

CelDial: Case Study Analysis

INTRODUCTION

CelDial Corporation which started as a manufacturer of Cellular telephones has quickly expanded its telecommunication products in a broad range. Due to the demand for the product's quality and size, it had decided to close its distribution channels and opened its own sales outlets.

Now the company has faced an issue with the sales as the sales for the last few days has been come down and the management is refocusing on the performance on the organisation. So this was given to the IT department to overcome this issue and to make this sales bright again.

OBJECTIVE

To create a data warehouse to facilitate the analysis of **cost and revenue data for products manufactured and sold by CelDial.**

The two systems are defined as

1. Operational System

An **operational system** is a term used in data warehousing to refer to a system that is used to process the day-to-day transactions of an organization. Operational systems are sometimes referred to as operational databases, transaction processing systems, or online transaction processing systems (OLTP). These systems are designed in a manner that processing of day-to-day transactions is performed efficiently and the integrity of the transactional data is preserved.

2. Data warehouse System

A Data Warehouse works as a central repository where information arrives from one or more data sources. Data flows into a data warehouse from the transactional system and other relational databases.

The need for creating the Dataware house is that the management of the celdial is lookingfor the growth in their sales and to develop thier business environment. Therefore the data warehouse here would help the celdial in analysing the cost and revenue for the products manufactured and sold in the company.

SCOPE OF THE PROJECT

The project shall be limited to direct costs and revenues associated with products. Currently, CelDial's manufacturing costs cannot be allocated at the product level. Therefore, only component costs can be included. At a future time, rules for allocation of manufacturing and overhead costs may be created, so the data warehouse should be flexible enough to accommodate future changes. IT created a team consisting of one data analyst, one process analyst, one manufacturing plant manager, and one sales region manager for the project

UNDERSTANDING & ANALYZING REQUIREMENTS - Design Approach:

Conceptual Model Design:

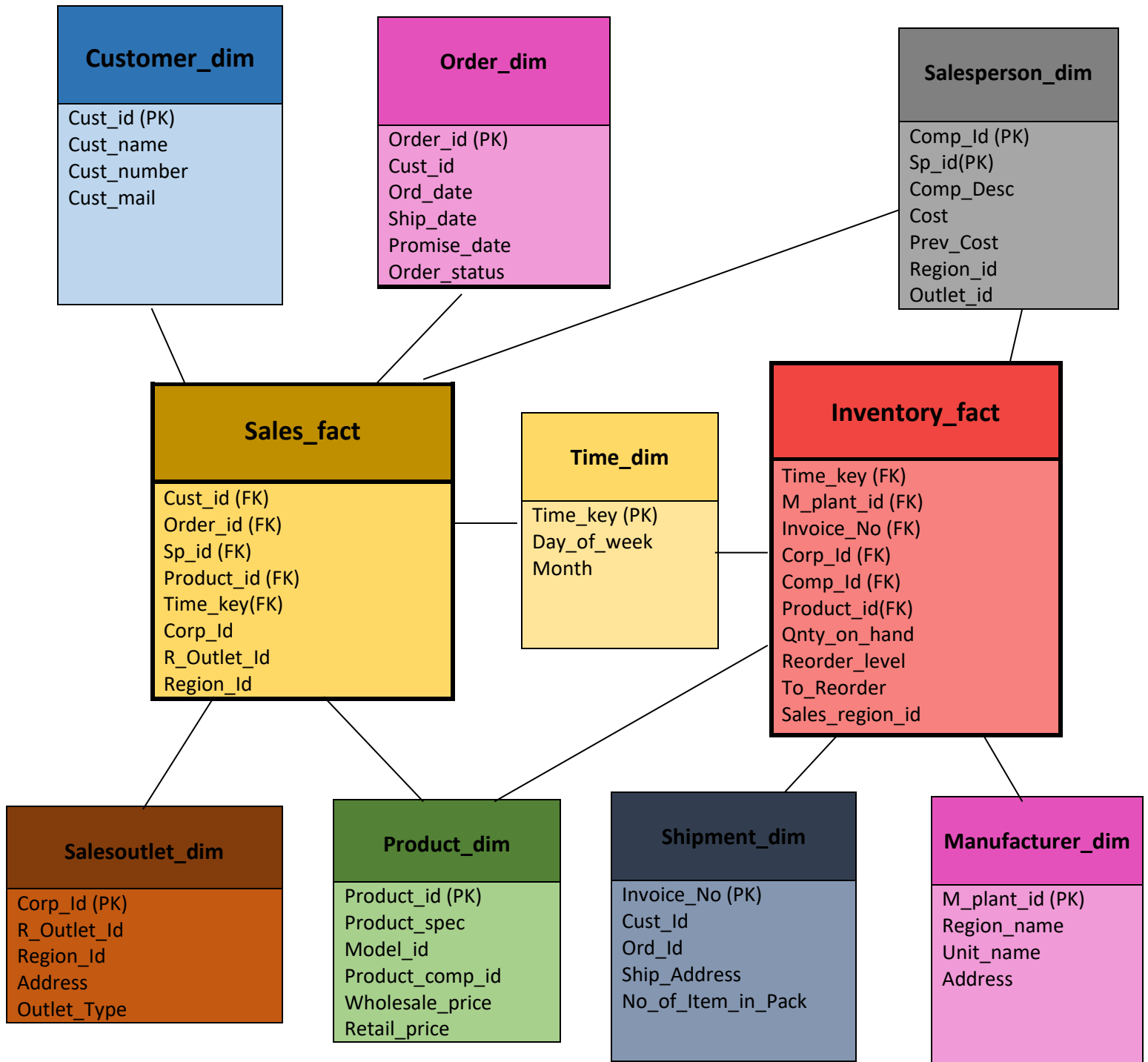
Entity	
Fact	Dimension
Sales	Customer
	Order
	Salesperson
	Product
	Outlet
Inventory	Manufacturer
	Time
	Components
	Shipment

