Star and snowflake schemas

DATA MODELING IN POWER BI

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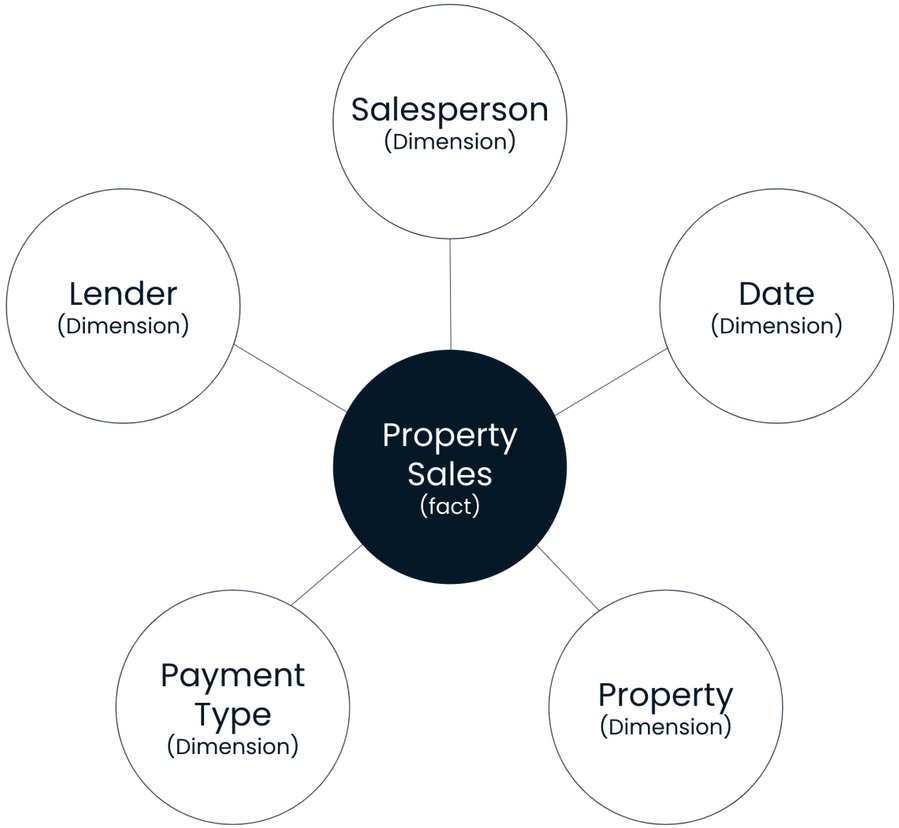
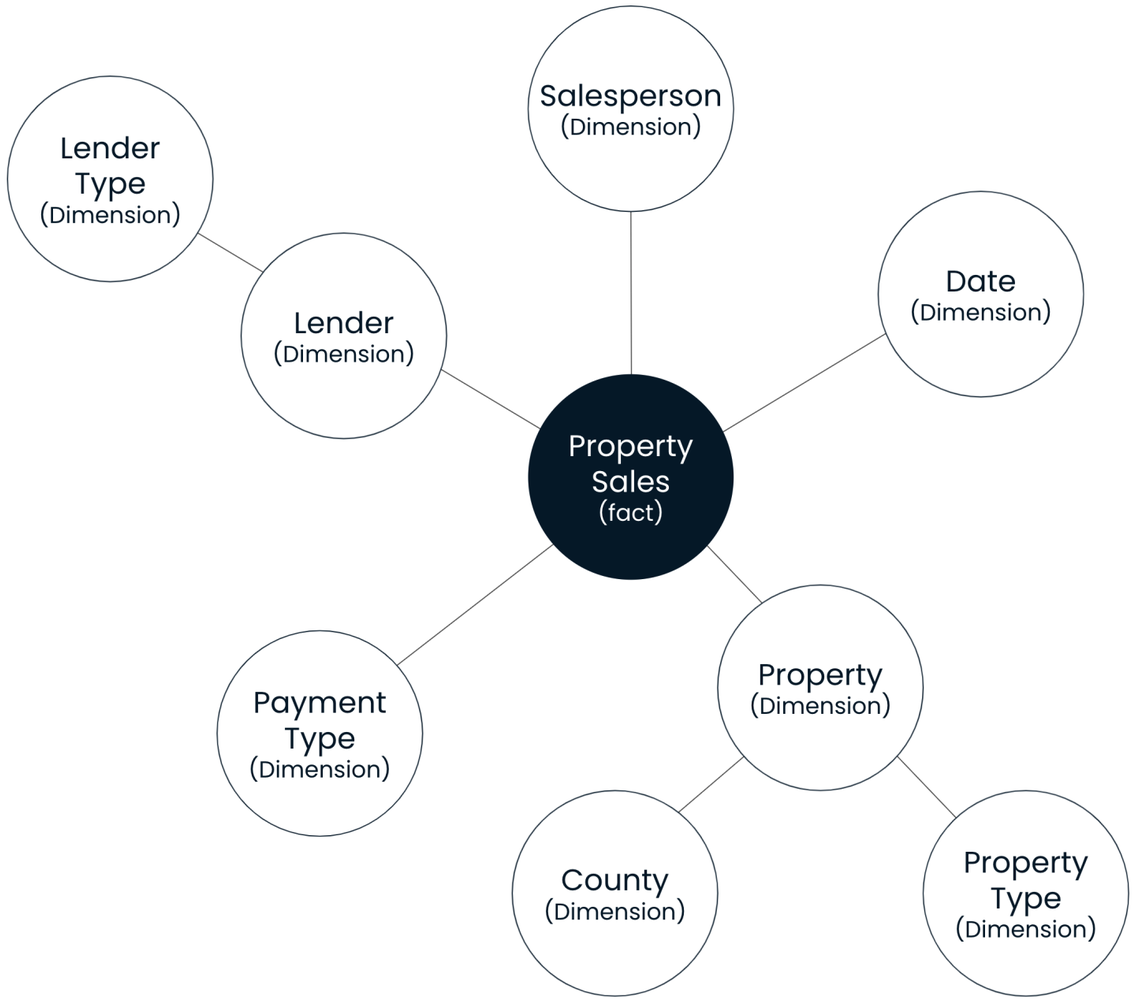
Star schema

