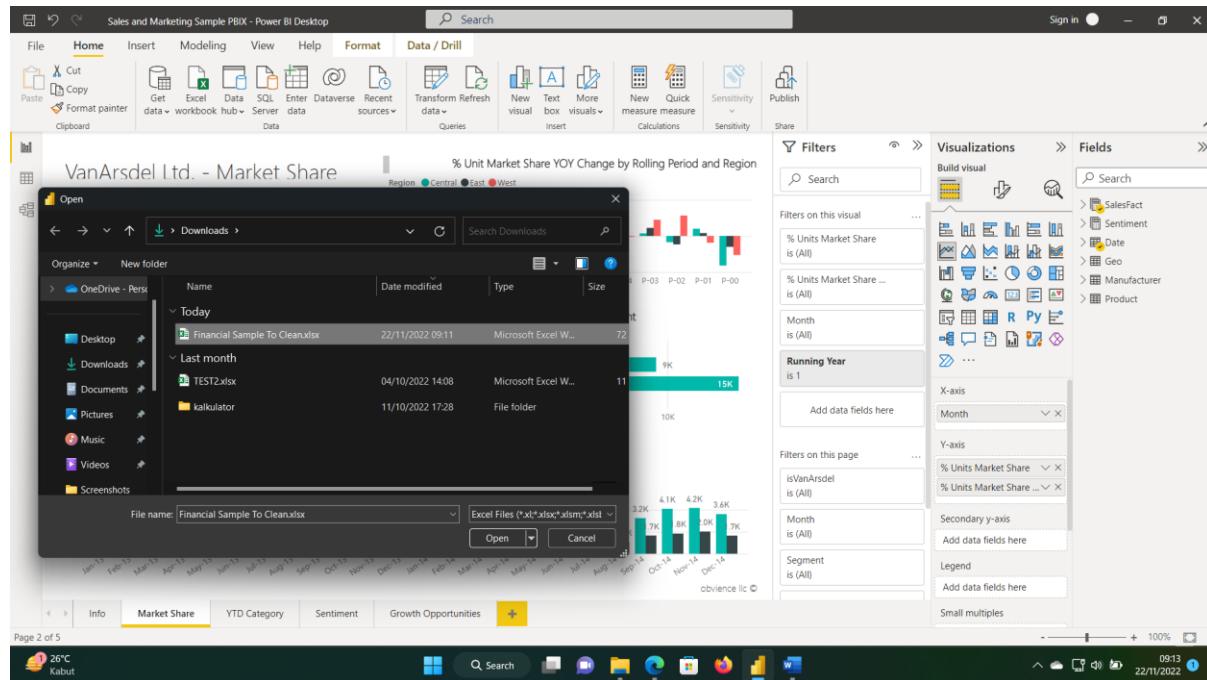
Shape the Initial Data

Sangat penting untuk membentuk data untuk memastikannya memenuhi kebutuhan dan cocok untuk digunakan dalam laporan.



Identify Column Headers and Names

Langkah pertama dalam membentuk data awal adalah mengidentifikasi tajuk kolom dan nama di dalam data, lalu mengevaluasi lokasinya untuk memastikan bahwa mereka berada di tempat yang tepat.



Sales and Marketing Sample PBIX - Power BI Desktop

Navigator

Display Options

Financial Sample To Clean.xlsx [2]

Table_1

to clean

Column1	Column2	Column3	Column4	Column5
null	null	null	null	null
Segment	Country	Product	Discount Band	
null	null	null	null	null
Government	Canada	Carretera	None	
Government	Germany	Carretera	None	
Midmarket	France	Carretera	None	
Midmarket	Germany	Carretera	None	
Midmarket	Mexico	Carretera	None	
Government	Germany	Carretera	None	
Midmarket	Germany	Montana	None	
Channel Partners	Canada	Montana	None	
Government	France	Montana	None	
Channel Partners	Germany	Montana	None	
Midmarket	Mexico	Montana	None	
Enterprise	Canada	Montana	None	
Small Business	Mexico	Montana	None	
Government	Germany	Montana	None	
Midmarket	United States of America	Montana	None	
Government	Canada	Paseo	None	
Midmarket	Mexico	Paseo	None	
Channel Partners	Canada	Paseo	None	
Government	Germany	Paseo	None	
Channel Partners	Germany	Paseo	None	

Visualizations

Fields

Search

SalesFact

Date

Geo

Manufacturer

Product

Market Share

YTD Category

Sentiment

Growth Opportunities

Info

Market Share

YTD Category

Sentiment

Growth Opportunities

Page 2 of 5

27°C Kibut

09:16 22/11/2022

Sales and Marketing Sample PBIX - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Choose Columns Remove Columns Keep Rows Remove Rows Reduce Rows Sort Group By Use First Row as Headers Append Queries Merge Queries Text Analytics Azure Machine Learning Combine AI Insights

Queries [7]

Product SalesFact Date Geo Sentiment Manufacturer to clean

= Table.TransformColumnTypes(#"to clean_Sheet",{{"Column1", type text}, {"Column2", type text}, {"Column3", type text}, {"Column4", type text}, {"Column5", type number}, {"Column6", type number}, {"Column7", type number}})

Column1	Column2	Column3	Column4	Column5	Column6	Column7
null	null	null	null	1618.5	3	
Segment	Country	Product	Discount Band	Units Sold	Manufacturing Price	Sale Price
null	null	null	null	null	null	null
4	Government	Carretera	None	1618.5	3	
5	Government	Carretera	None	1321	3	
6	Midmarket	France	Carretera	2178	3	
7	Midmarket	Germany	Carretera	888	3	
8	Midmarket	Mexico	Carretera	2470	3	
9	Government	Carretera	None	1513	3	
10	Midmarket	Montana	None	921	5	
11	Channel Partners	Canada	Montana	2518	5	
12	Government	France	Montana	1899	5	
13	Channel Partners	Germany	Montana	1545	5	
14	Midmarket	Mexico	Montana	2470	5	
15	Enterprise	Canada	Montana	2665.5	5	
16	Small Business	Mexico	Montana	958	5	
17	Government	Germany	Montana	2146	5	
18	Midmarket	United States of America	Montana	615	5	
19	Government	Canada	Paseo	292	10	
20	Midmarket	Mexico	Paseo	974	10	
21	Channel Partners	Canada	Paseo	2518	10	
22	Government	Germany	Paseo	1006	10	
23	Channel Partners	Germany	Paseo	367	10	
24	Government	Mexico	Paseo	883	10	
25	Midmarket	Mexico	Paseo	2472	10	
26	Government	United States of America	Paseo	1143	10	
27	Government	Canada	Paseo	1817	10	

