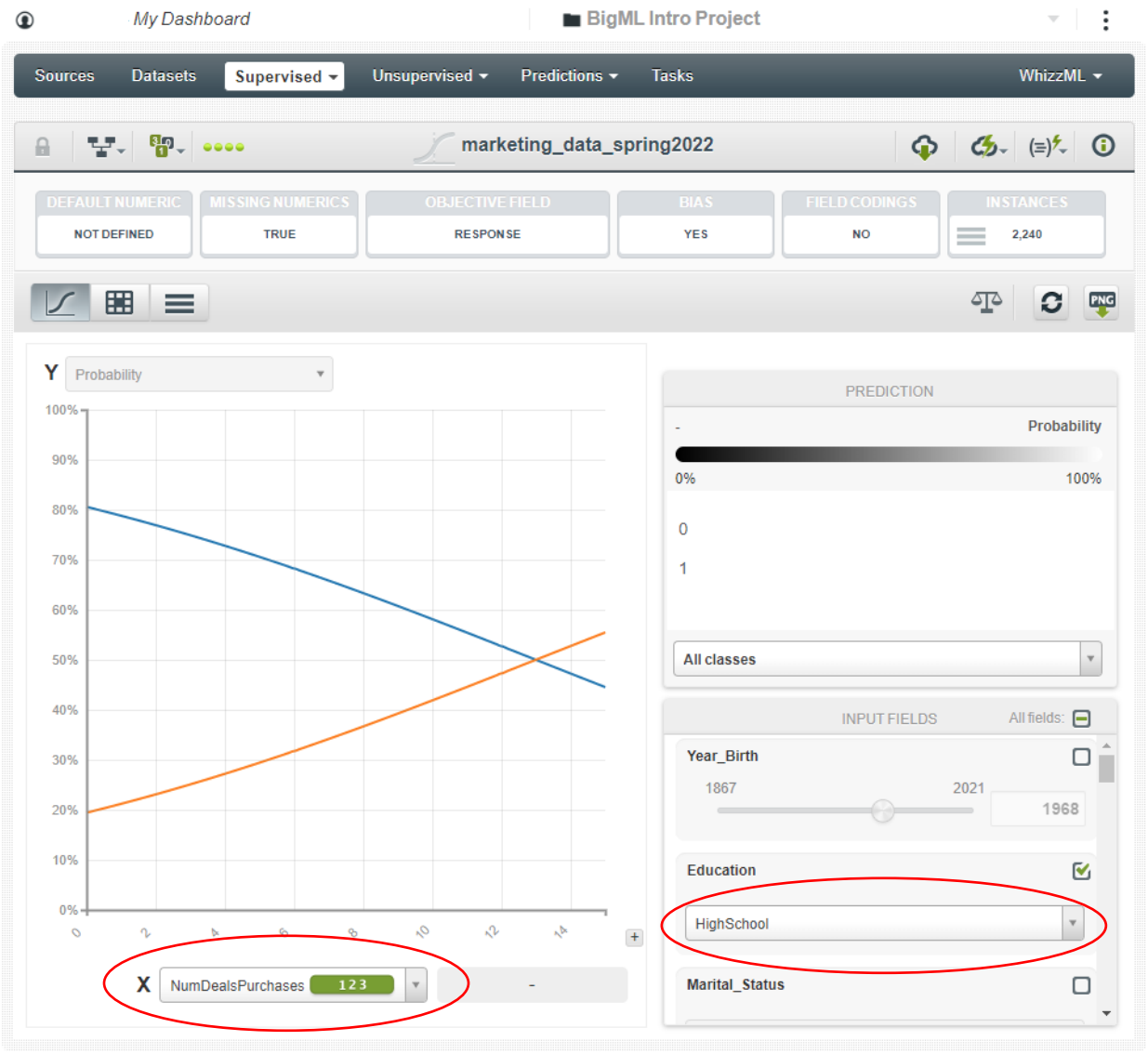

My Dashboard
BigML Intro Project
Sources
Datasets
Supervised
Unsupervised
Predictions
Tasks
WhizzML
marketing_data_spring2022
DEFAULT NUMERIC
NOT DEFINED
MISSING NUMERICS
TRUE
OBJECTIVE FIELD
RESPONSE
BIAS
YES
FIELD CODINGS
NO
INSTANCES
2,240
Y
Probability
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
2
4
6
8
10
12
14
X
NumDealsPurchases
123
PREDICTION
Probability
0%
100%
0
1
All classes
INPUT FIELDS
All fields:
Year_Birth
1867
2021
1968
Education
HighSchool
Marital_Status