Logical Design Phase:

Entity		No. of attributes
Fact	Dimension	
Sales	Customer	4
	Order	6
	Salesperson	4
	Product	6
	Outlet	5
Inventory	Manufacturer	4
	Time	3
	Components	4
	Shipment	5

Fact Dimension	Total Qty sold	Total Qty produced	Re-Order Level	Total Revenue	Total Cost	Discount
Manufacturer_dim		X	X		X	
Orders_dim	X		X	X		X
Salesoutlet_dim	X		X			X
Product_dim	X	X	X	X	X	X
Time_dim	X	X	X	X	X	X

Logical to Physical Design Phase(Graphical):



SUBJECT AREA	KEY BUSINESS MEASURES	GRANULARITY	DIFFERENT KIND OF ANALYSIS	DIMENSIONS INVOLVED IN ANALYSIS
Sales	Discount Total_Revenue Total quantity sold	Product type, model Weekly,monthly Outlet type: retal, corporate	<ul style="list-style-type: none"> Percentage of products sold based on outlet type Total revenue for each model for each region Percentage of products eligible for discounting 	Customer Order Salesperson Product Outlet
inventory	total Quantity produced Total Cost	Product type, model Weekly, monthly	<ul style="list-style-type: none"> Total cost for each model type for each region Average quantity on hand and reorder level by manufacturing plant 	Manufacturer Component shipment

Physical Model Design:

