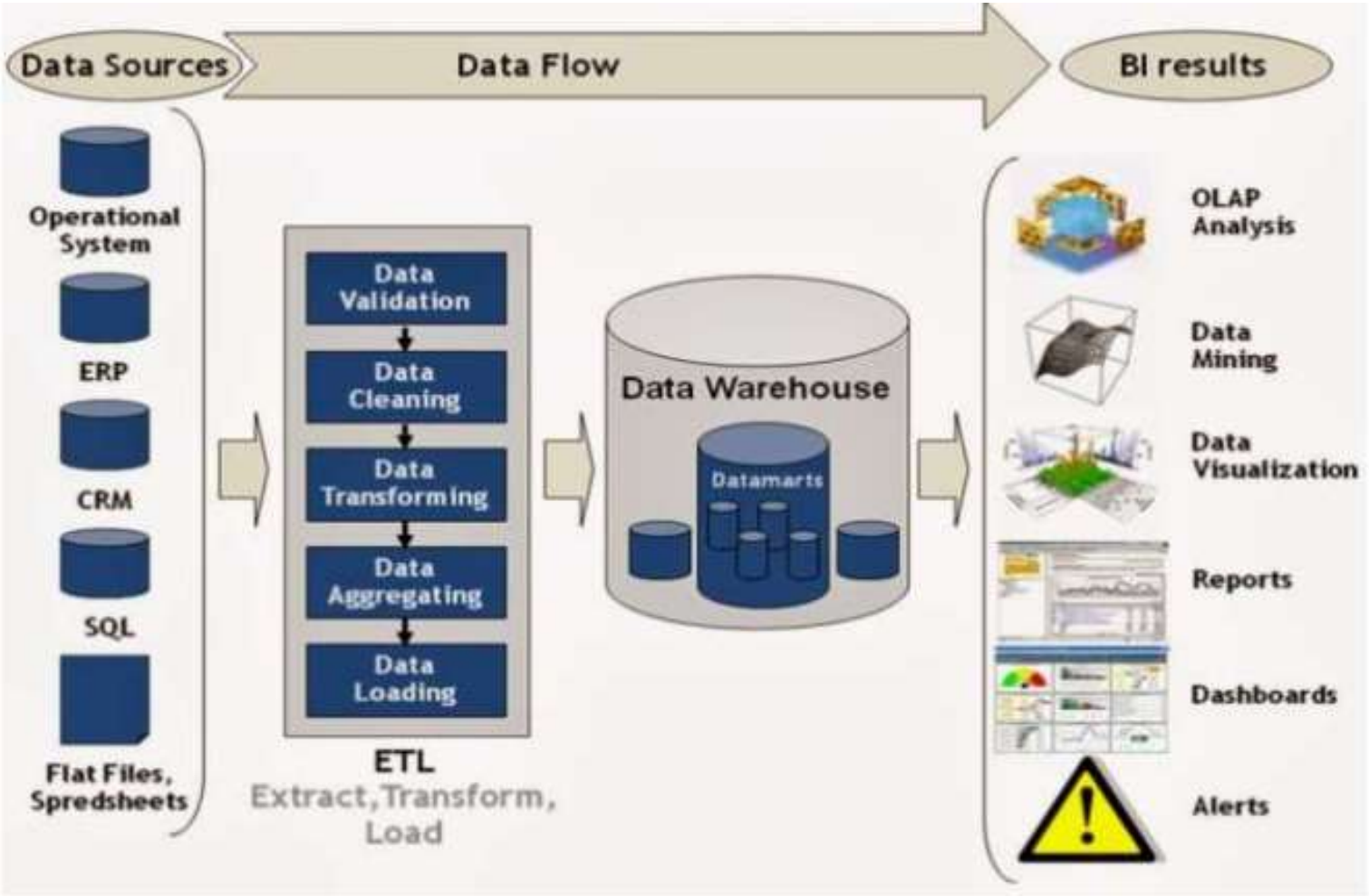
Datawarehouse Concepts

What is Datawarehouse?

