Supply Chain Optimization

Backgroud :

A company in the retail sector procures products from multiple suppliers to maintain its inventory. The company seeks to enhance its supply chain management to ensure smooth order processing, prevent stock shortages, and lower storage costs. The database includes details on suppliers, products, orders, and shipments, which can be utilized to refine supply chain activities and improve overall efficiency.

Objectives:

- Analyze supplier performance and identify opportunities for collaboration.
- Optimize inventory levels to reduce stockouts and improve customer satisfaction.
- Streamline order fulfillment processes to enhance efficiency and reduce costs.
- Identify key trends and patterns in order and shipment data for strategic decision-making

Database Schema:

The database schema includes the following tables:

- **Suppliers Tables:** Stores information about suppliers, including supplier ID, name,contact person, phone number, and email

```
supplier_id (Primary Key)
supplier_name
contact_person
phone_number
email
```

- **Products**: Contains details about products, such as product ID, name, description, unit price, and quantity in stock

```
product_id (Primary Key)
product_name
description
unit_price
quantity_in_stock
```

- **Orders**: Captures data related to customer orders, including order ID, product ID, supplier ID, order date, quantity ordered, and order status.

```
order_id (Primary Key)
product_id (Foreign Key)
supplier_id (Foreign Key)
order_date
quantity_ordered
order_status
```

Shipments: Stores information about shipments, including shipment ID, order ID, shipment date, delivery date, shipping company, and tracking number.

```
shipment_id (Primary Key)
order_id (Foreign Key)
shipment_date
delivery_date
shipping_company
tracking_number
```