Fig. 1

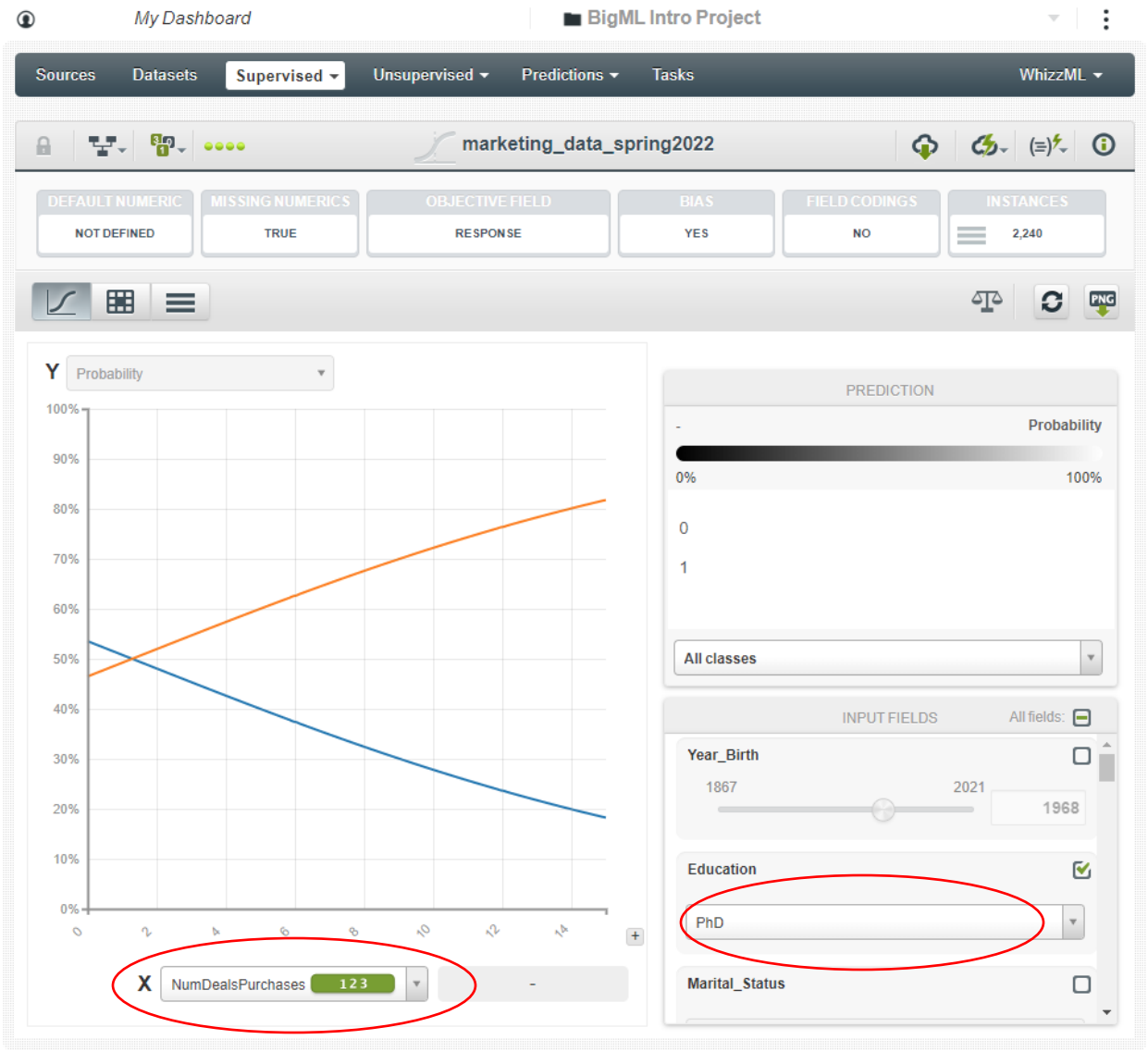


Fig. 2

The first predictor variable displayed is number of deals purchased. In Fig. 1 the image displays the probability of individuals who have a high school level of education and their response to the campaign offer. In Fig. 2 the same variable is displayed however, this time the education level of the individual has a PhD. This level of education shifts the response rate of the campaign. The probability of an individual with a PhD responding to a campaign offer increases after only one purchase is made that includes a product with a deal.

