Dimension and fact

 **Branch Dimension Table**

* **branch\_id** (PK)
* branch\_name
* branch\_manager
* branch\_phone\_number
* branch\_opening\_date
* branch\_type
* branch\_stock\_market
* branch\_stock\_symbol
* branch\_country\_code

 **Time Dimension Table**

* **time\_id** (PK)
* year
* month
* day
* hour
* minute
* second
* quarter
* season
* is\_weekend

 **Dimension Table**

* **product\_id** (PK)
* product\_name
* brand
* category
* price
* quantity\_in\_stock
* release\_date
* expiration\_date
* weight
* dimensions

 **Customer Dimension Table**

* **customer\_id** (PK)
* first\_name
* last\_name
* age
* email
* gender
* membership\_status
* join\_date
* country
* phone\_number

 **Salesperson Dimension Table**

* **salesperson\_id** (PK)
* first\_name
* last\_name
* age
* email
* country
* postal\_code
* hire\_date
* sales\_region
* sales\_target

**act Table: Sales Fact Table**

This fact table will include foreign keys from each of the dimension tables, as well as measures that can help in decision-making.

* **fact\_id** (PK)
* **branch\_id** (FK to Branch Dimension)
* **time\_id** (FK to Time Dimension)
* **product\_id** (FK to Product Dimension)
* **customer\_id** (FK to Customer Dimension)
* **salesperson\_id** (FK to Salesperson Dimension)
* **total\_sales**: Measure (sum of total sales)
* **quantity\_sold**: Measure (number of items sold)
* **discount\_given**: Measure (amount of discounts offered)
* **sales\_target\_achieved**: Boolean (whether target was achieved)
* **profit\_margin**: Measure (total sales minus costs)

**Relationship Between Tables:**

1. **Branch Dimension**: Relates to the **branch\_id** in the fact table, representing the location of the sale.
2. **Time Dimension**: Relates to the **time\_id** in the fact table, used for analyzing sales by time (day, month, year, etc.).
3. **Product Dimension**: Relates to the **product\_id**, used for analyzing sales of specific products, quantities, and pricing.
4. **Customer Dimension**: Relates to the **customer\_id**, used for customer behavior analysis, segmenting by demographic data.
5. **Salesperson Dimension**: Relates to the **salesperson\_id**, used for tracking individual sales performance.

Dwh  **Branch Dimension**: Contains information about each branch, such as the manager, stock information, and country code.

 **Product Dimension**: Holds product details including pricing, stock levels, weight, and expiration.

 **Time Dimension**: Stores date and time-related details like year, month, quarter, and weekend flag.

 **Customer Dimension**: Contains customer details like personal information, email, gender, and membership status.

 **Sales Dimension**: Keeps track of the salespeople and their commissions, sales performance, and product categories they deal with.

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**Total Sales by Time**: Aggregate total sales for specific time periods (e.g., daily, monthly, quarterly).

**Sales Quantity by Product**: Summarize the quantity sold for each product.

**Average Discount Given by Branch**: Calculate the average discount offered by each branch.

**Sales Target Achievement by Salesperson**: Count how many salespersons met their sales targets.

**Configure Each Lookup Transformation**

* **Branch Dimension Lookup**:
  1. Connect the output of your source to the **Branch Dimension Lookup**.
  2. Configure the lookup to use the branch\_id from the fact source data and match it to branch\_id in branch\_dim.
  3. Choose the columns you want to output (e.g., branch\_id).
* **Time Dimension Lookup**:
  1. Connect to the **Time Dimension Lookup**.
  2. Match time\_id from the fact source data to time\_id in time\_dimension.
* **Product Dimension Lookup**:
  1. Connect to the **Product Dimension Lookup**.
  2. Match product\_id from the fact source data to product\_id in producrtdim.
* **Customer Dimension Lookup**:
  1. Connect to the **Customer Dimension Lookup**.
  2. Match customer\_id from the fact source data to customer\_id in customer\_dim.
* **Sales Dimension Lookup**:
  1. Connect to the **Sales Dimension Lookup**.
  2. Match salesperson\_id from the fact source data to sales\_person\_id in sales\_dim

Data pipeline file>> Branch dimension >> Postgres >> apply some analysis using SQL 6

---- Zaid // Hamid

1. Data pipeline >> **Product** >> MySQL>> >>analysis SQL >> 6

Belal //Yousef

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* 1. Dwh // Etl files >>>

- analysis >> fact table >> visualization 4 ----

- big data

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