Customer Personality Analysis

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IOD MINI PROJECT 3

Agenda

- Benefits of this study
- Exploratory data analysis
  - Data cleaning
  - Data visualisation
- Customer segmentation

Benefits of Study

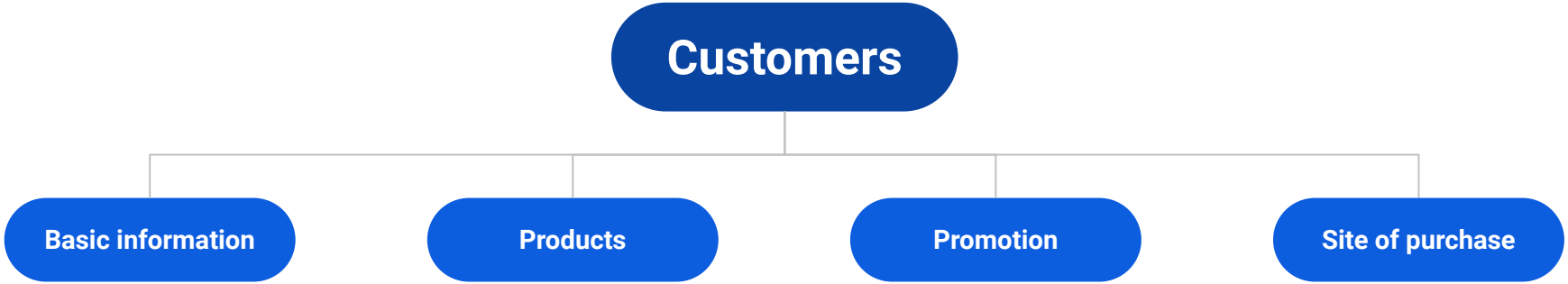
✔ Accelerate Sales

Better understand customer traits and behaviors to formulate targeted strategies to increase revenue

✔ Effective Marketing

Use the appropriate marketing tools to capture customers' attention

Data Set



- ID
- Year of birth
- Education
- Marital Status
- Income
- No. of kids
- No. of teens
- Date of enrolment with company
- Days since last purchase
- Complain

- Wines
- Fruits
- Meat
- Fish
- Sweets
- Gold

- No. of purchases made with discount
- Accepted offer in which campaigns

- Catalog
- Store
- Web
- No. of web visits

Data set: https://www.kaggle.com/datasets/imakash3011/customer-personality-analysis

Data Cleaning

Modified columns

For more meaningful analysis

Δ Year_Birth to Age

Δ Date of enrolment to Joined_year

Δ Martial_Status to Partner

Year_Birth	Age
1957	66
1954	69
1965	58

Dt_Customer	Joined_year
04-09-2012	2012
08-03-2014	2014
21-08-2013	2013

Marital_Status	Partner
'Alone', 'Single', 'Divorced', 'Widow'	No
'Together', 'Married'	Yes