17 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

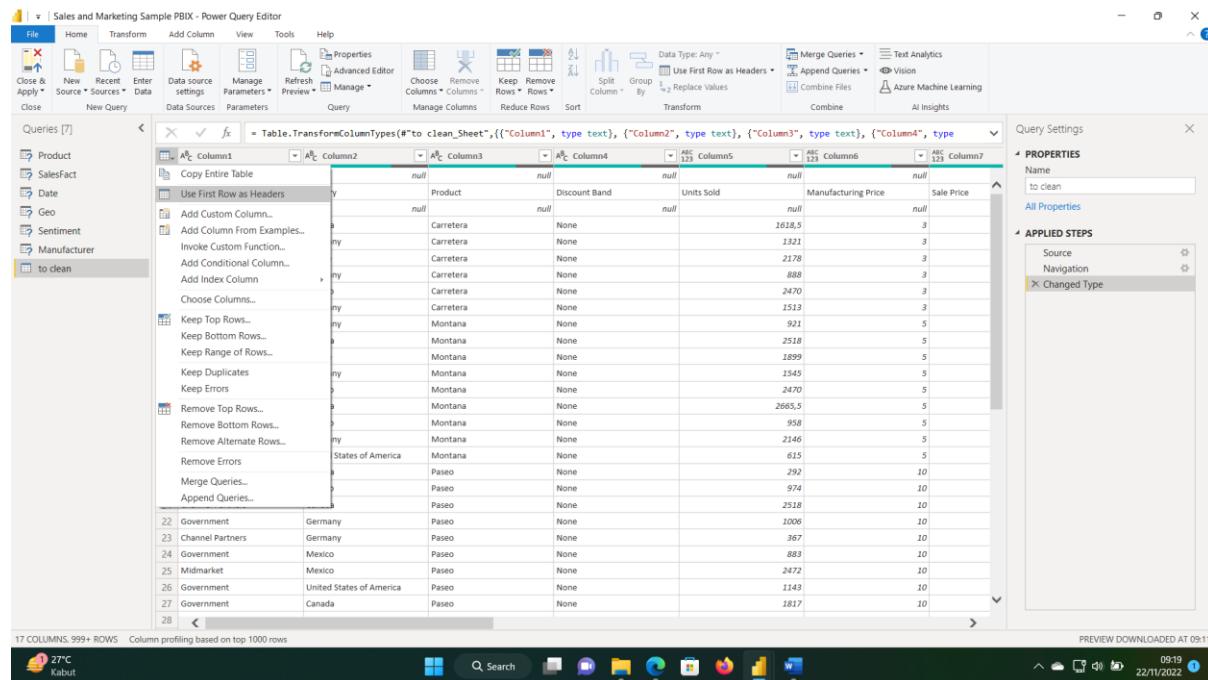
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09:17 22/11/2022

Promote Headers

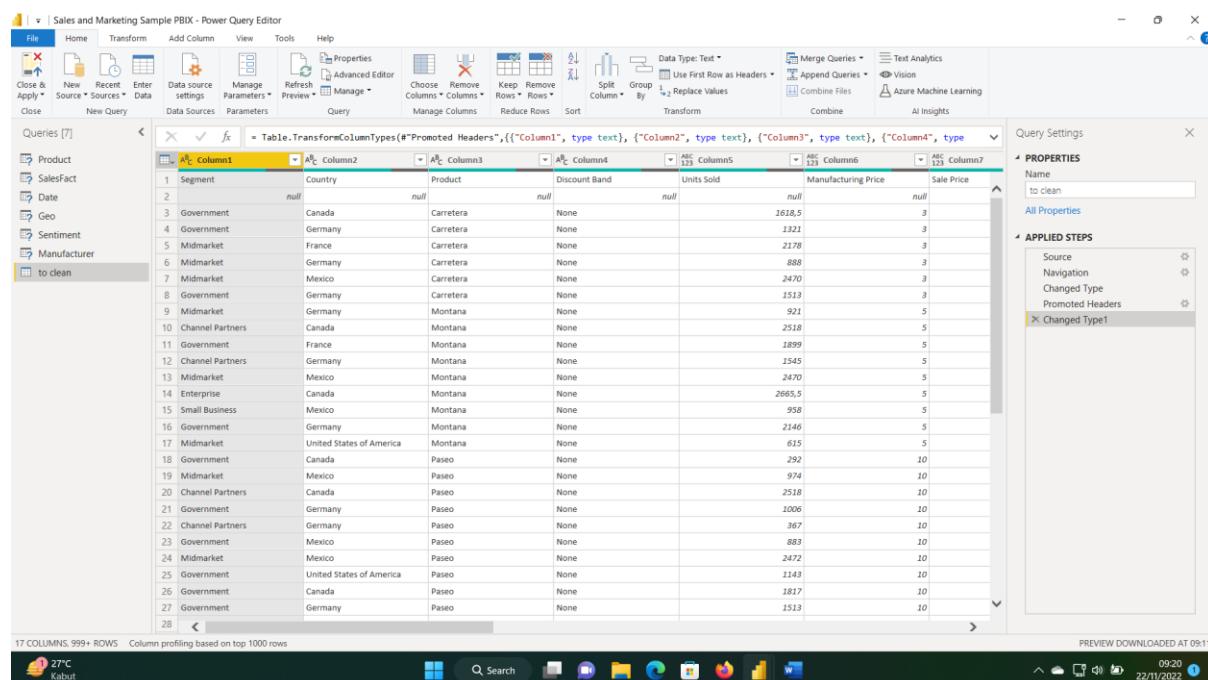
Saat membuat tabel di Power BI Desktop, Editor Power Query mengasumsikan bahwa semua data termasuk dalam baris tabel. Namun, sumber data mungkin memiliki baris pertama yang berisi nama kolom, yang ditambahkan dalam contoh SalesTarget sebelumnya. Untuk memperbaiki ketidakakuratan ini, kita perlu mempromosikan baris tabel pertama menjadi tajuk kolom.