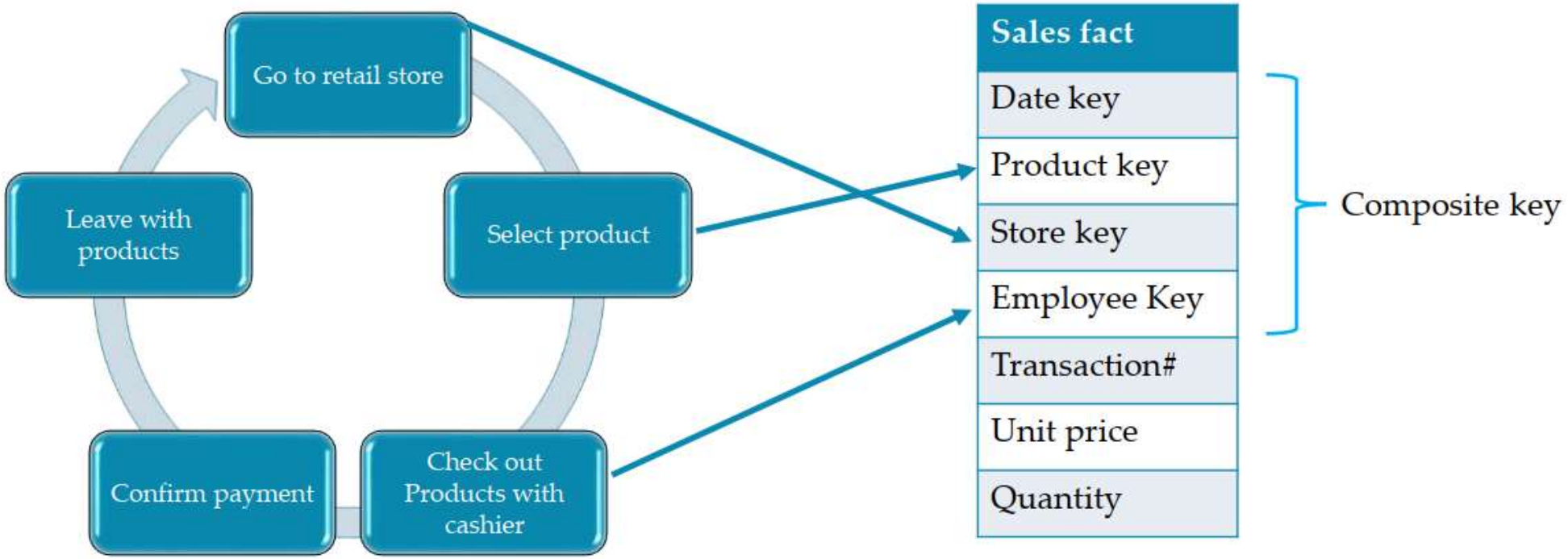


Fact Table

- Table containing measurement
- Measurement defined by dimensions
- Usually Additive
- Resolves Many to Many Relationship

FK_Date	FK_Location	FK_Product	Quantity	Amount
20130101	45	88	40	754.45
20130101	45	76	786	2,121.44
20130101	45	75	21	321.00
20130101	36	88	96	568.22
20130101	36	88	115	805.10
20130102	45	88	15	75.12
20130102	45	76	865	9,651.21
20130102	36	75	47	542.11
20130102	36	77	351	698.21

