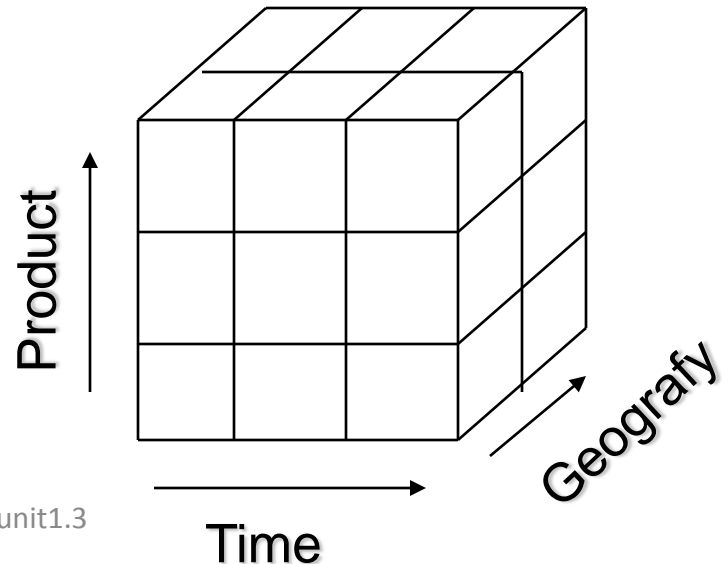




# Defining The Business Requirements

# Dimensional Analysis

- Usage of Information Unpredictable
  - Operational systems easy requirement gathering
  - Data warehouse get only general data
- Dimensional Nature of Business Data
  - Measure success
  - Business dimensions
  - Create dimensional cube

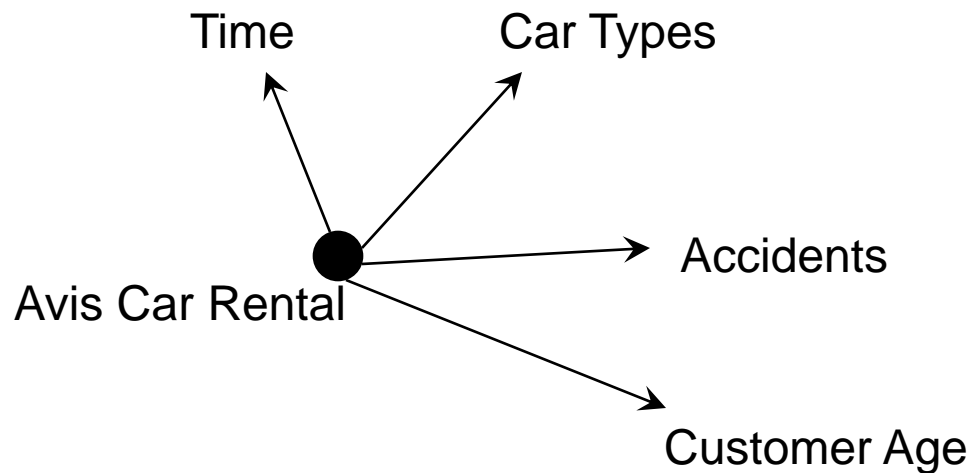


# Business Dimensions

- Marketing Vice President  
New product profit
- Marketing Manager  
Sales statistics
- Financial Controller  
Expenses