The screenshot shows the Power Query Editor interface with the following details:

- File Bar:** Home, Transform, Add Column, View, Tools, Help.
- Toolbars:** Close & Apply, New Source, Recent Data, Data source settings, Manage Parameters, Refresh Preview, Advanced Editor, Properties, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Sort, Data Type: Any, Use First Row as Headers, Merge Queries, Append Queries, Combine Files, Text Analytics, Vision, Azure Machine Learning.
- Queries List:** Product, SalesFact, Date, Geo, Sentiment, Manufacturer, to clean.
- Current Query:** Table.TransformColumnTypes("to clean_Sheet", {"Column1", type text}, {"Column2", type text}, {"Column3", type text}, {"Column4", type text}, {"Column5", type text}, {"Column6", type text}, {"Column7", type text}).
- Applied Steps:** Changed Type.
- Properties Panel:** Name: to clean.
- Preview:** 17 COLUMNS, 999+ ROWS. PREVIEW DOWNLOADED AT 09:11.
- System:** 27°C Kabut.

A context menu is open over the first row of the table, with "Use First Row as Headers" selected. The table preview shows the first row as headers and the subsequent rows as data.



The screenshot shows the Power Query Editor interface with the following details:

- File Bar:** Home, Transform, Add Column, View, Tools, Help.
- Toolbars:** Close & Apply, New Source, Recent Data, Data source settings, Manage Parameters, Refresh Preview, Advanced Editor, Properties, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Sort, Data Type: Text, Use First Row as Headers, Merge Queries, Append Queries, Combine Files, Text Analytics, Vision, Azure Machine Learning.
- Queries List:** Product, SalesFact, Date, Geo, Sentiment, Manufacturer, to clean.
- Current Query:** Table.TransformColumnTypes("Promoted Headers", {"Column1", type text}, {"Column2", type text}, {"Column3", type text}, {"Column4", type text}, {"Column5", type text}, {"Column6", type text}, {"Column7", type text}).
- Applied Steps:** Promoted Headers, Changed Type1.
- Properties Panel:** Name: to clean.
- Preview:** 17 COLUMNS, 999+ ROWS. PREVIEW DOWNLOADED AT 09:11.
- System:** 27°C Kabut.

A context menu is open over the first row of the table, with "Promoted Headers" selected. The table preview shows the first row as headers and the subsequent rows as data.

Sales and Marketing Sample PBIX - Power Query Editor

Queries [7]

- Product
- SaleFact
- Date
- Geo
- Sentiment
- Manufacturer
- to clean**

Segment

	Segment	Country	Product	Discount Band	Units Sold	Manufacturing Price	Sale Price
1	null	null	null	null	1618,5	3	null
2	Government	Canada	Carretera	None	1321	3	
3	Government	Germany	Carretera	None	2178	3	
4	Midmarket	France	Carretera	None	888	3	
5	Midmarket	Germany	Carretera	None	2470	3	
6	Midmarket	Mexico	Carretera	None	1513	3	
7	Government	Germany	Paseo	None	921	5	
8	Midmarket	Mexico	Paseo	None	2518	5	
9	Channel Partners	Canada	Montana	None	1899	5	
10	Government	France	Montana	None	1545	5	
11	Channel Partners	Germany	Montana	None	2470	5	
12	Midmarket	Mexico	Montana	None	2665,5	5	
13	Enterprise	Canada	Montana	None	958	5	
14	Small Business	Mexico	Montana	None	2146	5	
15	Government	United States of America	Montana	None	615	5	
16	Midmarket	United States of America	Paseo	None	1006	10	
17	Government	Canada	Paseo	None	367	10	
18	Midmarket	Mexico	Paseo	None	883	10	
19	Channel Partners	Canada	Paseo	None	2518	10	
20	Government	Germany	Paseo	None	2472	10	
21	Channel Partners	Germany	Paseo	None	1143	10	
22	Government	Mexico	Paseo	None	1817	10	
23	Midmarket	United States of America	Paseo	None	1513	10	
24	Government	Canada	Velo	None	1493	120	
25	Government	Germany	Velo	None			
26	Government	Mexico	Velo	None			
27	Government	United States of America	Velo	None			
28							

17 COLUMNS, 999+ ROWS - Column profiling based on top 1000 rows

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Rename Columns

Langkah selanjutnya dalam membentuk data adalah memeriksa tajuk kolom. mungkin menemukan bahwa satu atau beberapa kolom memiliki header yang salah, header memiliki kesalahan ejaan, atau konvensi penamaan header tidak konsisten atau ramah pengguna.

Sales and Marketing Sample PBIX - Power Query Editor

Queries [9]

- Product
- SaleFact
- Date
- Geo
- Sentiment
- Manufacturer
- to clean**
- Table_1
- Table_1 (2)**

Table_1 (2)

	1.2 Sales	1.2 COGS	1.2 Profit	Month Info	1.2 Month Number	1.2 Month Name	1.2 Column16
1	null	null	null	Date	01/01/2014	1 January	2014
2	0	32370	16185	13210	01/01/2014	1 January	2014
3	0	26420	13210	21780	01/06/2014	6 June	2014
4	0	32670	10890	13320	01/06/2014	6 June	2014
5	0	13320	8880	4440	01/06/2014	6 June	2014
6	0	37050	24700	12350	01/06/2014	6 June	2014
7	0	529550	393380	136170	01/12/2014	12 December	2014
8	0	13815	9210	4605	01/03/2014	3 March	2014
9	0	30216	7554	22662	01/06/2014	6 June	2014
10	0	37980	18990	18990	01/06/2014	6 June	2014
11	0	18540	4635	13905	01/06/2014	6 June	2014
12	0	37050	24700	12350	01/06/2014	6 June	2014
13	0	333187,5	319860	13327,5	01/07/2014	7 July	2014
14	0	287400	239500	47900	01/08/2014	8 August	2014
15	0	15022	10730	4292	01/09/2014	9 September	2014
16	0	9225	6150	3075	01/12/2014	12 December	2014
17	0	5840	2920	2920	01/02/2014	2 February	2014
18	0	14610	9740	4870	01/02/2014	2 February	2014
19	0	30216	7554	22662	01/06/2014	6 June	2014
20	0	352100	261560	90540	01/06/2014	6 June	2014
21	0	4404	1101	3303	01/07/2014	7 July	2014
22	0	6181	4415	1766	01/08/2014	8 August	2014
23	0	37080	24720	12360	01/09/2014	9 September	2014
24	0	8001	5715	2286	01/10/2014	10 October	2014
25	0	36340	18170	18170	01/12/2014	12 December	2014
26	0	529550	393380	136170	01/12/2014	12 December	2014
27	0	10451	7465	2986	01/01/2014	1 January	2014
28							