- Fact table(s)
- Surrounded by dimension tables



Snowflake schema

- Allows relationships between dimensions
- Fact table(s) remain the same



A closer look

Star schema

ProductKey	Name	SubCategory	Category
P1	Gloves	Hand	Clothing
P2	Shoes	Foot	Clothing
P3	Laptop	Computers	Electronics
P4	Mittens	Hand	Clothing

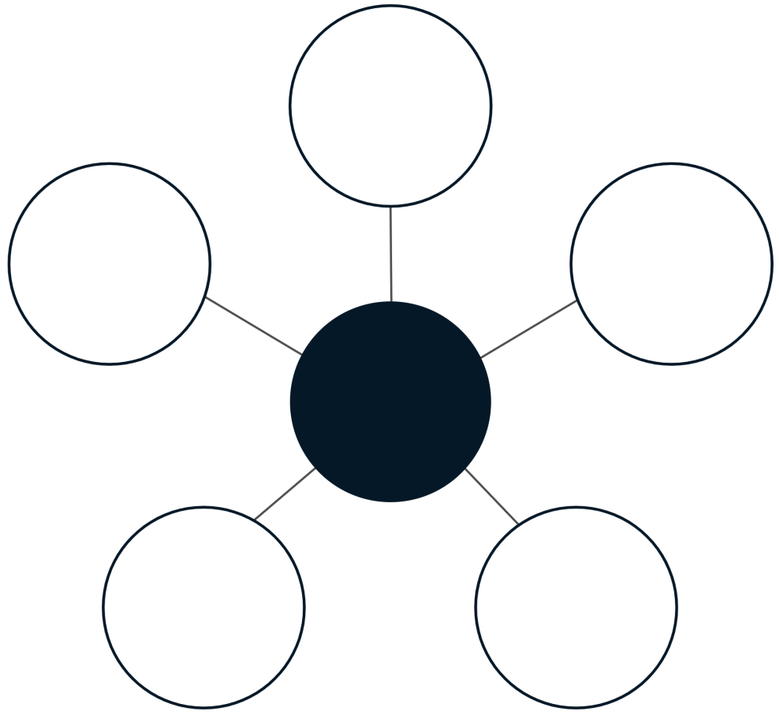
Snowflake schema

ProductKey	Name	SubCategoryKey
P1	Gloves	S1
P2	Shoes	S2
P3	Laptop	S3
P4	Mittens	S1