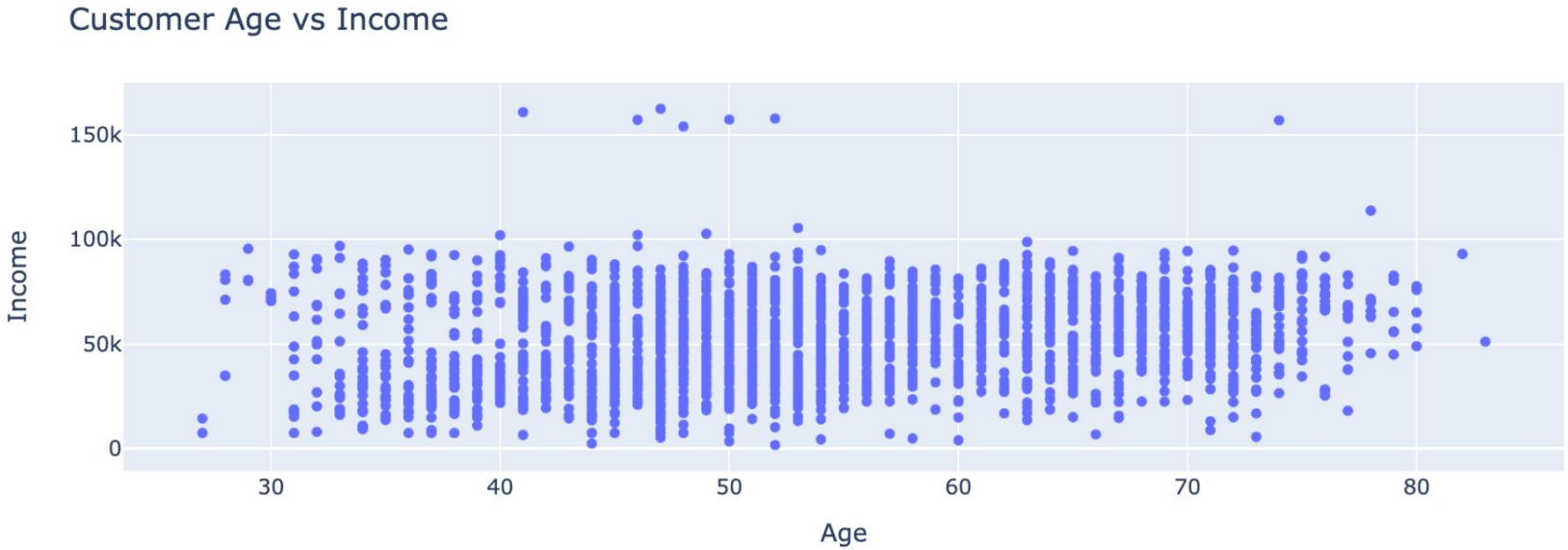
Data Cleaning

Removed columns

Very imbalanced data / Unclear data

- ✖ Customer accepted offer in campaigns
- ✖ Complain
- ✖ Education

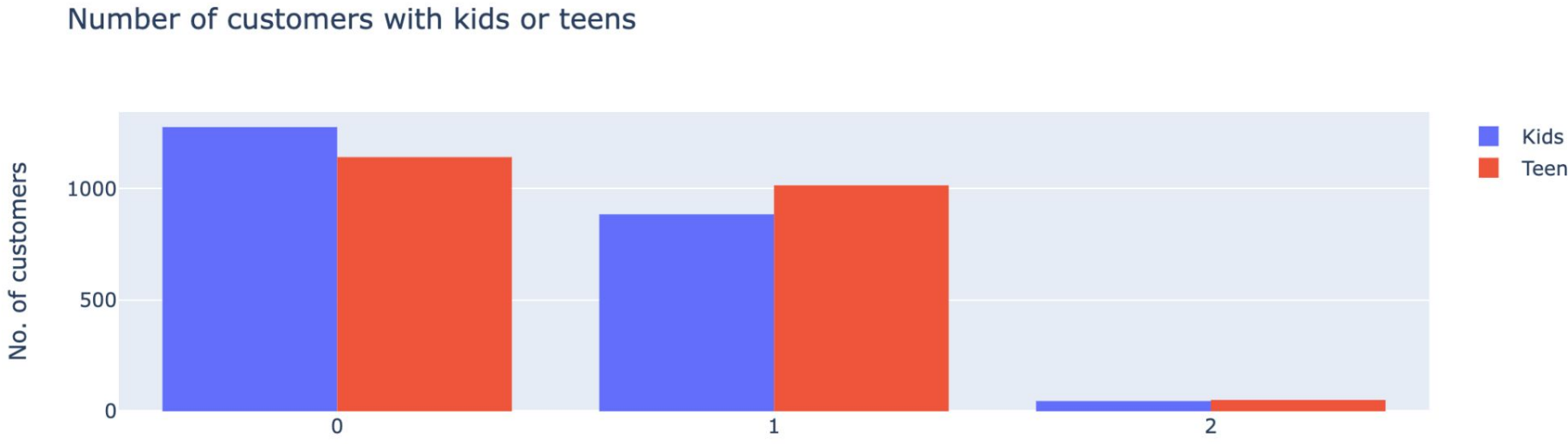
EDA



Customers age: around 30-80