17 COLUMNS, 701 ROWS - Column profiling based on top 1000 rows

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The screenshot shows the Microsoft Power Query Editor interface. The ribbon at the top includes File, Home, Transform, Add Column, View, Tools, and Help. The 'Transform' tab is selected. The left sidebar lists queries: Product, SalesFact, Date, Geo, Sentiment, Manufacturer, to clean, Table_1, and Table_1 (2). The main area displays a table with 17 columns and 701 rows. A context menu is open over the first row of the table, showing options like 'Remove Top Rows', 'Remove Bottom Rows', 'Remove Alternative Rows', 'Remove Duplicates', 'Remove Blank Rows', and 'Remove Errors'. The 'APPLIED STEPS' pane on the right shows a single step named 'Changed Type1'. The status bar at the bottom indicates 'PREVIEW DOWNLOADED AT 09:11'.

Remove Rows or Columns

Saat membentuk data, mungkin perlu menghapus beberapa baris atau kolom misalnya, jika kosong atau berisi data yang tidak diperlukan dalam laporan.

This screenshot shows the Microsoft Power Query Editor with a similar setup to the previous one. The 'Transform' tab is selected. The left sidebar shows queries: Product, SalesFact, Date, Geo, Sentiment, Manufacturer, to clean, Table_1, Table_1 (2), and Table_1 (3). The main area shows a table with 17 columns and 999+ rows. A context menu is open over the first row, listing the same 'Remove Rows' options as before. The 'APPLIED STEPS' pane shows steps named 'Changed Type1' and 'Promoted Headers1'. The status bar at the bottom shows 'PREVIEW DOWNLOADED AT 09:11'.

The screenshot shows the Power Query Editor interface with a query named 'to Clean (2)'. In the 'Applied Steps' pane, 'Changed Type2' is highlighted. The main area displays a table with 17 columns and 999+ rows, showing various data points like Profit, Date, Month Info, Month Number, Month Name, Year, and several null values.

Pivot Columns

Jika data yang bentuk datar (dengan kata lain, memiliki banyak detail tetapi tidak diatur atau dikelompokkan dengan cara apa pun), kurangnya struktur dapat mempersulit kemampuan untuk mengidentifikasi pola dalam data. dapat menggunakan fitur Kolom Pivot untuk mengonversi data datar menjadi tabel yang berisi nilai agregat untuk setiap nilai unik dalam kolom.

The screenshot shows the Power Query Editor with a 'Pivot Column' dialog box open. The dialog box allows creating new columns based on the names in the 'Country' column. The 'Values Column' dropdown is set to 'Sales', and the 'Aggregate Value Function' dropdown is set to 'Sum'. The main table in the editor shows data for various segments and countries, with the 'Country' column highlighted.

Queries [11]

```
= Table.Pivot("Removed Blank Rows", List.Distinct(List.RemoveBlankRows([Country])), "Sales", List.Sum)
```

Segment	Canada	Germany	France	Mexico	United States of America
1 Channel Partners	491164,34	336425,88	372090,36	234379,08	366534,18
2 Enterprise	3957491,25	4086826,25	3890890,625	3315881,25	4350605
3 Government	10741236,52	11452895,94	12127782,72	9791599,38	8390746,11
4 Midmarket	5102139,975	301344,75	593802,075	511136,4	465385,875
5 Small Business	9177549	7327848	7369606,5	7096356	2145659

6 COLUMNS, 5 ROWS Column profiling based on top 1000 rows

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Unpivot Columns

Unpivoting adalah fitur yang berguna di Power BI. Dapat menggunakan fitur ini dengan data dari sumber data apa pun, tetapi paling sering menggunakannya saat mengimpor data dari Excel. Contoh berikut memperlihatkan contoh dokumen Excel dengan data penjualan.

Queries [13]

```
= Table.TransformColumnTypes(#"Promoted Headers",{{"Month", Int64.Type}, {"January", type_number}, {"February", type_number}, {"March", type_number}, {"April", type_number}, {"May", type_number}, {"June", type_number}})
```

Month	January	February	March	April	May	June
2013	0	0	0	0	0	0
2014	814028,68	1148547,39	669866,87	929984,57	828640,06	

13 COLUMNS, 2 ROWS Column profiling based on top 1000 rows

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Sales and Marketing Sample PBIX - Power Query Editor

File Home Transform Add Column View Tools Help

Data Type: Any Replace Values Unpivot Columns Merge Columns XG Statistics Standard Scientific Information Date Time Duration Run R Run Python script

Transpose Reverse Rows Count Rows Group Use First Row as Headers Pivot Column Convert to List Rename Split Columns Text Column Number Column Date & Time Column Scripts

Queries [13]

= Table.UnpivotOtherColumns(#"Removed Columns", {"Attribute"}, "Value")

Attribute	Value
1 January	0
2 February	0
3 March	0
4 April	0
5 May	0
6 June	0
7 July	0
8 August	0
9 September	763603.03
10 October	1657795.1
11 November	765502.3
12 December	691564.08
13 January	814028.68
14 February	1148547.39
15 March	669866.87
16 April	929984.57
17 May	828640.06
18 June	1473753.82
19 July	923865.68
20 August	791066.42
21 September	1023132.24
22 October	1781985.92
23 November	604600.2
24 December	2025765.9

2 COLUMNS, 24 ROWS Column profiling based on top 1000 rows

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28°C Kibut

Search

Run R Run Python script

Sales and Marketing Sample PBIX - Power Query Editor

File Home Transform Add Column View Tools Help

Data Type: Decimal Number Replace Values Unpivot Columns Merge Columns XG Statistics Standard Scientific Information Date Time Duration Run R Run Python script

Transpose Reverse Rows Count Rows Group Use First Row as Headers Pivot Column Convert to List Rename Split Columns Text Column Number Column Date & Time Column Scripts

Queries [13]

= Table.RenameColumns(#"Unpivoted Columns", {"Attribute", "Month", "Value", "Profit"})

Month	Profit
January	0
February	0
March	0
April	0
May	0
June	0
July	0
August	0
September	763603.03
October	1657795.1
November	765502.3
December	691564.08
January	814028.68
February	1148547.39
March	669866.87
April	929984.57
May	828640.06
June	1473753.82
July	923865.68
August	791066.42
September	1023132.24
October	1781985.92
November	604600.2
December	2025765.9

2 COLUMNS, 24 ROWS Column profiling based on top 1000 rows

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28°C Kibut

Search

Run R Run Python script

Sales and Marketing Sample PBIX - Power Query Editor

Pivot Column

Use the names in column "Month" to create new columns.

