

# U1M7.LW.Dimension and Facts Basics

## Part 2

### Business Project

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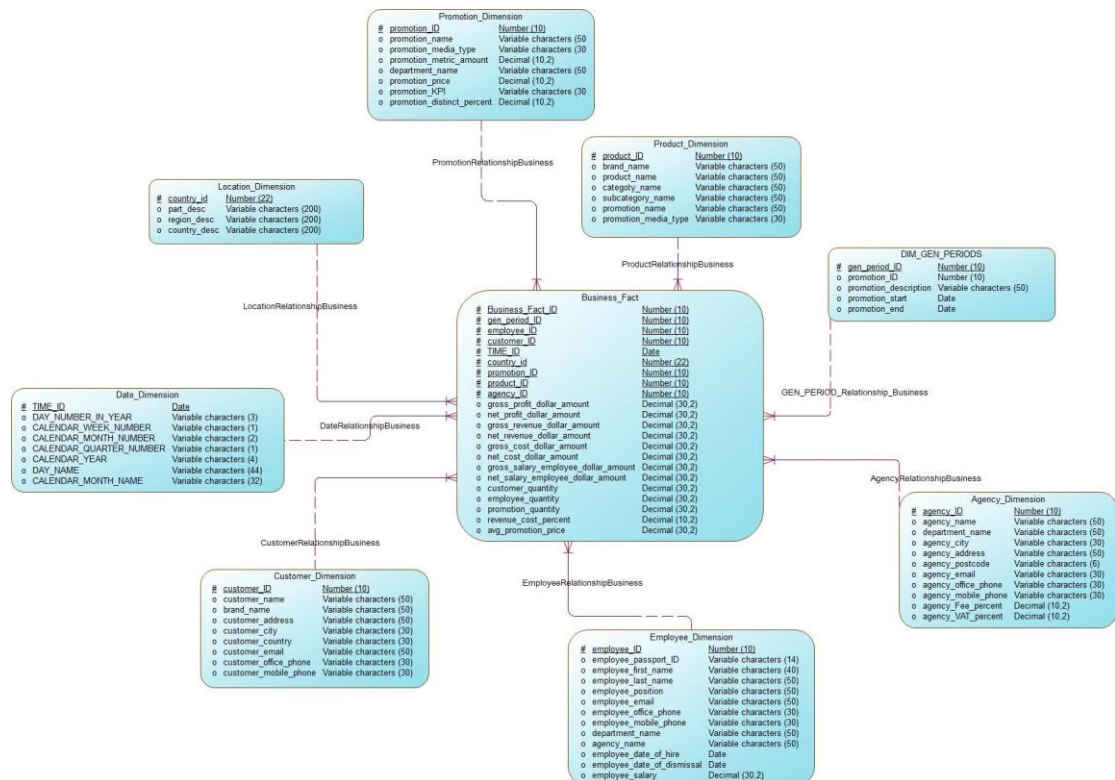
[https://github.com/VeraShkrabatouskaya/DataMola\\_Data-Camping-2022](https://github.com/VeraShkrabatouskaya/DataMola_Data-Camping-2022)

### 3. OLAP – Business analyses task

Based on the results of the business analysis, the customer approved the Star data warehouse model design.

#### History of changes

Name	Date	Reason for change	Version
Vera Shkrabatouskaya	7/25/2022	Creation of a STAR data warehouse model.	1.0 draft 1
Vera Shkrabatouskaya	7/26/2022	Changes after approval. Added details to the Business Model.	1.0 approved



### 3.1. Task 06 – Solution concept – Add: Chapter Dimensions Types

Summary table to describe all future STAR Dimensions:

Name	Type	Size	DW – Merged Dimensions	Descriptions
Location_Dimension	SCD1	SMALL	country_id part_desc region_desc country_desc	This table contains information on all countries, parts of the world, regions.
Date_Dimension	SCD1	BIG	TIME_ID DAY_NUMBER_IN_YEAR CALENDAR_WEEK_NUMBER CALENDAR_MONTH_NUMBER CALENDAR_QUARTER_NUMBER CALENDAR_YEAR DAY_NAME CALENDAR_MONTH_NAME	This table contains information about day, week, month, quarter and year numbers, day and month names and the current date TIME_ID.
Customer_Dimension	SCD1	SMALL	customer_ID customer_name brand_name customer_address customer_city customer_country customer_email customer_office_phone customer_mobile_phone	This table contains detailed information about the agency's clients (including name, client brands, office locations, emails and phone numbers).
Employee_Dimension	SCD2	BIG	employee_ID employee_passport_ID employee_first_name employee_last_name employee_position employee_email employee_office_phone employee_mobile_phone department_name agency_name employee_date_of_hire employee_date_of_dismissal employee_salary	This table provides information on agency staff (including heads of offices, as well as to the length of time the employee has been with the agency).

Agency_Dimension	SCD1	SMALL	agency_ID agency_name department_name agency_city agency_address agency_postcode agency_email agency_office_phone agency_mobile_phone agency_Fee_percent agency_VAT_percent	This table contains detailed information about the agencies (including agency name, department, office location, email, telephone numbers, fee information and the VAT the agencies work with).
DIM_GEN_PERIODS	SCD2	BIG	gen_period_ID promotion_ID promotion_description promotion_start promotion_end	This table allows facts to be grouped according to the duration of the advertising campaign.
Product_Dimension	SCD1	SMALL	product_ID brand_name product_name category_name subcategory_name promotion_name promotion_media_type	This table contains detailed information about the products advertised (including categories and subcategories, as well as the name of the advertising campaign and type of purchase method).
Promotion_Dimension	SCD1	BIG	promotion_ID promotion_name promotion_media_type promotion_metric_amount department_name promotion_price promotion_KPI promotion_distinct_percent	This table provides information on advertising projects (including information on prices, discounts, number of metrics and KPIs).

### 3.2. Task 07 – Solution concept – Add: Chapter Dimensions Hierarchies

Summary table to describe all future STAR Dimensions Hierarchies:

#### **Date Dimension:**

##### **Hierarchy DAY-WEEK-MONTH-YEAR**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
DAY	DAY_NUMBER_IN_YEAR	Store the number of the day in the year	DAY_NUMBER_IN_YEAR
WEEK	CALENDAR_WEEK_NUMBER	Store week number in month	CALENDAR_WEEK_NUMBER
MONTH	CALENDAR_MONTH_NUMBER	Store the number of the month in the year	CALENDAR_MONTH_NUMBER
YEAR	CALENDAR_YEAR	Store all years	CALENDAR_YEAR

##### **Hierarchy WEEK-MONTH-QUARTER-YEAR**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
WEEK	CALENDAR_WEEK_NUMBER	Store week number in month	CALENDAR_WEEK_NUMBER
MONTH	CALENDAR_MONTH_NUMBER	Store the number of the month in the year	CALENDAR_MONTH_NUMBER
QUARTER	CALENDAR_QUARTER_NUMBER	Store the number of quarters in the year	CALENDAR_QUARTER_NUMBER
YEAR	CALENDAR_YEAR	Store all years	CALENDAR_YEAR

##### **Hierarchy DAY-MONTH-QUARTER-YEAR**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
DAY	DAY_NUMBER_IN_YEAR	Store the number of the day in the year	DAY_NUMBER_IN_YEAR
MONTH	CALENDAR_MONTH_NUMBER	Store the number of the month in the year	CALENDAR_MONTH_NUMBER
QUARTER	CALENDAR_QUARTER_NUMBER	Store the number of quarters in the year	CALENDAR_QUARTER_NUMBER
YEAR	CALENDAR_YEAR	Store all years	CALENDAR_YEAR

If you change the hierarchy in dates from lower to higher, the data will not be uploaded correctly. We therefore recommend using the classic hierarchical order.

