

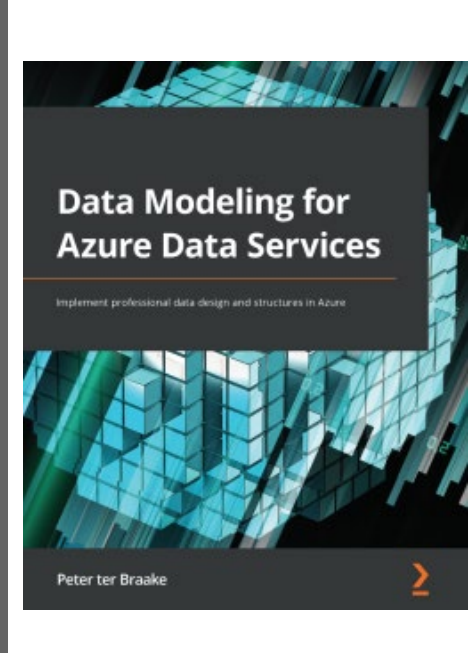
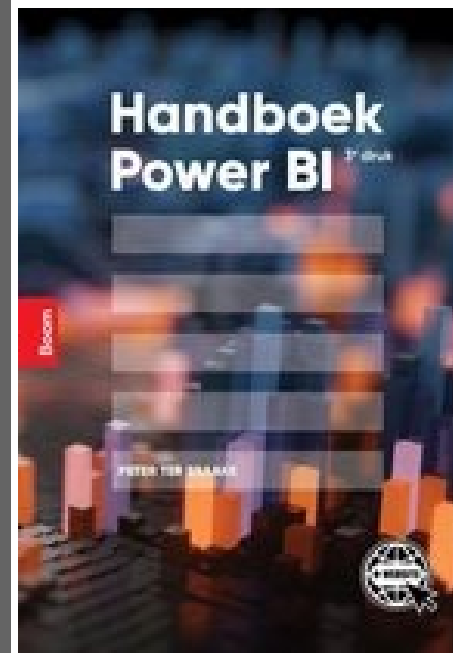
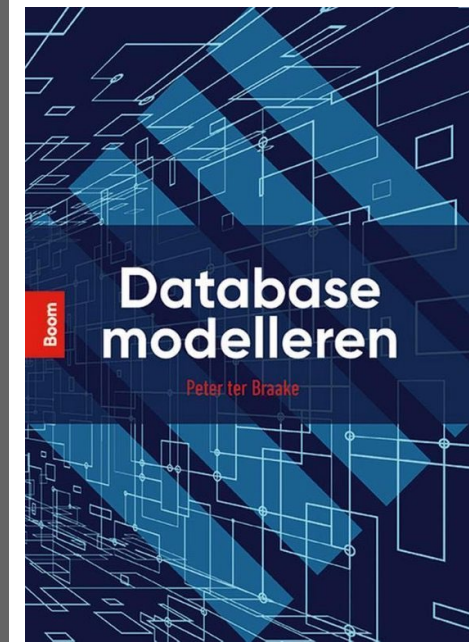
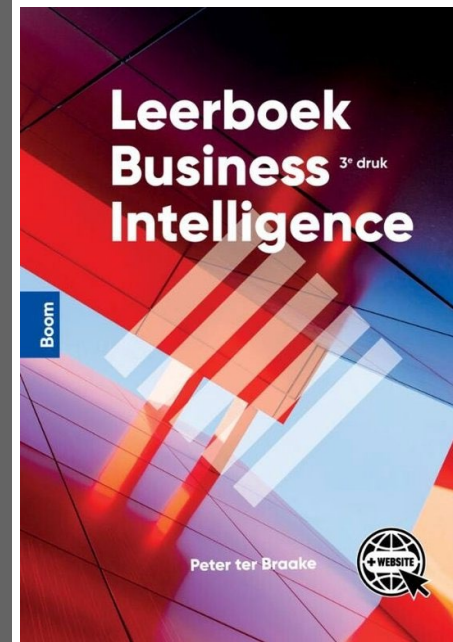
Data modeling: The key to success with Power BI



Peter ter Braake

Introducing myself

- Peter ter Braake
 - trainsql@live.nl
 - Independent contractor
 - MCT since 2002
- Microsoft Data Platform
 - SQL Server
 - Incl. SSRS
 - Business Intelligence
 - Power BI
- Author



Quote

“ QUOTES ”

“The fastest way ever to see a quote!”

Alberto Ferrari in SQLBI.com:
The golden rule of data modeling is always the same: always use star schemas.

- If a column has to be used to slice and dice, then it needs to belong to a dimension.
- Numbers to aggregate, on the other hand, are stored in fact tables.

Tabular lets a developer deviate from the regular star schema architecture. This does not mean that doing it is always a good idea. It seldom is.

Power BI scenarios



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- Corporate Reporting
 - Managers use reports created by BI professionals
- Self service Collaboration
 - Collaborate on shared dataset
- ...
- Self service analyst / data scientist
 - Friday afternoon 4 O'Clock ...

Agenda

- Theory
- Discussion

Why do we need a DWH?

Performance

- For both OLTP and OLAP

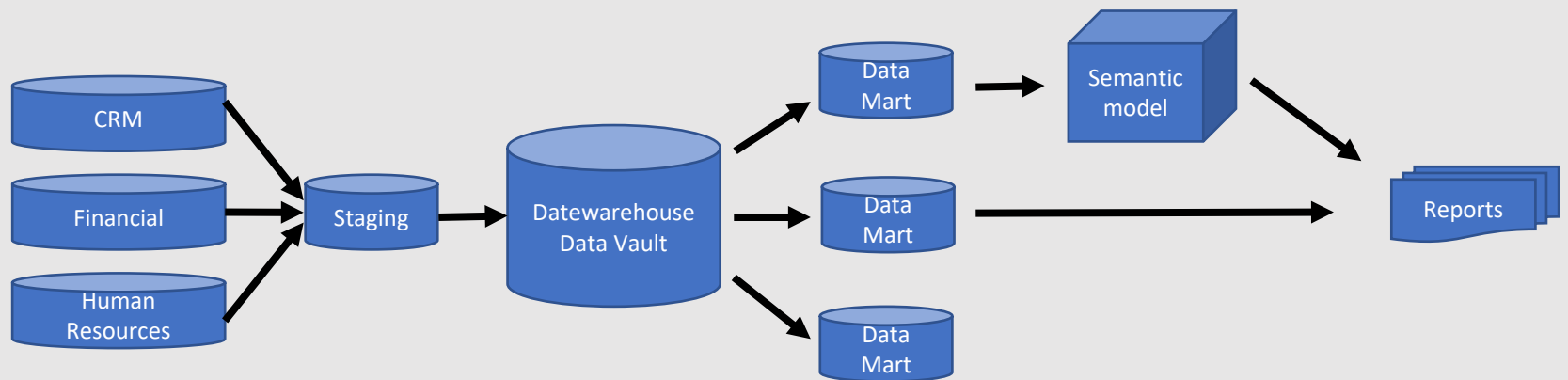
Consistency
across systems
(stove pipes)

Data Quality

Data model
complexity

Historical data

Power BI versus Data warehouse



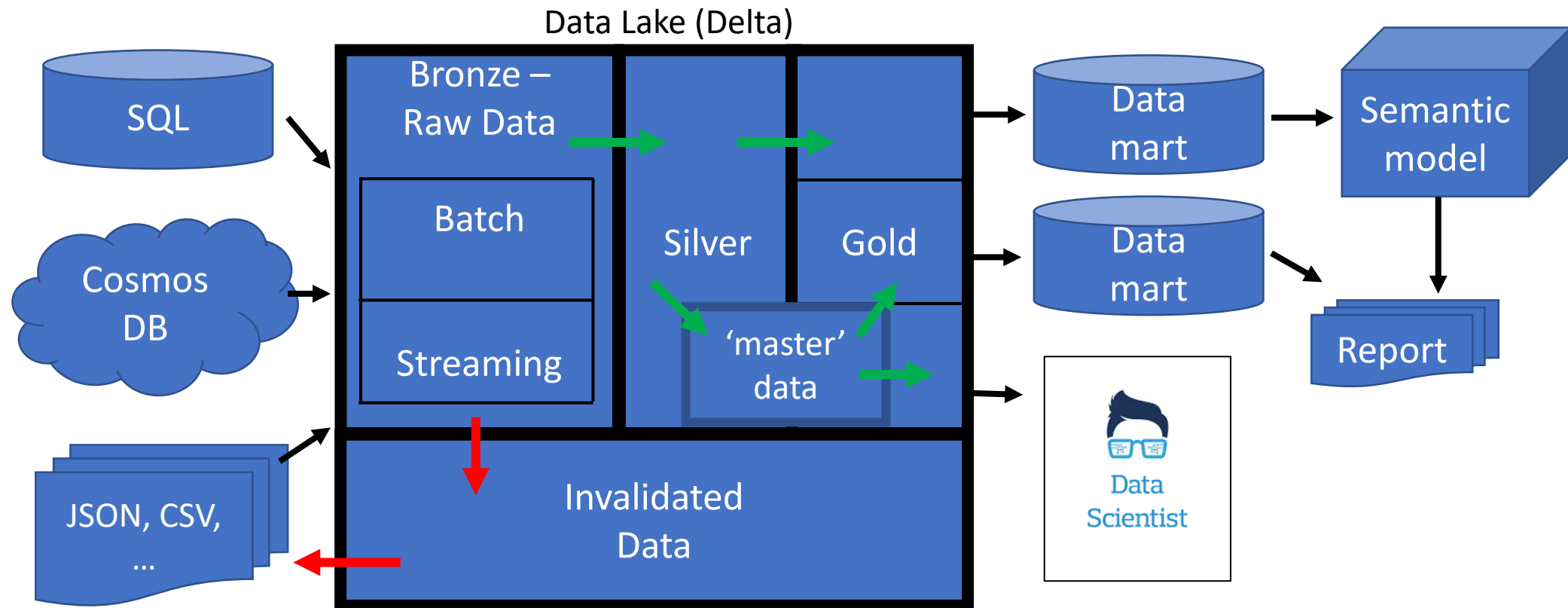
Source → ETL → BISM → Report

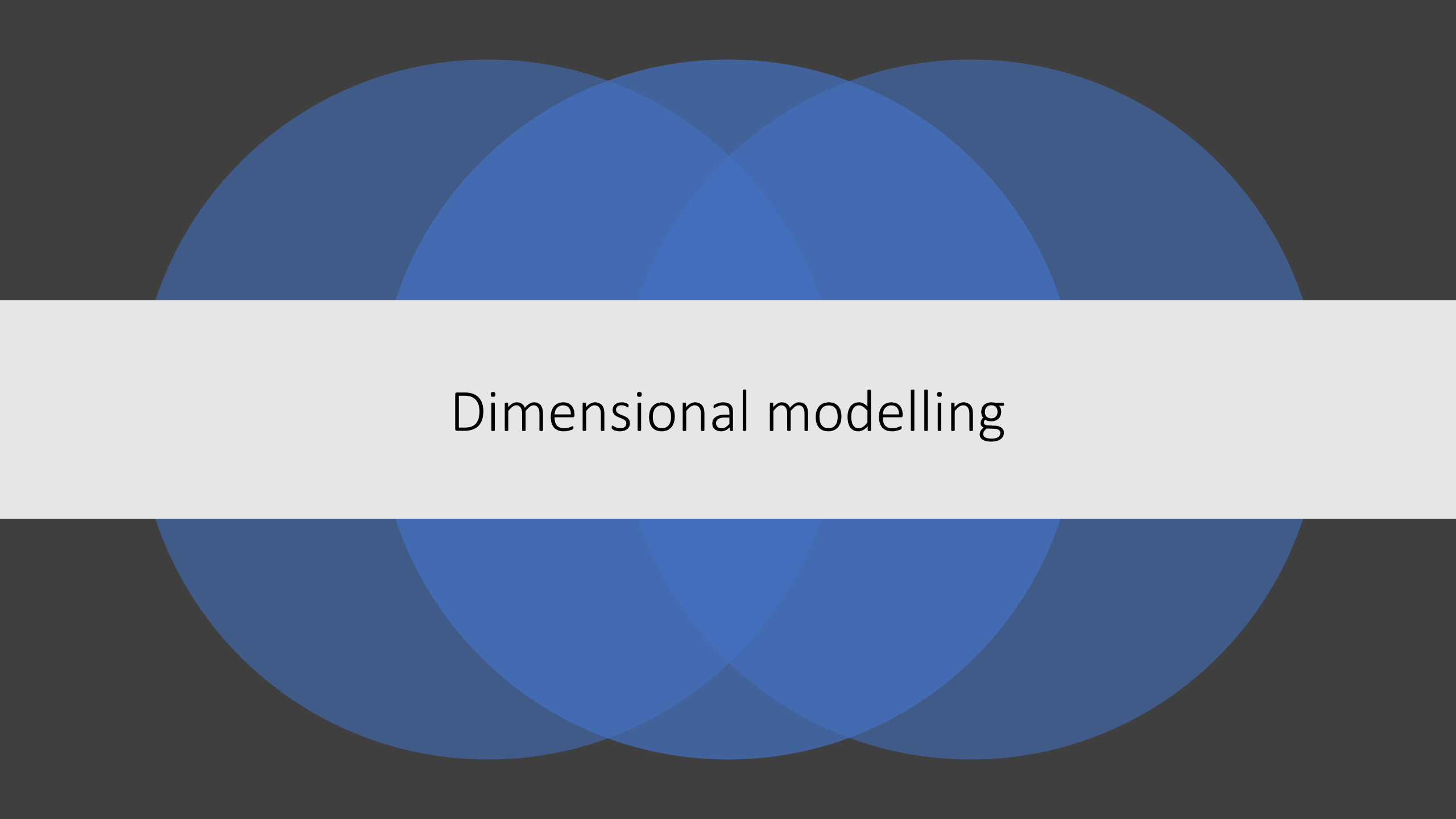
Power BI:

Source → Get Data → Power Query → DAX → Report

- Same architecture, same best practices
- Implement solutions as far to the left as possible

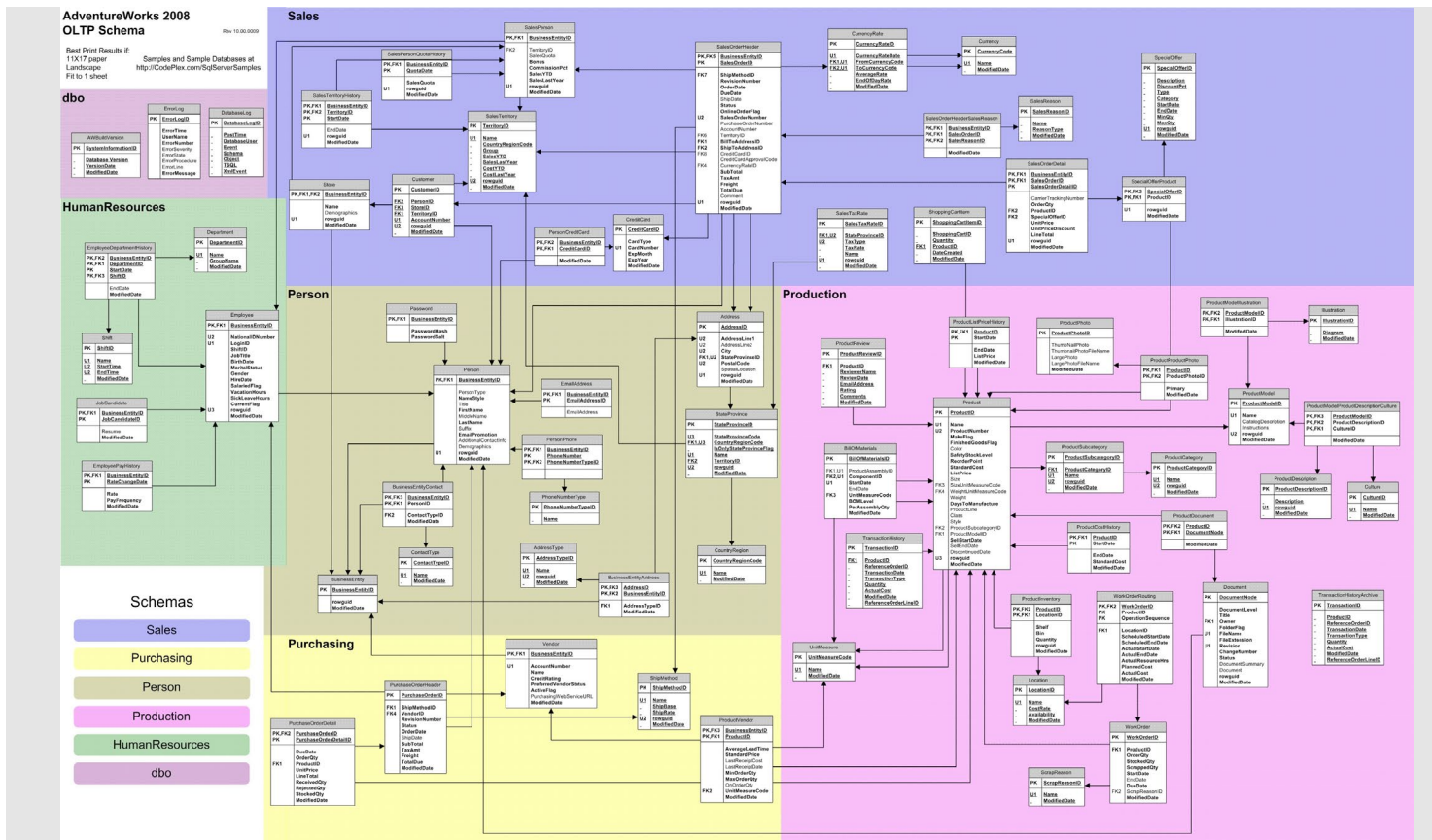
Architecture Overview



The background features three overlapping circles in a horizontal row. The circles are rendered in two shades of blue: a darker blue for the outer portions and a lighter blue for the overlapping areas. A solid white horizontal band cuts across the middle of the circles, serving as a backdrop for the title text.

Dimensional modelling

Why normalize data?



Normalizing is based on:

- Reduce redundancy
- Model dependencies between attributes

Data warehouse / reporting / analytics:

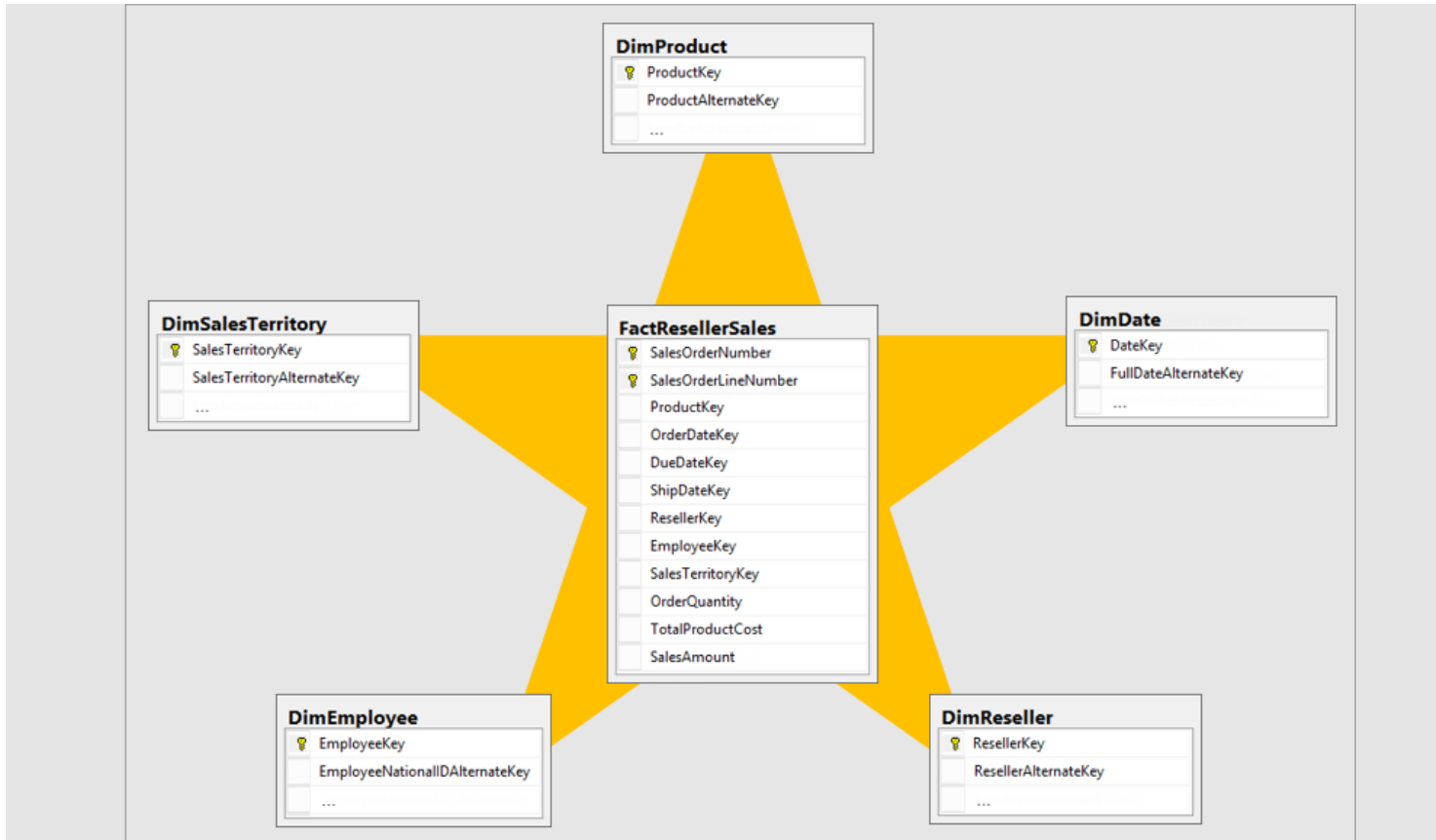
- Read-only workload
 - Redundancy might be beneficial
- Inefficiency in storing redundant data is small
 - Especially for Power BI / tabular / Columnstore
- Make usage (processes) important instead of putting the data central

Excel?

	A	B	C	D	E	F	G	H
1	Purchase ID	Last name	First name	Birthday	Country	Date of purchase	Amount of purchase	
2	1	Davidson	Michael	04/03/1985	United States	00/10/2006	37	
3	2	Vito	Jim	09/01/1994	United Kingdom	02/02/2008	85	
4	3	Johnson	Toni	23/08/1972	France	02/11/2008	83	
5	4	Leadb	Peter	18/10/1979	Germany	22/11/2008	27	
6	5	Kobing	Edward	13/05/1985	Argentina	26/08/2005	48	
7	6	Preston	Jack	16/06/1991	United States	06/11/2008	77	
8	7	Smith	David	11/03/1985	Canada	15/11/2008	21	
9	8	Brown	Lab	03/06/1997	Australia	03/07/2005	74	
10	9	Miler	Thomas	07/01/1980	Germany	07/11/2008	13	
11	10	Williams	Bill	26/07/1990	United States	20/11/2005	80	
12	11	Gemini	Alexa	13/06/1995	Canada	11/05/2007	36	
13	12	Bond	James	25/03/1975	United Kingdom	12/08/2007	40	
14	13	Dungle	Patricia	01/12/1990	United States	18/01/2012	58	
15	14	Reding	Michelle	07/04/1985	Canada	23/02/2007	28	
16	15	Harvey	Bill	14/07/1971	United Kingdom	12/01/2008	41	
17								
18								

- Popularity based on Pivot table
- Pivot table based on single table containing columns used
 - On rows
 - On columns
 - On filters
 - As values
 - Using aggregation

Why star schema?



- Intuitive / simple
 - Less error prone
 - Rapid report development
- Better performance
 - Less 'joins'
- Power BI
 - More consistent experience
 - Easier DAX
 - 'auto exist'
 - Effect cross filter both ways
 - Better performance

Dimensional modelling

- Step 1: Choose process
- Step 2: Choose grain
- Step 3: Determine facts
- Step 4: Determine dimensions

dimDate
<u>DateKey</u>
Date
Year
Quarter
Month
Week
...

factSales
CustomerKey (FK)
ProductKey (FK)
DateKey (FK)
SalesAmount
Quantity
Discount
Cost
Margin

dimCustomer
<u>CustomerKey</u>
Name
Address
Category
...

dimProduct
<u>ProductKey</u>
Name
Category
...

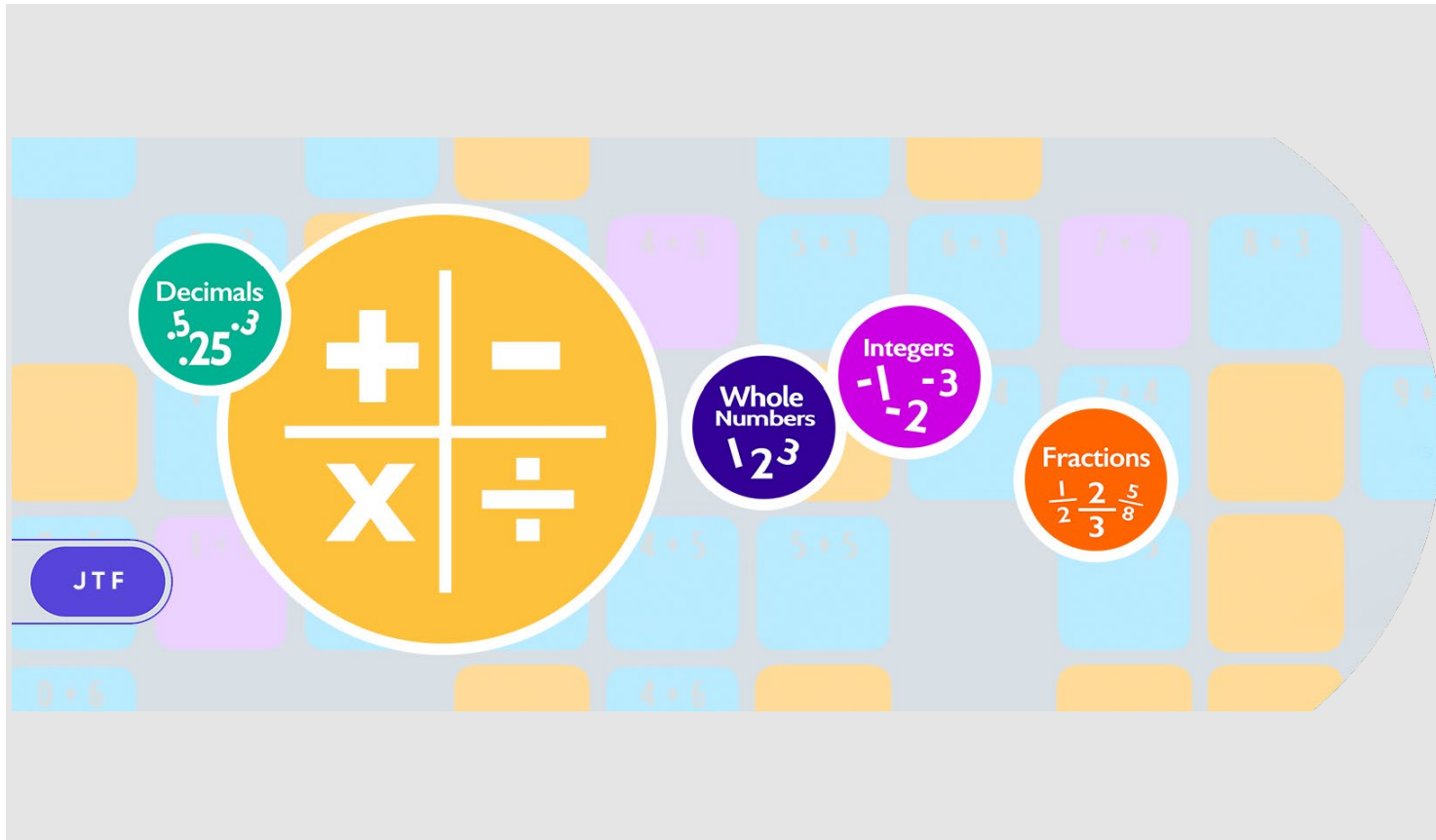
How many dimensions?

