

Visualization project - Aishvarya

Aishvarya (MDS202302)

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Introduction:

Customer personality analysis helps the company find patterns in purchases and background of customers, to improve on marketing strategies by finding the right customers to target. Purchasing pattern and methods of purchase of customers can be analysed and relevant measures leads to overall cost reduction.

Data Description:

The dataset contains purchase preferences of various customers, amount spent on various product and mode of purchase

Key Attributes

Demographic information:

- Education
- Marital_Status
- Income
- Kidhome: Number of children in customer's household
- Teenhome: Number of teenagers in customer's household
- Dt_Customer: Date of customer's enrollment with the company
- Recency: Number of days since customer's last purchase
- Complain: 1 if the customer complained in the last 2 years, 0 otherwise

Products:

- Wines
- Fruits
- Meat Products
- Fish Products
- Sweet products
- Gold Products

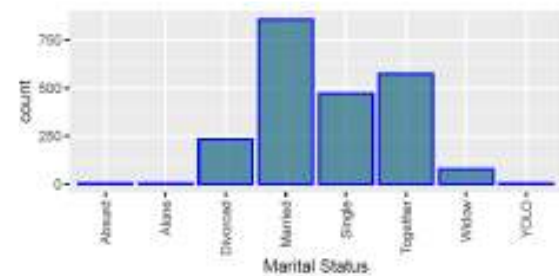
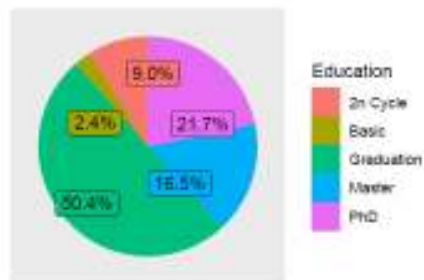
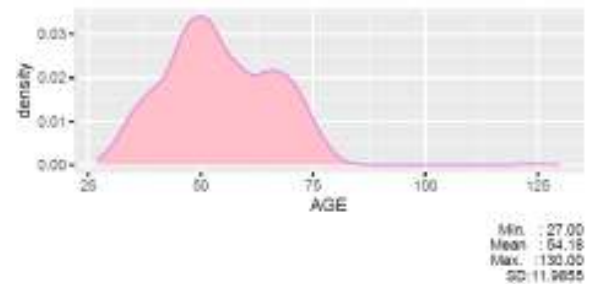
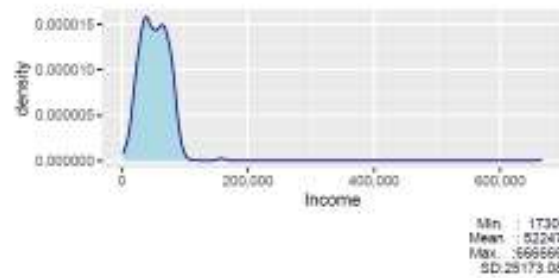
Promotion:

- NumDealsPurchases: Number of purchases made with a discount
- AcceptedCmp n : 1 if customer accepted the offer in the nth campaign, 0 otherwise
- Response: 1 if customer accepted the offer in the last campaign, 0 otherwise

Purchase methods:

