Working with relationships

INTERMEDIATE DATA MODELING IN POWER BI

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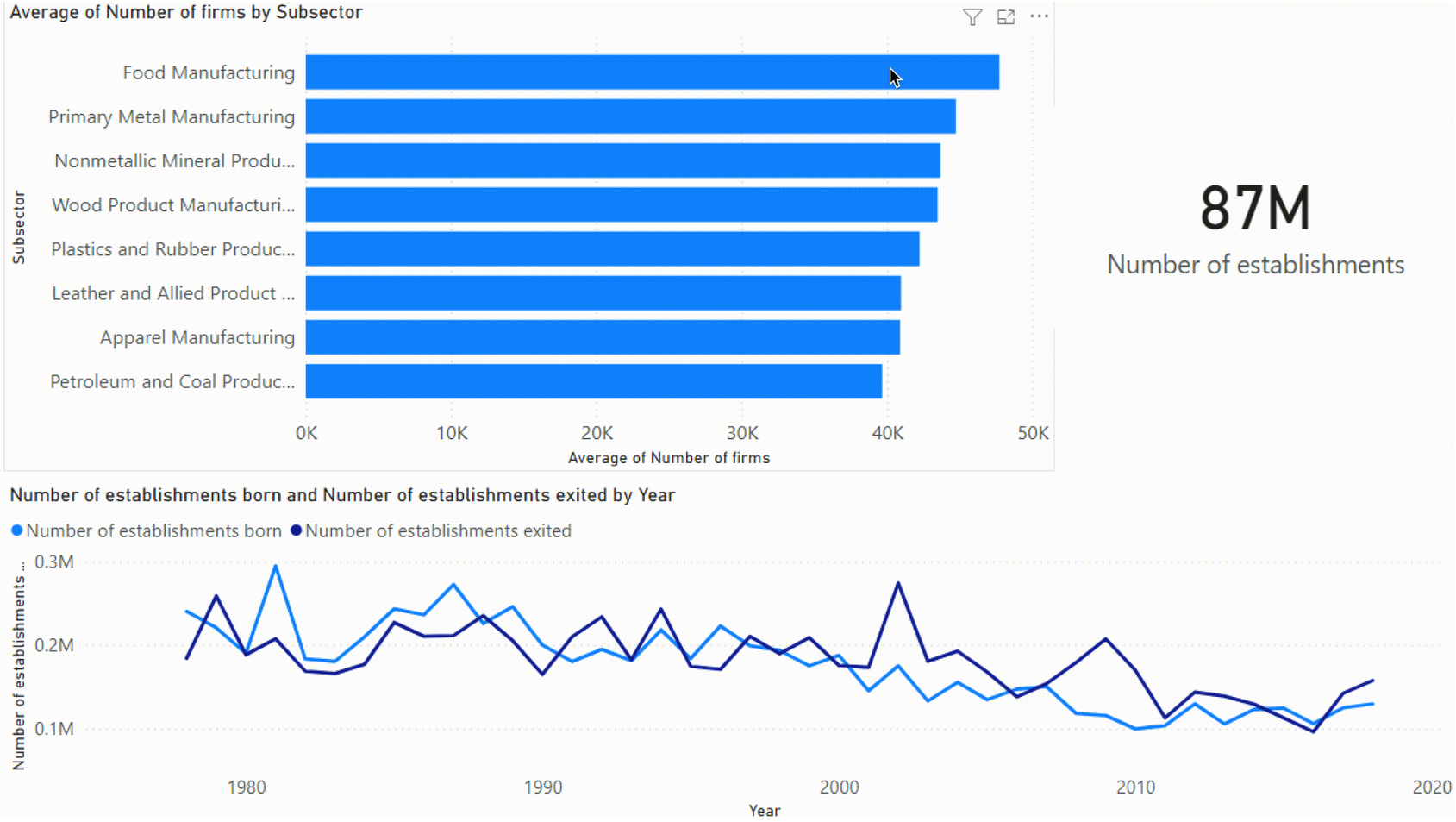
datacamp