**Location Dimension:****Hierarchy PART–REGION–COUNTRY**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
PART	part_desc	Store all parts of the world	part_desc
REGION	region_desc	Save all regions of the parts of the world	region_desc
COUNTRY	county_desc	Store all countries for each region.	county_desc

**DIM GEN PERIODS:****Hierarchy PROMOTION\_ID–PROMOTION\_START–PROMOTION\_END–PROMOTION\_DESCRIPTION**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
PROMOTION_ID	gen_period_ID	Store all ID numbers of promotional projects by NK promotion_ID	promotion_ID
PROMOTION_START	promotion_start	Store all start dates of promotional projects	promotion_start
PROMOTION_END	promotion_end	Store all end dates of promotional projects	promotion_end
PROMOTION_DESCRIPTION	promotion_description	Store all descriptions of promotional projects	promotion_description

**Employee Dimension:****Hierarchy EMPLOYEE\_ID–EMPLOYEE\_FIRST\_NAME–EMPLOYEE\_LAST\_NAME–  
EMPLOYEE\_POSITION–EMPLOYEE\_START–EMPLOYEE\_END**

Name	LEVEL_CODE	LEVEL_DESC	LEVEL_NATURAL_KEY
EMPLOYEE_ID	employee_ID	Store all employee ID numbers by NK passport_ID	employee_passport_ID
EMPLOYEE_FIRST_NAME	employee_first_name	Store all first names of employees	employee_first_name
EMPLOYEE_LAST_NAME	employee_last_name	Store all last names of employees	employee_last_name
EMPLOYEE_POSITION	employee_position	Store all employee positions in the agency	employee_position
EMPLOYEE_START	employee_date_of_hire	Store all the dates the employee started working at the agency	employee_date_of_hire
EMPLOYEE_END	employee_date_of_dismissal	Store all dates of termination of the employee's work at the agency	employee_date_of_dismissal

### 3.3. Task 08 – Solution concept – Add: Chapter Facts Aggregations

Summary table to describe all future STAR Fact Table Aggregations:

Name	Code	Table Name	Additive	Descriptions
Counts the sum of profit in dollars (GROSS)	gross_profit_dollar_amount	Business_Fact	+	Calculate the sum of profit in dollars (GROSS) in the selected period.
Counts the sum of profit in dollars (NET)	net_profit_dollar_amount	Business_Fact	+	Calculate the sum of profit in dollars (NET) in the selected period.
Counts the sum of revenue in dollars (GROSS)	gross_revenue_dollar_amount	Business_Fact	+	Calculate the sum of revenue in dollars (GROSS) in the selected period.
Counts the sum of revenue in dollars (NET)	net_revenue_dollar_amount	Business_Fact	+	Calculate the sum of revenue in dollars (NET) in the selected period.
Counts the sum of cost in dollars (GROSS)	gross_cost_dollar_amount	Business_Fact	+	Calculate the sum of cost in dollars (GROSS) in the selected period.
Counts the sum of cost in dollars (NET)	net_cost_dollar_amount	Business_Fact	+	Calculate the sum of cost in dollars (NET) in the selected period.
Counts the sum of salary in dollars (GROSS)	gross_salary_employee_dollar_amount	Business_Fact	+	Calculate the sum of salary in dollars (GROSS) in the selected period.

Counts the sum of salary in dollars (NET)	net_salary_employee_dollar_amount	Business_Fact	+	Calculate the sum of salary in dollars (NET) in the selected period.
Counts number of Customers	customer_quantity	Business_Fact	+	Calculate the total amount of Customers in the selected period.
Counts number of Employee	employee_quantity	Business_Fact	+	Calculate the total amount of Employee in the selected period.
Counts number of Promotions	promotion_quantity	Business_Fact	+	Calculate the total amount of Promotions in the selected period.
Ratio of revenues to costs in percent	revenue_cost_percent	Business_Fact	-	Calculate the ratio of revenues to costs in percent.
Average price of advertising projects	avg_promotion_price	Business_Fact	-	Calculate the average price of advertising projects.