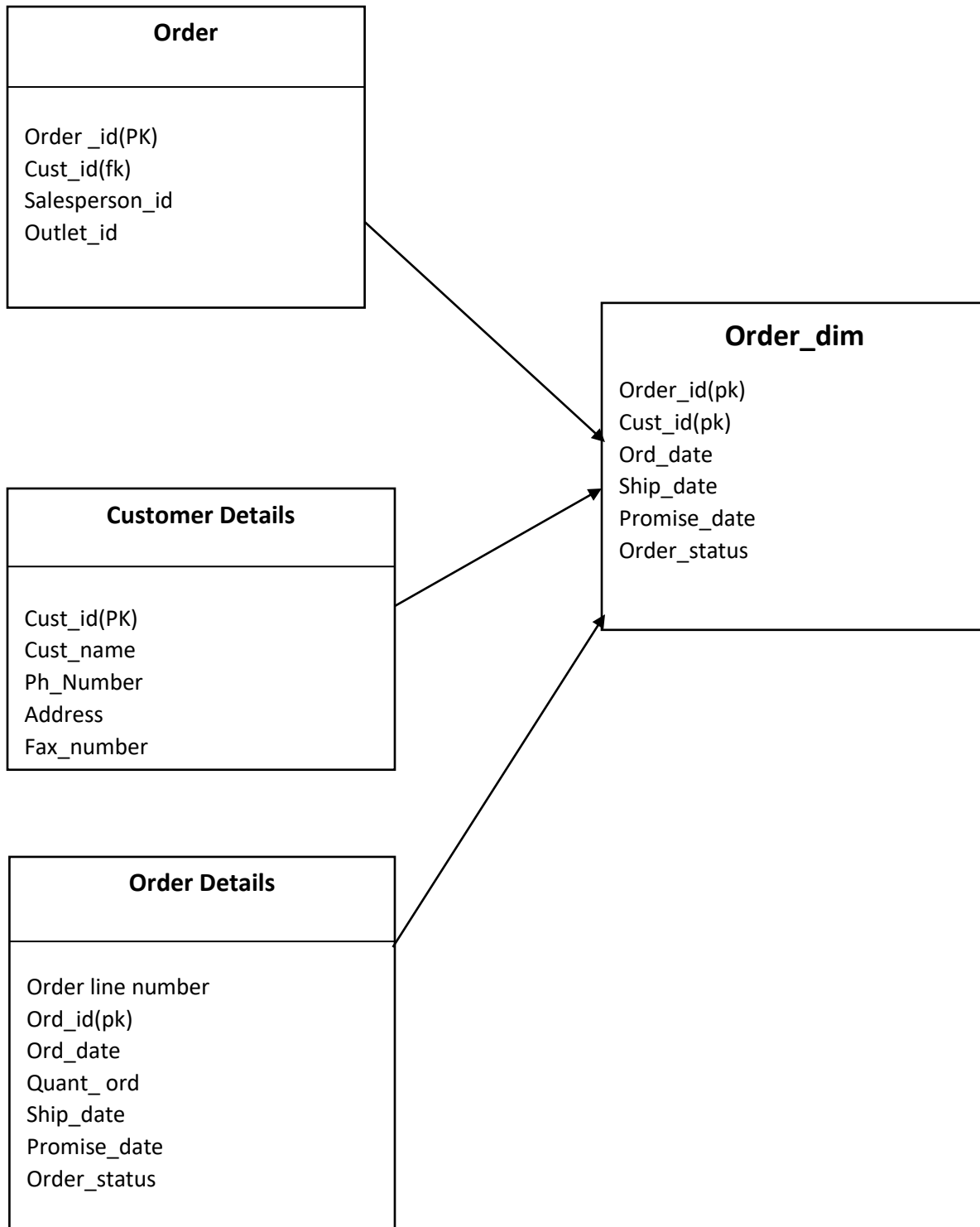
Data	Standard	Datatype	constraints
MFG_REGION_DIM	REGION_ID	NUMBER	PK
	NAME	VARCHAR(30)	
	OFFICE_ADDRESS	VARCHAR(60)	
MANUFACTURING_PLANT_DIM	PLANT_ID	NUMBER	PK
	REGION_ID	NUMBER	
	NAME	VARCHAR(30)	
	ADDRESS	VARCHAR(60)	
INVENTORY_FACT	REGION_ID	NUMBER	PK/FK
	PLANT_ID	NUMBER	PK/FK
	PRODUCT_ID	NUMBER	PK/FK
	MODEL_ID	NUMBER	PK/FK
	QTY_ON_HAND	NUMBER	
	REORDER_LEVEL	NUMBER	
ORDERS_DIM	ORDER_ID	NUMBER	PK
	ORDER_DATE,	DATE	
	ORDER_STATUS	VARCHAR(10)	
	CUSTOMER_ID	NUMBER	
	SHIP_LOCATION_ID	NUMBER	
	REGION_ID	NUMBER	
	REQ_SHIP_DATE	DATE	
	PLANNED_SHIP_DATE	DATE	
	SALESPERSON_ID	NUMBER	