Values Column: Profit

Aggregate Value Function: Average

Learn more about Pivot Column

OK Cancel

Month	Profit
January	0
February	0
March	0
April	
May	
June	
July	
August	
September	
October	
November	
December	
January	923865.68
February	791066.42
March	1023132.24
April	1781985.92
May	604600.2
June	
July	
August	
September	
October	
November	
December	2025765.9

2 COLUMNS, 24 ROWS Column profiling based on top 1000 rows

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28°C Kubit 09:55 22/11/2022

Sales and Marketing Sample PBIX - Power Query Editor

Pivot Column

Use the names in column "Month" to create new columns.

Values Column: Profit

Aggregate Value Function: Average

Learn more about Pivot Column

OK Cancel

Month	January	February	March	April	May	June	July
	407014.34	574273.695	334933.435	464992.285	414320.03	736876.91	

12 COLUMNS, 1 ROW Column profiling based on top 1000 rows

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28°C Kubit 09:55 22/11/2022

Simplify the Data Structure

Unpivoting adalah fitur yang berguna di Power BI. dapat menggunakan fitur ini dengan data dari sumber data apa pun, tetapi paling sering menggunakannya saat mengimpor data dari Excel.

The screenshot shows the Microsoft Power Query Editor interface. On the left, there's a navigation pane with various query items listed under 'Querries [14]'. The main area displays a table with 16 columns and 999 rows, with the top few rows visible. The columns are labeled: Segment, Country, Product, Discount Band, Units Sold, Manufacturing Price, and Sale Price. A specific row is selected, showing 'Segment' as 'Midmarket', 'Country' as 'Mexico', 'Product' as 'Carretera', 'Discount Band' as 'None', 'Units Sold' as 2470, 'Manufacturing Price' as 888, and 'Sale Price' as 3. On the right side, there's a 'Query Settings' panel with sections for 'PROPERTIES' (Name: Finance Sample) and 'APPLIED STEPS'. One step, 'Changed Type', is highlighted with a yellow background. The bottom of the screen shows the Windows taskbar with various pinned icons and the date/time as 22/11/2022 at 10:03.

Simplify the Data Structure: Remove Duplicates

Di Editor Power Query, di panel Kueri di sebelah kiri data, memilih kueri yang ingin ganti namanya. Klik kanan kueri, dan pilih Ganti nama. Edit nama saat ini atau ketikkan nama baru, lalu tekan Enter.

Sebaiknya ubah nama kueri yang tidak umum atau tidak berguna menjadi nama yang lebih jelas atau yang lebih dikenal pengguna. Misalnya, jika mengimpor tabel fakta produk ke Power BI Desktop, dan nama kueri ditampilkan sebagai FactProductTable, mungkin ingin mengubahnya menjadi nama yang lebih mudah digunakan, seperti Produk.

Sales and Marketing Sample PBIX - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data Sources Manage Parameters Refresh Preview Advanced Editor Properties Query Choose Columns Remove Rows Keep Remove Rows Group By Split Column Sort Data Type: Text Use First Row as Headers Merge Queries Append Queries Text Analytics Vision Azure Machine Learning Combine files Al Insights

Queries [14]

= Table.TransformColumnTypes(#"Promoted Headers", {"Segment", type text}, {"Country", type text}, {"Product", type text}, {"Discount Band", type number})

	COGS	Profit	Date	Month Number	Month Name	Year
1	32370	16185	16185	01/01/2014	1	January
2	26420	13210	13210	01/01/2014	1	January
3	32670	21780	10890	01/06/2014	6	June
4	13320	8880	4440	01/06/2014	6	June
5	37050	24700	12350	01/06/2014	6	June
6	529550	393380	136170	01/12/2014	12	December
7	13815	9210	4605	01/03/2014	3	March
8	30216	7554	22662	01/06/2014	6	June
9	37980	18990	18990	01/06/2014	6	June
10	18540	4635	13905	01/06/2014	6	June
11	37050	24700	12350	01/06/2014	6	June
12	333187.5	319860	13327.5	01/07/2014	7	July
13	287400	239500	47900	01/08/2014	8	August
14	15022	10730	4292	01/09/2014	9	September
15	43125	41400	1725	01/10/2013	10	October
16	9225	6150	3075	01/12/2014	12	December
17	5840	2920	2920	01/02/2014	2	February
18	14610	9740	4870	01/02/2014	2	February
19	30216	7554	22662	01/06/2014	6	June
20	352100	261560	90540	01/06/2014	6	June
21	4404	1101	3303	01/07/2014	7	July
22	6181	4415	1766	01/08/2014	8	August
23	8235	5490	2745	01/09/2013	9	September
24	236400	197000	39400	01/09/2013	9	September
25	37080	24720	12360	01/09/2014	9	September
26	8001	5715	2286	01/10/2014	10	October
27	603750	448500	155250	01/11/2013	11	November
28						

16 COLUMNS, 999 ROWS Column profiling based on top 1000 rows

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Sales and Marketing Sample PBIX - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data Sources Manage Parameters Refresh Preview Advanced Editor Properties Query Choose Columns Remove Rows Keep Remove Rows Group By Split Column Sort Data Type: Text Use First Row as Headers Merge Queries Append Queries Text Analytics Vision Azure Machine Learning Combine files Al Insights

Queries [14]

= Table.Distinct(#"Changed Type", {"Month Name"})