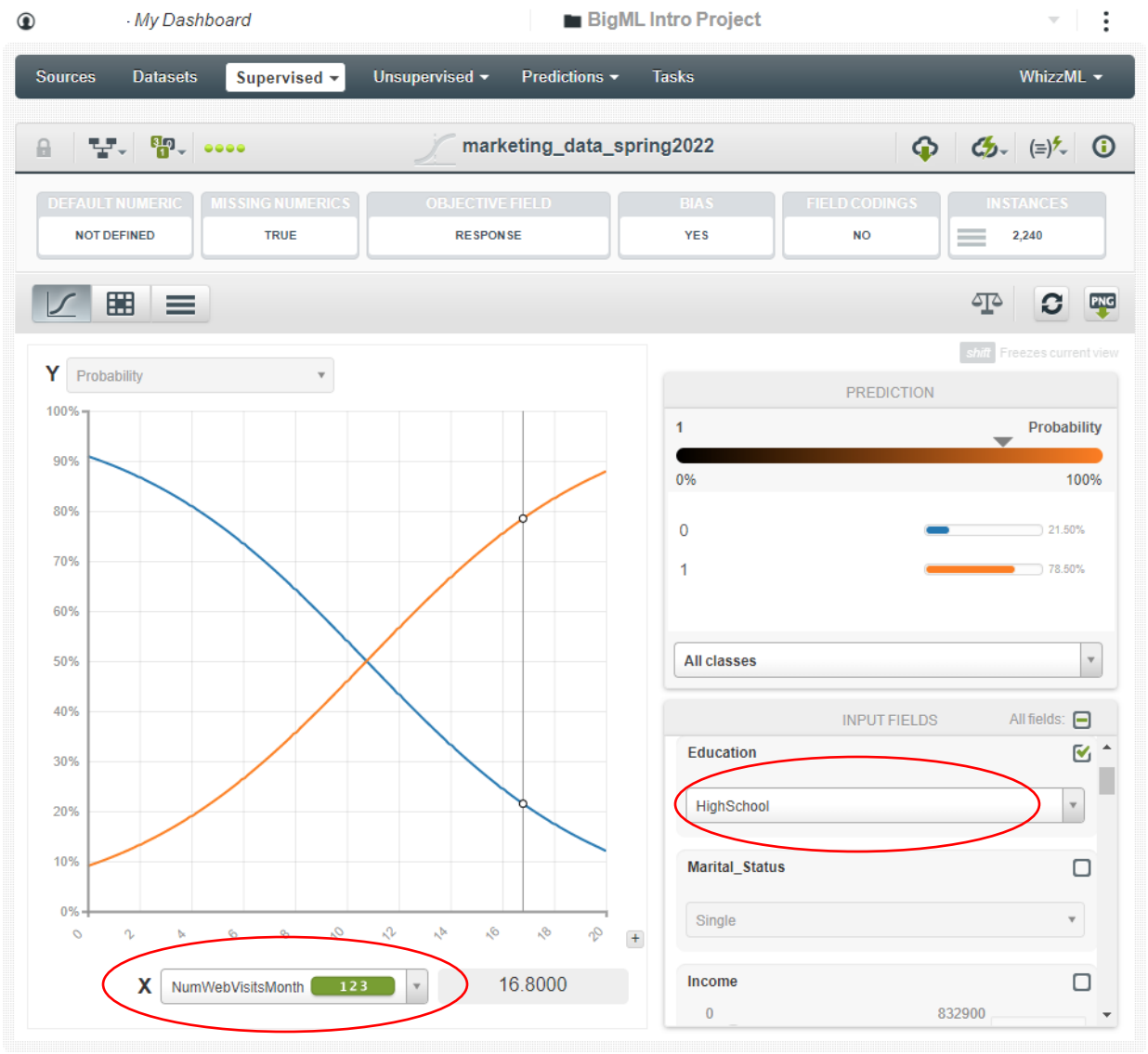


Fig. 3

In Fig. 3 the predictor variable displayed is number of web sites visits per month by individuals with only a high school level education. These individuals responded to the campaign only 10% of the time (indicated by the orange line on the chart) without visiting the website at all. This response rate increased up to 90% the more these people visited the website. This means that the response rate to the campaign offer was far more beneficial when the website received a large number of visits by people with a level of education equivalent to high school.