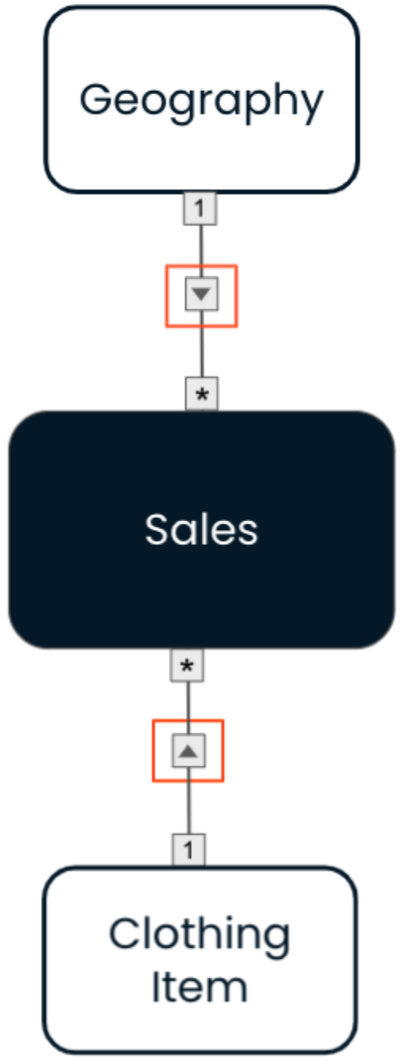
Cross filtering

Cross-filtering: Selecting a value in one visual narrows down visible data in other visuals



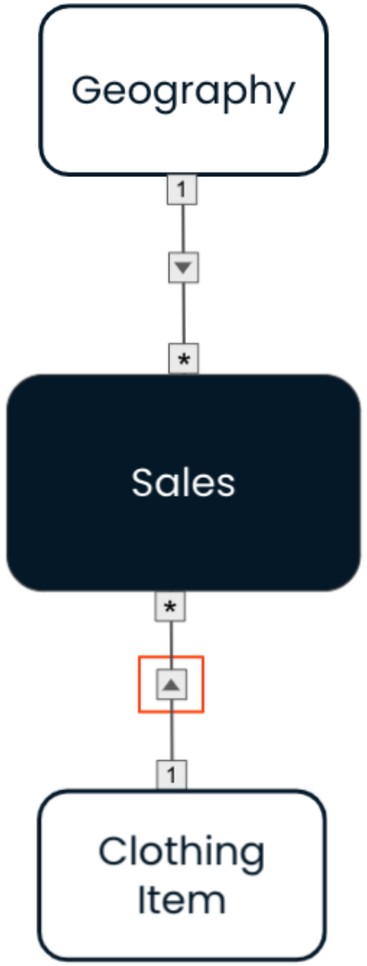
Filter direction

- All relationships have a cross filter direction
- Determines the direction that filters will propagate
- Example:
  - Geography -> Sales
  - Clothing Item -> Sales
- From Dimension to Fact



Filter direction

Data model:



Dimension - Clothing Item

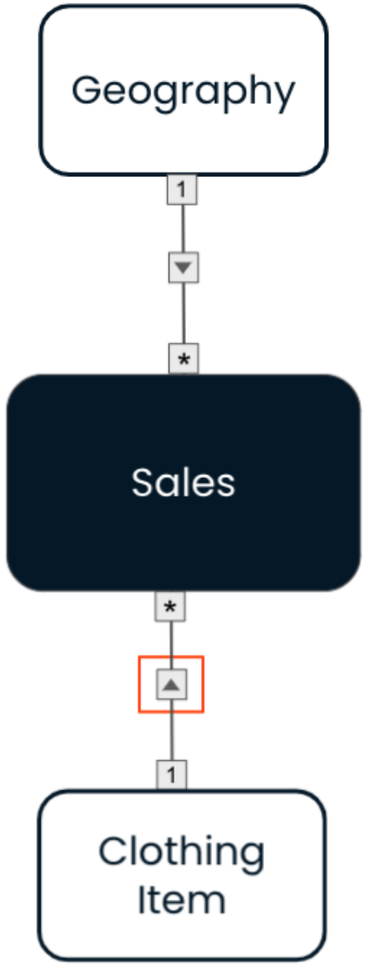
Product Id	Product
C1	T-shirt
C2	Socks
C3	Sweater