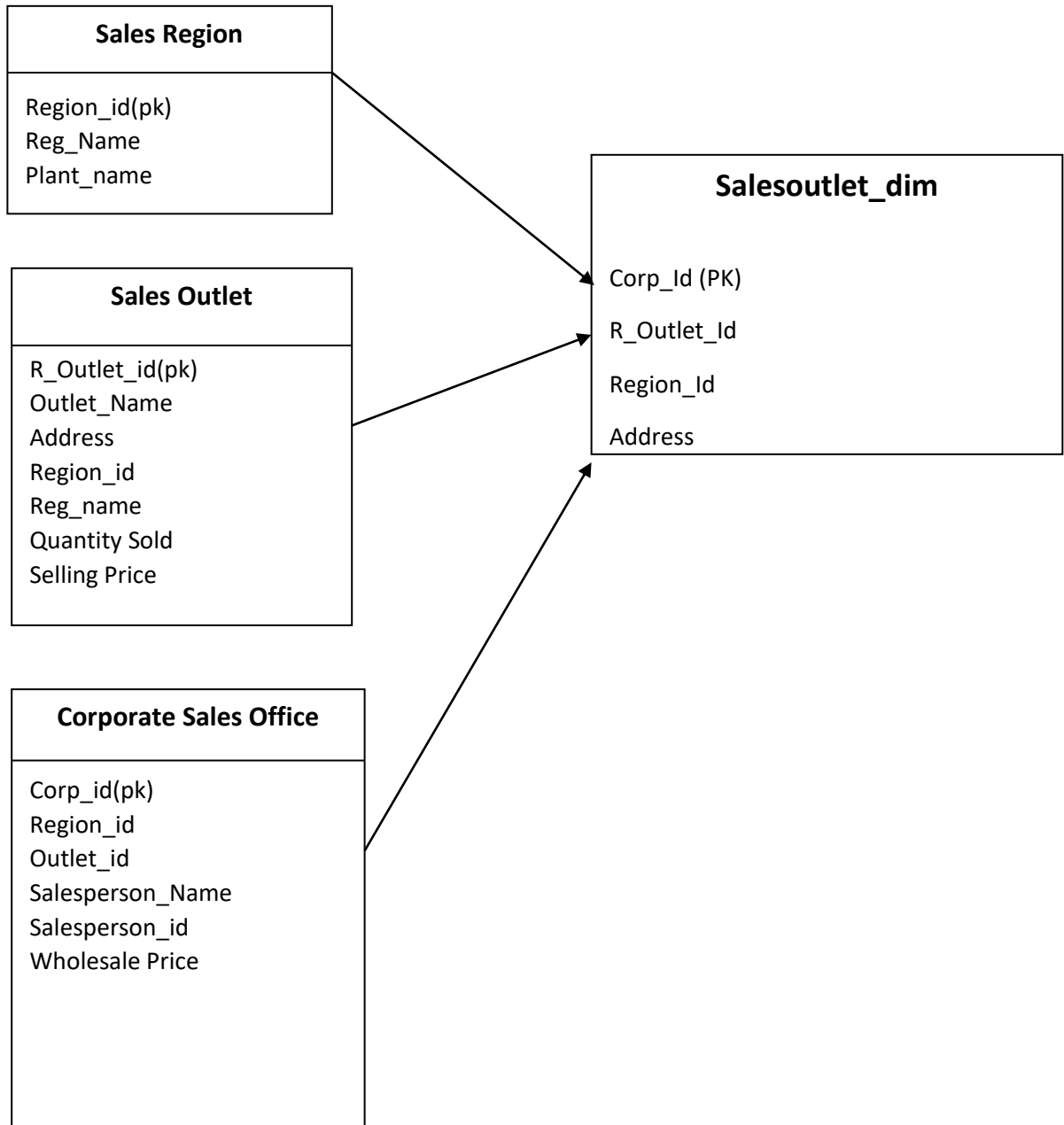
	OUTLET_ID	NUMBER	
PRODUCT_DIM	<u>PRODUCT_ID</u>	NUMBER	PK
	MODEL_ID	NUMBER	
	COMPONENT_ID	NUMBER	
	NUMBER_OF_COMPS	NUMBER	
	DESCRIPTION	VARCHAR(60)	
	SUGGESTED_WHOLE SALE_PRICE	NUMBER(8,2)	
	SUGGESTED_RETAIL_ PRICE	NUMBER(8,2)	
	ELIGIBLE_FOR_VOLU ME_DISCOUNT	BOOLEAN	
SALES_DIM	REGION_ID	NUMBER	PK/FK
	OUTLET_ID	NUMBER	PK
	NAME	VARCHAR(30)	
	ADDRESS	VARCHAR(60)	
	OUTLET_TYPE	VARCHAR(20)	
RETAIL_STORE_DIM	REGION_ID	NUMBER	
	OUTLET_ID	NUMBER	PK
	FLOOR_SPACE	NUMBER(7,2)	
CORPORATE_SALES_OFFICE_DIM	REGION_ID	NUMBER	
	OUTLET_ID	NUMBER	PK
	NUMBER_OF_ORDER _DESKS	NUMBER	
	LOCATION_ID	NUMBER	FK
CUSTOMER_DIM	CUSTOMER_ID	NUMBER	PK