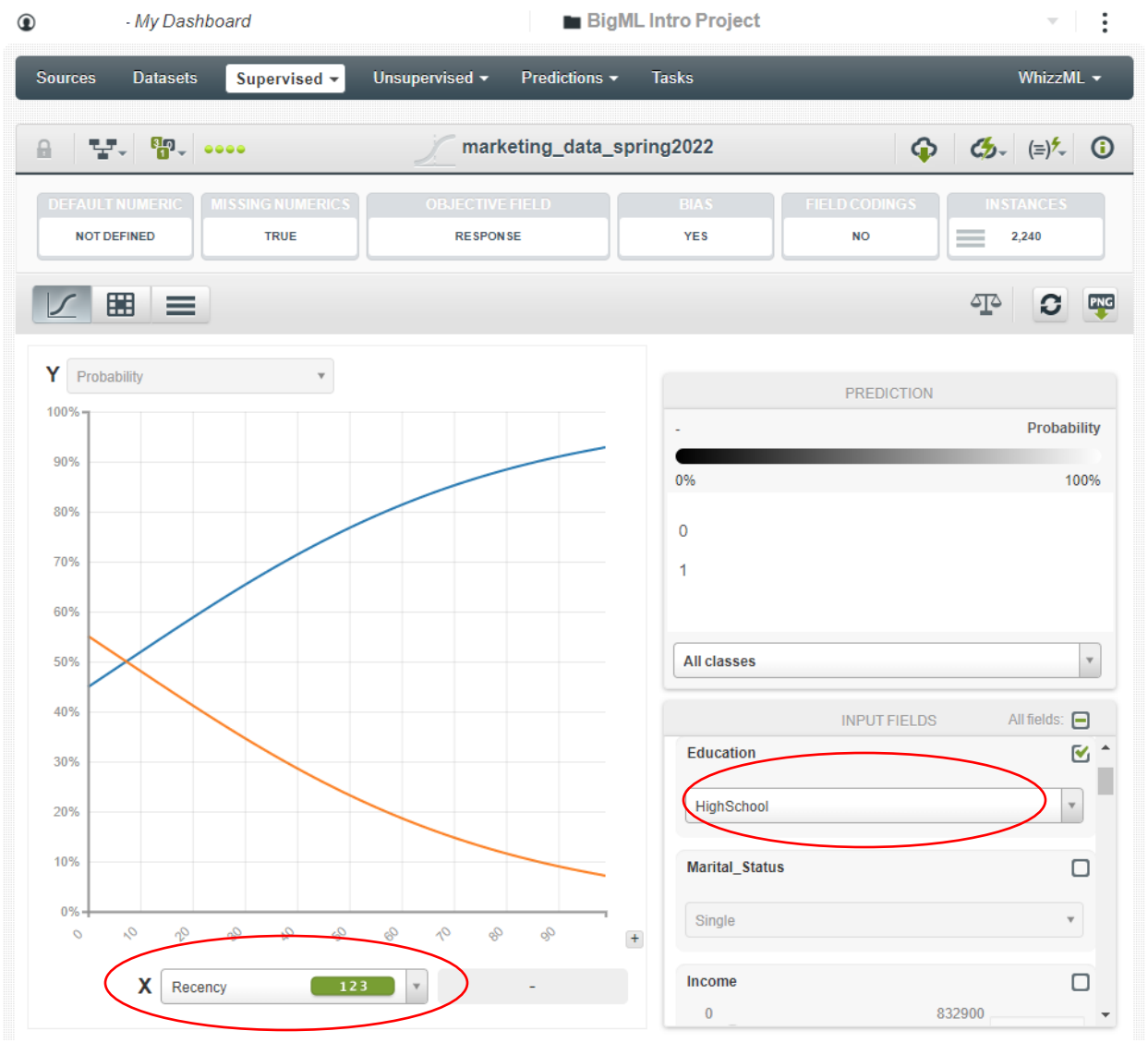


Fig. 4

In Fig. 4 the predictor variable observed in respect to the probability of a customer responding to the campaign offer is recency, which is the number of days past since the customers' last purchase. This image displays only individuals with an education level equivalent to high school. The response rate to the campaign offer is above 50% after 5 days have passed. This indicates that frequent shoppers will respond positively to campaigns offers. This campaign response rate decreases when shoppers do not frequently visit the store.

