### IS660J

#### Lecture 2 Professor K.M. Burns

	OLTP	Data Warehouses	
Purpose	Operational (ie. order entry)	Decision Making	
Users	Data Entry	Decision Makers	
		Unpredictable - continuously changing the kinds of	
Nature of Queries	Repetitious; predictable	questions asked	
		Hundreds or thousands of records searched and	
Records Impacted	Few records at a time	compressed into into an answer	
	Name (and (ONE)	Dimonsional	

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### Agenda

- Business Driven goals of a Data Warehouse
- Publishing metaphor
- Components of a DW
- Dimensional Modeling vs. 3NF Modeling
- Terminology



## Publishing Metaphor

- Refer to pages 4-6
  - Goals customer (end-user) driven
    - Who and what are they?
    - Decision making problems/issues
    - High impact users
    - Marketing
    - Intuitive GUIs and navigation
    - Constant monitoring
    - ROI
    - Trust
  - Non-goals
    - Technology centered
    - Operational efficiencies exclusively
    - Technical writing styles that readers find esoteric
    - Crowded content presentations







# Additional Concepts

- Metadata
- ODS more in Chap 5



### Terminology

Usability  $\rightarrow$  Simplicity

- Fact Tables
  - Typically numeric measurements
  - All rows in a fact table must have the same *grain* defined by the list of dimensions.
    - Transaction
    - Periodic Snapshot
    - Accumulating Snapshot
  - Primary key is a composite or concatenated key (subset of dimension keys). Any table that has a composite key must be a fact table.
    - Fact tables express the many to many relationships between dimensions → Star Schema
  - Referential Integrity



### Dimensions

- Textual Data describes the business avoid codes
- PKs are FKs in the Fact Table
- Wide Less rows, many columns (attributes)
- Any numerical data is *discretely valued*
- Primary source of query contraints, groupings and report labels

#### Star Schema

Simplicity and symmetry

- Understand and navigate
- Performance benefits
- Accomodates change





#### What to avoid

Review page 26-27 in text

#### Upcoming Assignments

- Assignment 1 5pts Due by 9/18
- Assignment 2 10pts Due by 9/26