Step 1: Choose grain



- Level of detail
- Largely determines size of semantic model
 - OneLake storage is not cheap
 - Size of imported data limited
- Determines efficiency of aggregations
 - CUs are not cheap in Fabric
- Consider Power BI Aggregations

Step 2: Choose facts

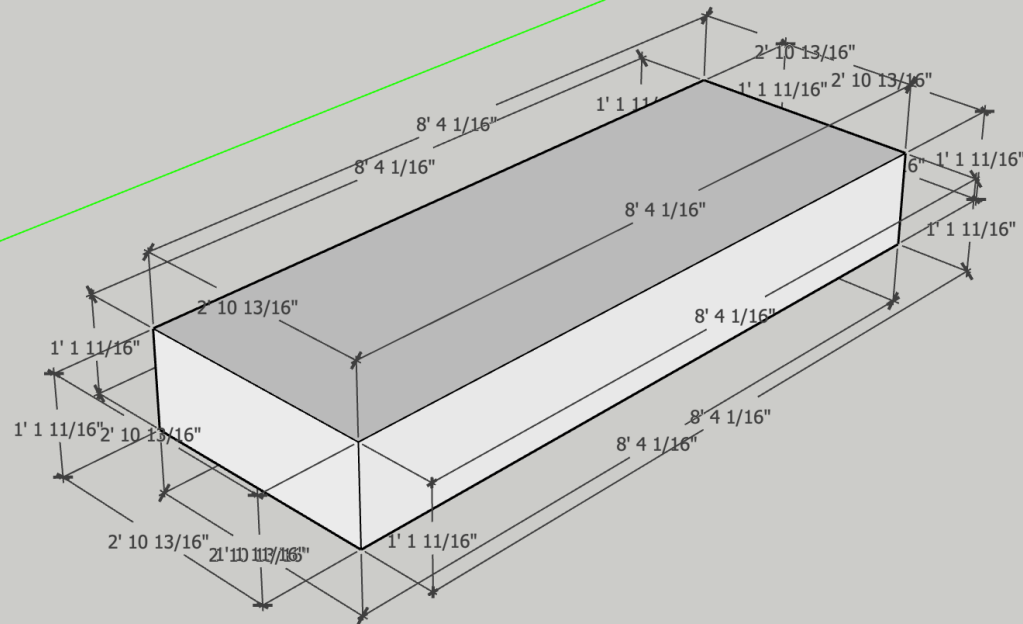


- What do you analyze?
- Favor additive facts
- Favor Fixed decimal number over decimal number
- Create your own 'smart' facts

Demo

Centuries

Step 3: Create dimensions

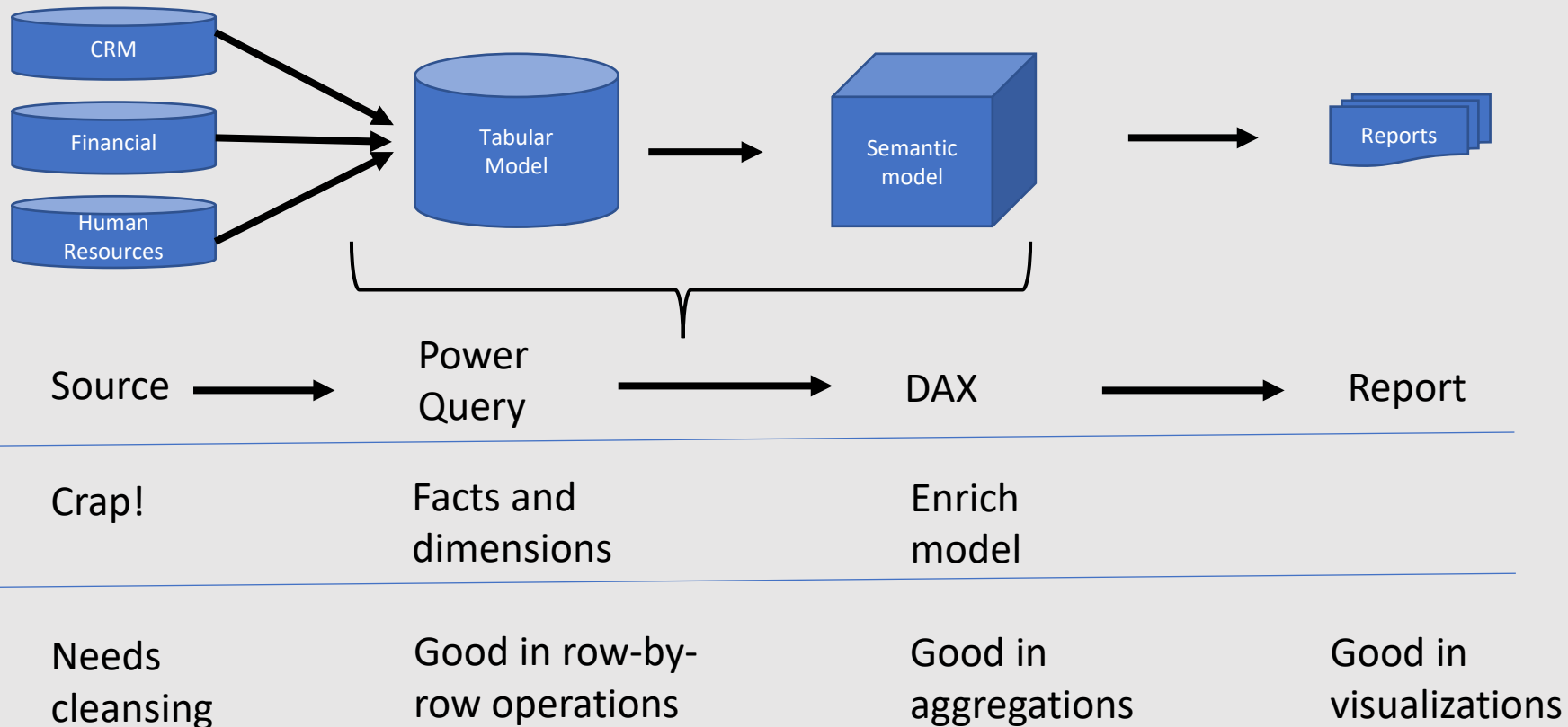


- Analytical power of model
 - Determines functionality
 - Determines interpretability
- Consider cardinality
 - Grouping / binning
 - Date / Time / DateTime
- Create efficient keys
 - Whole number / Date
- Only snowflake when necessary
- Use unknown / not applicable member
- Create proper date dimension
 - Mark as date table
- Consider SCD

Demo

Year index

Power BI: where, what!



Find solutions as far left as possible

Calculated column versus Calculated measure

Feature	Calculated Column	Calculated Measure
Calculation Type	Row-by-row calculations based on each row of data	Context-sensitive, calculated based on the current report context
Storage	Stored in the data model as part of the table	Not stored; calculated on the fly during report interaction
Calculation Timing	Calculated during data refresh and stored permanently	Calculated dynamically when you interact with visuals
Scope	Can be used in filters, rows, columns, or slicers like a regular column	Primarily used for aggregations and summarizations in visuals
Performance Impact	Can increase model size due to storage of calculated values	Does not increase model size, but complex calculations can impact performance
Example Use Case	Creating a new column based on conditions (e.g., categorizing data)	Aggregating data dynamically (e.g., total sales, average)

- Calculated column
 - Row context
 - Static
 - Calculated once during data refresh
- Calculated measure
 - Filter context
 - Dynamic
 - Calculated every time needed in visual

Demo

of products

Discussion: fact or dimension

UnitPrice

Afstand

FTE

Dimensional modelling

- Step 1: Choose process
- Step 2: Choose grain
- Step 3: Determine facts
- Step 4: Determine dimensions

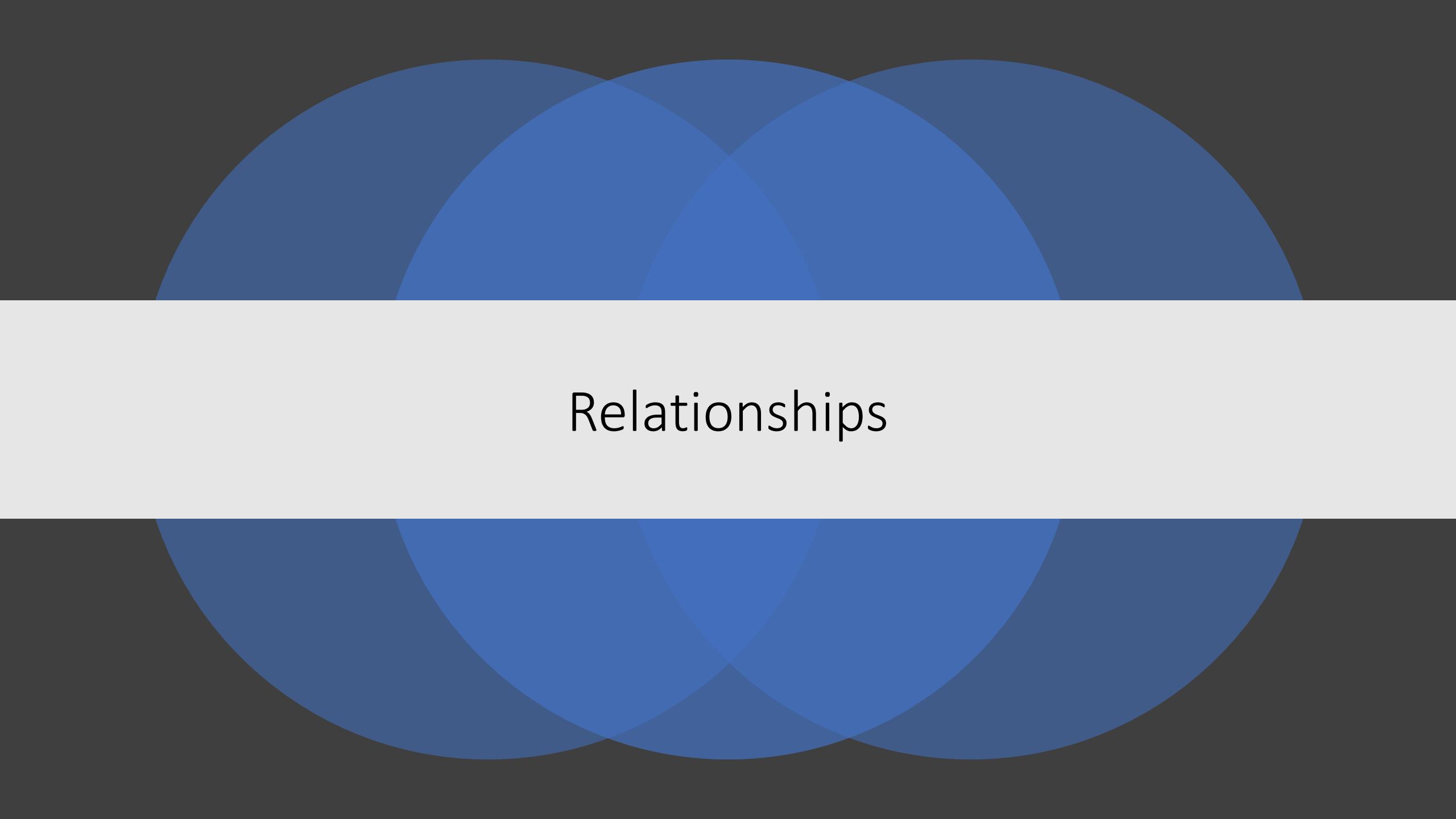
dimDate
<u>DateKey</u>
Date
Year
Quarter
Month
Week
...

factSales
CustomerKey (FK)
ProductKey (FK)
DateKey (FK)
SalesAmount
Quantity
Discount
Cost
Margin
Price???

dimCustomer
<u>CustomerKey</u>
Name
Address
Category
...