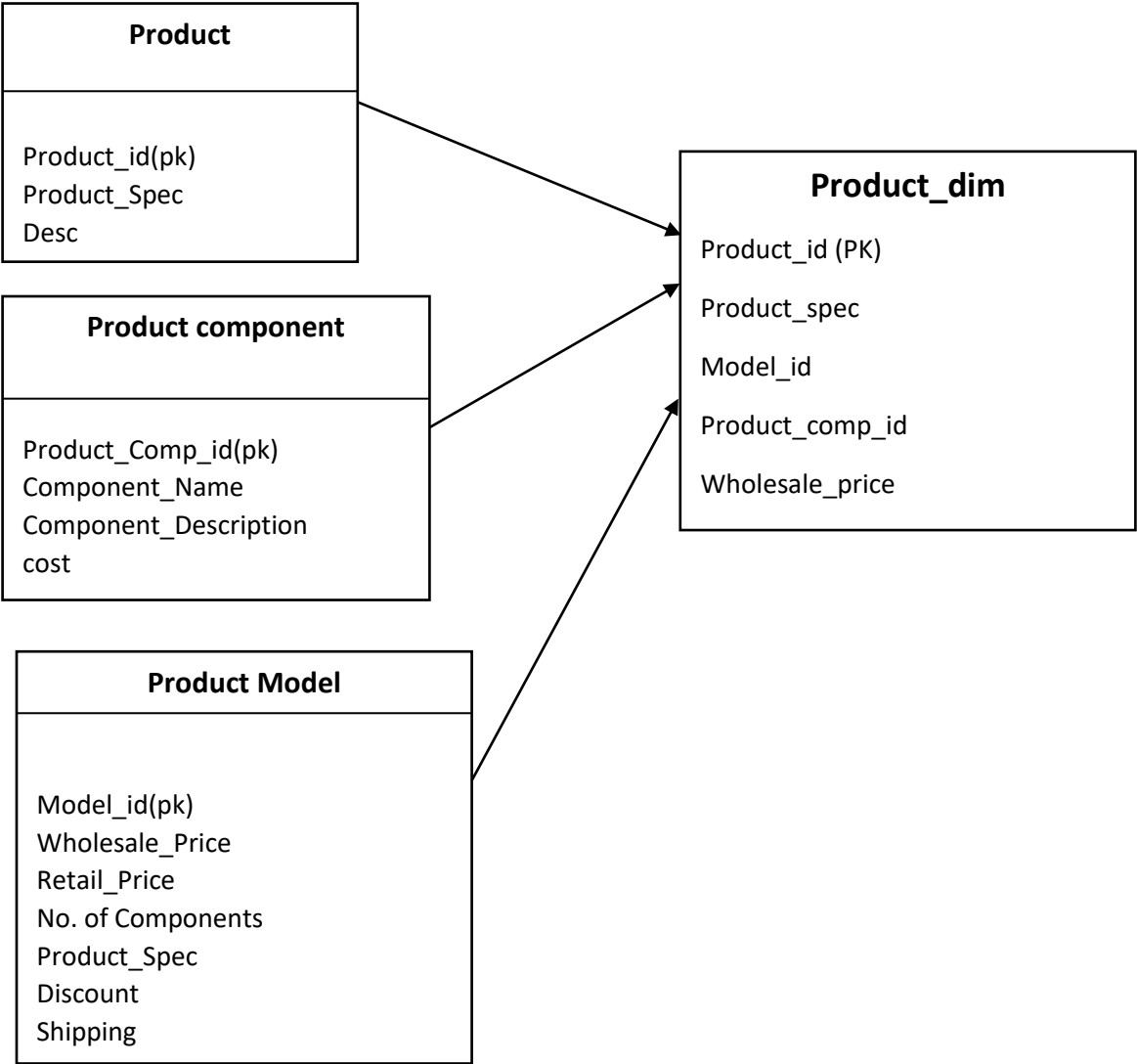
	CUSTOMER_NAME	VARCHAR(30)	
	CONTACT_PHONE	NUMBER(12)	
	ADDRESS	VARCHAR(60)	
	SHIP_LOCATION_ID	NUMBER	
	SHIP_TO_ADDRESS	VARCHAR(60)	
	BILL_TO_ADDRESS	VARCHAR(60)	
ORDER_FACT	SALES_REGION_ID	NUMBER	PK/FK
	OUTLET_ID	NUMBER	PK/FK
	ORDER_ID	NUMBER	PK/FK
	ORDER_LINE_NO	NUMBER	PK/FK
	MFG_REGION_ID	NUMBER	PK/FK
	PLANT_ID	NUMBER	PK/FK
	PRODUCT_ID	NUMBER	PK/FK
	MODEL_ID	NUMBER	PK/FK
	NEGOTIATED_PRICE	NUMBER(8,2)	
	QTY_ORDERED	NUMBER	