Income: Most earn below 100k

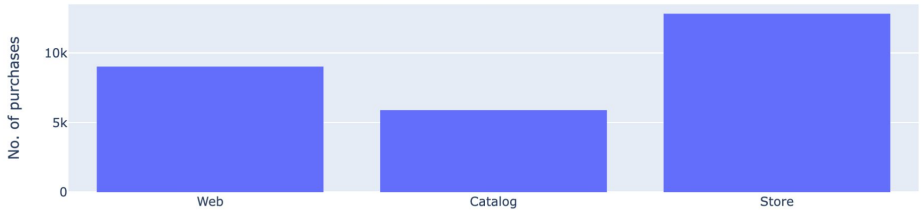
EDA



Good number of customers with and without kids or teens

EDA

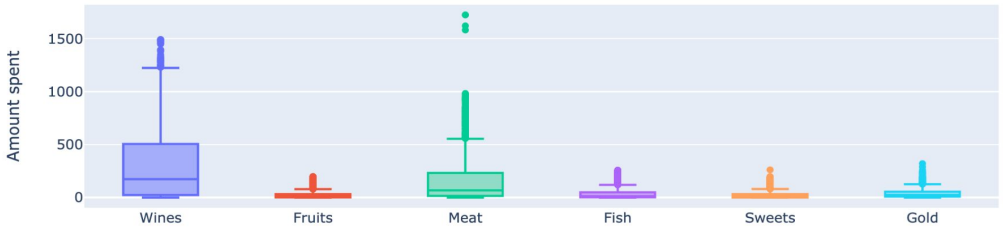
Number of customer purchases across sales channels