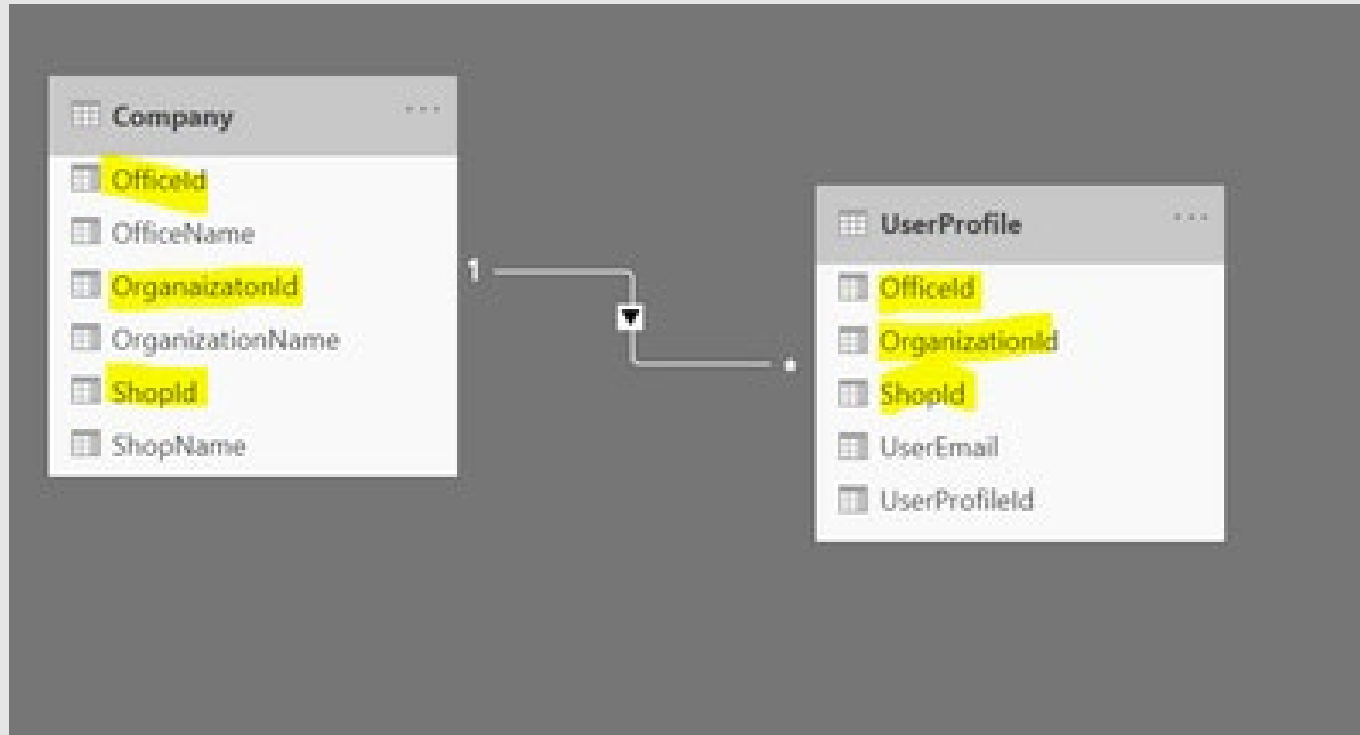
dimProduct
<u>ProductKey</u>
Name
Category
Price???
...

How many dimensions?

The background features three overlapping circles in a horizontal row. The circles are a medium blue color, and their overlapping areas create a darker blue. A solid white horizontal band cuts across the middle of the circles. The word "Relationships" is centered within this white band.

Relationships

Multi-column relationship



- Import:
 - Use PowerQuery (ETL tool) to create single column
- DirectQuery
 - Use COMBINEVALUES to create single column
 - `Table1[CalcColumn] = COMBINEVALUES(""," ", Table1[Column1], Table1[Column2])`

Relationship type

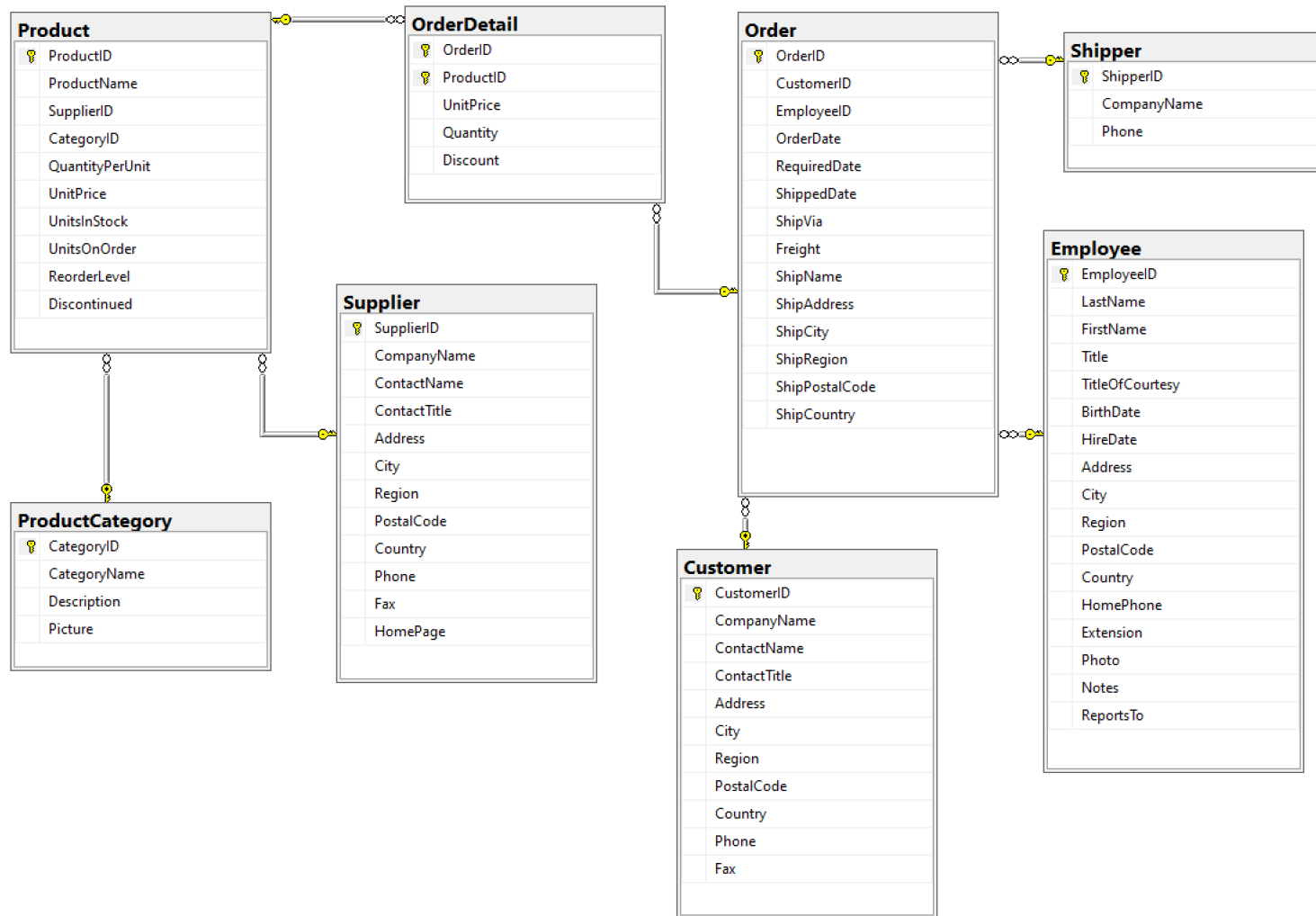


- Automatically inferred
- Regular relationships
 - Query engine can determine the "one" side
 - All one-to-many intra source group relationships
- Limited relationships
 - No guaranteed "one" side
 - Many-to-many
 - Cross source group
 - Composite models

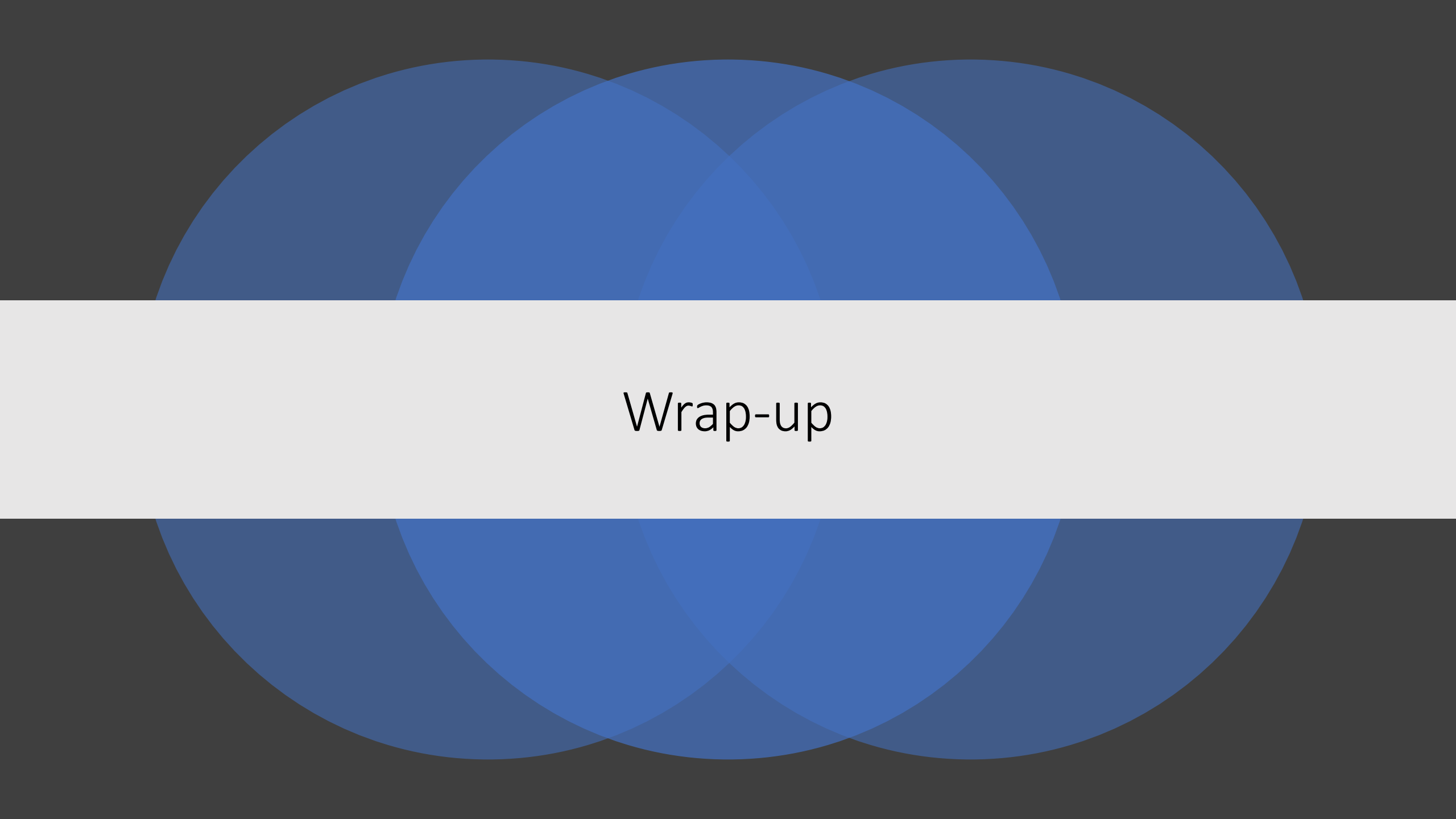


Discussion (if time permits)

Northwind



- Choose process
- Define grain
- Determine facts
- Determine dimensions

The background features three overlapping circles in a horizontal row. The circles are a medium blue color, and their overlapping areas create a darker blue shade. A solid white horizontal band cuts across the middle of the circles. The text "Wrap-up" is centered within this white band.

Wrap-up

Sum-up



- Use a star schema. Always.
- Hide all the columns in the fact table. Only show measures in the fact table.
- Expose visible attributes only through dimensions.
- Test your formulas on small sets of data that you can master and understand at a glance.

Questions ?



Thank you

Peter ter Braake
trainsql@live.nl

Power BI en de wereld van Excel als bron



valcon

Geanpaul Mercera



Noa van Hunen



JungleBoots Factory heeft dringend behoefte aan inzicht in de verkoopgegevens van haar groeiende aantal winkels om het "Get your jungleboots" programma effectief te kunnen sturen. Momenteel ontbreekt het bedrijf aan een database of rapportagesysteem om de verkoop van berg- en wandelschoenen per winkel te analyseren.

Het management heeft echter zo snel mogelijk inzicht nodig in de verkoopcijfers om de juiste beslissingen te kunnen nemen. Hoe gaan wij JungleBoots Factory helpen om een oplossing te vinden waarmee ze snel en efficiënt verkooprapportages kunnen genereren, ondanks het ontbreken van een database?