- Web Purchase
- Catalog purchase
- Store Purchase

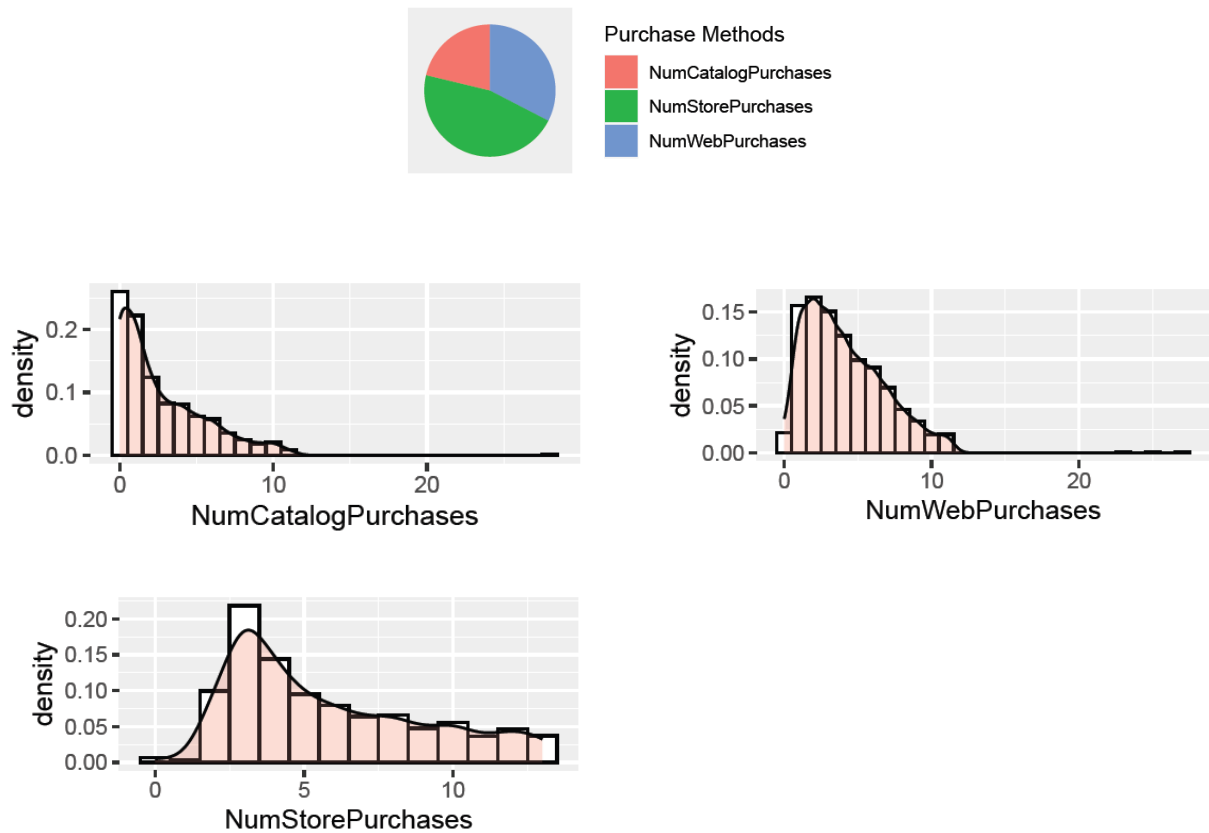
Demographic Information



Inference:

- 1) 88% of the customers have atleast 1 degree and 38% have more than 1 degree.
- 2) 95% (2 Sigma) of the customers have age between 30 and 78
- 3) The salary of the customers mostly lie between 25k and 75k