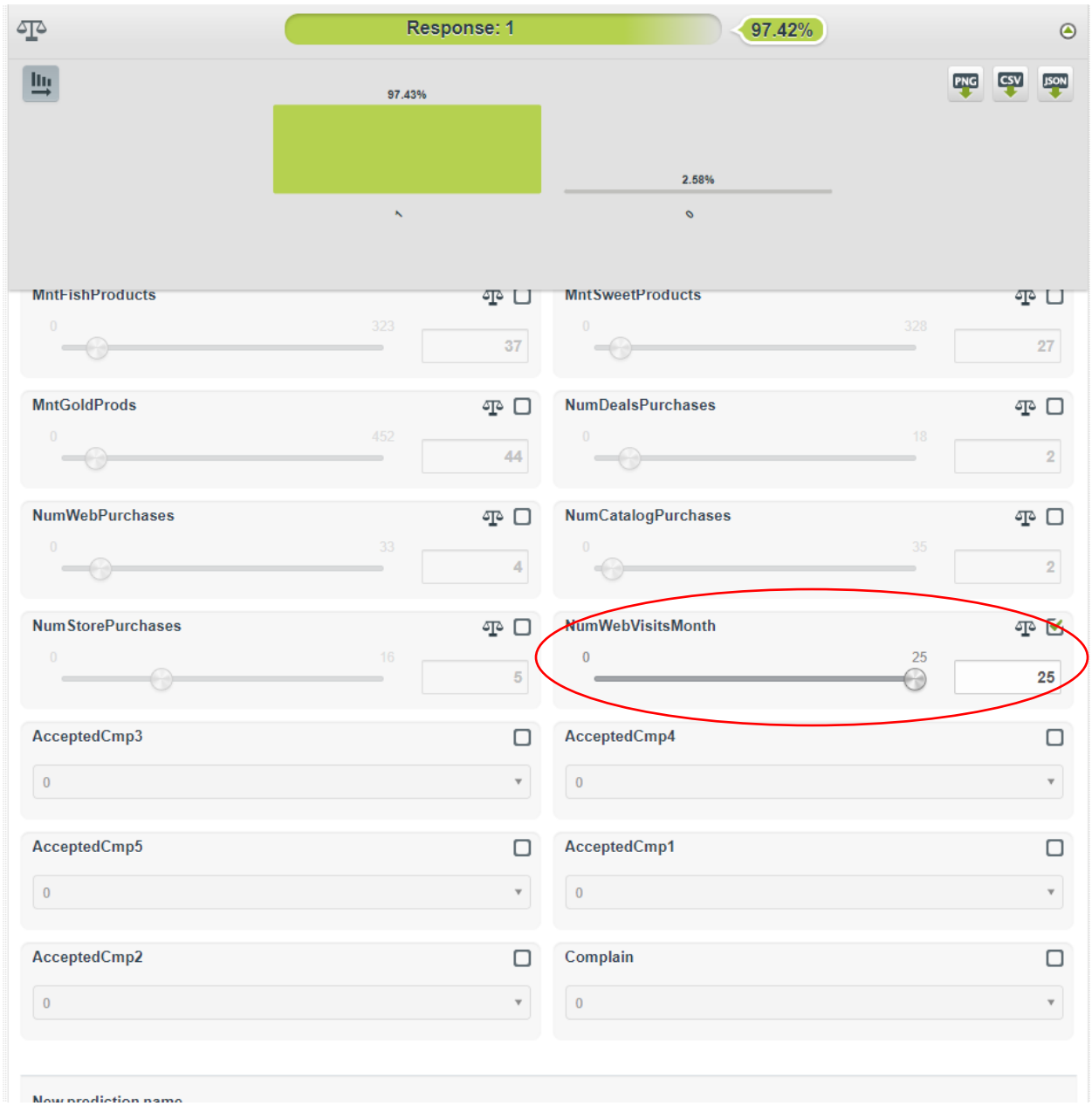


Fig 5

In Fig. 5 above, the response rate to the campaign is measured by the number of website visits per month. All else remaining constant, the for every website visit per month the more likely an individual will response positively to the campaign offer. This response rate for an average website visit per month is 97.43%.

