

Example Case for Business Analyst

Case Study: Retail Sales Analysis

Background:

Assume you are working as a Data Scientist for a retail company. The company has several stores across the country and maintains a database of its sales, customer interactions, and inventory.

Data Provided:

Sales Table: Contains records of sales transactions, including transaction ID, date, customer ID, store ID, product ID, quantity sold, and total price.

Products Table: Includes details of each product, such as product ID, name, category, supplier, and price.

Customers Table: Holds information about customers, like customer ID, name, contact details, and membership status.

Stores Table: Contains information about each store, such as store ID, location, size, and number of employees.

Tasks:

1. Write an SQL Script to create the example tables, incl. inserting the example dataset.
2. Write SQL Queries to answer the tasks below.
3. Describe your Solution.

Tasks for Point 2:

Sales Performance Analysis:

- Write SQL queries to calculate the total sales for each store last month.
- Identify the top 5 performing products in terms of quantity sold.
- Analyze the sales trend for a particular product category over the past year.

Customer Insights:

- Determine the average purchase value per customer.
- Identify the top 10 customers based on their total spending.
- Find patterns (look at avg. spendings) in purchase behavior based on membership status.

Advanced Analysis:

- Use window functions to rank stores based on their growth in sales quarter over quarter.

Sales Table

transaction_id	date	customer_id	store_id	product_id	quantity	total_price
1	2023-05-31	2	1	5	6	2257.44
2	2023-02-17	10	1	17	4	1233.04
3	2023-10-24	6	1	3	4	342.32
...

Products Table

product_id	name	category	supplier	price
1	Schattenfugenrahmen	Home and Living	Supplier 1	374.64
2	Plissees	Home and Living	Supplier 1	196.86
3	Football	Sports	Supplier 5	85.58
...

Customers Table

customer_id	name	contact	membership
1	Max Mueller	m.mueller@example.com	Premium
2	Daniel Fischer	daniel.fischer@example.com	Standard
3	Kevin Schmidt	schmidt@example.com	Standard
...

Stores Table

store_id	location	size	employees
1	Koeln	1880	8
2	Berlin	2274	14
3	Frankfurt	1985	17
...