SubCategoryKey	SubCategory	CategoryKey
S1	Hand	C1
S2	Foot	C1
S3	Computers	C2

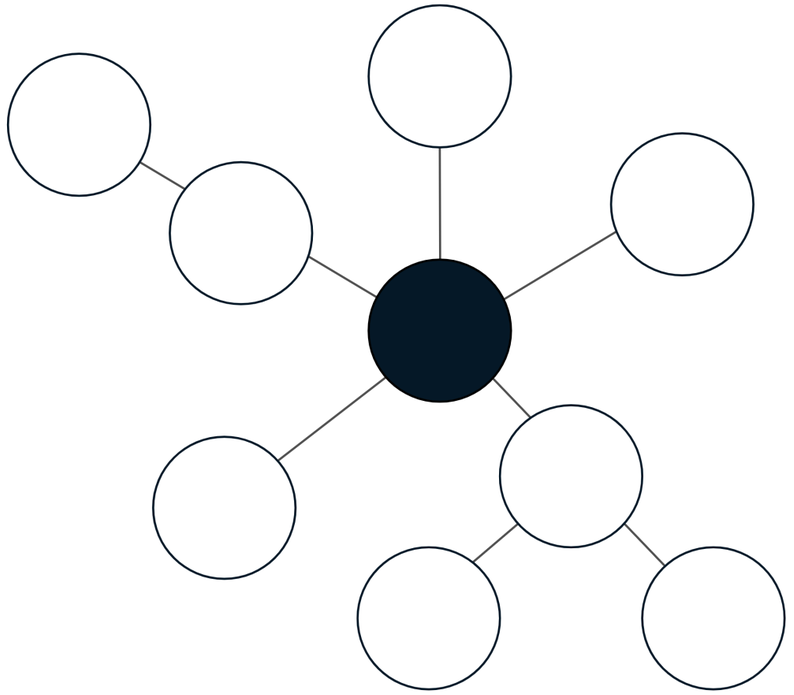
CategoryKey	Category
C1	Clothing
C2	Electronics

Star schema



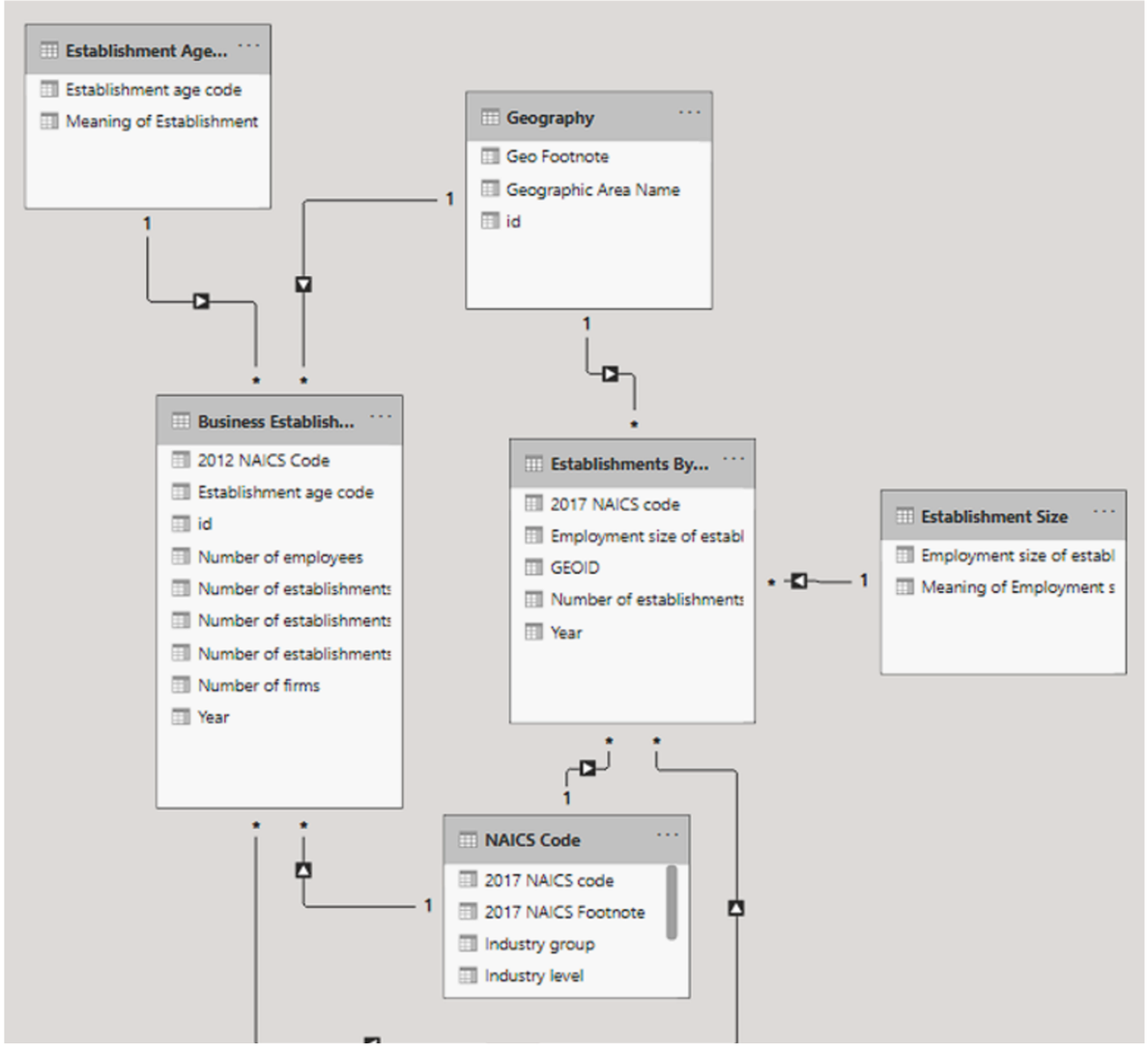
- Preferred approach
- Easy for business users to understand
- Most BI tools optimize for this schema