Customers prefer to shop in-store

46% of total purchases

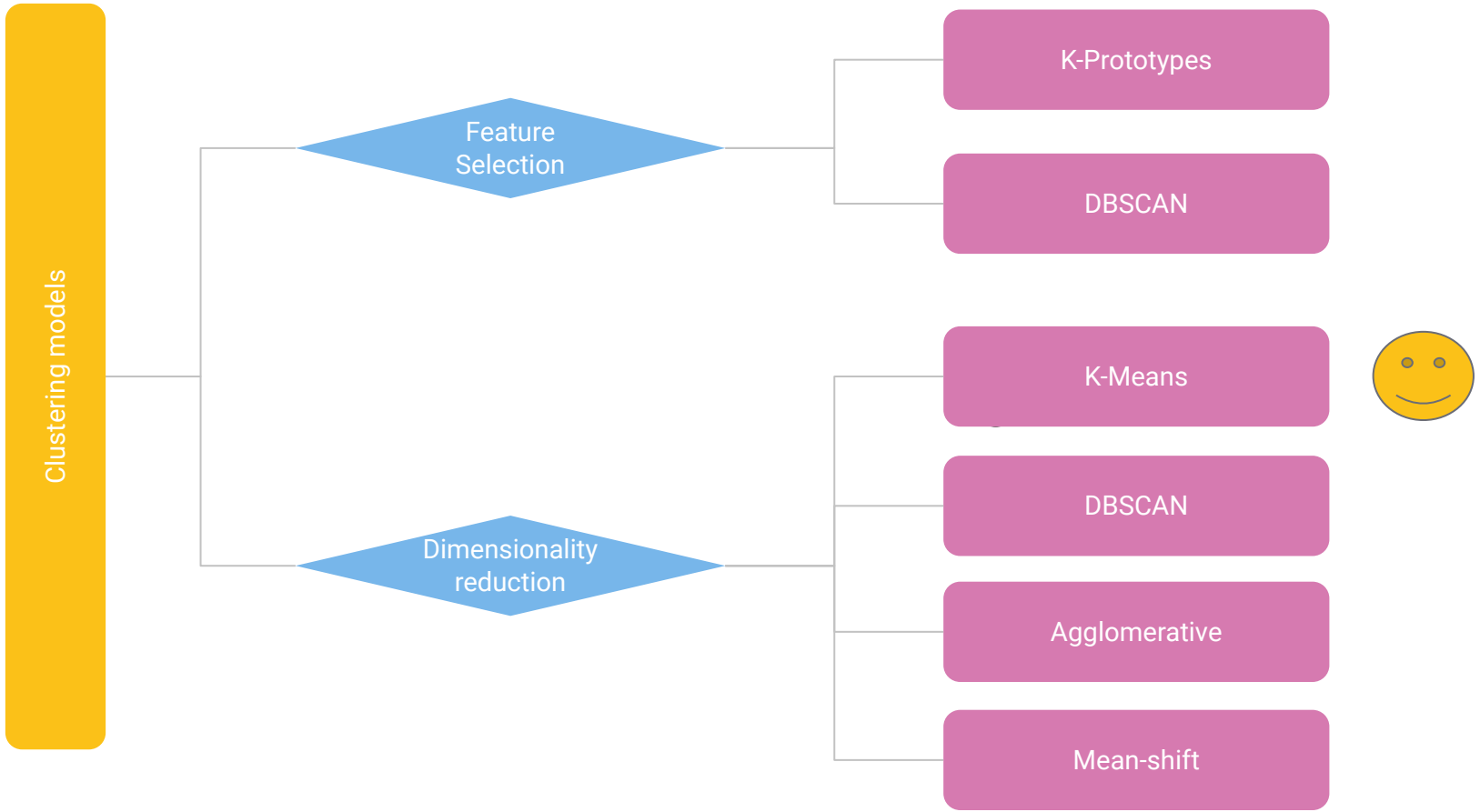
Amount spend in last 2 years



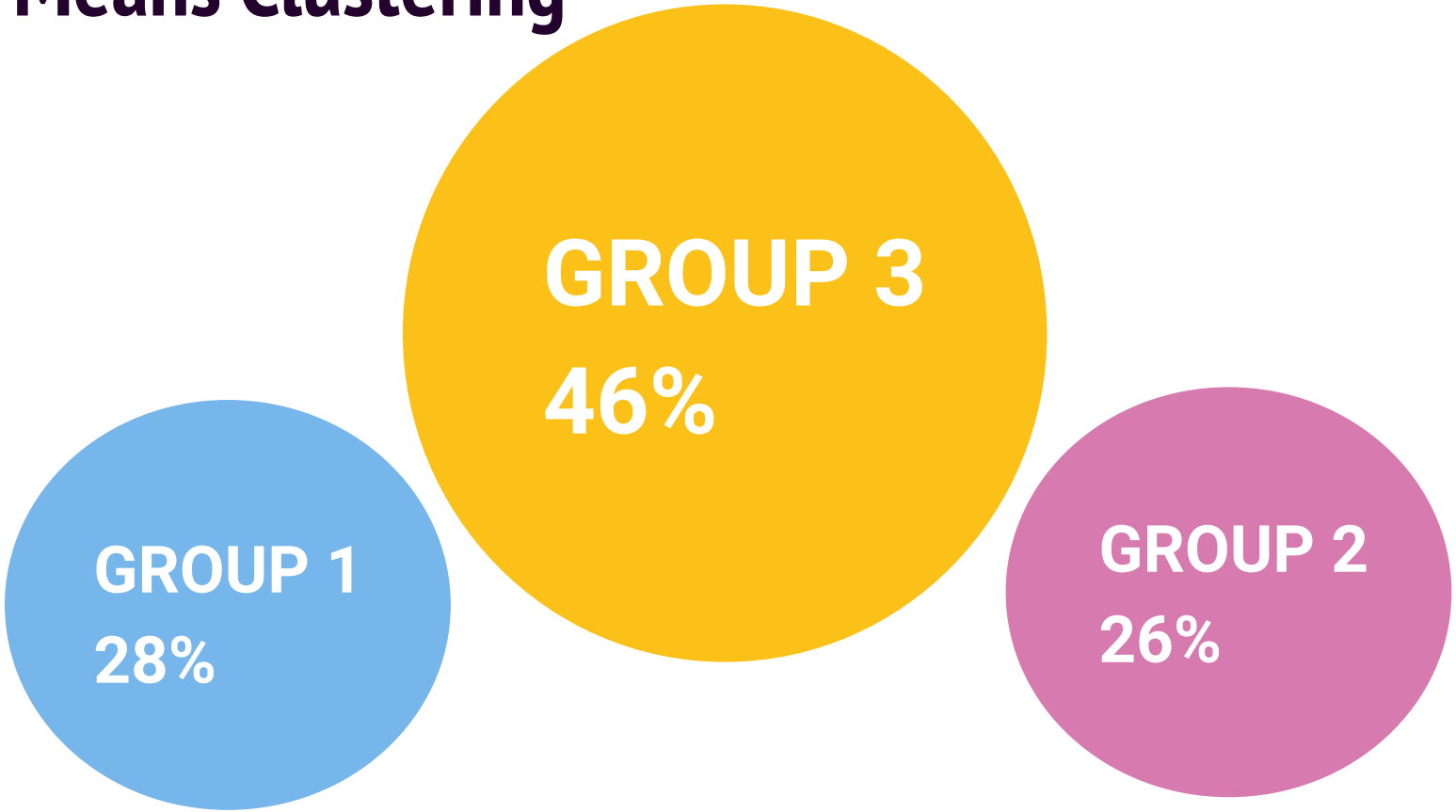
Customers spent on wine the most

Customer Segmentation

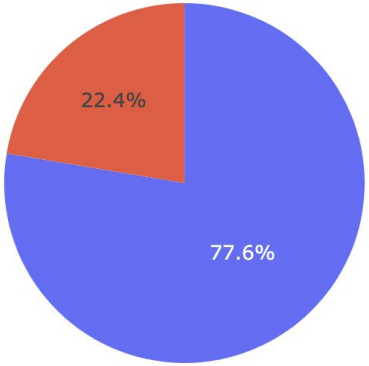
Clustering models used

