Conglomerate Product Supply Control System

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Problem Statement

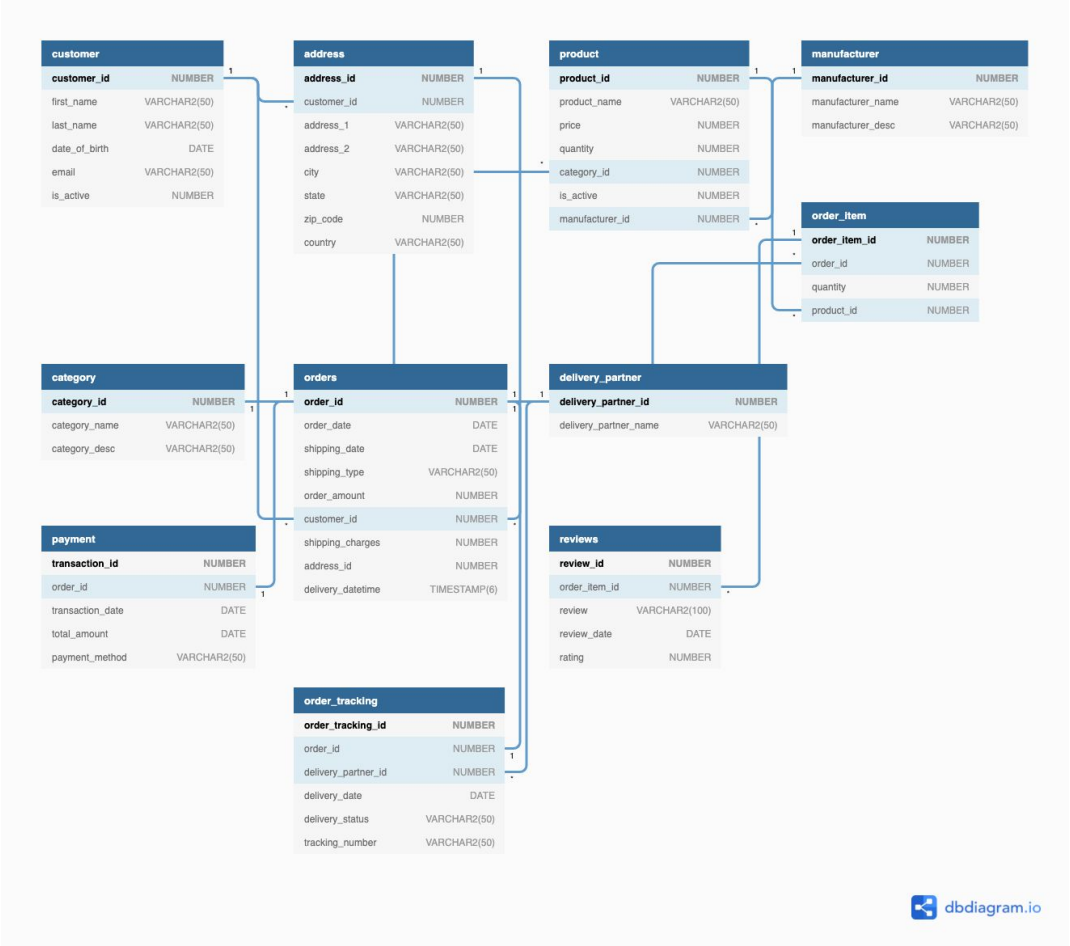
As the world is turning into the impacts of COVID-19, online shopping has become the most convenient option for consumers and retailers alike.

E-commerce represents an advancement in this fast-growing world. Online purchases have gained more presence and curiosity. A prodigious amount of data is provisioned, scaled, and replicated daily. A predictive model is to be designed that can speculate and refine supply chain efficiency by analysing pricing, forecasting trends, and market analysis.

Objectives

1. To develop easy management of inventory.
2. Ability to checkout products and place the order.
3. Ability to track the order status.
4. Ability to update the product details.
5. Implementation of transaction management to roll back if needed.
6. Ability to review products.
7. Find for recommendations and data analysis.

