

MKT-680 Marketing Analytics

Midterm Group Projects

Background

Pernalonga, a leading supermarket chain of over 400 stores in Brazil, sells over 10 thousand products in over 400 categories. Pernalonga regularly partners with suppliers to fund promotions and derives about 30% of its sales on promotions. While a majority of its promotion activities are in-store promotions, it recently started partnering with select suppliers to experiment on personalized promotions. In theory, personalized promotions are more efficient as offers are only made to targeted individuals who required an offer to purchase a product. In contrast, most in-store promotions make temporary price reductions on a product available to all customers whether or not a customer needs the incentive to purchase the product. The efficiency of personalized promotion comes from an additional analysis required on customer transaction data to determine which customers are most likely to purchase a product to be offered in order to maximize the opportunity for incremental sales.

Problem

Pernalonga is planning a personalized promotion campaign in partnership with suppliers for the first two week of April 2018. The students of MKT-680 are tasked to help Pernalonga with the following problems:

1. Colgate-Palmolive is interested in a promotional campaign to boost the sales of Colgate toothpaste.
2. Kimberly-Clark is planning to promote the Huggies brand targeting customers who are currently buying another brand.
3. Heineken is interested in knowing whether or not it can increase the sales of Heineken branded products by targeting customers who currently buy Super Bock.
4. Beiersdorf wants to find out which Nivea branded products to promote in order to increase overall sales for the Nivea brand.
5. Coca-cola and Pepsi Cola are both planning personalized promotion campaigns, but Pernalonga can only pick one. Which one?
6. Pernalonga plans to have personalized offers to at least 500 customers who purchased at least R\$5,000 in 2017. Each customer will be provided 2 product offers to be funded by at most 5 suppliers.
7. Pernalonga plans to have personalized offers to up to 500 customers who mainly purchased from 20 stores. Each customer will be provided 2 product offers. Which 20 stores?
8. Pernalonga plans to invite one brand from the Yogurt Health category to participate in a personalized promotion campaign. Which brand should it invite?

9. Pernalonga plans to have a personalized promotion campaign for one of its PRIVATE LABEL subcategory. Which one should it promote?

For each of the above problem, a minimum requirement is to provide with justification a personalized promotion plan with the following:

- The customers that will be targeted
- For each targeted customer, which product is being promoted with an offer

Not required, but bonus points will be given for plans with the following information:

- The expected total redemption cost for the promotion (total discounts redeemed)
- The expected incremental volume for each product

For all problems above, except for #9, customers who purchase Pernalonga's PRIVATE LABEL equivalent of the promoted brand should not be targeted.

Available Data

The file Pernalonga.zip contains two tables:

1. transaction_table.csv contains transaction history in 2016 and 2017 for close to 8,000 customers
 - cust_id – Customer ID
 - tran_id – Transaction ID
 - tran_dt – Transaction Date
 - store_id – Store ID
 - prod_id – Product ID
 - prod_unit – Product unit of measure: CT for count and KG for kilograms
 - prod_unit_price – Unit price of the product
 - tran_prod_sale_qty – Quantity/units of the product in the transaction
 - tran_prod_sale_amt – Sales amount for the product before discounts in the transaction
 - tran_prod_discount_amt – Total amount of discounts applied to the product in the transaction
 - tran_prod_offer_cts – Total number of offers on the product resulting in the total amount of discounts in the transaction
 - tran_prod_paid_amt – Amount paid for the product after discounts are applied in the transaction
2. product_table.csv contains the product to subcategory and category mapping and descriptions for about 11,000 products
 - prod_id – Product ID
 - subcategory_id – Subcategory ID
 - category_id – Category ID
 - sub_category_desc – Subcategory name (in Portuguese)

- category_desc – Category name (in Portuguese)
- category_desc_eng – Category name (in English)
- brand_desc – Brand of the product, including NO LABEL and PRIVATE LABEL

Note that customer, store and product information beyond what is available above are not provided.

Grading

Projects will be graded according to the following criteria

- Creative, considered, and correct application/execution of chosen technique (40%)
- Robustness of solution (20%)
- Integration of domain knowledge/practicality into solution (20%)
- Report and presentation flow, delivery, and defense (20%)

Reports

Project written reports are due on March 22, 2018. Each group will be given 20 minutes to present and defend their results.