Example of Fact Table

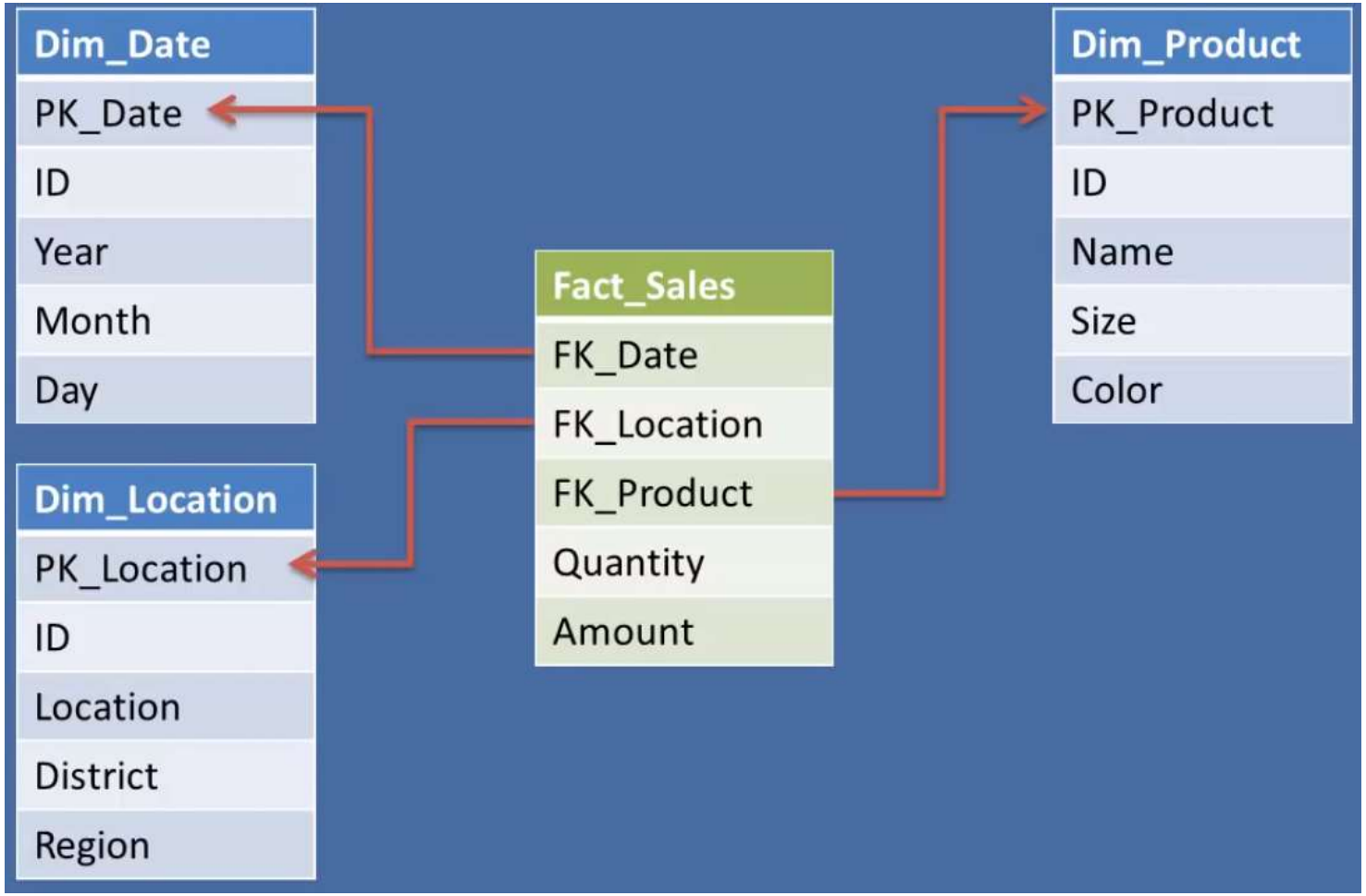


Dimension Table

- Table containing business elements
- Fields contain element description
- Referenced by multiple fact tables

PK_Product	ID	Name	Size	Color
1	R32	Mountain Bike	32	Silver
2	R54	Mountain Bike	786	Red
3	R22	Mountain Bike	21	Blue
4	R11	Mountain Bike	96	Green

Dimensional Model (a. k. a. Star Schema)