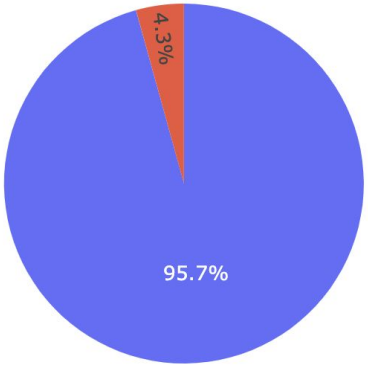


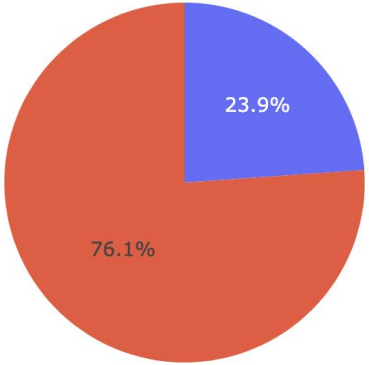
K-Means Clustering

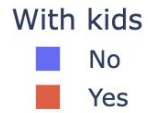


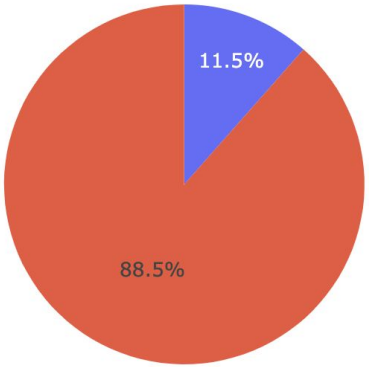
Kids and teens

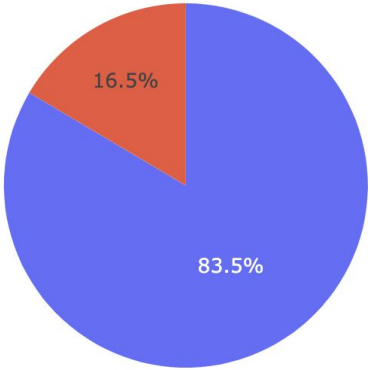


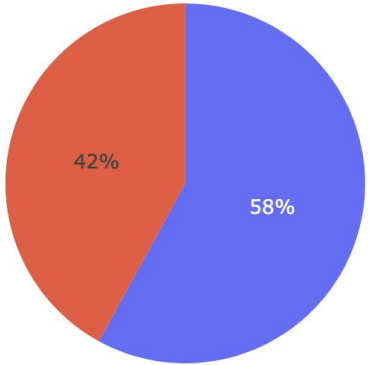