Snowflake schema



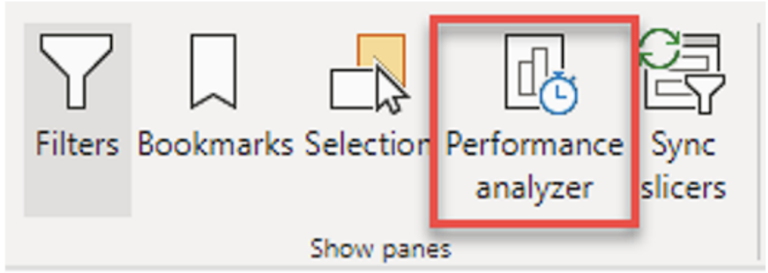
- Used in some data warehouses
- Less duplication
- Updating records is more efficient

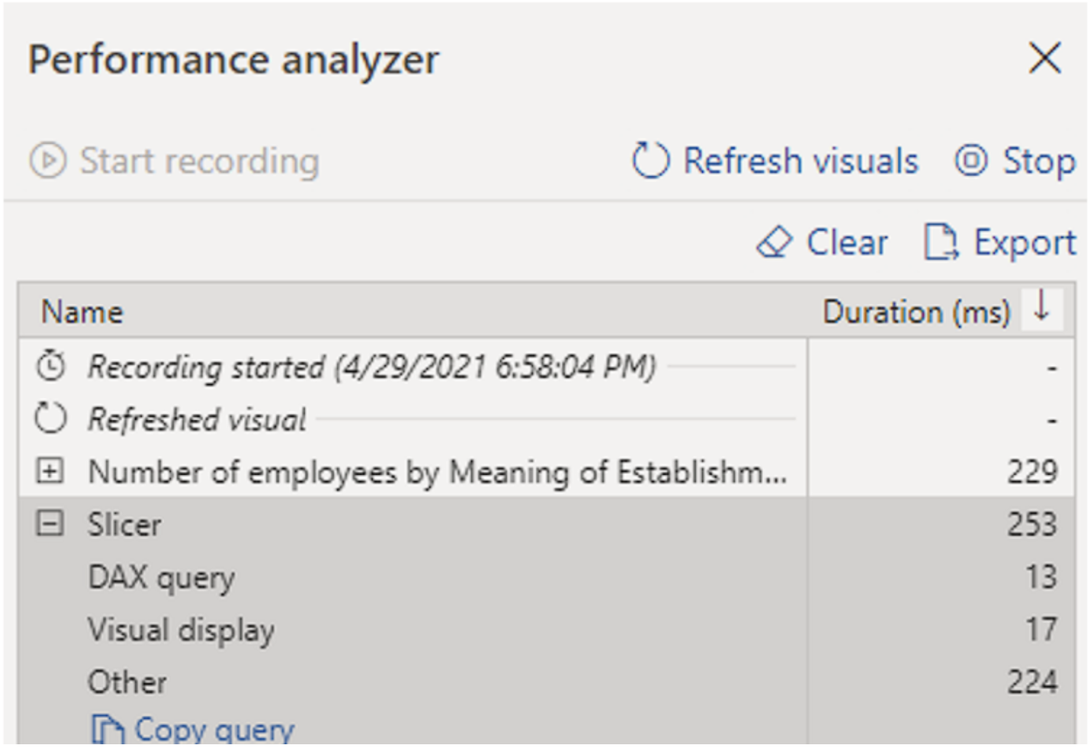
Stars and snowflakes in Power BI



- Both schemas work!
- But Power BI prefers star schemas
  - Easier to understand
  - Performance is less of a concern