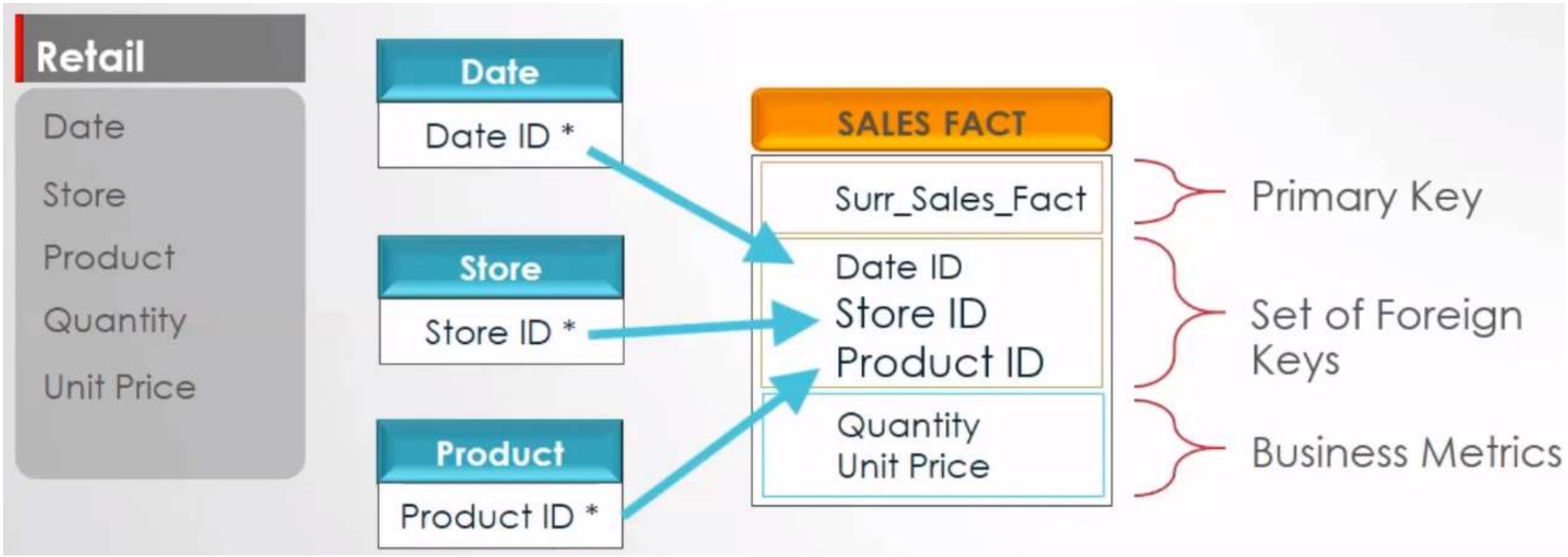


Example of a Dimension Table

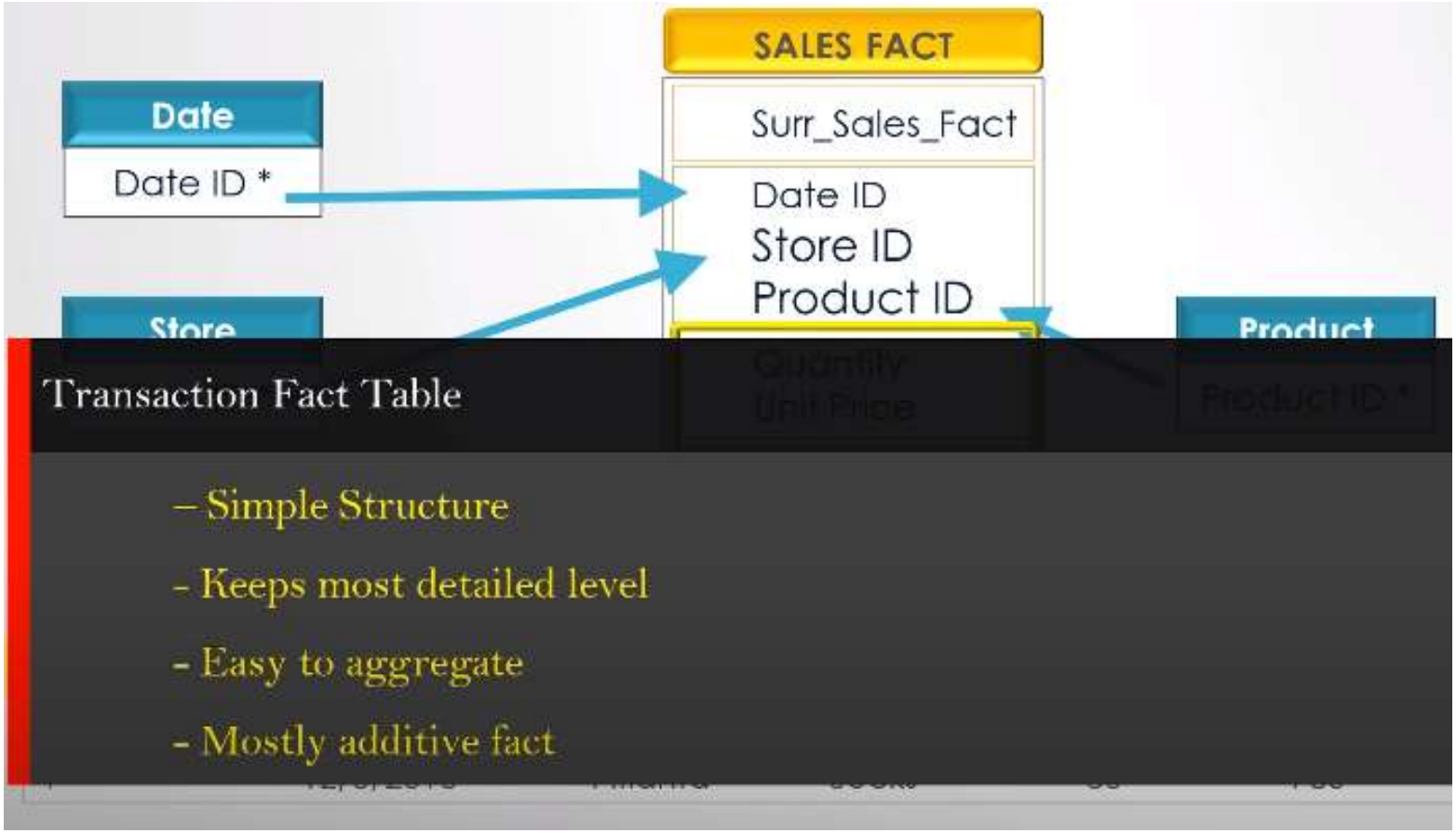
Sales fact
Date key
Product key
Store key
Employee Key
Transaction#
Unit price
Quantity