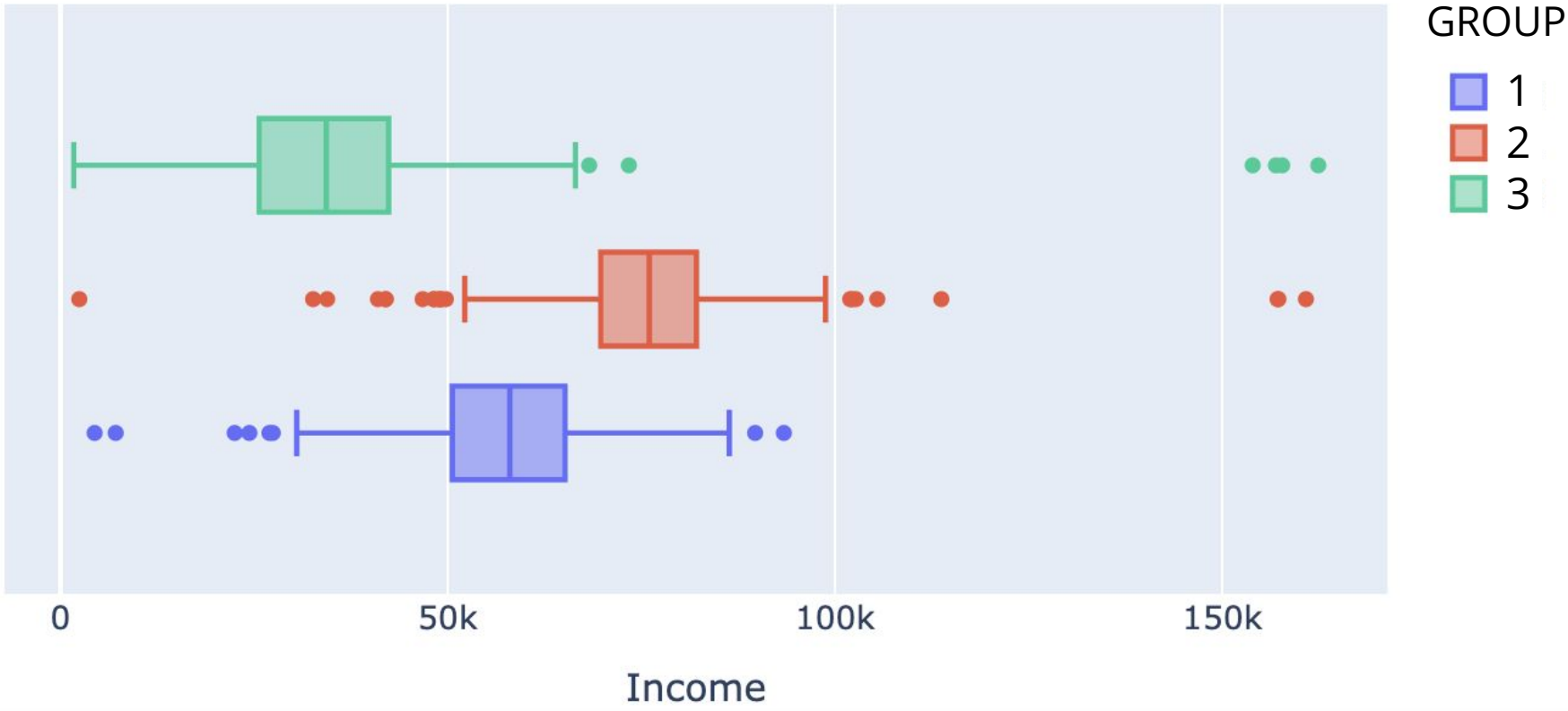


GROUP 1

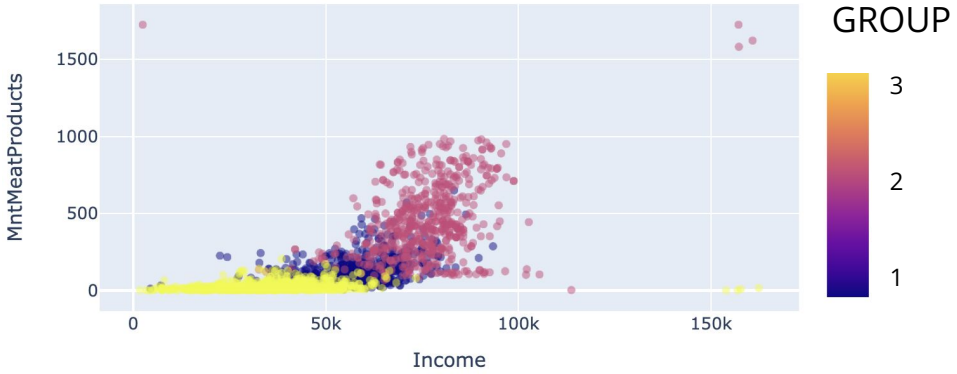
GROUP 2

GROUP 3

Income

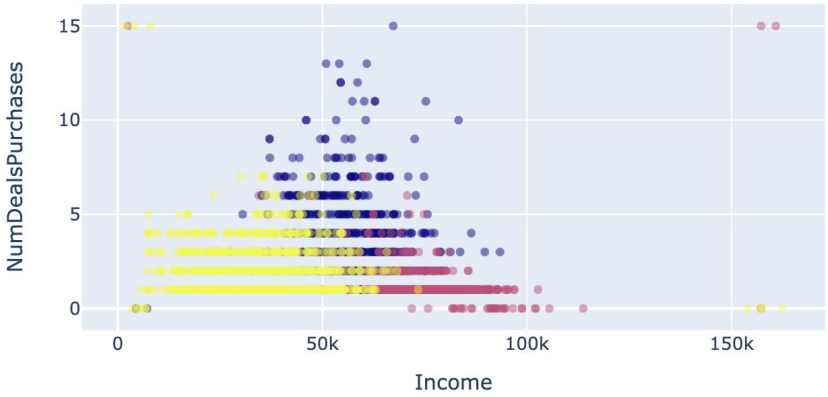


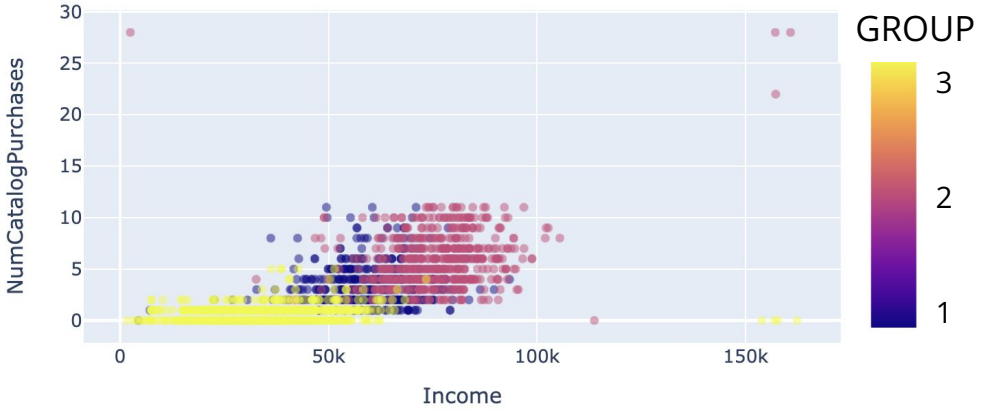
Income vs spending



Higher income, higher spending

Income vs deals and catalog purchases