Fact - Sales

Id	Units	Amount	Product Id
001	3	60	C2
002	2	10	C1
003	1	70	C3
004	1	50	C3
005	5	50	C3

Filter direction

Data model:



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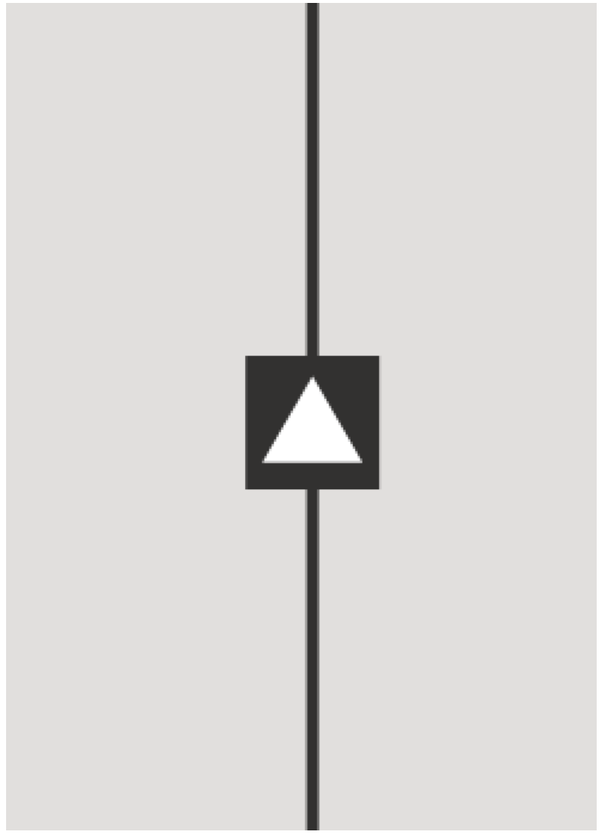
Filter direction options