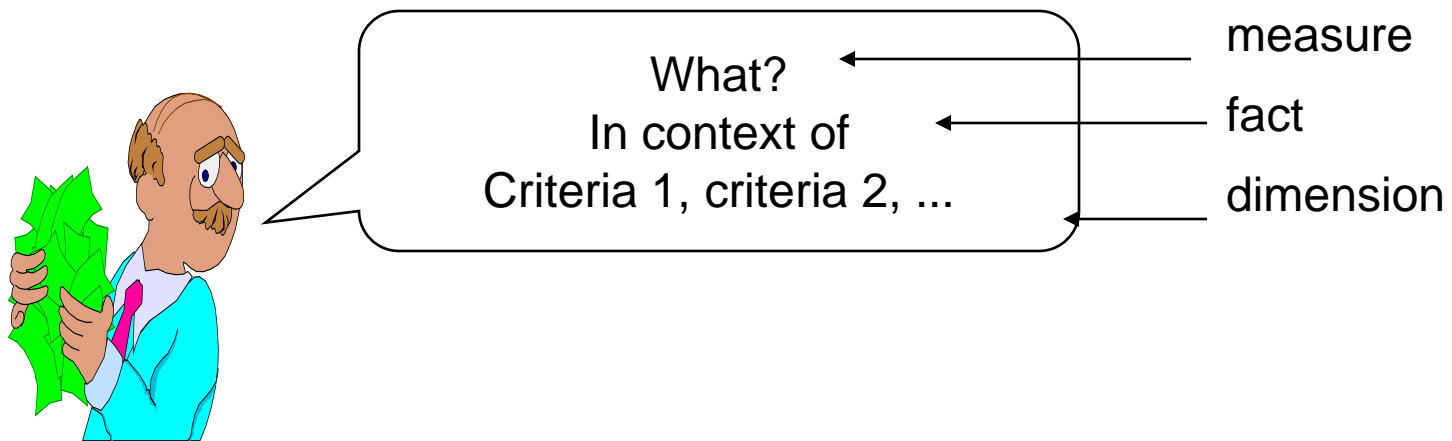
# Dimensional Analysis

- Usage of Information Unpredictable
- Dimensional Nature of Business Data
- Examples of Business Dimensions



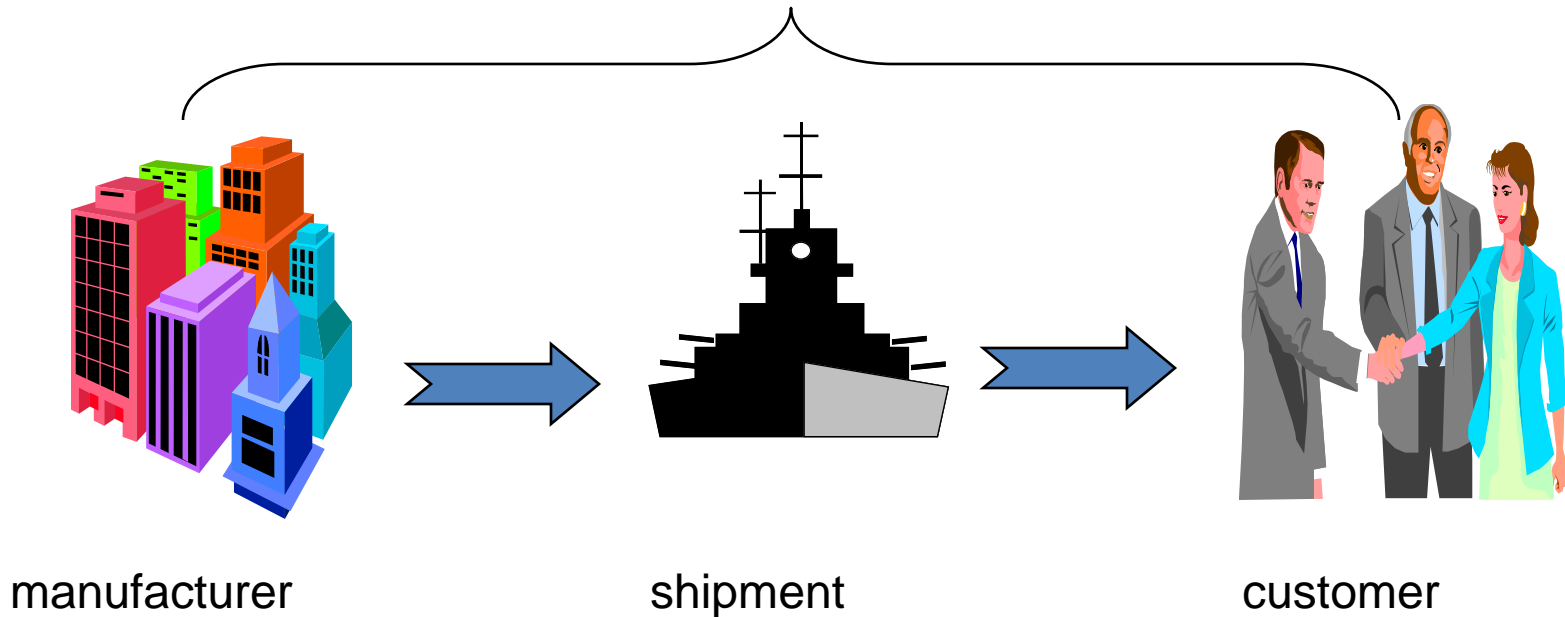
# Determining Candidate Measures, Dimensions, and Facts