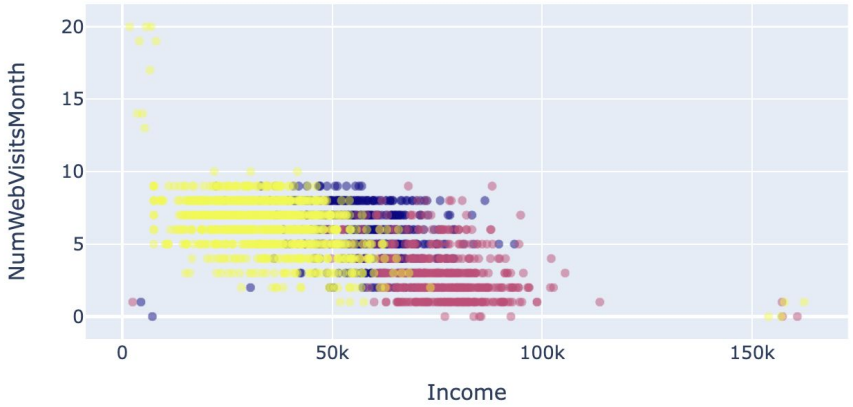


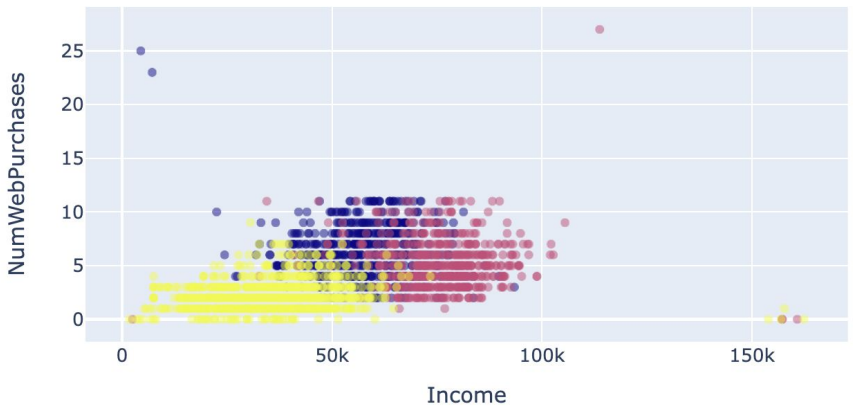


Group 2: highest income group, least attracted to discount

Catalog shopping is most popular with Group 2

Income vs web visits and purchases





Group 1 visits the website the most but made the least number of online purchases

Customer personality

28%

No kids, have teens
Moderate income & spending
Loves discount the most

GROUP 1

26%

No kids, no teens
Highest income, high spending
#1 catalog shopper

GROUP 2

46%

Have kids, may have teens
Lowest income, low spending
Visit websites the most

GROUP 3

The end