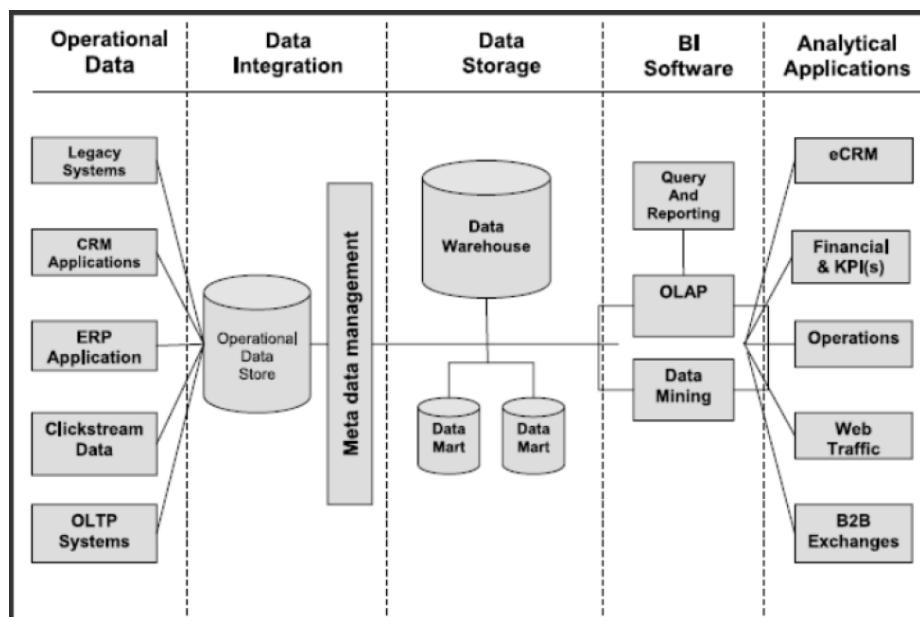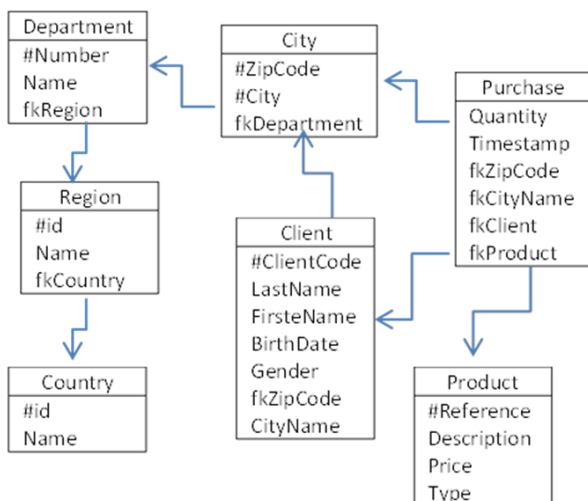|	ADVANCED DATABASE & BUSINESS INTELLIGENCE DEVECOR CASE	
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Addressed to : Students ADEO2	Created on : 10/11/2019	

1. Preamble
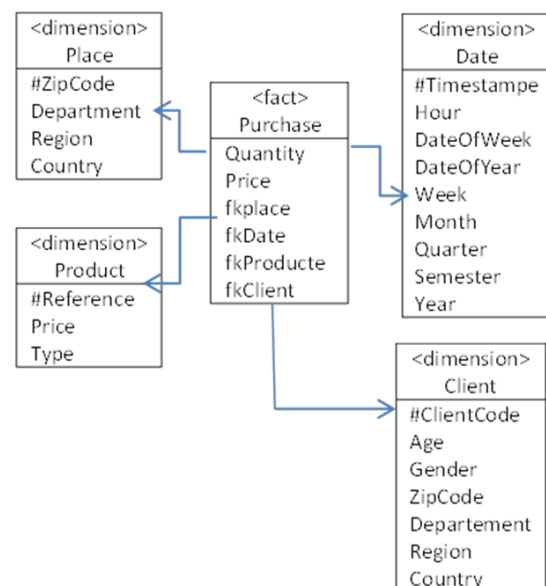
Example of information system of a company

Decisional systems are dedicated to the business of the company
Management systems are dedicated to the management of the company.

Operational database   **Decisional database**

First of all, I propose to create two databases, an operational database (classical) and a decision database for BI. These two databases are relational databases, with different organizations and structures.

In a second step, I propose you to create an ETL (an extract load transform) that will allow you to extract data from the operational database, to transform it and load it into the decision-making database.

To set up this architecture, you open a session (system) under Oracle and create two other sessions (session 1 for operational database and session2 for decisional database). For each session you assign it a role that contains privileges (connect, resource, creating and manipulating tables)

In the session 1, write
• The script for creating tables in the operational database
• The script of my procedure that will generate the dataset.
• And finally you give the privileges to the session 2 to read the contents of the created tables

In the session 2 write
• The script for creating the tables of the decision database
• The script of the procedure that will select to give them from the operational database to put them in the decision-making database (ETL).

2. The business model

2.1   The statement

We are interested in the management of clients and Devecor company's products. This information system of this company manage servals entities ((Client, Department, Product, Order)
For each **client,** it is known:
  - his number (ID)
  - last name
  - first name
  - department

For each department we know:
  - his number (ID)
  - label of department
  - code

The client buys a product, and for each product we know
  - his number (ID)
  - label of product
  - unit_price
  - stock

Customers can place orders, and each order is describe as follow:
  - his number (ID)
  - ordering date
  - the client ID
  - complaints (satisfied or not)

each order contains the lines of ordered products, and a ordered line is composed:

- his number (ID)
- the reference to the product
- the reference to the order to which this line belong

2.2 Questions

1) Model the operational DEVECOR.
2) Generate SQL script to create the database.
3) Generate SQL script to supply the database

3. The decision model

3.1 Expression of needs

The sales manager wants:

- To study the turnover and sales volume

- By product and Family.
- Per week, month and year.
- By department and region.

- Being able to study the number of complaints

- By product and Family.
- Per week, month and year.
- By department and region.

3.2 Questions

1) Model the corresponding Data Warehouse.
2) Study the supplying operational data to the DW.

4. Annexes (work to do)

4.1 Supplying a table of facts

We log on the system account (system , eisti0001)
- Create user devecor_operationnel identified by op_user default tablespace users ;
- Grant connect, resource to devecor_operationnel;
- Create user devecor_decisionnel identified by dec_user default tablespace users ;
- grant connect, resource to devecor_decisionnel;

We log on the devecor_operationnel account
- We create the tables clients, product, commandes, lignes_commandes
- We give the privilege select to the devecor_decisionnel user on all of these tables
  - Grant select on client to devecor_decisionnel
  - Grant select on order to devecor_decisionnel
  - Grant select on product to devecor_decisionnel
  - Grant select on order_line to devecor_decisionnel
- We supply these tables

we LOG on account devecor_operationnel

- o We create decision tables, especially tables Facts, Products, Weeks, Department
- o We create a PL / SQL procedure that receives two dates and supplies the fact table from operational for all orders made between two dates
- o When we load, one can make from-scratch or incremental.
    - The first method is to overwrite the contents of the table Facts and reload everything taking into account the evolution of the operational database.
    - The second method is to inject the news. It is clear that the second method is much faster, but it is complicated to code and we need log file.

    We will do the first method.