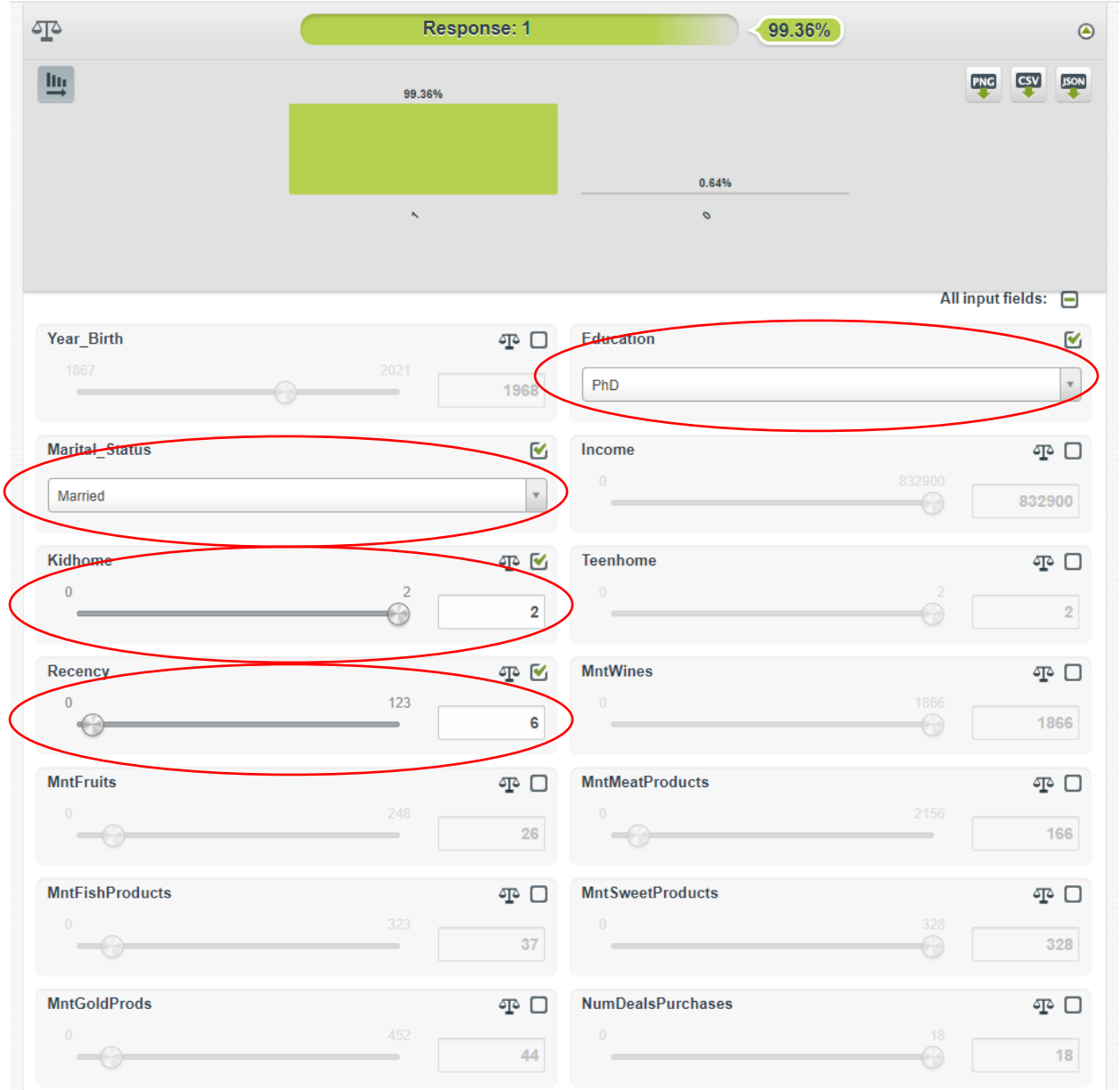


Fig. 6

In Fig. 6 above and Fig. 6 (pt 2) below, a profile of the ideal customer has been identified. The profile is of a customer who responds to the campaign offer almost 100% of the time. The primary factors that contribute to a 99.38% response rate to a campaign offer are individuals who have an education level equivalent to a PhD, are married, have 2 kids in their household, shop weekly (recency 6 days), and frequent the store website approximately 25 times per month.