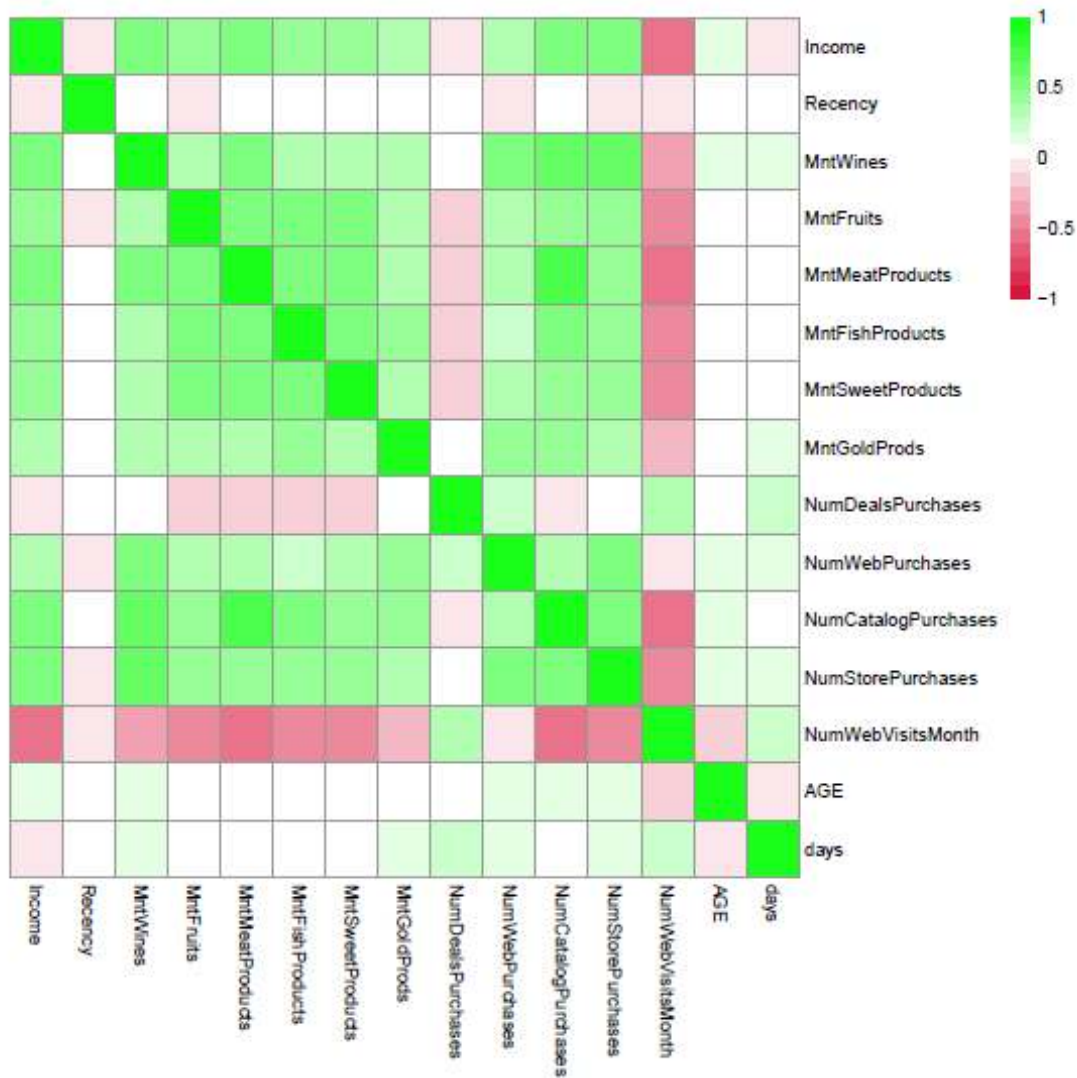
Distribution of Purchase methods



Inference:

1. No of store purchases are more than catalog & web
2. After store purchase, web is preferred

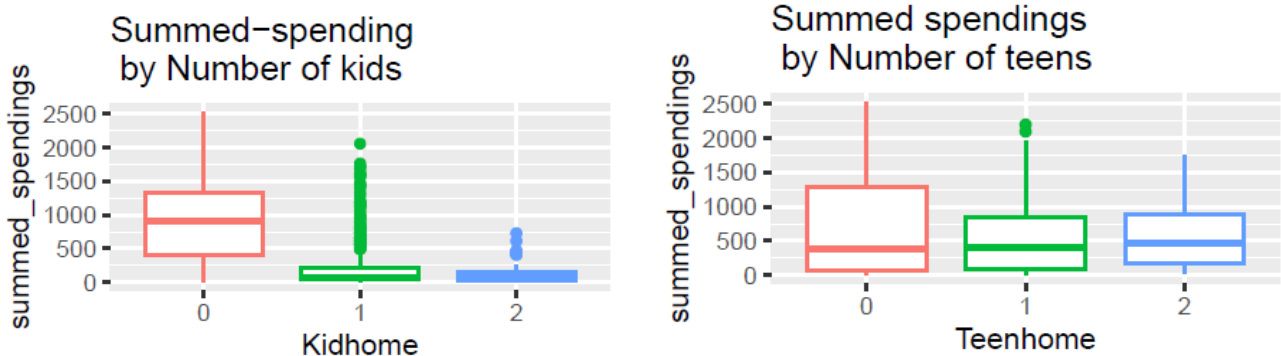
Analysis by Correlation



Inference:

- 1) Wines are mostly bought in store and Catalogue
- 2) meat products are predominantly bought as catalogue
- 3) People who buy wine also buy meat
- 4) People who buy meat also buy fish

