U1M7.LW.Dimension and Facts Basics Part 2

Business Project
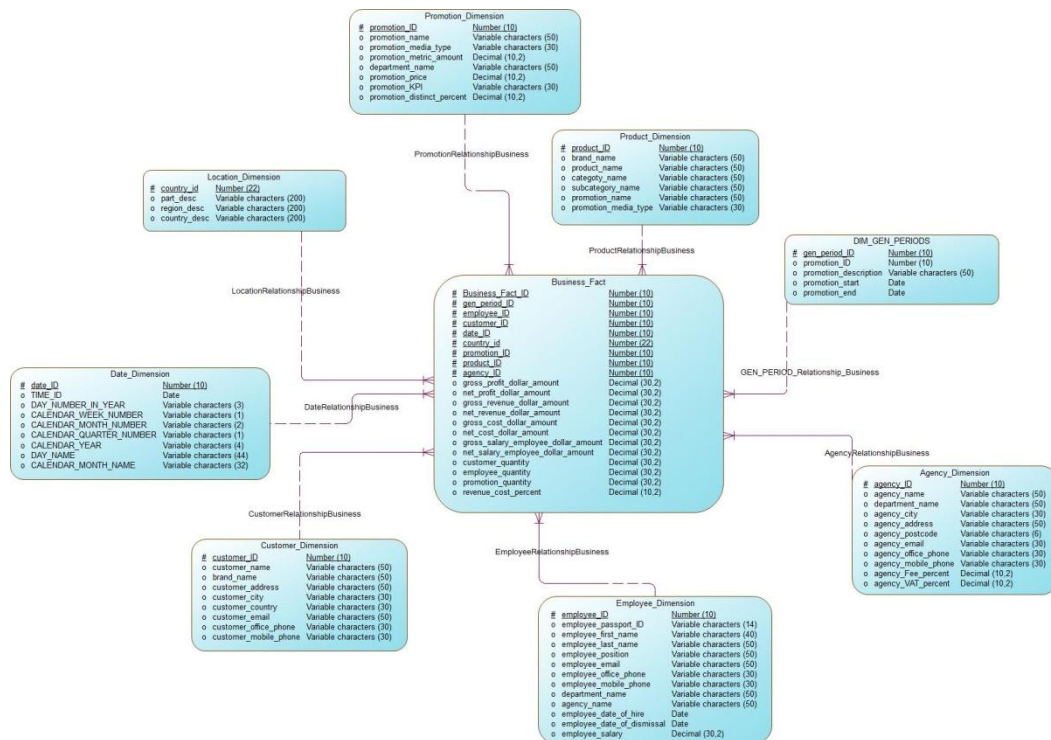
Shkrabatouskaya Vera

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	date_ID 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 categoty_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.