	COGS	Profit	Date	Month Number	Month Name	Year
1	32370	16185	16185	01/01/2014	1	January
2	32670	21780	10890	01/06/2014	6	June
3	529550	393380	136170	01/12/2014	12	December
4	13815	9210	4605	01/03/2014	3	March
5	333187.5	319860	13327.5	01/07/2014	7	July
6	287400	239500	47900	01/08/2014	8	August
7	15022	10730	4292	01/09/2014	9	September
8	43125	41400	1725	01/10/2013	10	October
9	5840	2920	2920	01/02/2014	2	February
10	603750	448500	155250	01/11/2013	11	November
11	25932	6483	19449	01/03/2014	3	March
12	34056	8514	25542	01/04/2014	4	April
13	7137.9	5150	1987.9	01/05/2014	5	May
14	null	null	null	null	null	null

16 COLUMNS, 14 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 10:01 22/11/2022 10:05 28°C Kilbut

Simplify the Data Structure: Replace Values

Kita dapat menggunakan fitur Ganti Nilai di Editor Power Query untuk mengganti nilai apa pun dengan nilai lain di kolom yang dipilih. Pada kotak Value to Find, kita masukkan nama nilai yang ingin kita ganti, lalu pada kotak Replace With, masukkan nama nilai yang benar lalu pilih OK. Di Power Query, tidak bisa memilih satu sel dan mengubah satu nilai, seperti yang mungkin lakukan di Excel.

The screenshot shows the Microsoft Power BI Desktop application. In the center, a 'Replace Values' dialog box is open over a table named 'Table.TransformColumnTypes'. The table has columns: Segment, Country, Product, Discount Band, Units Sold, Manufacturing Price, and Sale Price. The 'Value To Find' field contains 'null' and the 'Replace With' field contains 'Unknown'. The 'OK' button is highlighted. On the left, the 'Queries [14]' pane lists various tables like Product, SalesFact, Date, Geo, Sentiment, Manufacturer, and Finance Data. On the right, the 'Query Settings' pane shows 'Name: Finance Data' and 'APPLIED STEPS' with 'Changed Type' selected. The bottom status bar shows 'PREVIEW DOWNLOADED AT 10:01' and the date '22/11/2022'.

Evaluate and Change Column Data Types

Saat mengimpor tabel dari sumber data apa pun, Power BI Desktop secara otomatis mulai memindai 1.000 baris pertama (pengaturan default) dan mencoba mendeteksi tipe data di kolom. Beberapa situasi mungkin terjadi saat Power BI Desktop tidak mendeteksi tipe data yang benar. Ketika tipe data yang salah terjadi, akan mengalami masalah kinerja.

Sales and Marketing Sample PBIX - Power Query Editor

Transform

Queries [14]

Finance Data

Data Type: Whole Number

Replace Values

Unpivot Columns

Pivot Columns

Convert to List

Text Column

Number Column

Date & Time Column

Script

Properties

Name: Finance Data

All Properties

Applied Steps

Source: Finance Data

Navigation

Promoted Headers

Changed Type

Replaced Value

Query Settings

PREVIEW DOWNLOADED AT 10:01

16 COLUMNS, 999 ROWS Column profiling based on top 1000 rows

28°C Kilbut

10:12 22/11/2022

	Discount Band	1.2 Units Sold	1.2 Manufacturing Price	1.2 Sale Price	1.2 Gross Sales	1.2 Discounts
1	ra	None	1618.5	3	20	32370
2	ra	None	1321	3	20	26420
3	ra	None	2178	3	15	32670
4	ra	None	888	3	15	13320
5	ra	None	2470	3	15	37050
6	ra	None	1513	3	350	529550
7	ra	None	921	5	15	13815
8	ra	None	2518	5	12	30216
9	ra	None	1899	5	20	37980
10	ra	None	1545	5	12	18540
11	ra	None	2470	5	15	37050
12	ra	None	2665.5	5	125	33187.5
13	ra	None	958	5	300	287400
14	ra	None	2146	5	7	15022
15	ra	None	345	5	125	43125
16	ra	None	615	5	15	9225
17	ra	None	292	10	20	5840
18	ra	None	974	10	15	14610
19	ra	None	2518	10	12	30216
20	ra	None	1006	10	350	352100
21	ra	None	367	10	12	4404
22	ra	None	883	10	7	6181
23	ra	None	549	10	15	8235
24	ra	None	788	10	300	236400
25	ra	None	2472	10	15	37080
26	ra	None	1143	10	7	8001
27	ra	None	1725	10	350	603750
28	ra	None				

Sales and Marketing Sample PBIX - Power Query Editor

Transform

Queries [14]

Finance Data

Data Type: Decimal Number

Replace Values

Unpivot Columns

Pivot Columns

Convert to List

Text Column

Number Column

Date & Time Column

Script

Properties

Name: Finance Data

All Properties

Applied Steps

Source: Finance Data

Navigation

Promoted Headers

Changed Type

Replaced Value

Query Settings

PREVIEW DOWNLOADED AT 10:01

16 COLUMNS, 999 ROWS Column profiling based on top 1000 rows

28°C Kilbut

10:15 22/11/2022

	Discount Band	1.2 Units Sold	1.2 Manufacturing Price	1.2 Sale Price	1.2 Gross Sales	1.2 Discounts
1	ra	None	1618.5	3	20	32370
2	ra	None	1321	3	20	26420
3	ra	None	2178	3	15	32670
4	ra	None	888	3	15	13320
5	ra	None	2470	3	15	37050
6	ra	None	1513	3	350	529550
7	ra	None	921	5	15	13815
8	ra	None	2518	5	12	30216
9	ra	None	1899	5	20	37980
10	ra	None	1545	5	12	18540
11	ra	None	2470	5	15	37050
12	ra	None	2665.5	5	125	33187.5
13	ra	None	958	5	300	287400
14	ra	None	2146	5	7	15022
15	ra	None	345	5	125	43125
16	ra	None	615	5	15	9225
17	ra	None	292	10	20	5840
18	ra	None	974	10	15	14610
19	ra	None	2518	10	12	30216
20	ra	None	1006	10	350	352100
21	ra	None	367	10	12	4404
22	ra	None	883	10	7	6181
23	ra	None	549	10	15	8235
24	ra	None	788	10	300	236400
25	ra	None	2472	10	15	37080
26	ra	None	1143	10	7	8001
27	ra	None	1725	10	350	603750
28	ra	None				

Combine Tables by Appending Queries

Saat menambahkan kueri, akan menambahkan baris data ke tabel atau kueri lain. Misalnya, dapat memiliki dua tabel, satu dengan 300 baris dan satu lagi dengan 100 baris, dan saat menambahkan kueri, akan mendapatkan 400 baris. Saat menggabungkan kueri, akan menambahkan kolom dari satu tabel (atau kueri) ke yang lain. Untuk menggabungkan dua tabel, harus memiliki kolom yang menjadi kunci di antara kedua tabel tersebut.