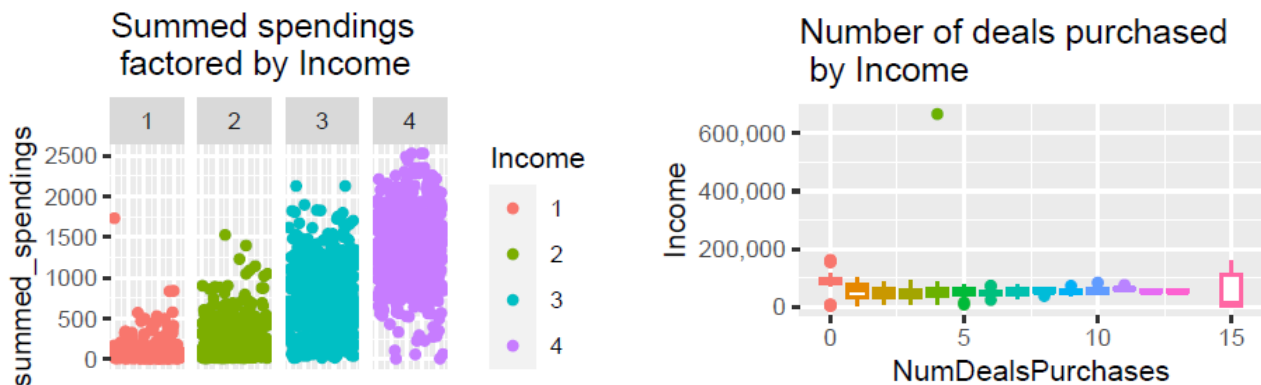
Spending vs No. of children at home (kids & teen)



Inference:

1. Customers without kids spend more money
2. On an average, customer with 2 teens spend comparatively more, unlike in case of kids

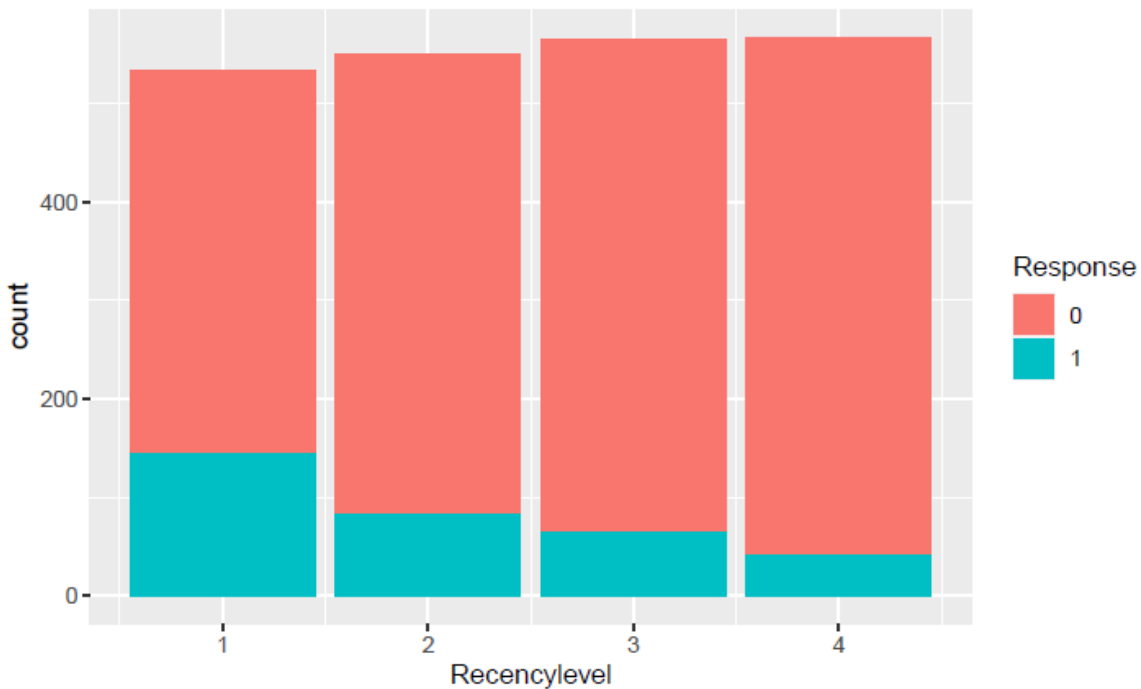
Income vs spending and discount availed



Inference:

1. Income is split into 4 quantiles. Spending and income show positive correlation. Hence, spending increases with income
2. Income and discount availed have negative correlation, that is, bargaining reduces as income increases