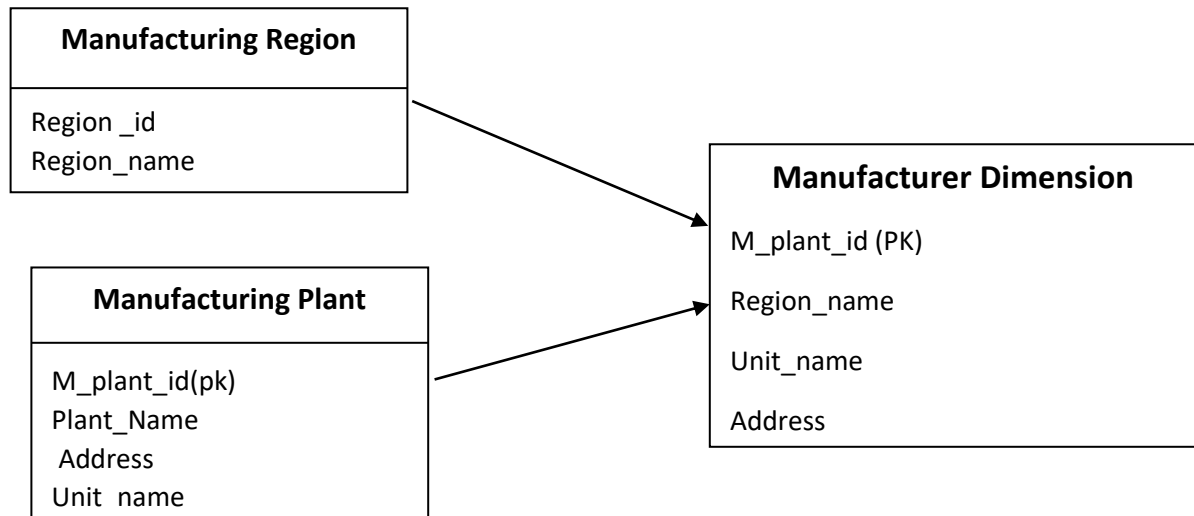
Operational to Dimensional Model - Map:

Map:









Presented by
Group Names

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