



Data Club of Notre Dame

Spring 2025

34.51°



Introductions

**Prompt
Overview**

Our Approach

Cleaned and Prepared Data

Dashboards and Recommendation

Future Research

Q & A



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Prompt Overview



Description:

Kroger has collected 1 year of transactional data on 2,469 households who are frequent shoppers. Relevant data also available include product and promotional data.

Problem Statement:

It's time for Kroger's Department of Grocery Annual Review! Kroger Category Managers meet each year to better understand how well each Category in Grocery is performing. Category Managers need a way to holistically view how well their categories have performed within the last year.

Task:

Build a dashboarding tool that will allow a user to click through high level metrics surrounding Sales Activity, Assortment, Promotions, and/or Customer Segmentations.



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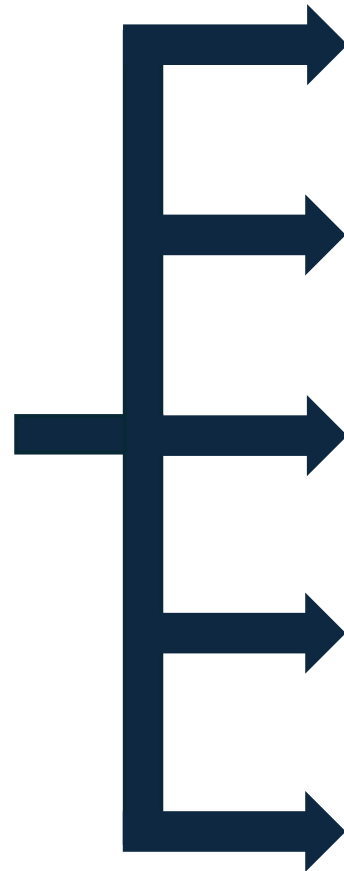
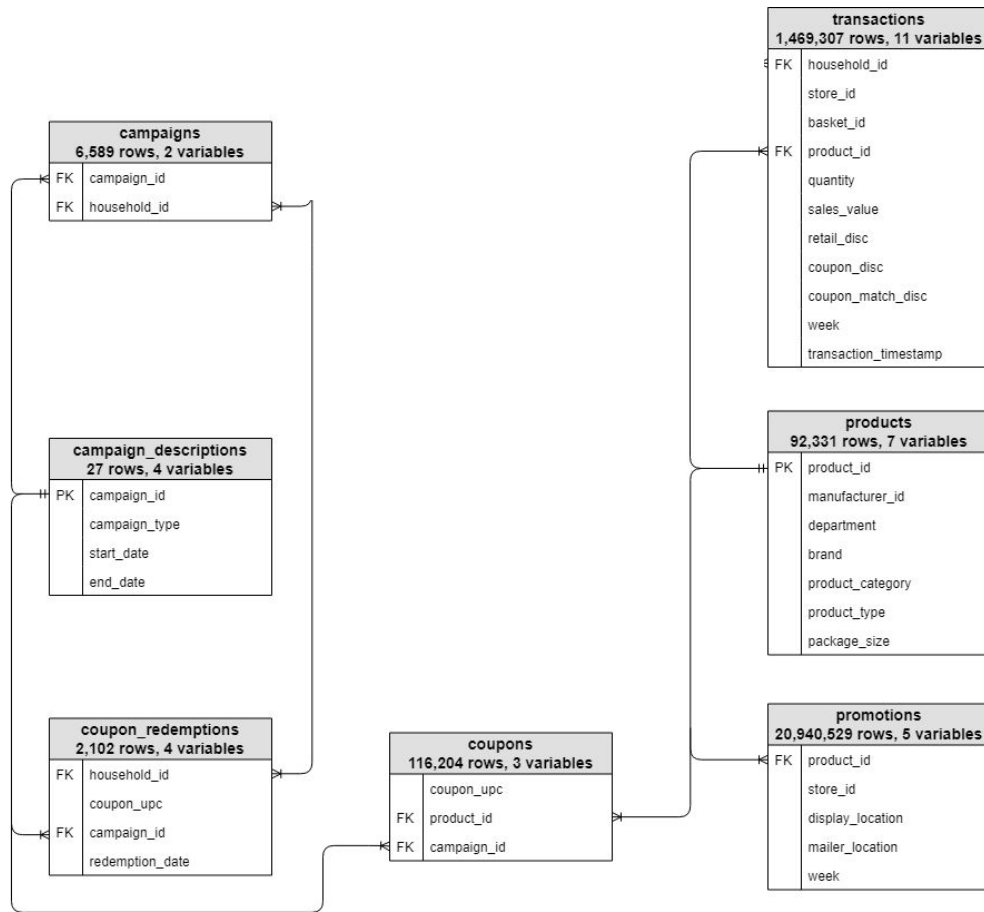
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Transactions

Coupons

Campaigns

Promotions

Products



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Cleaned and Prepared Data



Main Datasets:



Cleaned and Prepared Data



Main Transactions

Description:

- Merge transactions dataset with every other dataset that adds information
- Contains information of transaction, product description, coupon redemption with campaign type of specific coupon (if applicable), and display and mailer location (if applicable)
- Cleaned dataset by focusing on GROCERY department and removing inconsistent sales data based on both weekly sales and specific transactions. We removed weeks 1 and 53 since they were incomplete as well as specific transactions with a sales value of \$0 or quantity of 0.
- Membership status: we defined Loyalty customers as those who received a retail discount, and Non-Loyalty to those who did not.

Cleaned and Prepared Data



Promotions

Description:

- Removed rows containing NA values of Display Locations and Mailer Locations
- Grouped Display Locations and Mailer Locations for clarity

Promotions							
Display Location				Mailer Location			
Display	Front of Store	Back of Store	In Aisle	Feature Ad	Coupon Ad	Free Ad	Non-Ad/Line-Item Ad
<ul style="list-style-type: none">• Display• Secondary Location Display	<ul style="list-style-type: none">• Store front• Front end cap	<ul style="list-style-type: none">• Store rear• Rear end cap	<ul style="list-style-type: none">• Mid-aisle end cap• Side-aisle end cap• In-aisle• In-shelf	<ul style="list-style-type: none">• Interior page feature• Front page feature• Back page feature• Wrap front feature• Wrap back feature	<ul style="list-style-type: none">• Wrap interior coupon• Interior page coupon	<ul style="list-style-type: none">• Free on interior page• Free on front page, backpage, or wrap)	<ul style="list-style-type: none">• Not on ad• Interior page line item

Cleaned and Prepared Data



Campaigns / Coupons

Description:

- Use campaigns and coupons data to identify targeted households, household redemption rate, redeemed coupon percentage, and revenue associated to different campaign types.
- Generate dataset of only the transactions associated with a coupon redemption

Campaign Type	Distinct Households Targeted	Total Revenue Generated	Household Redemption Rate	Redeemed Coupons Percentage Breakdown
Type A	1,490	\$5,328.28	20%	89%
Type B	995	\$421.08	6%	9%
Type C	397	\$95.19	5%	2%



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Data Club 84.51 Dashboard



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Campaigns:

- Identify what type of discount was associated with each campaign type (50% off, buy 1 get 1 free)

Promotions:

- Learn more about each display and mailer location to make sure that the generated groupings are appropriate for our analysis

Transactions:

- Have a clearer understanding of how coupons and discounts are applied to each transactions. Ex: Some transactions were associated with a coupon redemption but had no coupon discount.

Dashboards:

- Expand to include dashboards for different departments other than GROCERY.
- Add more dashboards to learn more about the performance of different product types within a category.



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