

WHOLESALE MANAGEMENT SYSTEM

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Overview:

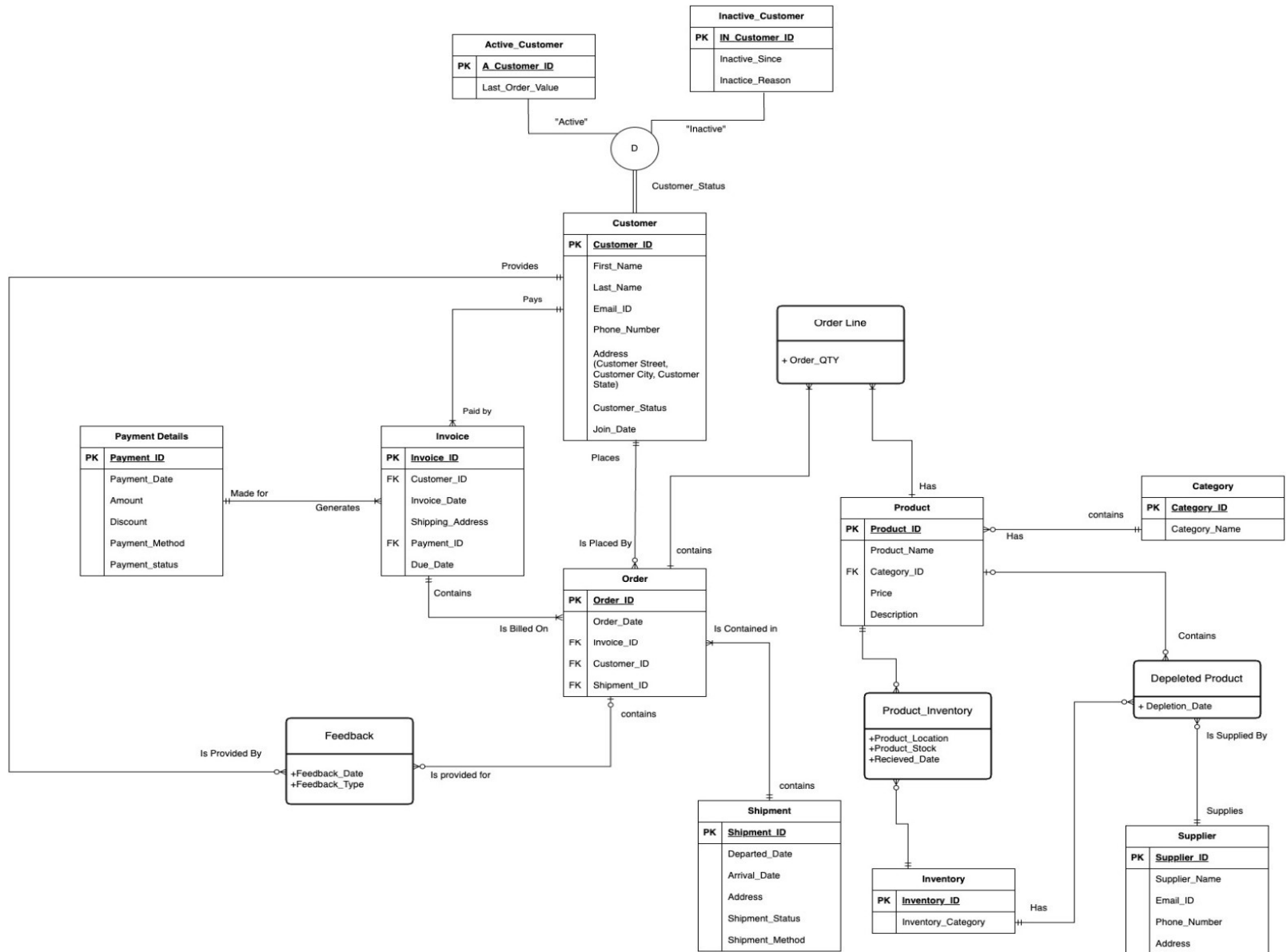
- This system is intended to streamline and optimize the operations of wholesale businesses along with keeping an oversight of customer information, supplier information, inventory and transactional data which will aid the business in informed decision making and simplify the daily functioning.

