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Product Recommendation System

Product Model

- category
- price
- origin
- manufacturing_timestamp
- quantifier (like measurements, self_life and others)
- order_items
  - timestamp
  - customer_id
  - quantity
  - customer_pin_code
  - order_id

Here we are focussing on recommendation system based on below two strata:

1. **Product Similarity**
2. **Sales History**
   a. Sales history of different or similar products **sold to the same customer** in different **time frames**.
   b. Sales history of same products **sold to different customers** of different **pin codes** in a certain **timeframe**.

1) Product Similarity

In this approach we can do followings:

- Recommend products which have similar category
- Recommend products based on the same price and origin(as a particular company makes the same kind of products like CG Foods will be making noodles, biscuits, pastas and other fast food edible items). So to those buying CG biscuits, we can recommend them CG noodles as well.

2) Sales History

a) Products sold to the same customer

In this approach we can do followings:

- Recommend products which were purchased in the past with current products looking for **product_id** → giving **order_id** of past purchases(if any) of the product_id → then l**ooking for products purchased** with the same found **order_id.**

- Recommend product_id of the product **which might have finished based on measurement** or **expired based on self lif**e time by evaluating the **last purchase timestamp** of that product.

b) Products sold to different customers

In this approach we can do followings:

- Recommend **popular** and **most selling product**s in the area based on the **pincode** and **time period**.
- Recommend products that most other people have purchased with current products.

Have implemented a basic product recommender API to recommend products on following basis:

- same category
- sorting products based on maximum sales

And returning products list based on above basis on passing any product_id