Hoe gaan we dit doen?

Future proof maken

- **Consolideren van data**
- **Data verrijking**
- **Data verversing waarborgen (datakwaliteit)**
- **Business proof**

A person with a backpack is walking away from the viewer down a path in a dense, dark jungle. The scene is misty and dimly lit, with various tropical plants and trees visible in the background. The overall mood is mysterious and adventurous.

Data consolideren



Amsterdam

Utrecht

Den Haag

A person wearing a wide-brimmed hat and a backpack is walking away from the viewer down a path in a dense, misty jungle. The scene is dark and atmospheric, with many hanging vines and large tropical plants. The text 'Inladen met M (Power Query)' is overlaid in the center in a large, white, sans-serif font.

Inladen met M (Power Query)

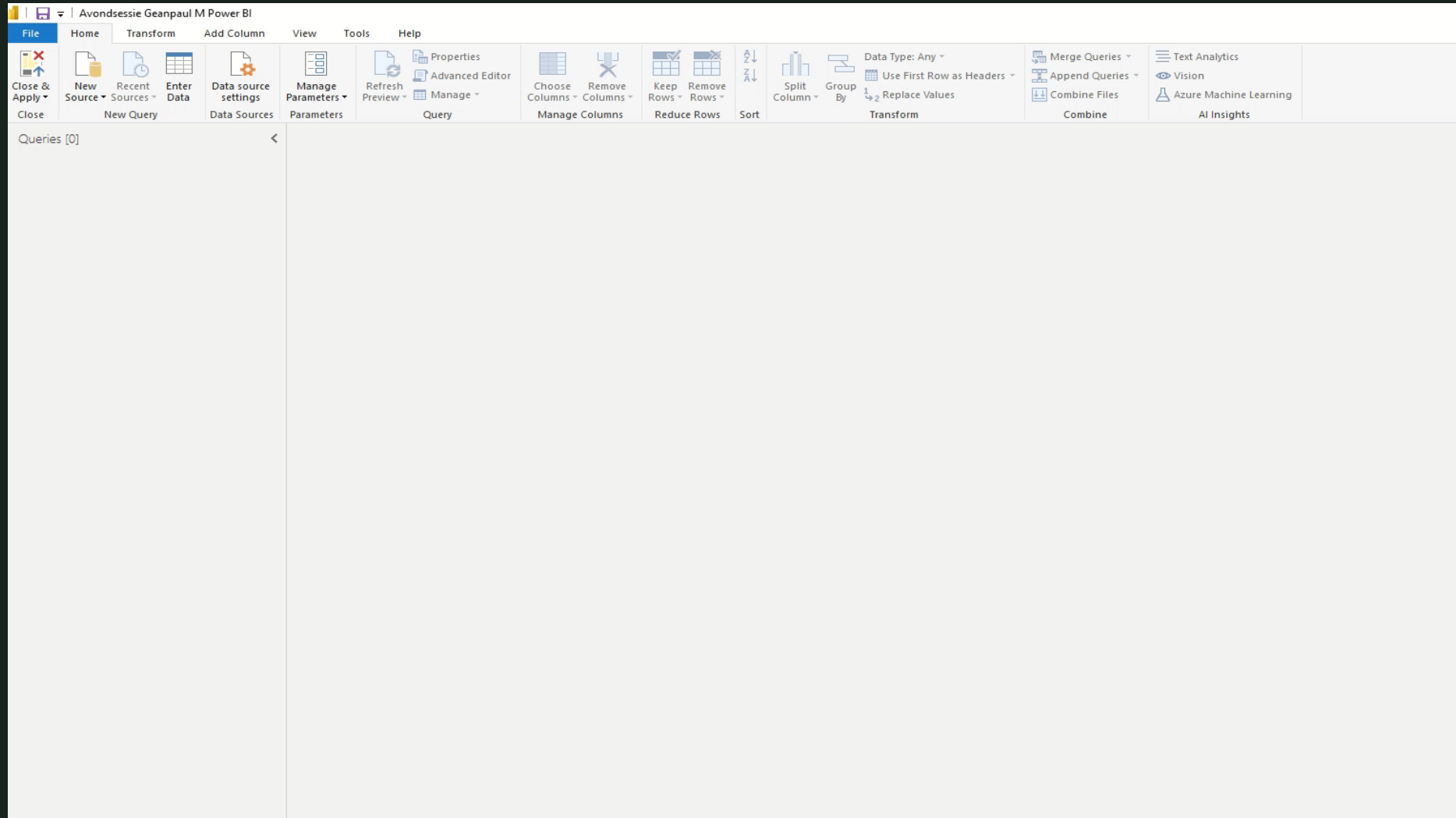
Data opslag



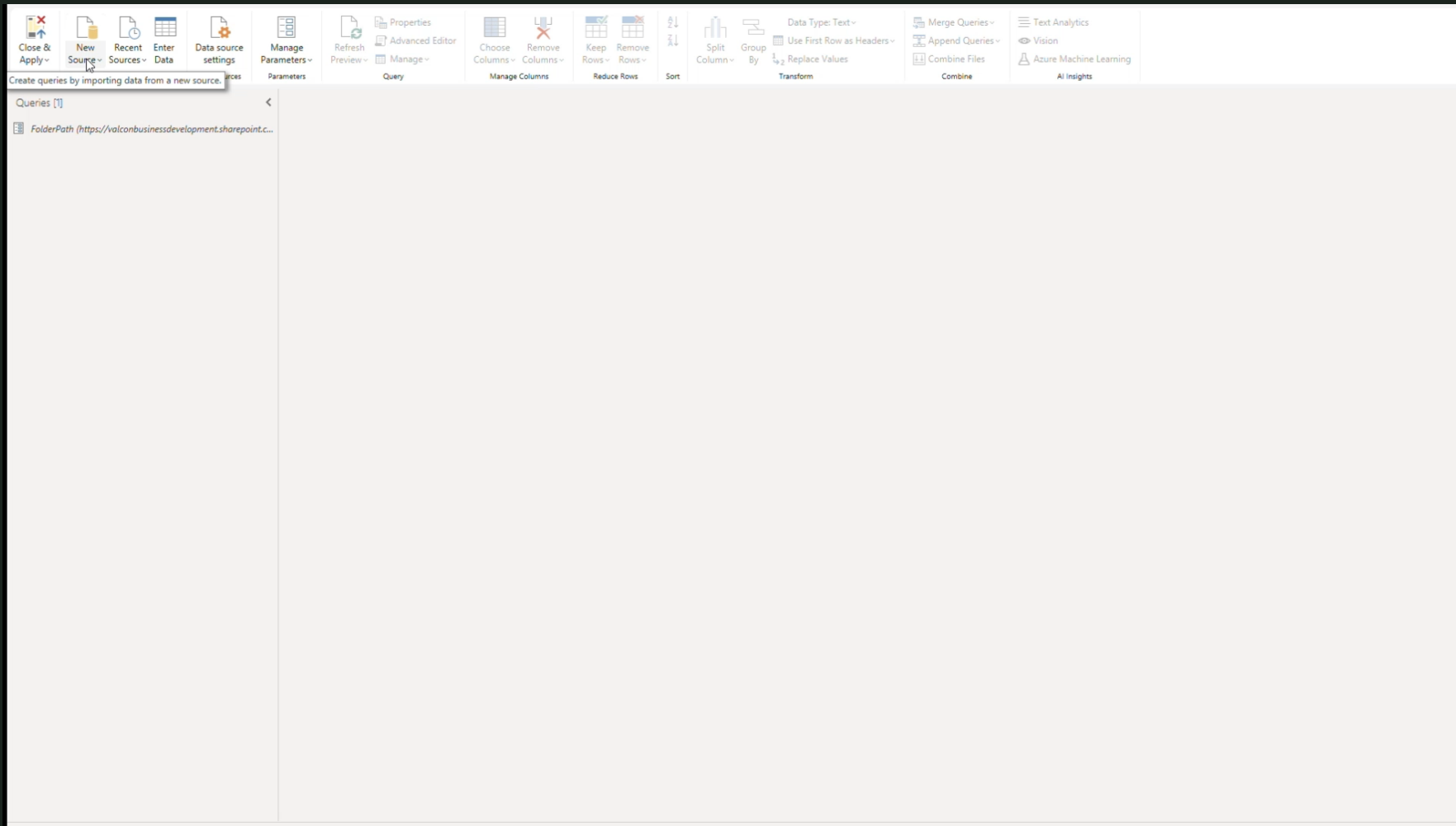
Documenten > General > Verkoop Data Winkels

	 Naam ▾	Gewijzigd ▾	Gewijzigd door ▾
	Amsterdam.xlsx	3 days ago	Geanpaul Mercera
	Den Haag.xlsx	3 days ago	Geanpaul Mercera
	Utrecht.xlsx	3 days ago	Geanpaul Mercera

Parameters



Inladen



Documenten > General > Verkoop Data Winkels



Naam ▾

Gewijzigd ▾

Gewijzigd door ▾



Amsterdam.xlsx

3 days ago

Geanpaul Mercera



Den Haag.xlsx

3 days ago

Geanpaul Mercera



Tilburg.xlsx

A few seconds ago

Noa van Hunen



Utrecht.xlsx

3 days ago

Geanpaul Mercera

Nieuwe winkel: nieuw bestand

The screenshot displays the Microsoft Power BI Desktop interface. The top ribbon includes tabs for Home, Transform, Add Column, View, Tools, and Help. The 'Home' tab is active, showing various icons for file operations and data management. The main workspace shows a table with 31 rows and 8 columns. The table is titled '= SharePoint.Files(FolderPath, [ApiVersion = 15])'. The columns are: Content, Name, Extension, Date accessed, Date modified, and Date created. The rows list various files and folders, including training materials and data files. The right-hand pane shows the 'Query Settings' for the selected query 'Fact_OrderLines_Year-1'. It includes sections for 'PROPERTIES' (Name: Fact_OrderLines_Year-1) and 'APPLIED STEPS' (Source, Filtered Rows, Filtered Hidden Files1, Invoke Custom Function1, Renamed Columns1, Removed Other Columns1, Expanded Table Column1, Changed Type).

Content	Name	Extension	Date accessed	Date modified	Date created
1	Binary	PBI Training in Three days intern.pptx	.pptx	null	06/05/2024 19:54:21
2	Binary	Hand-out Power BI in Two Days.pptx	.pptx	null	11/05/2023 14:35:21
3	Binary	PBI Training Extern ENG.pptx	.pptx	null	11/05/2023 14:35:23
4	Binary	PBI Training Deck (READ BEFORE WORKSHOP).docx	.docx	null	11/05/2023 14:35:28
5	Binary	DimOrder.txt	.txt	null	11/05/2023 14:35:28
6	Binary	DimDiscount.csv	.csv	null	11/05/2023 14:35:31
7	Binary	DimCurrency.txt	.txt	null	11/05/2023 14:35:31
8	Binary	DimCustomer.txt	.txt	null	11/05/2023 14:35:32
9	Binary	DimProduct.txt	.txt	null	11/05/2023 14:35:33
10	Binary	FactShipments.txt	.txt	null	11/05/2023 14:35:34
11	Binary	FactCurrencyRates.txt	.txt	null	11/05/2023 14:35:37
12	Binary	DimStore.txt	.txt	null	11/05/2023 14:35:37
13	Binary	FactReturns.txt	.txt	null	11/05/2023 14:35:38
14	Binary	DimPayment.txt	.txt	null	11/05/2023 14:35:39
15	Binary	DimEmployee.txt	.txt	null	11/05/2023 14:35:40
16	Binary	FactOrderLines.txt	.txt	null	11/05/2023 14:35:40
17	Binary	PBI dashboard voorbeeld.pbix	.pbix	null	11/05/2023 14:35:44
18	Binary	PBI Dashboard for Publishing.pbix	.pbix	null	11/05/2023 14:35:45
19	Binary	PBI Data loaded in (no visuals).pbix	.pbix	null	11/05/2023 14:35:47
20	Binary	PBI Training in Two days intern.pptx	.pptx	null	22/01/2024 19:44:57
21	Binary	Training proposal Power BI.docx	.docx	null	02/11/2023 16:43:58
22	Binary	PBI Training Extern ENG.pptx	.pptx	null	15/08/2023 15:30:59
23	Binary	PBI Training Deck (READ BEFORE WORKSHOP).docx	.docx	null	15/08/2023 15:31:07
24	Binary	DimOrder.txt	.txt	null	15/08/2023 15:31:08
25	Binary	DimDiscount.csv	.csv	null	15/08/2023 15:31:11
26	Binary	DimCurrency.txt	.txt	null	15/08/2023 15:31:12
27	Binary	DimCustomer.txt	.txt	null	15/08/2023 15:31:13
28	Binary	DimProduct.txt	.txt	null	15/08/2023 15:31:15
29	Binary	FactShipments.txt	.txt	null	15/08/2023 15:31:16
30	Binary	FactCurrencyRates.txt	.txt	null	15/08/2023 15:31:19
31					

A person with a backpack is walking away from the viewer down a path in a dense, dark jungle. The scene is misty and dimly lit, with various tropical plants and trees visible in the background. The overall mood is mysterious and adventurous.