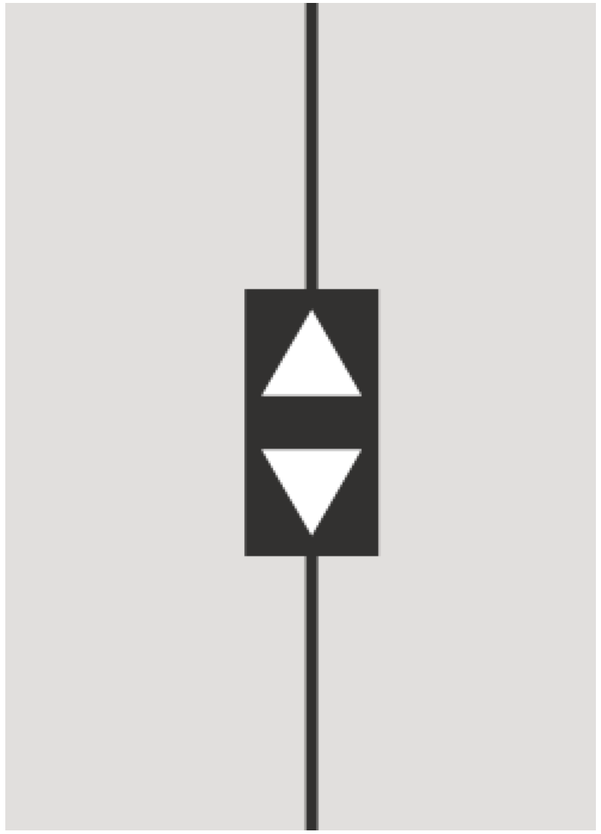
Single direction

Filter in one direction



Bi-directional

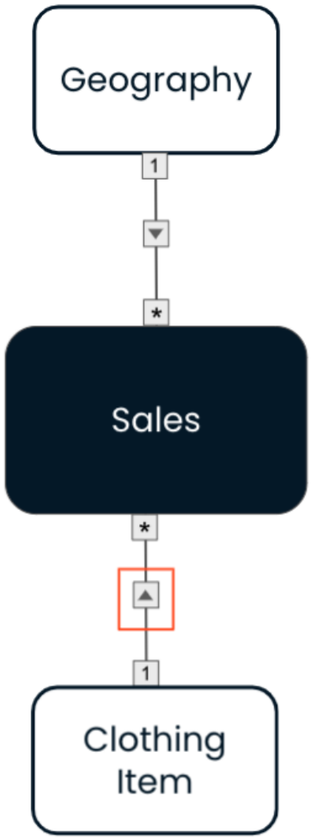
Filter in both directions



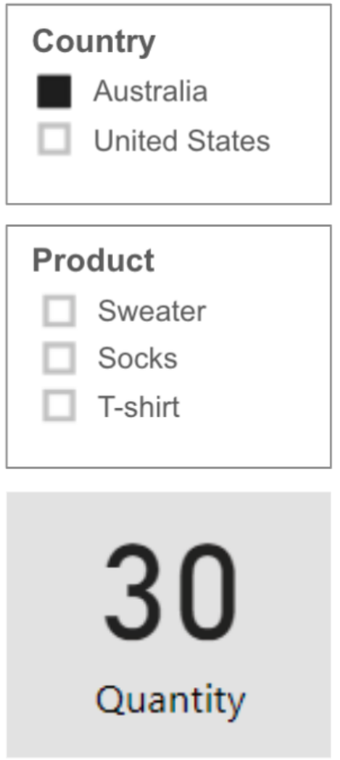
Bi-directional filtering: use case

Show only relevant slicer entries

Data model:



Report view:



Bi-directional filtering: use case

Only sweaters were sold in Australia

Fact - Sales

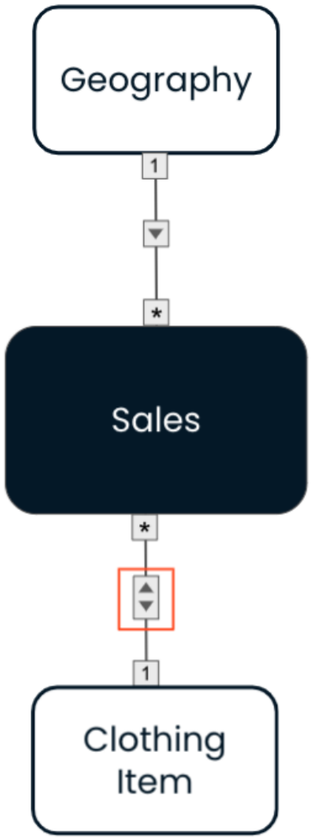
Id	Units	Amount	Product Id	Country Id
001	3	60	C2	US
002	2	10	C1	US
003	1	70	C3	AU
004	1	50	C3	AU
005	5	50	C3	AU