Product Dimension
Product key
Product name
Brand name
Category name
Subcategory name
Package type
Package size
Weight
Weight unit of measure

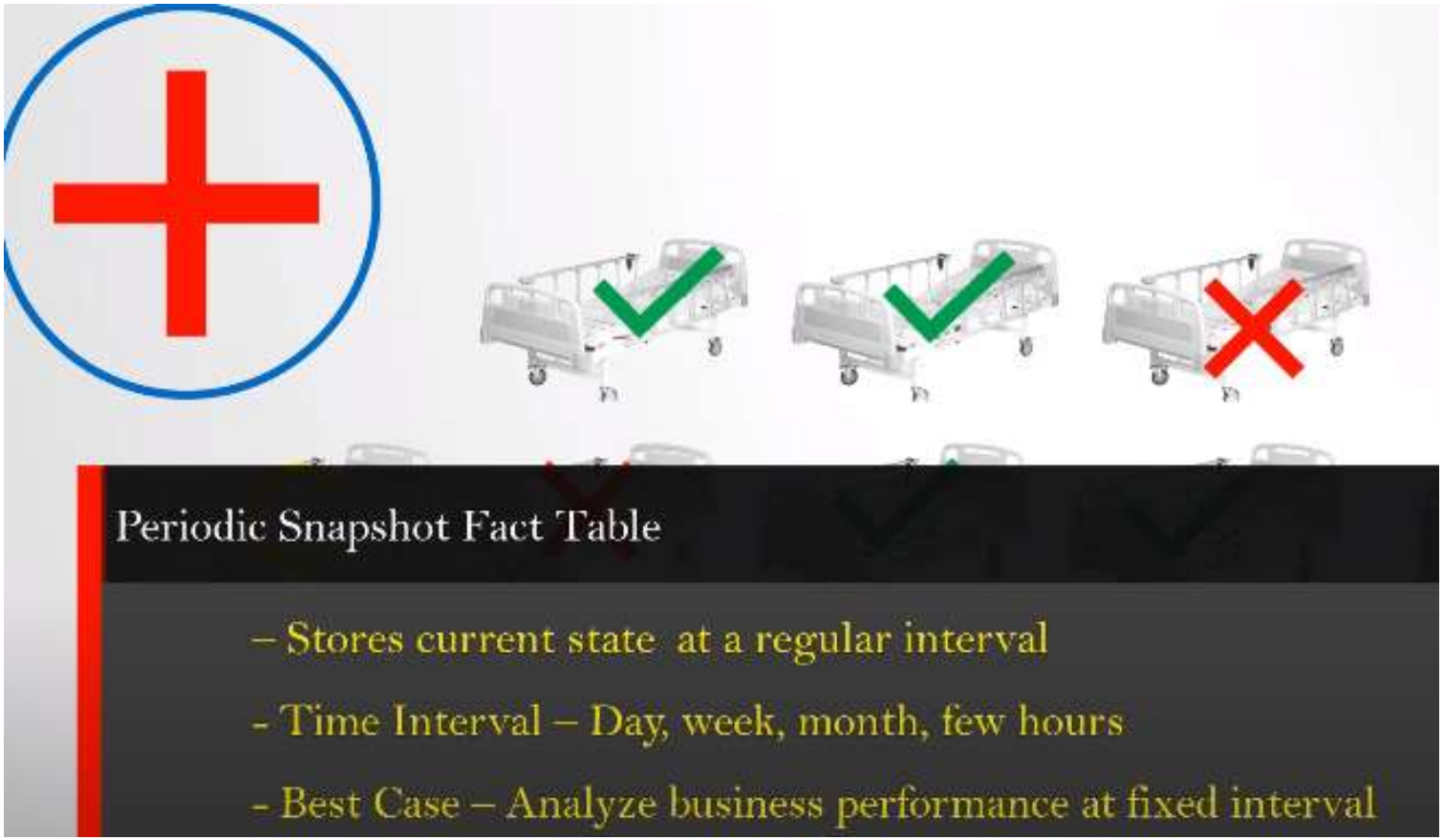
Fact Table Structure



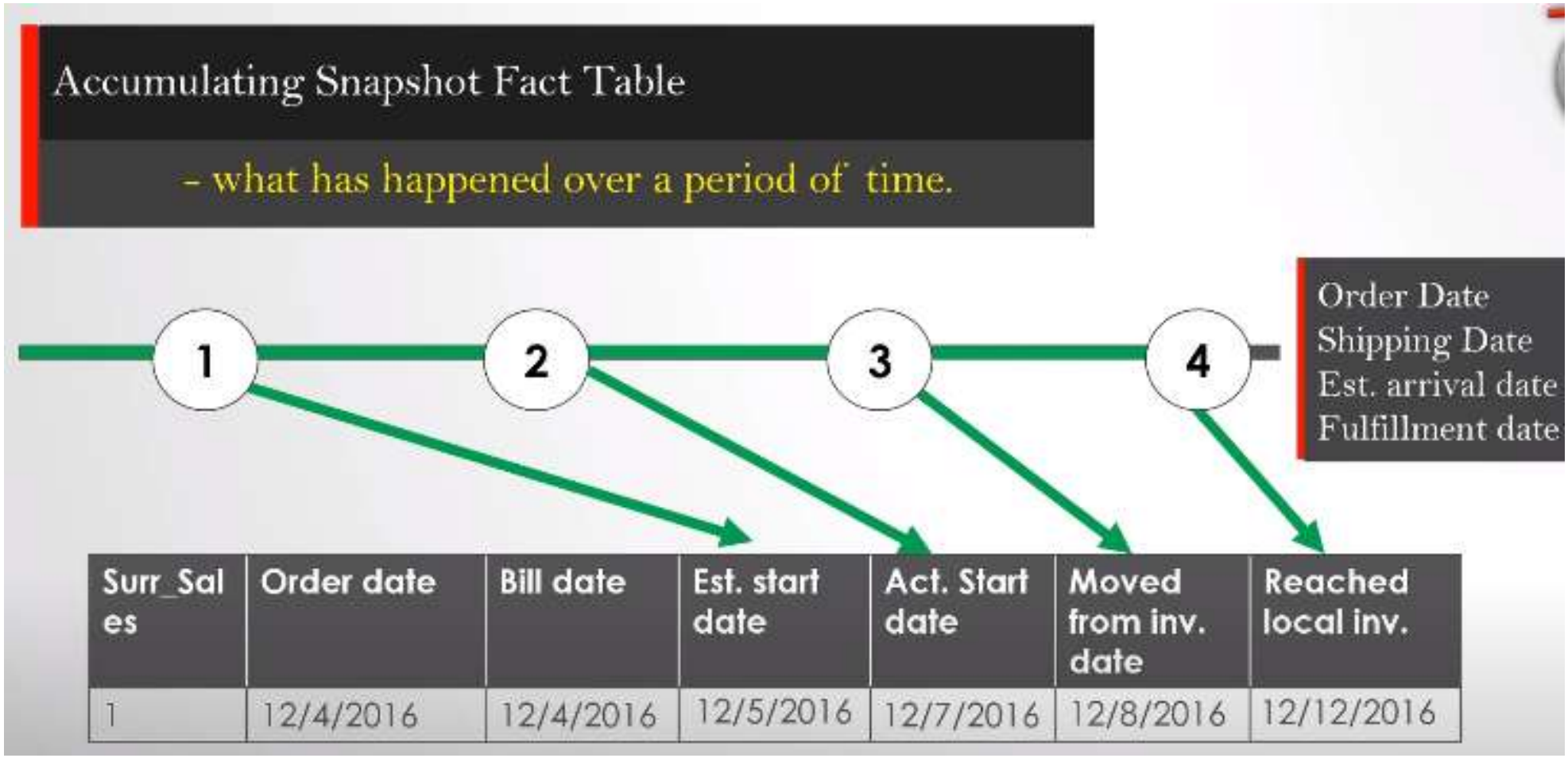
Transaction Fact Table



Periodic Snapshot Fact Table



Accumulating Snapshot Fact Table



Surrogate Keys

- Anonymous Integer Primary Keys

Features of Surrogate Keys

- Number
- Sequential
- No Business Meaning

Benefits of Surrogate Keys

- Constant Behavior
- Multi source integration
- Faster Query Performance
- Future Records


thanks