Data Cleansing met M

Split en trim

The screenshot displays the Power Query Editor interface. The 'Transform' tab is active, showing various data transformation options. A tooltip for the 'Split Column' button indicates the operation: 'Separate elements of a column into multiple columns.' The main data view shows a table with columns: DiscountAmount, NetPrice, Timestamp, EmployeeID, PaymentID, and StoreID. The 'Timestamp' column is selected, and the 'Split Column' operation is being applied. The 'Query Settings' pane on the right shows the query name 'Fact_OrderLines_Year-1' and the 'APPLIED STEPS' list, which includes 'Changed Type'.

Home Transform Add Column View Tools Help

Group By Use First Row as Headers Count Rows Transpose Reverse Rows

Data Type: Date/Time Replace Values Unpivot Columns

Detect Data Type Fill Move

Rename Pivot Column Convert to List

Split Column Format Extract Parse

Statistics Standard Scientific Trigonometry Rounding Information

Date Time Duration Run R script Run Python script

Table

Any Column

Separate elements of a column into multiple columns.

Number Column

Date & Time Column

Scripts

Queries [6]

Transform File from Q... Helper Queries [3] Parameter1 (Sampl... Sample File Transform File Transform Sample File Other Queries [2] FolderPath (https://v... Fact_OrderLines_Yea...

Table.TransformColumnTypes(#"Expanded Table Column1",{"Source.Name", type text}, {"OrderLineID", type text}, {"OrderID", type text},

DiscountAmount NetPrice Timestamp EmployeeID PaymentID StoreID

1 null 0 49,95 31/12/1899 11:01:12 0 P1 ST01

2 null 0 49,95 31/12/1899 11:01:12 0 P1 ST01

3 null 0 49,95 31/12/1899 09:36:32 0 P1 ST01

4 null 0 49,95 31/12/1899 13:06:16 0 P1 ST01

5 null 0 49,95 31/12/1899 14:57:45 0 P1 ST01

6 null 0 49,95 31/12/1899 14:19:33 0 P1 ST01

7 null 0 49,95 31/12/1899 16:59:28 0 P1 ST01

8 null 0 49,95 31/12/1899 10:50:39 0 P1 ST01

9 null 0 49,95 31/12/1899 10:35:55 0 P1 ST01

10 null 0 49,95 31/12/1899 10:50:39 0 P1 ST01

11 null 0 49,95 31/12/1899 13:27:28 0 P1 ST01

12 null 0 49,95 31/12/1899 15:01:13 0 P1 ST01

13 null 0 49,95 31/12/1899 13:55:29 0 P1 ST01

14 null 0 49,95 31/12/1899 11:07:29 0 P1 ST01

15 null 0 49,95 31/12/1899 15:10:41 0 P1 ST01

16 null 0 49,95 31/12/1899 13:02:12 0 P1 ST01

17 null 0 49,95 31/12/1899 11:36:51 0 P1 ST01

18 null 0 49,95 31/12/1899 13:21:00 0 P1 ST01

19 null 0 49,95 31/12/1899 12:56:57 0 P1 ST01

20 null 0 49,95 31/12/1899 12:56:57 0 P1 ST01

21 null 0 49,95 31/12/1899 13:07:51 0 P1 ST01

22 null 0 49,95 31/12/1899 10:45:30 0 P1 ST01

23 null 0 49,95 31/12/1899 12:19:58 0 P1 ST01

24 null 0 49,95 31/12/1899 12:19:58 0 P1 ST01

25 null 0 49,95 31/12/1899 17:24:44 0 P1 ST01

26 null 0 49,95 31/12/1899 17:24:44 0 P1 ST01

27 null 0 49,95 31/12/1899 13:19:22 0 P1 ST01

28 null 0 49,95 31/12/1899 11:33:03 0 P1 ST01

29 null 0 49,95 31/12/1899 16:01:12 0 P1 ST01

30 null 0 49,95 31/12/1899 16:01:12 0 P1 ST01

31

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

PREVIEW DOWNLOADED AT 11:16

Query Settings

PROPERTIES

Name

Fact_OrderLines_Year-1

All Properties

APPLIED STEPS

Source

Filtered Rows

Filtered Hidden Files1

Invoke Custom Function1

Renamed Columns1

Removed Other Columns1

Expanded Table Column1

Changed Type

Veel gebruikte M functies

Text.Contains

Text.Trim

Text.End

Text.Start

Text.Length

Date.From

Text.Replace

Date.FromText

*“Amsterdam stuurt elke maand een nieuwe Excel door. Deze data willen wij bewaren en er moet **per maand** gerapporteerd worden wat er verkocht wordt. Dit is een belangrijke winkel omdat veel toeristen naar deze winkel komen. Hoe kunnen wij zorgen dat wij deze **historie opslaan**?”*



Naam ▾



Amsterdam 2024 01 30.xlsx

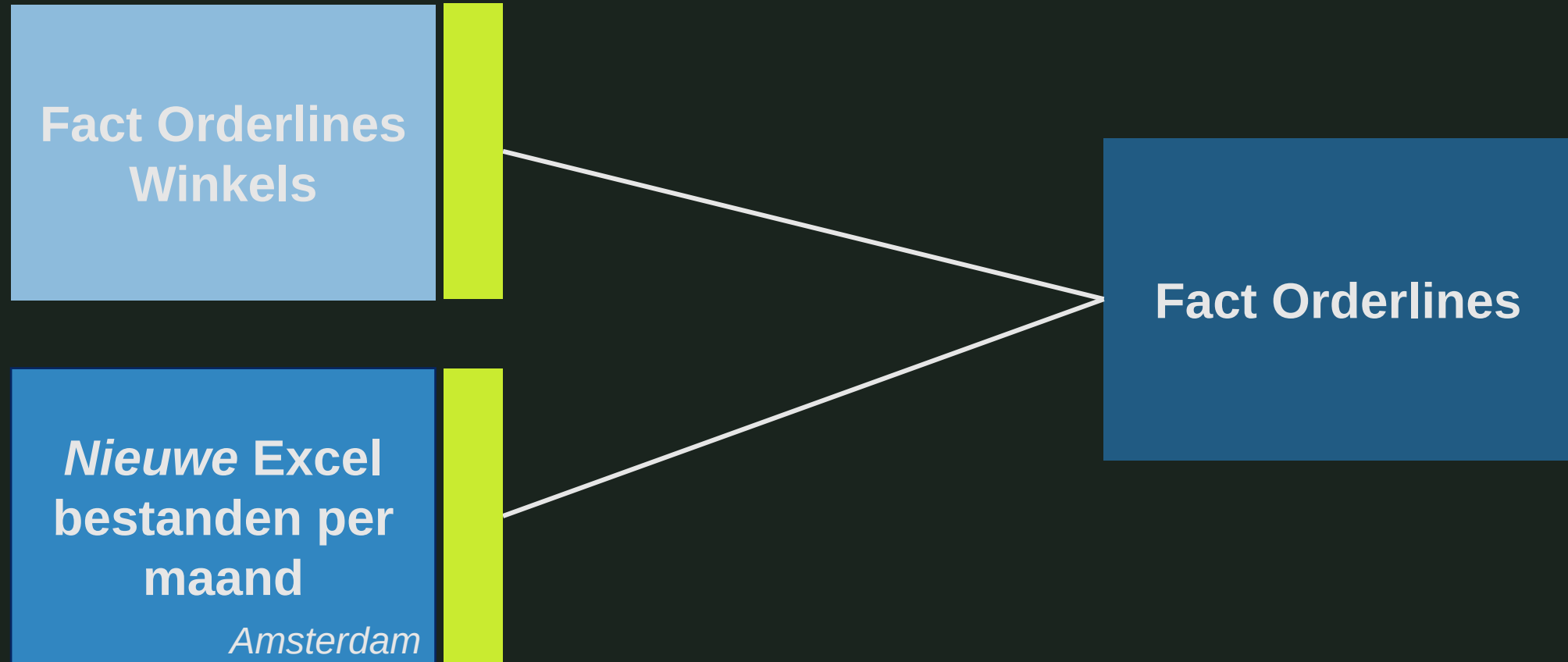


Amsterdam 2024 02 28.xlsx



Amsterdam 2024 03 30.xlsx

Best practise



Nieuwe query + Source date aanmaken

The screenshot displays the Power Query Editor interface. The top ribbon includes tabs for Home, Transform, Add Column, View, Tools, and Help. The Home tab is active, showing various options like Close & Apply, New Source, Recent Sources, Enter Data, Data source settings, Manage Parameters, Refresh Preview, Advanced Editor, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Sort, Split Column, Group By, Data Type: Text, Merge Queries, Append Queries, Combine Files, Text Analytics, Vision, and Azure Machine Learning.

The main area shows a query named "Fact_OrderLines_Yea..." with the following M code:

```
= Table.TransformColumns(#"Renamed Columns",{{"Source.Name", Text.Trim, type text}, {"OrderLineID", Text.Trim, type text}, {"OrderID", Text.Trim, type text}, {"ProductID", Text.Trim, type text}, {"CurrencyID", Text.Trim, type text}, {"StoreID", Text.Trim, type text}, {"Store", Text.Trim, type text}})
```

The data table below the code shows columns: Source.Name, OrderLineID, OrderID, OrderDate, CustomerID, ProductID, and UnitPrice. The data is filtered to show only rows where the Source.Name is "Amsterdam.xlsx".

The right sidebar shows the Query Settings for "Fact_OrderLines_Yea-1". The Properties section shows the Name "Fact_OrderLines_Yea-1". The Applied Steps section lists the steps applied to the query: Source, Filtered Rows, Filtered Hidden Files1, Invoke Custom Function1, Renamed Columns1, Removed Other Columns1, Expanded Table Column1, Changed Type, Split Column by Delimiter, Changed Type1, Renamed Columns, and Trimmed Text.

Status update

Fact Orderlines
Winkels

Nieuwe Excel
bestanden per
maand

Amsterdam

Query 1: Source date aanmaken

Home Transform Add Column View Tools Help

Group By Use First Row as Headers Reverse Rows Count Rows

Table

Transpose

Reverse Rows

Count Rows

Table

Data Type: Text Replace Values Unpivot Columns

Detect Data Type Fill Move

Rename Pivot Column Convert to List

Any Column

Split Column Format Extract Parse

Text Column

Merge Columns

Statistics Standard Scientific

Trigonometry Rounding Information

Date Time Duration

Date & Time Column

Run R script Run Python script

Scripts

Queries [11]

Transform File from Query...

Helper Queries [3]

Parameter1 (Sample File)

Sample File

Transform File

Transform Sample File

Transform File from Query...

Helper Queries [3]

Parameter2 (Sample File...)

Sample File (2)

Transform File (2)

Transform Sample File (2)

Other Queries [3]

FolderPath (https://valcon...

Fact_OrderLines_Year-1

Fact_OrderLines_Monthly

Table.TransformColumns(#"Renamed Columns",{{"Source.Name", Text.Trim, type text}, {"OrderLineID", Text.Trim, type text}, {"OrderID",

	Source.Name	OrderLineID	OrderID	OrderDate	CustomerID	ProductID	UnitPr
1	Amsterdam.xlsx	ODL14540469	O16799386	08/03/2024		null	P11032
2	Amsterdam.xlsx	ODL14540470	O16799386	08/03/2024		null	P11121
3	Amsterdam.xlsx	ODL14540459	O16799367	08/03/2024		null	P11080
4	Amsterdam.xlsx	ODL14540454	O16799357	08/03/2024		null	P11152
5	Amsterdam.xlsx	ODL14540491	O16799420	08/03/2024		null	P10018
6	Amsterdam.xlsx	ODL14540438	O16799327	08/03/2024		null	P10696
7	Amsterdam.xlsx	ODL14540437	O16799325	08/03/2024		null	P10103
8	Amsterdam.xlsx	ODL14540389	O16799246	08/03/2024		null	P11102
9	Amsterdam.xlsx	ODL14540353	O16799190	08/03/2024		null	P11009
10	Amsterdam.xlsx	ODL14540390	O16799246	08/03/2024		null	P11072
11	Amsterdam.xlsx	ODL14540417	O16799292	08/03/2024		null	P11132
12	Amsterdam.xlsx	ODL14540420	O16799297	08/03/2024		null	P10697
13	Amsterdam.xlsx	ODL14540395	O16799254	08/03/2024		null	P10077
14	Amsterdam.xlsx	ODL14540527	O16799491	08/03/2024		null	P10038
15	Amsterdam.xlsx	ODL14540657	O16799677	08/03/2024		null	P10105
16	Amsterdam.xlsx	ODL14540658	O16799682	08/03/2024		null	P10609
17	Amsterdam.xlsx	ODL14540641	O16799655	08/03/2024		null	P10030
18	Amsterdam.xlsx	ODL14540628	O16799630	08/03/2024		null	P11135
19	Amsterdam.xlsx	ODL14540691	O16799726	08/03/2024		null	P11159
20	Amsterdam.xlsx	ODL14540692	O16799726	08/03/2024		null	P10026
21	Amsterdam.xlsx	ODL14540701	O16799740	08/03/2024		null	P11141
22	Amsterdam.xlsx	ODL14540666	O16799693	08/03/2024		null	P10098
23	Amsterdam.xlsx	ODL14540550	O16799518	08/03/2024		null	P11183
24	Amsterdam.xlsx	ODL14540548	O16799518	08/03/2024		null	P11022
25	Amsterdam.xlsx	ODL14540598	O16799590	08/03/2024		null	P10026
26	Amsterdam.xlsx	ODL14540601	O16799590	08/03/2024		null	P11040
27	Amsterdam.xlsx	ODL14540603	O16799601	08/03/2024		null	P11052
28	Amsterdam.xlsx	ODL14540587	O16799570	08/03/2024		null	P11023
29	Amsterdam.xlsx	ODL14540588	O16799576	08/03/2024		null	P11033
30	Amsterdam.xlsx	ODL14540589	O16799576	08/03/2024		null	P10055
31							

Query Settings

PROPERTIES

Name

Fact_OrderLines_Year-1

All Properties

APPLIED STEPS

Source

Filtered Rows

Filtered Hidden Files1

Invoke Custom Function1

Renamed Columns1

Removed Other Columns1

Expanded Table Column1

Changed Type

Split Column by Delimiter

Changed Type1

Renamed Columns

Trimmed Text

Status update

Fact Orderlines
Winkels

Nieuwe Excel
bestanden per
maand

Amsterdam

Legacy met append

The screenshot displays the Power Query Editor interface. The ribbon at the top includes tabs for Home, Transform, Add Column, View, Tools, and Help. The 'Remove Columns' button is highlighted, and a tooltip indicates: "Remove the currently selected columns from this table." The main area shows a data table with the following columns: Source.Name, OrderLineID, OrderID, OrderDate, CustomerID, ProductID, and UnitPrice. The table contains 31 rows of data, all with a date of 08/03/2024. The right sidebar shows the 'Query Settings' panel with the query name 'Fact_OrderLines_Year-1' and the 'APPLIED STEPS' list, which includes 'Renamed Columns2'.