ER Diagram


customer
customer_id NUMBER
first_name VARCHAR2(50)
last_name VARCHAR2(50)
date_of_birth DATE
email VARCHAR2(50)
is_active NUMBER
address
address_id NUMBER
customer_id NUMBER
address_1 VARCHAR2(50)
address_2 VARCHAR2(50)
city VARCHAR2(50)
state VARCHAR2(50)
zip_code NUMBER
country VARCHAR2(50)
product
product_id NUMBER
product_name VARCHAR2(50)
price NUMBER
quantity NUMBER
category_id NUMBER
is_active NUMBER
manufacturer_id NUMBER
manufacturer
manufacturer_id NUMBER
manufacturer_name VARCHAR2(50)
manufacturer_desc VARCHAR2(50)
order_item
order_item_id NUMBER
order_id NUMBER
quantity NUMBER
product_id NUMBER
category
category_id NUMBER
category_name VARCHAR2(50)
category_desc VARCHAR2(50)
orders
order_id NUMBER
order_date DATE
shipping_date DATE
shipping_type VARCHAR2(50)
order_amount NUMBER
customer_id NUMBER
shipping_charges NUMBER
address_id NUMBER
delivery_datetime TIMESTAMP(6)
delivery_partner
delivery_partner_id NUMBER
delivery_partner_name VARCHAR2(50)
payment
transaction_id NUMBER
order_id NUMBER
transaction_date DATE
total_amount DATE
payment_method VARCHAR2(50)
reviews
review_id NUMBER
order_item_id NUMBER
review VARCHAR2(100)
review_date DATE
rating NUMBER
order_tracking
order_tracking_id NUMBER
order_id NUMBER
delivery_partner_id NUMBER
delivery_date DATE
delivery_status VARCHAR2(50)
tracking_number VARCHAR2(50)
dbdiagram.io

Topics Covered

1. Tables
2. Views
3. Indexes
4. Triggers
5. Cursors
6. Stored Procedures
7. Functions
8. Packages
9. Type
10. Exception Handling

Reports

1. Top 3 products sold by quantity per year
2. Top 3 categories of product sold by quantity
3. To view the products low on stock (quantity less than equal 20)
4. Top customers by order amount
5. Total delivery count by delivery vendors
6. Manufacturer’s average ratings based on their product reviews
7. To get product recommendation of customers based on their purchase history
8. View all the orders placed across the inventory

Contributions - Mayank Deshpande

1. Created package and package body structure.
2. Created procedure to create the tables and sequences if doesn't exist and to delete the existing records in case of DML script reran again.
3. Created functions to validate various ids, to fetch the total price of the order items placed and to validate the product quantity before placing the order.
4. Created procedures to handle the orders workflow (creation of order, order items, transaction order tracking records)and to rollback in case of any exceptions.
5. Created 2 views (Manufacturer's average ratings based on their product reviews, orders placed across the inventory)
6. Created a trigger to increase the quantity of the product in case of cancellation.
7. Handled the logic in case the scripts(DML, DDL) reran multiple times.

Contributions - Dhankuwar Sisodiya

1. Created procedure to create the type and object
2. Created 5 views (Top 3 products sold by quantity per year, top 3 categories of product sold by quantity, get inventory status and manufacture report to view products low on stock, Top customers by order amount, total delivery count by delivery vendors)
3. Created 3 triggers (Update delivery date, update product stock quantity on placing order, Update shipping date)
4. Get product recommendation for user based on previous orders and category using type and object
5. Created function to implement type
6. Created Indexes
7. Procedure - update order tracking status and update product

Contributions - Butool Abidi

1. Created procedures to insert data into the tables
2. Handled various validations and ensured that the data entered is sensible and feasible.
3. Responsible to create insertion data.
4. Testing of the website which involves checking things such as the schema, tables, or triggers.
5. DML scripts creation and execution which is used to retrieve and manipulate data in a relational database.
6. Created procedure - active/inactive statuses of customer and products that were used for data validation.

Thank you !