

# Module 8 Developing Business Data Models

Lesson 2: Analyzing Narrative Problems



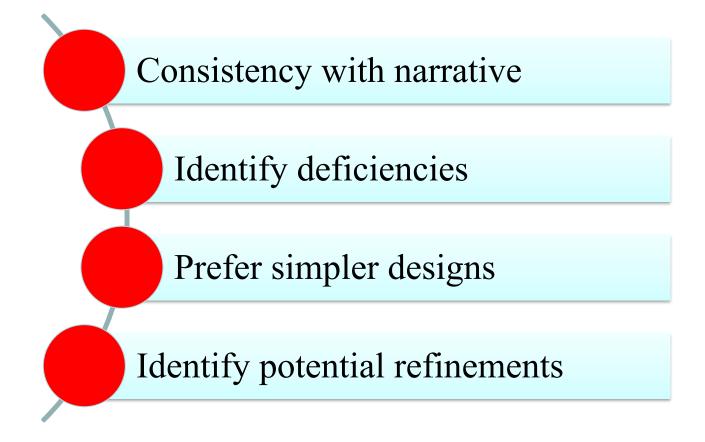
### Lesson Objectives

- Explain goals and steps of narrative problem analysis
- Apply steps on a practice problem
- Reflect on limitations of narrative problem analysis





## Goals of Narrative Problem Analysis







# Steps of Narrative Problem Analysis

Identify entity types and attributes

- Important nouns
- Details about nouns
- Preference for a simpler design

Determine primary keys

- Stable
- Single purpose

Connect entity types

- Entity types to connect
- Minimum and maximum cardinalities
- Preference for a simpler design





# Problem Narrative Example (I)

#### Customer

CustNo
CustName
CustAddr
CustType

#### Meter

MeterNo MtrAddr MtrSize MtrModel

#### Reading

ReadNo
ReadTime
ReadLevel
EmpNo

#### Bill

BillNo
BillDate
BillStartDate
BillEndDate
BillDueDate

#### Rate

RateNo
RateDesc
RateFixedAmt
RateThresh
RateVarAmt





### Government Identifiers

- Widely used for tax returns and government benefits
- Avoid for primary keys
  - Privacy concerns
  - Prohibited by organization policies
  - Sometimes violate single-purpose tenet
- May need to store as an attribute for government compliance



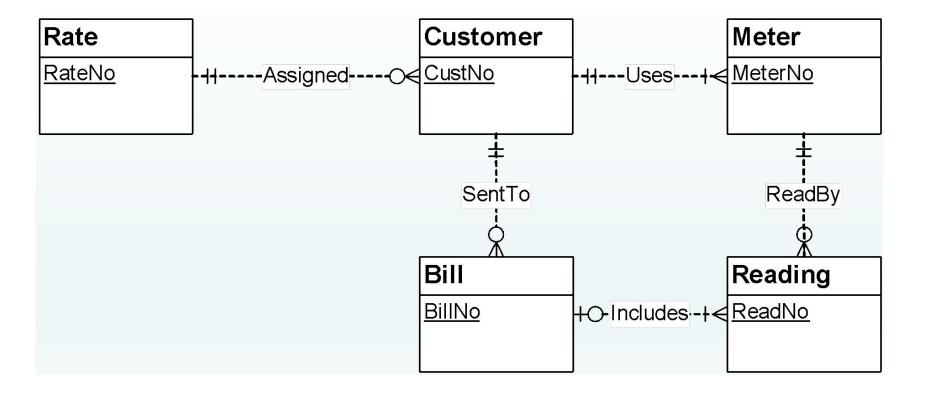


### Adding Relationships

- Examine sentences linking nouns representing entity types
- Sentences that involve an entity type having another entity type as a property
- Sentences that involve an entity type having a collection of another entity type



### Problem Narrative Example (II)







### Relationship Simplification

- Problem statement requires direct or indirect connections
- Hub entity types to simplify
  - Connect other entity types
  - Sometimes associated with important documents
  - Reduce number of direct connections



### Summary of Data Modeling Strategies

- Strive for consistency with the narrative
- Preference for simpler designs at least initially
- Use specialized relationships carefully
- Use notation precisely