	Source.Name	OrderLineID	OrderID	OrderDate	CustomerID	ProductID	UnitPrice
1	Amsterdam.xlsx	ODL14540469	O16799386	08/03/2024	null	P11032	
2	Amsterdam.xlsx	ODL14540470	O16799386	08/03/2024	null	P11121	
3	Amsterdam.xlsx	ODL14540459	O16799367	08/03/2024	null	P11080	
4	Amsterdam.xlsx	ODL14540454	O16799357	08/03/2024	null	P11152	
5	Amsterdam.xlsx	ODL14540491	O16799420	08/03/2024	null	P10018	
6	Amsterdam.xlsx	ODL14540438	O16799327	08/03/2024	null	P10696	
7	Amsterdam.xlsx	ODL14540437	O16799325	08/03/2024	null	P10103	
8	Amsterdam.xlsx	ODL14540389	O16799246	08/03/2024	null	P11102	
9	Amsterdam.xlsx	ODL14540353	O16799190	08/03/2024	null	P11009	
10	Amsterdam.xlsx	ODL14540390	O16799246	08/03/2024	null	P11072	
11	Amsterdam.xlsx	ODL14540417	O16799292	08/03/2024	null	P11132	
12	Amsterdam.xlsx	ODL14540420	O16799297	08/03/2024	null	P10697	
13	Amsterdam.xlsx	ODL14540395	O16799254	08/03/2024	null	P10077	
14	Amsterdam.xlsx	ODL14540527	O16799491	08/03/2024	null	P10038	
15	Amsterdam.xlsx	ODL14540657	O16799677	08/03/2024	null	P10105	
16	Amsterdam.xlsx	ODL14540658	O16799682	08/03/2024	null	P10609	
17	Amsterdam.xlsx	ODL14540641	O16799655	08/03/2024	null	P10030	
18	Amsterdam.xlsx	ODL14540628	O16799630	08/03/2024	null	P11135	
19	Amsterdam.xlsx	ODL14540691	O16799726	08/03/2024	null	P11159	
20	Amsterdam.xlsx	ODL14540692	O16799726	08/03/2024	null	P10026	
21	Amsterdam.xlsx	ODL14540701	O16799740	08/03/2024	null	P11141	
22	Amsterdam.xlsx	ODL14540666	O16799693	08/03/2024	null	P10098	
23	Amsterdam.xlsx	ODL14540550	O16799518	08/03/2024	null	P11183	
24	Amsterdam.xlsx	ODL14540548	O16799518	08/03/2024	null	P11022	
25	Amsterdam.xlsx	ODL14540598	O16799590	08/03/2024	null	P10026	
26	Amsterdam.xlsx	ODL14540601	O16799590	08/03/2024	null	P11040	
27	Amsterdam.xlsx	ODL14540603	O16799601	08/03/2024	null	P11052	
28	Amsterdam.xlsx	ODL14540587	O16799570	08/03/2024	null	P11023	
29	Amsterdam.xlsx	ODL14540588	O16799576	08/03/2024	null	P11033	
30	Amsterdam.xlsx	ODL14540589	O16799576	08/03/2024	null	P10055	
31							

A person with a backpack is walking away from the viewer down a path in a dense, dark jungle. The scene is misty and dimly lit, with various tropical plants and trees visible in the background. The overall mood is mysterious and adventurous.

Data Minimaliseren

Het management van JungleBoots Factory wil alleen de *nieuwe* cijfers zien en wil dus alleen de laatste 6 maanden in de rapportage.

OrderLineID	OrderID	OrderDate	CustomerID	ProductID	UnitPrice	CurrencyID	Quantity	DiscountID	DiscountAmount	NetPrice	Timestamp	EmployeeID	PaymentID	StoreID
ODL14391498	O16570277	Wednesday, 3 January 2024		P11022	49,95	EUR	1		0	49,95	13:56:07	0	P1	ST01
ODL14391242	O16569895	Wednesday, 3 January 2024		P11022	49,95	EUR	1		0	49,95	14:48:54	0	P1	ST01
ODL14396364	O16577802	Thursday, 4 January 2024		P11022	49,95	EUR	1		0	49,95	11:44:18	0	P1	ST01
ODL14396147	O16577473	Thursday, 4 January 2024		P11022	49,95	EUR	1		0	49,95	09:10:20	0	P1	ST01
ODL14399249	O16582224	Friday, 5 January 2024		P11022	49,95	EUR	1		0	49,95	14:55:01	0	P1	ST01
ODL14401674	O16585922	Saturday, 6 January 2024		P11022	49,95	EUR	1		0	49,95	15:56:35	0	P1	ST01
ODL14403106	O16588126	Saturday, 6 January 2024		P11022	49,95	EUR	1		0	49,95	11:04:28	0	P1	ST01
ODL14403273	O16588374	Sunday, 7 January 2024		P11022	49,95	EUR	1		0	49,95	16:43:08	0	P1	ST01
ODL14407405	O16594753	Monday, 8 January 2024		P11022	49,95	EUR	1		0	49,95	14:10:19	0	P1	ST01
ODL14413955	O16604807	Thursday, 11 January 2024		P11022	49,95	EUR	1		0	49,95	15:04:24	0	P1	ST01
ODL14412083	O16601908	Thursday, 11 January 2024		P11022	49,95	EUR	1		0	49,95	15:38:49	0	P1	ST01
ODL14414466	O16605625	Friday, 12 January 2024		P11022	49,95	EUR	1		0	49,95	12:33:33	0	P1	ST01
ODL14417577	O16610357	Saturday, 13 January 2024		P11022	49,95	EUR	1		0	49,95	13:29:04	0	P1	ST01
ODL14419692	O16613621	Sunday, 14 January 2024		P11022	49,95	EUR	1		0	49,95	14:59:55	0	P1	ST01
ODL14419359	O16613119	Sunday, 14 January 2024		P11022	49,95	EUR	1		0	49,95	13:56:58	0	P1	ST01
ODL14419480	O16613282	Sunday, 14 January 2024		P11022	49,95	EUR	1		0	49,95	13:14:19	0	P1	ST01
ODL14421664	O16616621	Monday, 15 January 2024		P11022	49,95	EUR	1		0	49,95	11:45:00	0	P1	ST01
ODL14427403	O16625552	Wednesday, 17 January 2024		P11022	49,95	EUR	1		0	49,95	13:12:45	0	P1	ST01
ODL14425877	O16623140	Wednesday, 17 January 2024		P11022	49,95	EUR	1		0	49,95	16:24:29	0	P1	ST01
ODL14427140	O16625124	Wednesday, 17 January 2024		P11022	49,95	EUR	1		0	49,95	13:27:53	0	P1	ST01
ODL14426685	O16624428	Wednesday, 17 January 2024		P11022	49,95	EUR	1		0	49,95	10:16:47	0	P1	ST01
ODL14429731	O16629124	Thursday, 18 January 2024		P11022	49,95	EUR	1		0	49,95	09:02:21	0	P1	ST01
ODL14429408	O16628643	Thursday, 18 January 2024		P11022	49,95	EUR	1		0	49,95	12:56:10	0	P1	ST01
ODL14432106	O16632749	Friday, 19 January 2024		P11022	49,95	EUR	1		0	49,95	10:48:44	0	P1	ST01
ODL14432017	O16632611	Friday, 19 January 2024		P11022	49,95	EUR	1		0	49,95	09:55:47	0	P1	ST01
ODL14434678	O16636723	Saturday, 20 January 2024		P11022	49,95	EUR	1		0	49,95	10:00:27	0	P1	ST01
ODL14435521	O16638032	Sunday, 21 January 2024		P11022	49,95	EUR	1		0	49,95	15:40:17	0	P1	ST01
ODL14436141	O16638945	Sunday, 21 January 2024		P11022	49,95	EUR	1		0	49,95	15:54:47	0	P1	ST01
ODL14441110	O16646691	Tuesday, 23 January 2024		P11022	49,95	EUR	1		0	49,95	13:23:48	0	P1	ST01
ODL14441528	O16647364	Tuesday, 23 January 2024		P11022	49,95	EUR	1		0	49,95	14:58:12	0	P1	ST01
ODL14441572	O16647428	Tuesday, 23 January 2024		P11022	49,95	EUR	1		0	49,95	12:01:19	0	P1	ST01
ODL14443452	O16650303	Wednesday, 24 January 2024		P11022	49,95	EUR	1		0	49,95	13:33:11	0	P1	ST01

Gebruik *variabele* en een *M functie* voor het filteren van de dataset.

- Variabele: Last6Months
- M functie: List.Max()

```
= Table.SelectRows("#Fact_OrderLines_Year-1_",  
let last6months = List.Max("#Fact_OrderLines_Year-1_[OrderDate])  
in  
each ([OrderDate] <= Date.AddMonths(Date.From(DateTime.LocalNow()), - p_Last6Months) ))
```

```
= Table.SelectRows("#Fact_OrderLines_Year-1_",  
let last6months = List.Max("#Fact_OrderLines_Year-1_[OrderDate])  
in  
each ([OrderDate] <= Date.AddMonths(Date.From(DateTime.LocalNow()), - p_Last6Months) ))
```

Dynamische Filter: Variabele & List.Max Functie

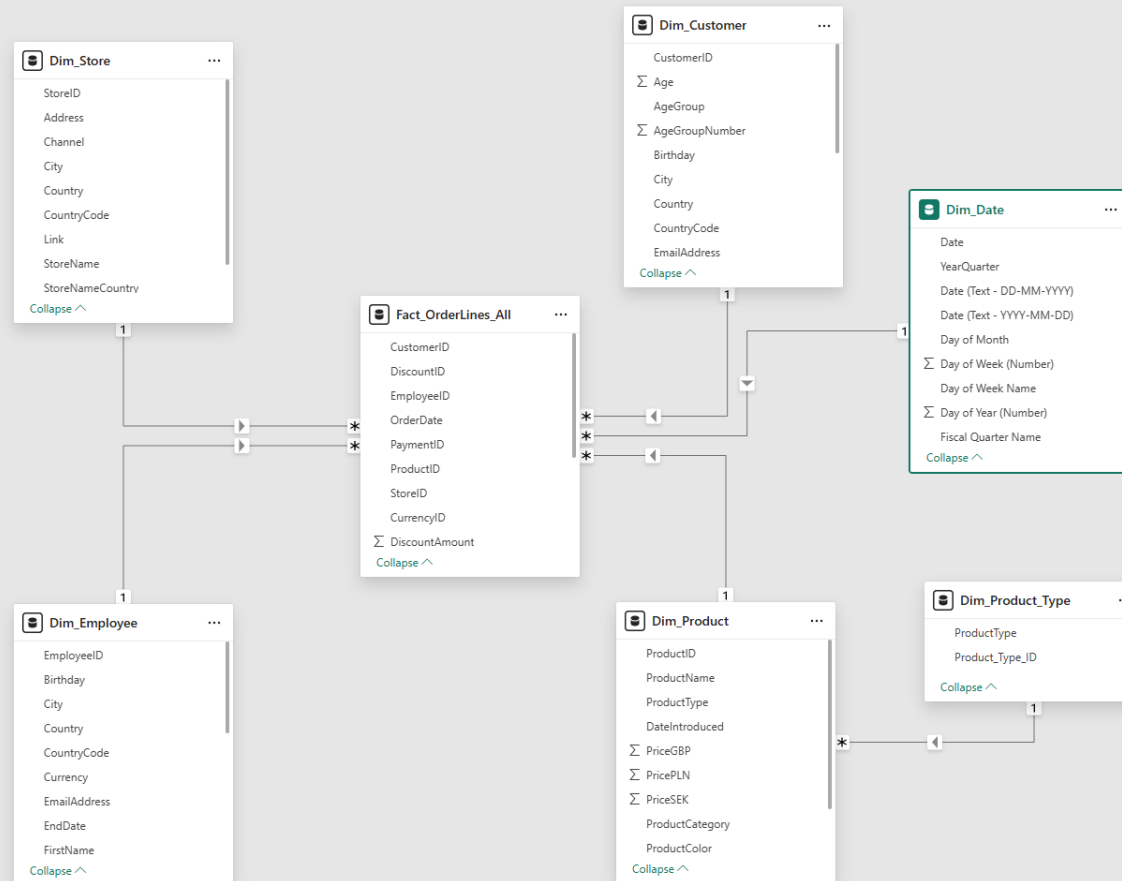
The screenshot displays the Power BI Desktop interface. The main area shows a data table with the following columns: entity, DiscountID, DiscountAmount, NetPrice, Timestamp, EmployeeID, PaymentID, and StoreID. The table contains 33 rows of data. The right sidebar shows the 'Query Settings' pane with 'Fact_OrderLines' selected under 'PROPERTIES' and 'Navigation' under 'APPLIED STEPS'.