*Product Id: C3 = Sweater, Country Id: AU = Australia

Bi-directional filtering: use case

Show only relevant slicer entries

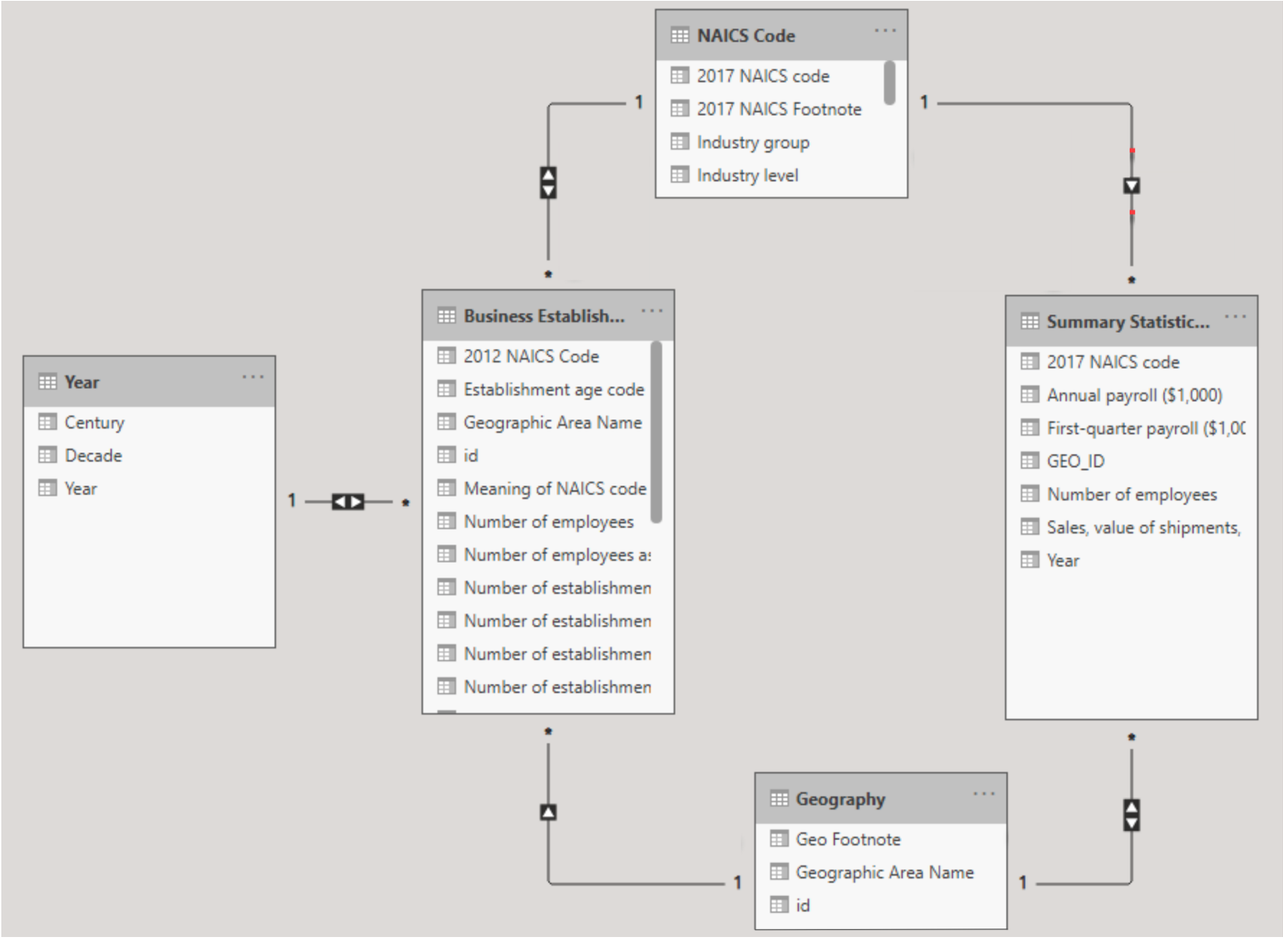
Data model:



Report view:

Bi-directional filtering and paths

Bi-directional filters cannot allow for two separate paths between two tables



Bi-directional filtering and paths

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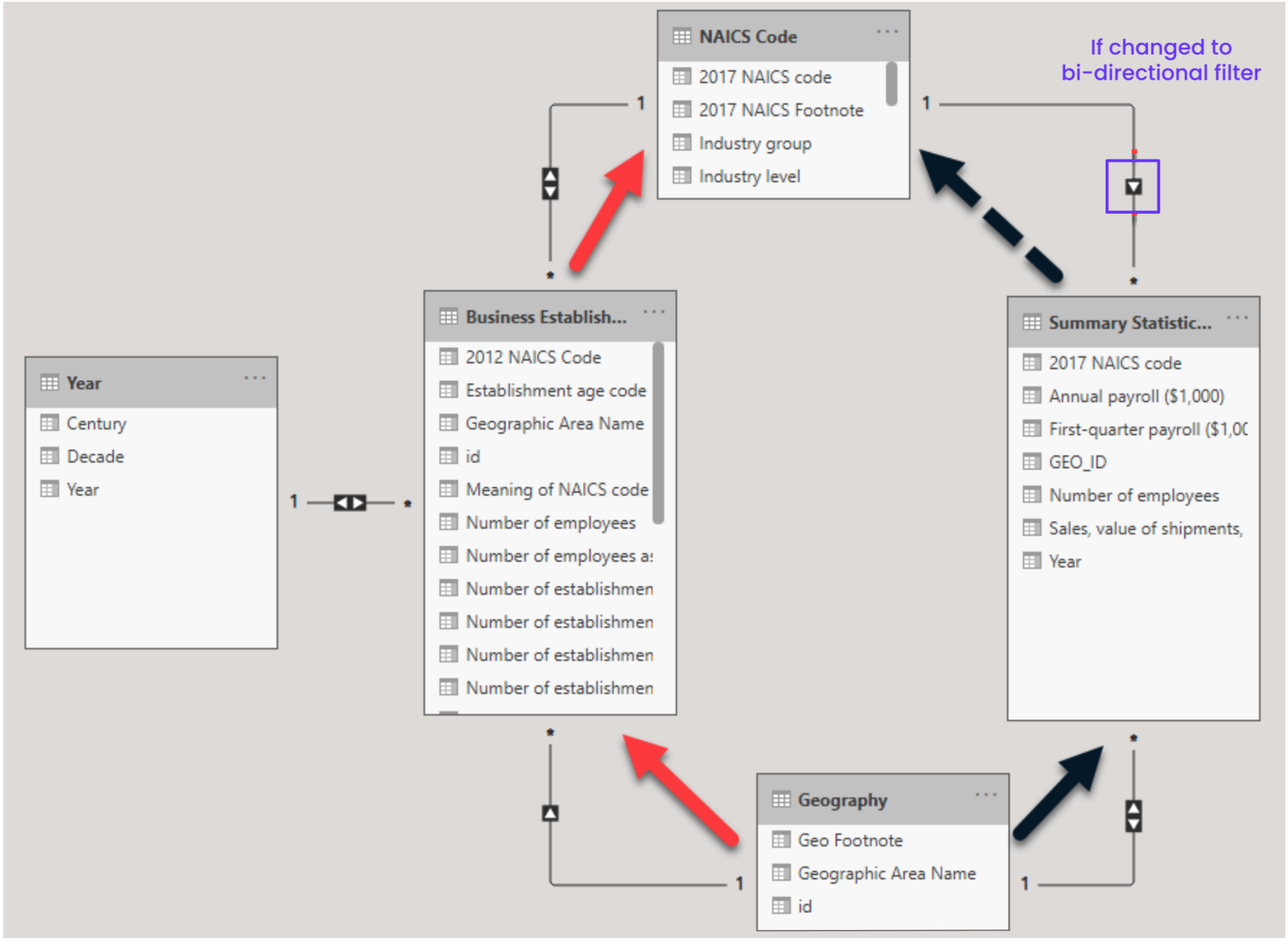
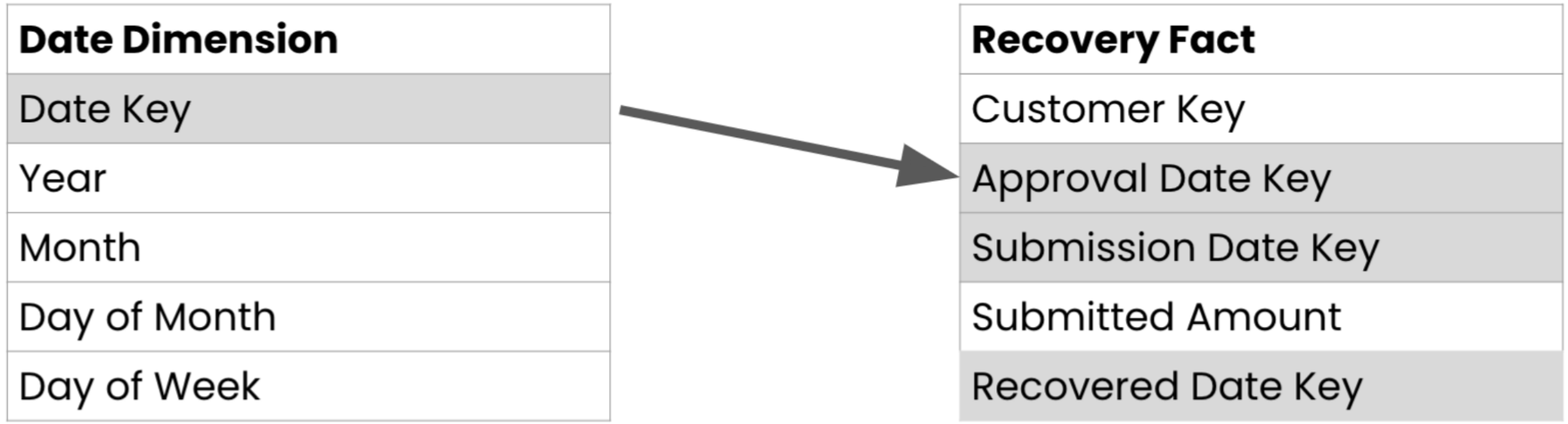