Recency level vs Response

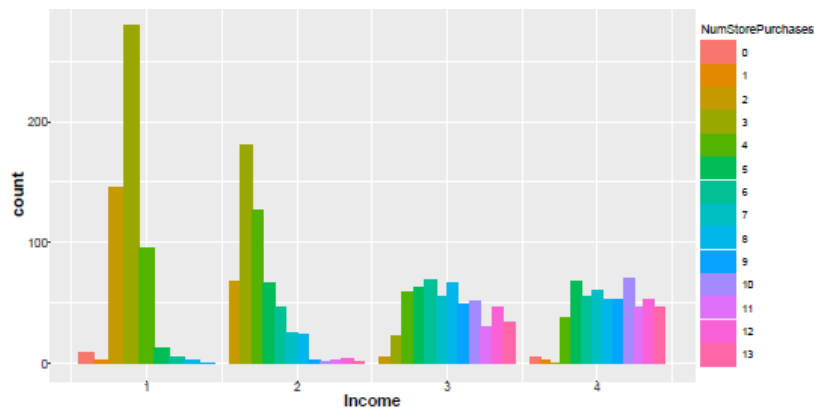
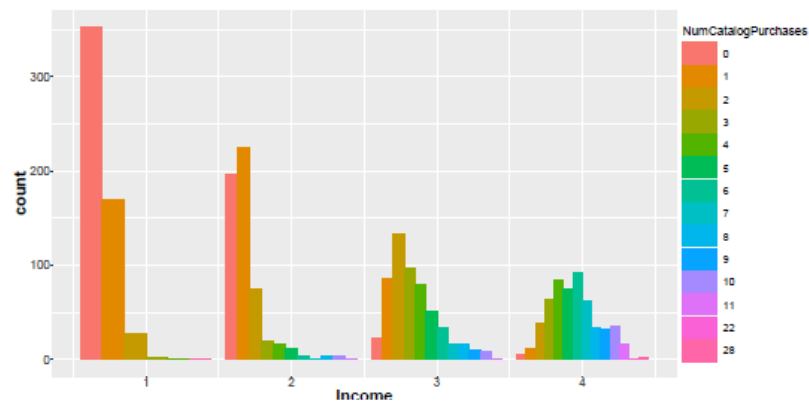
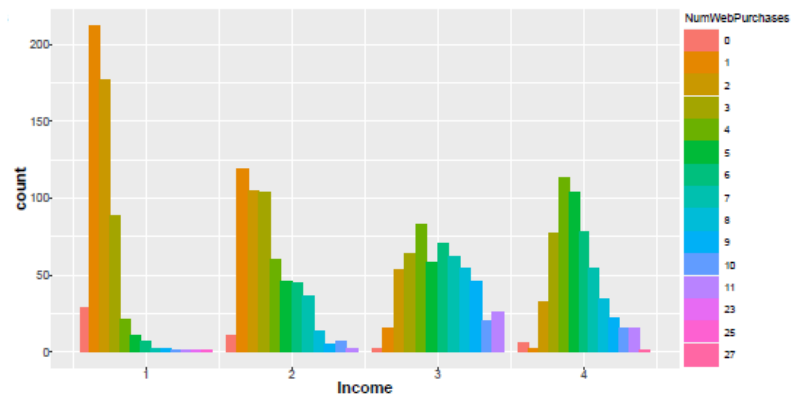


1. Recency level have been split into 4 quantiles, with 1 being the most recent
2. Response 0 corresponds to rejection of offer and 1 corresponds to acceptance of final campaign

Inference:

Customers who have purchased recently have accepted the campaign compared to those who haven't visited the store in a while