The screenshot shows the Microsoft Power Query Editor interface. The main area displays a table titled "Table.NestedJoin#" which has been modified to include a new column "CustomerID" from another source. The "Applied Steps" pane on the right shows the "Merged Queries" step, indicating that multiple tables have been joined together. The status bar at the bottom indicates "PREVIEW DOWNLOADED AT 10:33".

Queries [20]

- Product
- SalesFact
- Date
- Geo
- Sentiment
- Manufacturer
- to clean
- Table_1
- Table_1 (2)
- Table_1 (3)
- to clean (2)
- Table_1 (4)
- horizontal
- Finance Data
- France-Germany
- Mexico
- France
- Production_Product
- Sales_SalesOrderHeader
- Sales_Customer

Table.NestedJoin#("Changed Type", {"CustomerID"}, Sales_SalesOrderHeader, {"CustomerID"}, "Sales_SalesOrderHeader", JoinKind.LeftOuter)

TerritoryID	AccountNumber	CustomerType	rowguid	ModifiedDate	Sales_SalesOrderHeader
1	AW00000001	S	{3F5A195E-BD70-4AED-95B4-C3797AFC87...}	13/10/2004 11:15:07	Table
2	AW00000002	S	{E5527657-A7AF-4A7D-8645-C42908E024...}	13/10/2004 11:15:07	Table
3	AW00000003	S	{130774B1-D021-4EF3-8C8C-C1048CD024...}	13/10/2004 11:15:07	Table
4	AW00000004	S	{FF862851-1DAA-4048-B7C-3E85583054...}	13/10/2004 11:15:07	Table
5	AW00000005	S	{839080BC-6F5E-4F73-B162-C98DA647FD...}	13/10/2004 11:15:07	Table
6	AW00000006	S	{1A92D9B8-BF24-4670-8054-FCB9E647FD...}	13/10/2004 11:15:07	Table
7	AW00000007	S	{03E9273E-B193-448E-9823-FE0C44AE0D78...}	13/10/2004 11:15:07	Table
8	AW00000008	S	{B0136881-4123-4BFA-8BEA-5B581EAD04...}	13/10/2004 11:15:07	Table
9	AW00000009	S	{B900887-23C3-481D-80DA-C9A5806F7...}	13/10/2004 11:15:07	Table
10	AW00000010	S	{C0B669BD-2FF1-4FBA-8F22-60AD1D10A...}	13/10/2004 11:15:07	Table
11	AW00000011	S	{750F3495-59C4-48A0-80E1-E37CE60E77D...}	13/10/2004 11:15:07	Table
12	AW00000012	S	{947BCA1-1F32-44F3-89C3-0011F959BE54...}	13/10/2004 11:15:07	Table
13	AW00000013	S	{B0FA5B54-2511-439B-87AC-50C9C46001...}	13/10/2004 11:15:07	Table
14	AW00000014	S	{2F968EDC-723D-408F-834B-8288A79C8...}	13/10/2004 11:15:07	Table
15	AW00000015	S	{03407376-D4FA-4795-83AA-CAEBB371BC...}	13/10/2004 11:15:07	Table
16	AW00000016	S	{C938158B-D13C-4EEF-897B-8D3449E91F0...}	13/10/2004 11:15:07	Table
17	AW00000017	S	{34DB417F-1E08-4408-9FF6-9875900D73...}	13/10/2004 11:15:07	Table
18	AW00000018	S	{C04D694D-94C6-4C5C-A44C-8449C0AC1B...}	13/10/2004 11:15:07	Table
19	AW00000019	S	{69AE5D43-31B1-4E76-BFB8-5A23C474B8B...}	13/10/2004 11:15:07	Table
20	AW00000020	S	{E910C10A-F1C3-4B8A-81CA-A7E0833504...}	13/10/2004 11:15:07	Table
21	AW00000021	S	{564E0B42-4609-43D6-8B81-91DA4D4330B...}	13/10/2004 11:15:07	Table
22	AW00000022	S	{677A1E91-L673-417D-B411-2573F708A...}	13/10/2004 11:15:07	Table