Explanation:

S.No	Entities	Description
1.	Customer	<p>This entity provides information about the customer. The attributes are:</p> <p>Customer id (primary key), first name, last name, email id, phone number, address (street, city, state, postal code), customer status and join date.</p> <p>There are two subtype entities of the customer supertype entity which are Active Customer and Inactive Customer using Customer_Status as discriminator. The attributes of Active Customer are active customer ID and last order value and Inactive Customer are inactive customer ID, inactive reason and inactive since.</p>
2.	Order	<p>This entity gives information about the order which is placed by the Customer, and the essential attributes are Order id (primary key), Order date. Foreign keys are Invoice id, Customer id and Shipment id.</p>
3.	Invoice	<p>This entity has the information about the invoice which is generated for the customer order. The essential attributes are Invoice id(primary key), payment id, customer ID referencing customer ID in customer table.</p>
4.	Payment Details	<p>This entity stores the payment/ transaction details of the customer and gives us important information such as how the payment was made, and any discount given. The essential attributes are Payment ID (primary key).</p>

5.	Shipment	This entity describes the information about all the shipment details of the order customer places. The attributes of this relation are shipment id (primary key), departed date, arrival date, shipment (street, city, state, postal code), shipment status and shipment method.
6.	Product	This entity contains information about every product that the whole sale business has and contains attributes like product id (primary key), product name, category id, price, and description.
7.	Inventory	This entity has details about the inventory and provides important information about the product. The essential attributes are Inventory id (primary key) and inventory category.
8.	Product_Inventory	This is an associative entity giving us details about the product in inventory such as product location, product stock and received date. Product ID and Inventory ID are foreign keys.
9.	Supplier	This entity has supplier details. This has attributes like supplier ID, supplier name, product ID, email ID, phone number, supplier (street, city, state, postal code) where supplier ID is the primary key.
10.	Category	This entity has the details about the category under which the product falls. The attributes are category id (primary key) and category name.
11.	Depleted Product	It is an associative entity which stores information about the product having a low stock count and which must be reordered with the supplier. Its attributes are depletion date, supplier id, inventory id and product id.
12.	Order line	It is an associative entity which stores information about the order placed by the customer. Its attributes are order id, product id and order quantity.
13.	Feedback	It is an associative entity which stores information about the feedback which is given by the customer for their order. Its attributes are Feedback date, type, order id and customer id.

ENTITY RELATIONSHIP DIAGRAM



Functional Dependencies

- **Customer:** Customer ID → First Name, Last Name, Email ID, Phone Number, Customer Street, Customer City, Customer State, Customer Postal Code, Customer Status, Join Date
- Active Customer → Last Order Value
- Inactive Customer → Inactive Reason, Inactive Since
- **Invoice:** Invoice ID → Invoice Date, Shipping Address, Due Date
- **Order:** Order ID → Order Date
- **Payment Details:** Payment ID → Payment Date, Amount, Discount, Payment Method, Payment Status
- **Order Line:** Order ID → Order Quantity
- **Product:** Product ID → Product Name, Price, Description
- **Shipment:** Shipment ID → Departed Date, Arrival Date, Shipment Street, Shipment City, Shipment State, Shipment Postal Code, Shipment Method, Shipment Status
- **Product Inventory:** Product ID → Product Location, Product Stock, Received Date
- **Inventory:** Inventory ID → Inventory Category
- **Category:** Category ID → Category Name
- **Supplier:** Supplier ID → Supplier Name, Product ID, Email ID, Phone Number, Supplier Street, Supplier City, Supplier Postal Code, Supplier State
- **Depleted Product:** Inventory ID → Depletion Date
- **Feedback:** Order ID, Customer ID → Feedback Type, Feedback Date