Income level vs purchase methods

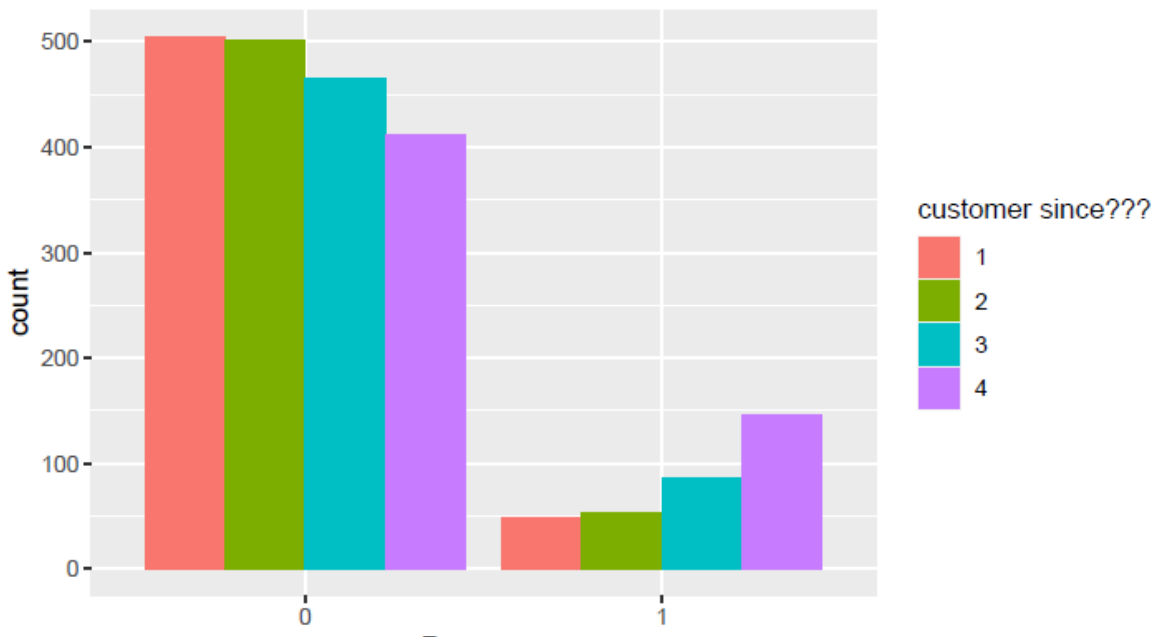


Income is divided into 4 categories by quantiles

Inference:

Plot1, Plot2 and Plot3 shows positive correlation

Response to campaign by customer since

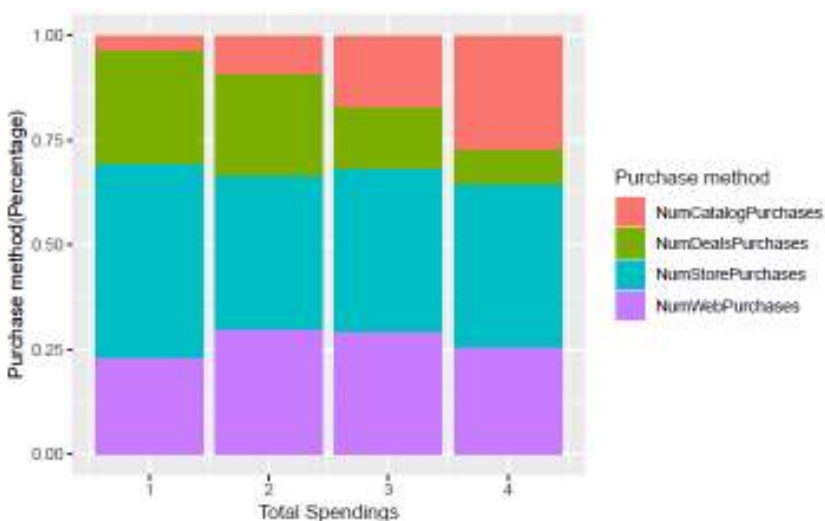


- Customers since when have been categorized into 4 quantiles based on the date of their first purchase
- 1 corresponds to recent member

Inference:

Customers with early enrolment to company have accepted the final campaign more than others

Spendings by each method



Inference:

High spenders use catalog compared to others

Results:

1. Customers with no kids spend more money than customers with 1 or 2 kids but customers with more teens (2) spend a little higher than customers with 0 or 1 teens.
2. Customer's Income and spending amount show a positive correlation
3. Customers with more income purchase less deals
4. Customers with zero kids purchase less deals
5. Customers with basic education spend way less than others
6. Customers who spend more, the purchase method is Catalog
7. Customers who have been long time customers have
8. good response to final campaign Meat products are more purchased through catalog rather than web.
9. Income has positive correlation with Number of Web, Catalog and Store Purchases but negative correlation with deals purchased.
10. High income customers visit the website way lesser times than others

Summary of results:

Product wise analysis has been summarized to focus on the best method.

Product	Demography		Preferred sale mode
	Age (highest spent)	Preferred by customer with	
Fish	41 to 50	No kids or teens	Catalogue, Web
Fruits	47 to 57	No kids or teens	Catalogue
Gold	51 to 72	1) No kids or teen 2) 1 teen only	Catalogue, Store
Meat	41 to 54	No kids or teens	Catalogue
Sweet	37 to 53	No kids or teens	Catalogue, Store
Wines	47 to 55	1) No kids or teens 2) 1 teen only	Store, Catalogue