7 COLUMNS 999+ ROWS Column profiling based on top 1000 rows

28°C Sebagian cerah

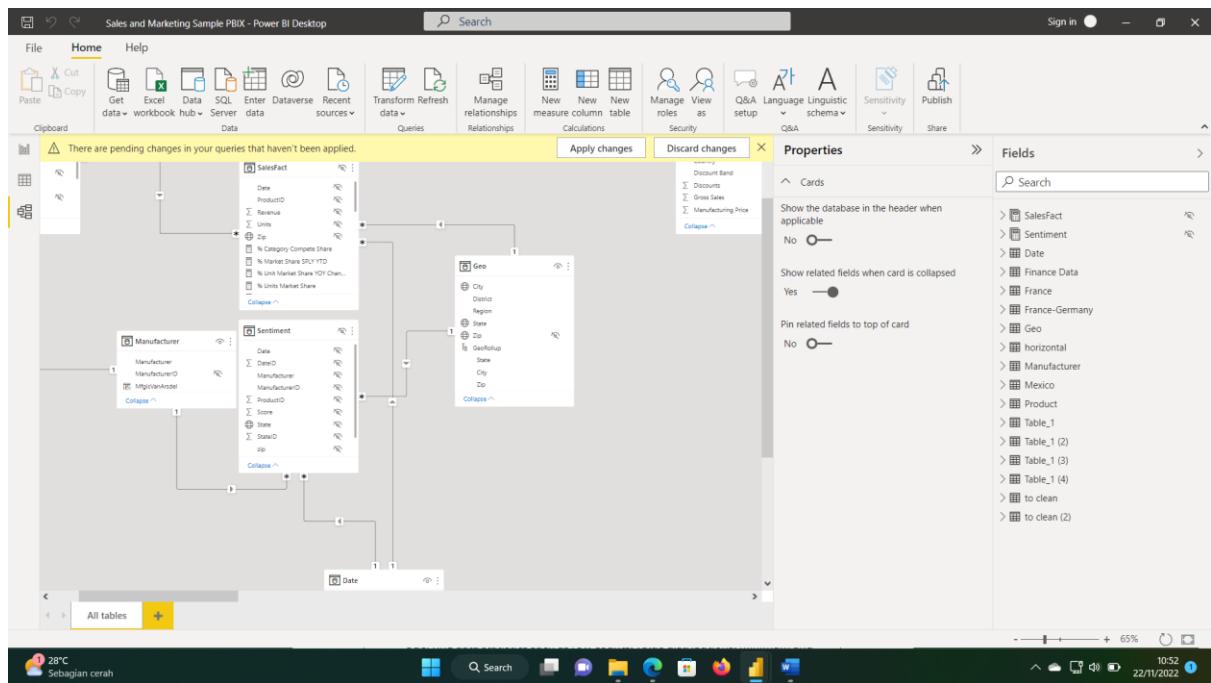
PREVIEW DOWNLOADED AT 10:33

10:48 22/11/2022

Profiling Data in Power BI: Examining Data Structures

Konsep ini penting karena memungkinkan pembentukan dan pengorganisasian data sehingga berinteraksi dengan data dan mengidentifikasi distribusi data menjadi tidak rumit, sehingga membantu menyederhanakan bekerja dengan data di bagian depan untuk mengembangkan elemen laporan.

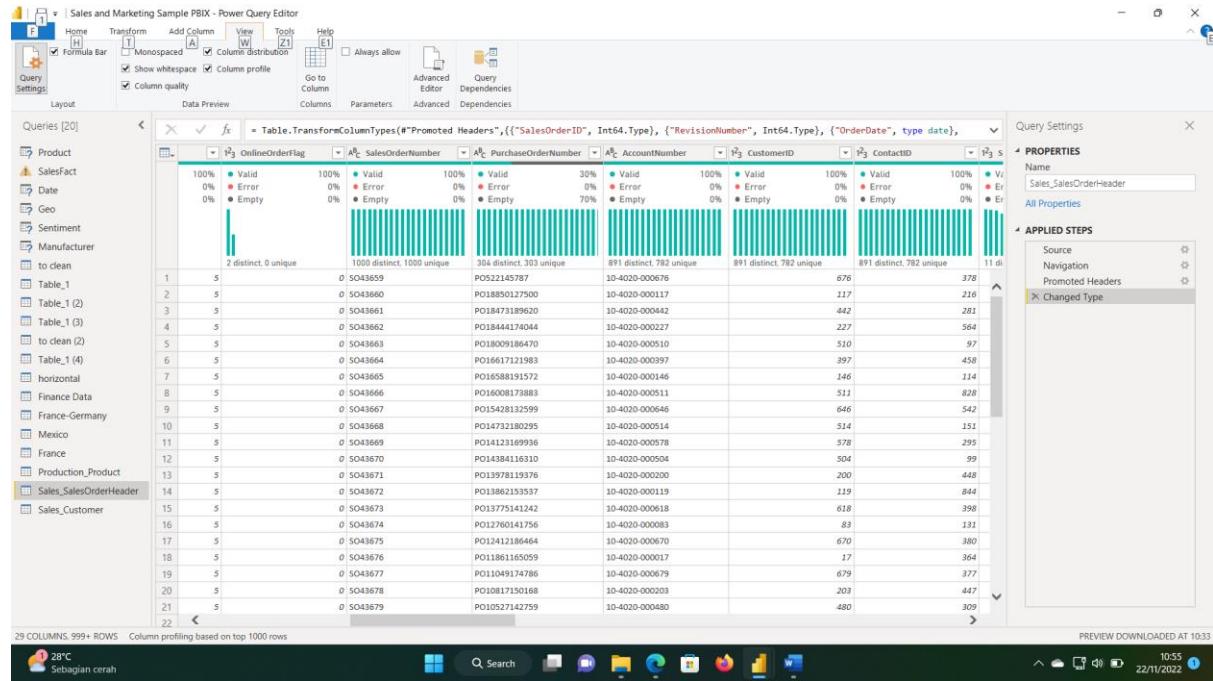
Misalnya sedang mengembangkan laporan untuk tim Penjualan di organisasi. tidak yakin bagaimana data disusun dan dimuat di dalam tabel, jadi ingin membuat profil data di balik layar sebelum mulai mengembangkan visual. Power BI memiliki fungsionalitas bawaan yang menjadikan tugas ini ramah pengguna dan mudah.



Profiling Data in Power BI: Finding Data Anomalies and Data Statistics

Setelah membuat koneksi ke sumber data dan memilih Transformasi Data, akan dibawa ke Editor Power Query, tempat bisa menentukan apakah ada anomali dalam data. Anomali data adalah outlier dalam data. Menentukan apa anomali itu dapat membantu.

mengidentifikasi seperti apa distribusi normal datadan apakah ada titik data tertentu yang perlu selidiki lebih lanjut.



Using Advanced Editor to Modify M Code

Setiap kali membentuk data di Power Query, membuat langkah dalam proses Power Query. Langkah-langkah tersebut dapat disusun ulang, dihapus, dan dimodifikasi jika memungkinkan. Setiap langkah pembersihan yang buat kemungkinan besar dibuat dengan menggunakan antarmuka grafis, namun Power Query menggunakan bahasa M di belakang layar. Langkah gabungan tersedia untuk dibaca dengan menggunakan Power Query Advanced Editor. Bahasa M selalu tersedia untuk dibaca dan dimodifikasi secara langsung. Namun, tidak perlu menggunakan kode M untuk memanfaatkan Power Query. jarang perlu menulis kode M, tetapi masih terbukti bermanfaat. Karena setiap langkah dalam Power Query ditulis dalam kode M, meskipun UI membuatnya untuk, bisa menggunakan langkah tersebut untuk mempelajari kode M dan mengkustomisasinya agar sesuai dengan kebutuhan.