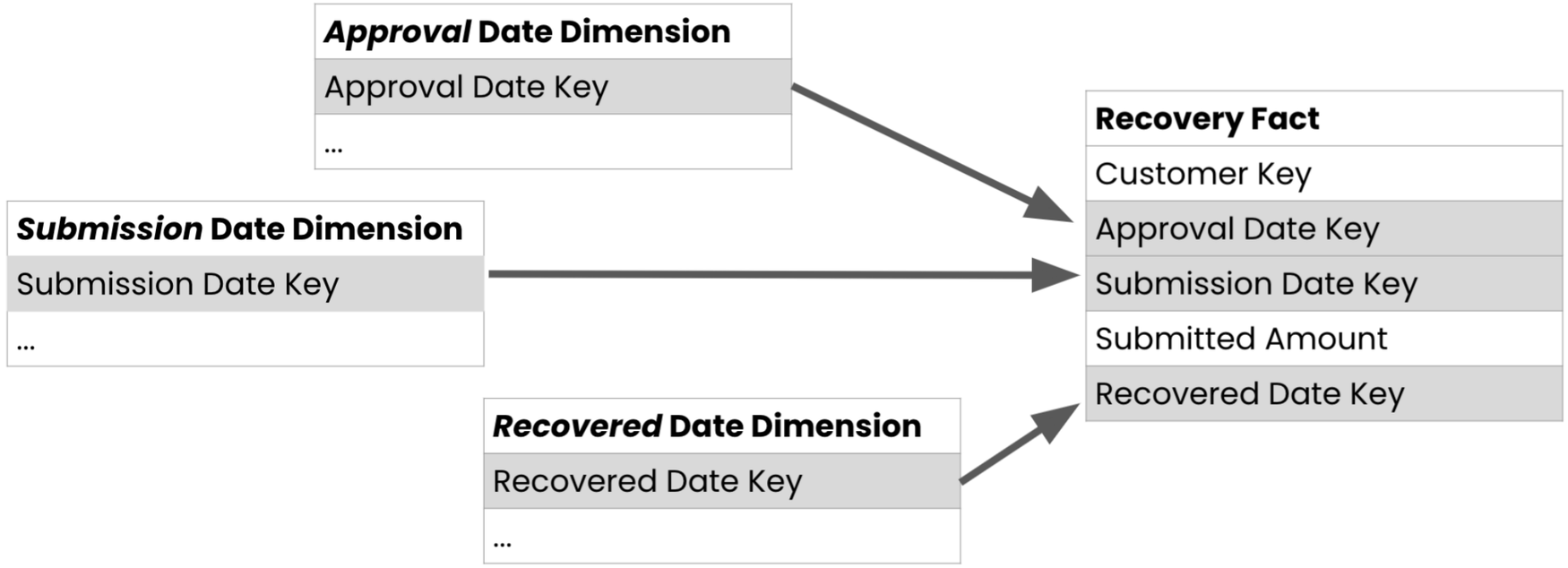
Role-playing dimensions

- Sometimes we need to create multiple relationships between tables



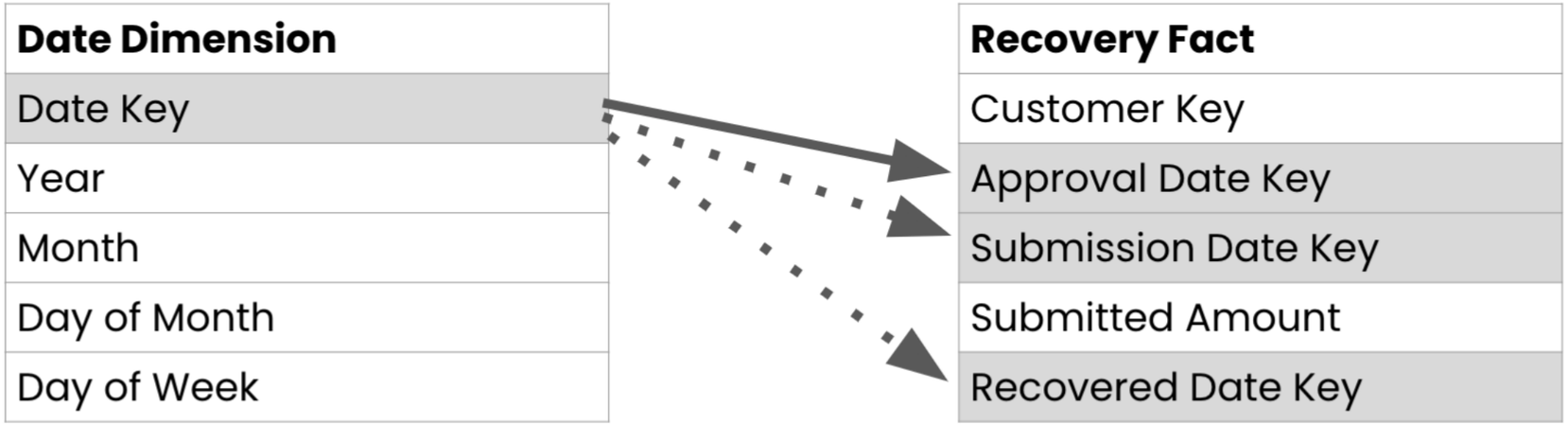
Role-playing dimensions

- Kimball model
- **Role-playing dimension:**
  - Dimension that can filter related facts differently
- Typically implemented as views of the Date dimension



Role-playing dimensions in Power BI

- Create multiple relationships on a dimension, but only one is active



- Use `USERELATIONSHIP()` in DAX to specify which relationship to use:

```
Measure Name = CALCULATE(<Measurement function>,
                         USERELATIONSHIP(<Dimension Key Column>, <Fact Key Column>)
```

Let's practice!

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Cross-filtering and role-playing Dimensions

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Let's practice!

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