The performance analyzer





- Built-in performance analysis
- Each visual has three components
  - How long did the DAX query take?
  - How long did the visual take to render?
  - How long did everything else take?

Performance tuning advice

DAX Query slowness

- Tune DAX operations
- Improve data loading performance

Visual display slowness

- Use less complicated visuals
- Show less information on the screen

Other slowness

- Reduce number of visuals on the page

Let's practice!

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Evaluating performance

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Let's practice!

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Congratulations!

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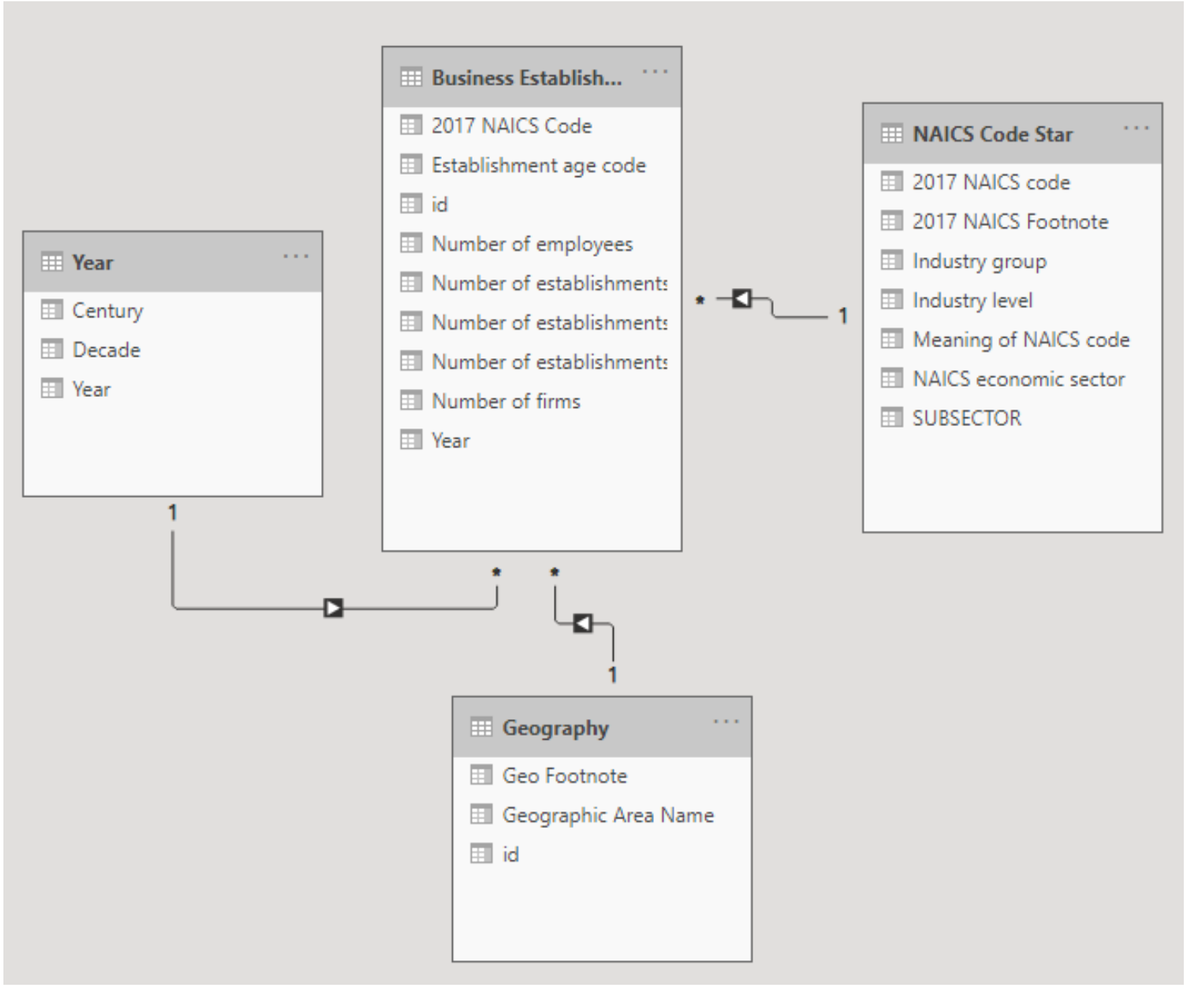
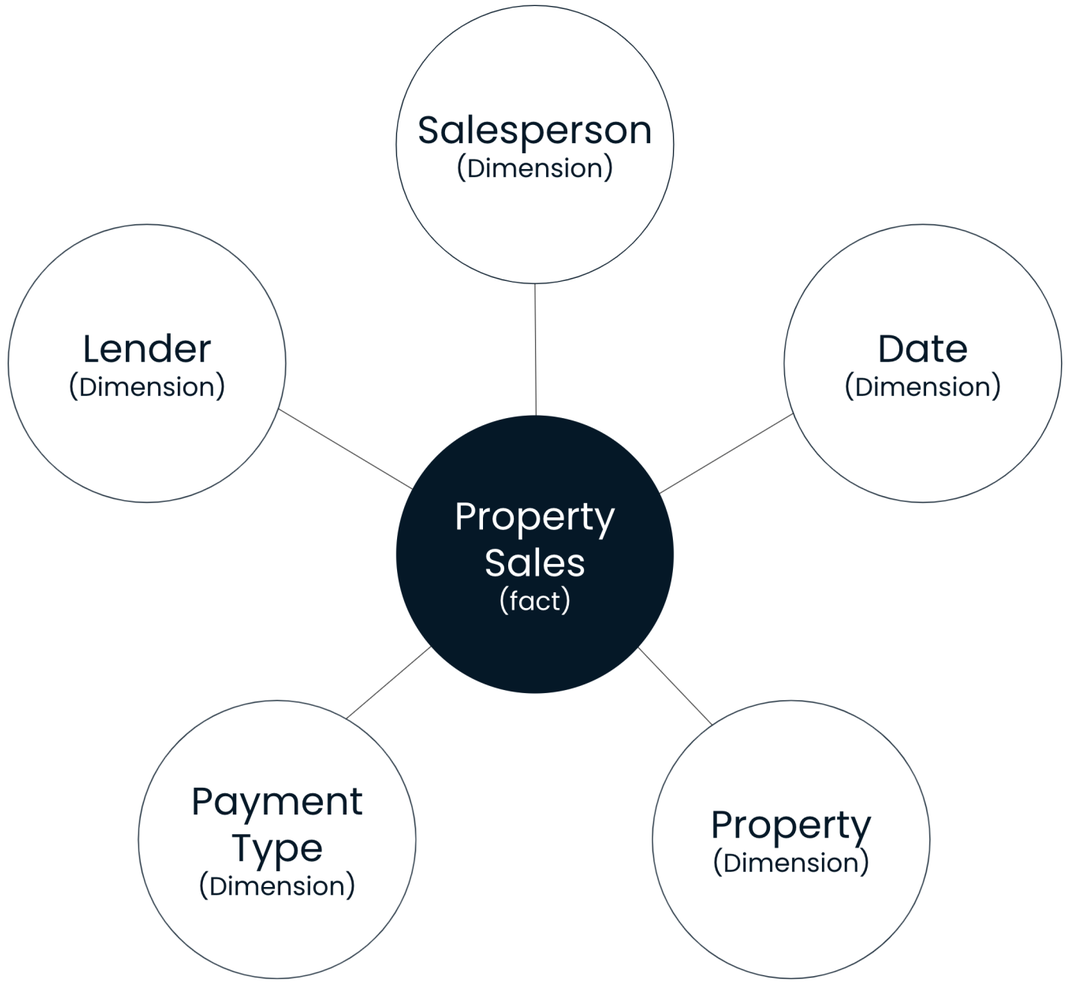
Defining and shaping tables

- Basic data modeling concepts
- Load and transform data
  - Power BI
  - Power Query
- Merge and append tables



Dimensional modeling and schemas

- Dimensional modeling (Kimball model)
  - Facts
  - Dimensions
  - Star schemas
  - Snowflake schemas



Thank you!

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