- Data-source oriented
  - dimensions→measures→facts
- Query-oriented approach
  - measures→dimensions→facts

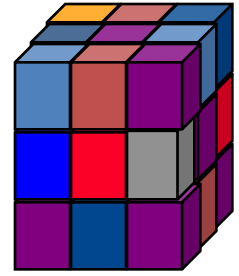


# Determining Candidate Measures, Dimensions, and Facts (cont.)

- Business-oriented approach
    - facts → dimensions → measures
- Sales Domain

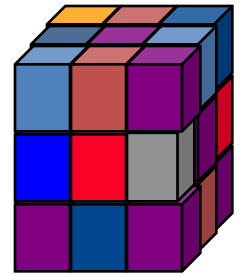


# Information Packages



- Requirements Not Fully Determinate
  - ❖ Gathering requirements difficult
  - ❖ Change to a new methodology
  - ❖ Use Business dimensions & measurements
  - ❖ Create Information Packages
  - ❖ Determine how business categorizes information

# Information Packages

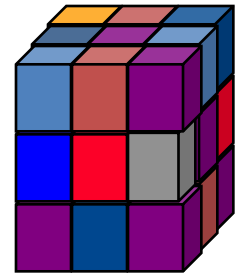


Step 1 ::

- Identify Business dimensions
  - ❖ Form basis for requirements

Time	Car Types	Accidents	Cust Age	
Car Rentals				





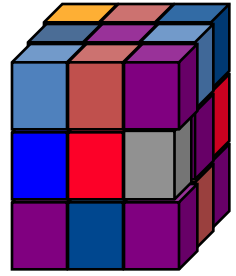
# Information Packages

Step2 ::

- Dimension Hierarchies/Categories
  - Drill down for more detail
  - Categorize your dimension

Time	Car Types	Accidents	Cust Age	
Holidays	Sedan	Small	<25	
Workdays	Utility	Large	<35	
Weekends	SUV	Non repair	>35	
Car Rentals				

# Information Packages

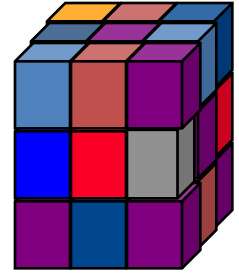


Step 3 ::

- Identify Key business metrics/facts
  - Users need to measure their success
  - Avis -> # rentals

.

# Considerations in determining Information Packages



- Beware of multiple uses of categories
  - Many people define hierarchies as extra dimensions
  - Need to standardize
- Data optimization
  - Summarize detailed data into hierarchies
  - Volume of data to access is reduced
  - Users only see certain view of data
- Security
  - Categorizing/hierarchies implements data-oriented security
  - Users do not see data outside their purview

# **There are 3 things we need to consider in the data model**

1. Structure for business dimensions
2. Structure for key measurements
3. Levels of detail

# Structure for Business Dimensions

- Business dimensions must be featured prominently
- Business dimensions listed as column headings in information package diagram

# Structure for Key Measurements

- Metrics or measures used for business analysis
- Measure performance by comparing key measurements
- Package diagrams must include all relevant key measurements
- Data model structure directly related to # business dimensions & the key measurements

# Levels of detail

- Lowest detail level or summarized data
- Find out the level of detail needed
- Different levels of granularity?
- How will you join a table summarized by month with a table summarized by day?

## Information Package Diagram : Automaker Sales

### Dimensions

<b>Time</b>	<b>Product</b>	<b>Payment Method</b>	<b>Customer Demo-graphics</b>	<b>Dealer</b>
Year	Modal Name	Finance Type	Age	Dealer name
Quarter	Modal Year	Term (Months)	Gender	City
Month	Package Styling	Interest Rate	Income Range	State
Day of Week	Product Category	Agent	Household Size	Date First Operation
Day of Month	Exterior Color		Vehicles Own	
Season	Interior Color		Home Value	
Holiday Flag	First Year		Own or Rent	

**Metrics :** Actual sale Price, MSRP Sale Price, Options Price, Full Price, Dealer add-ons, Dealer Credits, Dealer Invoice, Down Payment