entity	DiscountID	DiscountAmount	NetPrice	Timestamp	EmployeeID	PaymentID	StoreID
1	1	0	59,95	16:57:37	0	P2	ST03
2	1	0	59,95	14:56:13	0	P1	ST01
3	1	0	59,95	10:42:26	0	P1	ST01
4	1	0	54,4458	10:36:54	SP10011	P2	ST05
5	2	0	149,9	15:08:35	0	P1	ST01
6	1	0	54,95	17:48:03	0	P1	ST06
7	1	0	53,0732	16:28:09	0	P1	ST03
8	1	0	63,6985	16:52:23	0	P2	ST03
9	1	0	49,95	14:45:49	0	P2	ST01
10	1	0	49,95	12:21:37	0	P1	ST03
11	1	0	49,95	14:45:49	0	P2	ST01
12	1	0	74,95	13:05:12	0	P1	ST03
13	1	0	39,95	15:24:56	SP10009	P1	ST04
14	1	0	65,3161	11:27:10	SP10011	P1	ST05
15	1	0	49,95	16:52:21	SP10009	P1	ST04
16	1	0	59,95	16:52:21	SP10009	P1	ST04
17	1	0	59,95	13:05:12	0	P1	ST03
18	1	0	63,6985	18:50:47	0	P2	ST06
19	1	0	58,3859	14:07:17	0	P1	ST03
20	1	0	59,95	15:49:39	0	P1	ST01
21	1	0	49,95	15:49:39	0	P1	ST01
22	1	0	53,0732	11:49:37	SP10011	P2	ST05
23	1	0	63,6985	11:26:48	0	P2	ST01
24	1	0	74,95	15:49:39	0	P1	ST01
25	1	0	49,95	11:25:45	0	P2	ST01
26	1	0	49,95	10:19:32	0	P2	ST01
27	1	0	50,2316	16:56:42	0	P1	ST03
28	1	0	64,95	13:05:18	0	P1	ST02
29	1	0	63,6985	16:27:25	SP10011	P2	ST05
30	1	0	64,95	11:05:45	SP10011	P1	ST05
31	1	0	63,6985	17:26:08	SP10011	P1	ST05
32	1	0	63,6985	17:26:08	SP10011	P1	ST05
33	1	0	63,6985	17:26:08	SP10011	P1	ST05





Semantisch model





Data verversen

Verversen

- Frequentie van oplevering
- Data dagelijks verversen instellen
- Datum verversing en Source date tonen op Rapport

▾ Vernieuwen

Tijdzone

- ① De tijdzoneconfiguratie wordt niet alleen toegepast om de vernieuwingstijd van de planning vast te stellen, maar ook om de huidige datum en tijd vast te stellen voor incrementele vernieuwingsmodellen tijdens on-demand- en API-vernieuwingen. [Meer informatie](#)

(UTC+01:00) Brussel, Kopenhagen, M ▼

Een vernieuwingsplanning configureren

Definieer een schema voor gegevensvernieuwing om gegevens uit de gegevensbron te importeren in het semantische model. [Meer informatie](#)

☒ Aan

Vernieuwingsfrequentie

Dagelijks ▼

Tijd

Last refresh on: 03/02/2025 12:00 AM



Visualisatie

JungleBoots Factory



Sales Overview

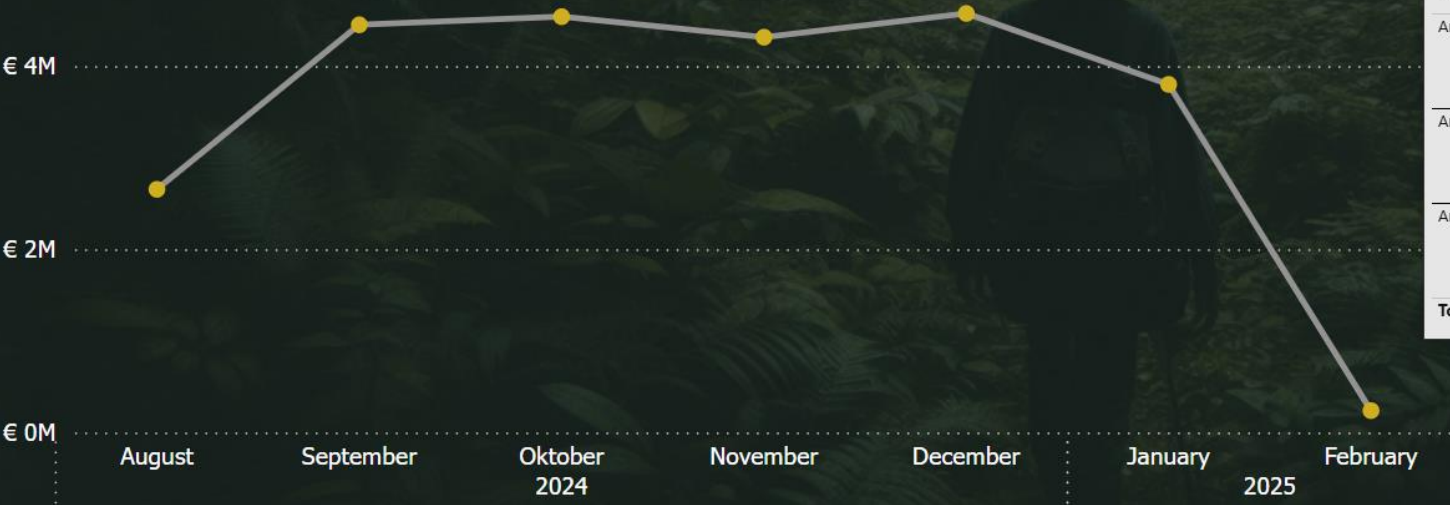


Sales

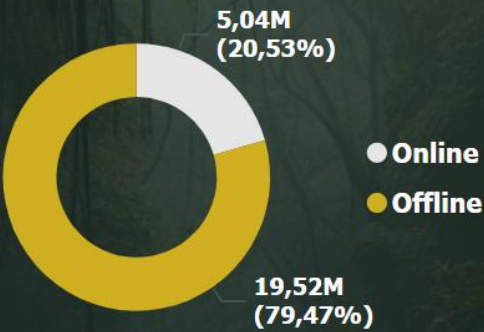
€ 24,57M

Growth -17,19%

Sales Yearly

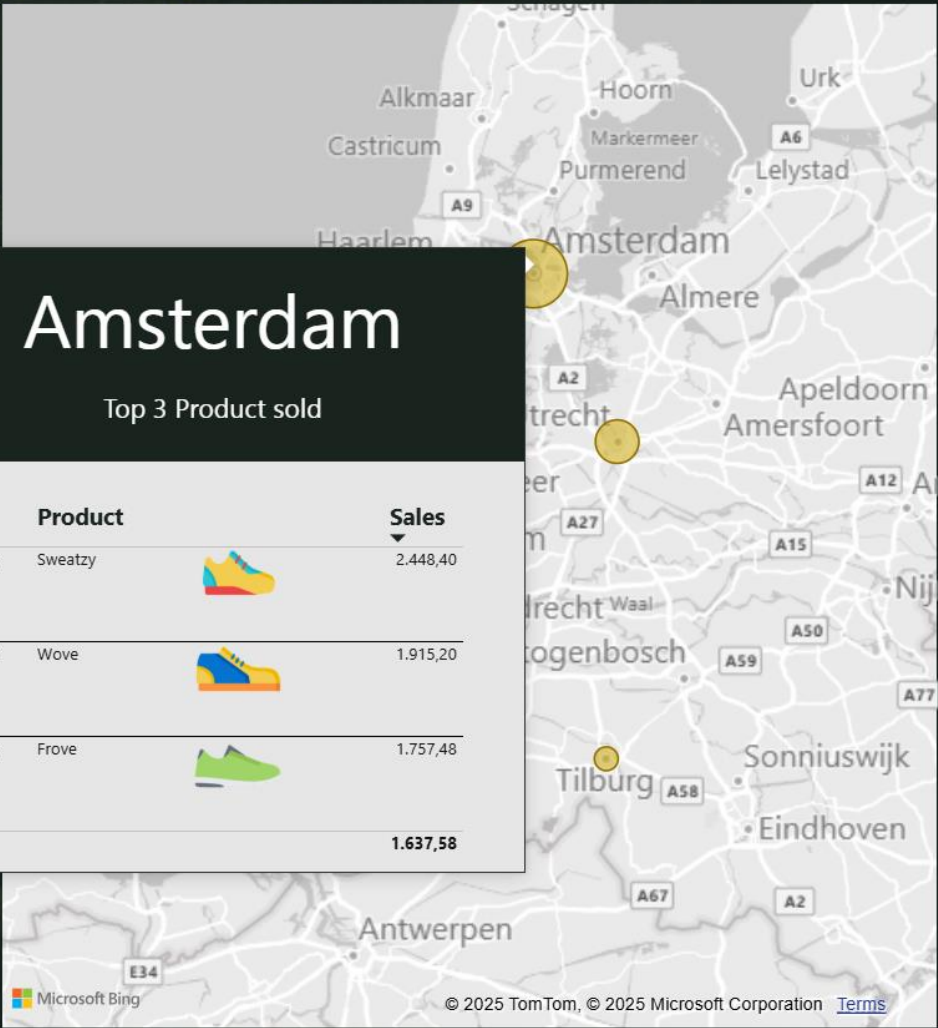


Sales Online and Offline



Stores

● Amsterdam ● Utrecht ● Den Haag ● Tilburg



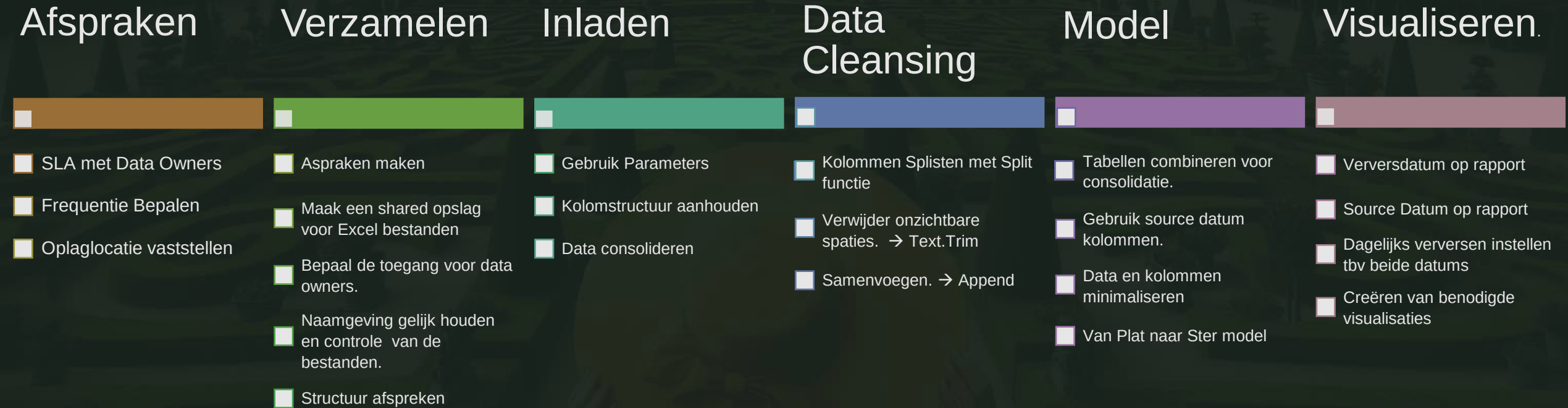


Samenvatting van handvatten, tips en trucs

1. Begin met alles te verzamelen naar een (Sharepoint) map
 - Let op naamgeving van de bestanden
2. Laad de gehele map(pen) in via een parameter
 - Inclusief historiseren van data
3. Begin met Splitsen van kolommen
4. Verwijder onzichtbare spaties → Text.Trim
5. Voeg queries samen → Append
6. Maak een semantisch model inclusief datum tabel
7. Visualiseer waar *echt* om is gevraagd (incl. continue feedbackloop)

- **Maak goede afspraken met je data owners!**
- **Investeer in Power BI en Power Query kennis**

Power BI met Excel als bron | Stappenplan



Geanpaul Mercera

Noa van Hunen



Dankjewel voor jullie
aandacht