OPIM 5272: Data Management and Business Process Modeling

Project Phase 2

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Table descriptions and definitions

This project is based on a B2B company's return policy. The orders are usually placed in bulk when we talk about such businesses. Sometimes, due to defect or a wrong product, the whole order needs to be replaced or returned after it is delivered whereas in certain situations, a part of the order can be returned at the time of the delivery itself. Customers are given a certain time frame during the delivery time to check if the products are correct and in good shape. If not, it can be returned right then and there. For example, a customer had ordered 2 lots of red medium sized t-shirts and 3 lots of white large sized shirts. However, at the time of delivery, there is no more requirement of red t-shirts. In this case, the delivery person (who belongs to our company) creates a new invoice for only white shirts as the customer wants to keep white shirts but not the red t-shirts. Therefore, this reduces the chances of loss on sellers' as well as our company's end because the extra cost (shipment, storage, transportation, etc.) is covered for half of the order. This process, of delivering just as per requirement, is called Partial Return To Origin or Partial RTO process. However, sometimes, as the order is in bulk, not every item can be checked. Hence, there is also an option of a normal return. Hence, the major difference between normal return and partial RTO is mainly based on the way invoice is processed and items are delivered. For normal return, the items are delivered based on the invoice generated at sellers' end whereas in case of partial RTO, a new invoice is generated if there is any item that needs to be returned right at the time of the delivery.

So, considering various kinds of returns possible, we have tried to list and include them all here. Following is the detailed description of all the tables (as per the SQL code):

1. Customer13* - This table consists of the detailed information about all the customers associated with the company.
2. Seller - Now, this is an online B2B platform. Hence, it is a common space for both customer and seller. There are various sellers of a particular product, giving customers a wide range to compare and choose their required products.
3. Listing - This table lists all the products which are available on this particular online platform. Simultaneously, it also lists various sellers associated with a particular product and the unit price quoted by them.
4. Order* - This table shows us various orders placed by various customers.
5. Order_Line - It gives us the list of various products under one order. For example, if customer A has placed an order of 5 lots of yellow t-shirts and 2 lots of blue shorts, then the Order table will just show one entry of the order placed by customer A whereas order_line table will list and show what all products are a part of that particular order.

6. Partial_RTO_Order - This table describes and gives us information about all those items which were returned back right at the time of delivery, either due to no demand or defects.
7. Partial_RTO_Reverse_Shipment - This table provides us the shipment details of the Partial RTO orders so that we can track the same as and when needed until it reaches back to the seller.
8. Return13* - There are some situations wherein the customer cannot check the whole lot at the time of delivery. Hence, there might be a need to return a few things, if needed, after a few days of accepting the delivery. This can be done in 3 different ways (subtypes):
    a. In_Store_Return - The customer themselves go to the store to return the whole order.
    b. Pickup_Exchange_Return - This is a case wherein the order needs to be replaced. For example, the customer has received the wrong size of the shirt. A person from the seller's side would come to pick up the wrong order and deliver the correct one.
    c. No_Pickup_Return - This is a normal kind of return where the customer returns the product to the seller directly (online) and gets the refund for the same.
9. Return_State_Transition - This table enables us to completely track the return. It provides the exact timestamp information as to when a return was shipped, when was it in transit, when it was delivered to the seller, etc.
10. Return Shipment - This gives the shipment details of a particular order when returned by a customer. This table is related to the table Return13. It gives us shipment details of returns present in the Return13 table.
11. Return_Line - Similar to Order_Line table, this gives us a probe into a particular return, listing all the different items being returned in one particular return raised by a customer. For example, customer B raised a return which consists of 2 lots of red t-shirts and 1 lot of Black trousers then these details would be present in the return_line table against the return_id he is assigned while requesting the return. On the other hand, the Return13 table will just show the return_id and the details associated with it such as type, status, customer_id,etc.
12. Dispute - This gives us the details of any dispute that is raised by a seller when they are not in complete agreement with the return (they are not willing to accept the return because they do not find any issue with the product or its not according to their rules and conditions).

*Note - Due to certain naming conflicts in Oracle, we added 13 behind the table name to make it unique.

Changes made based on the recommendations in Phase I

- Removed the table “Review” as it did not help us get any solid report. Rather, we included it under the Return13 table. This way we were able to reduce the number of tables and make it more efficient.
- Added “Return_State_Trans_ID” as the primary key in the entity Return_State_Transition.
- Added “Partial_RTO_ID” as the primary key in the entity Partial_RTO_Order.