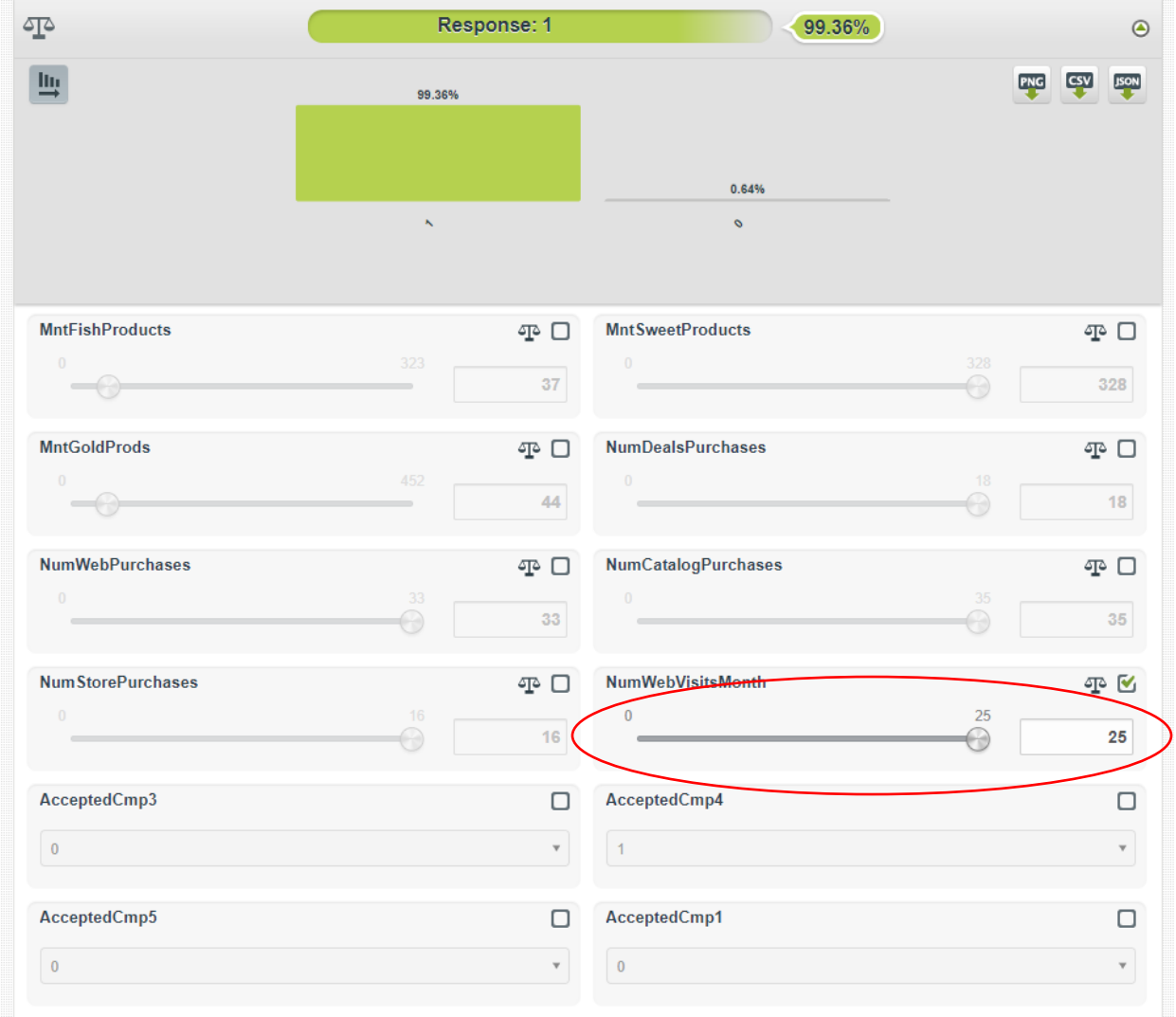


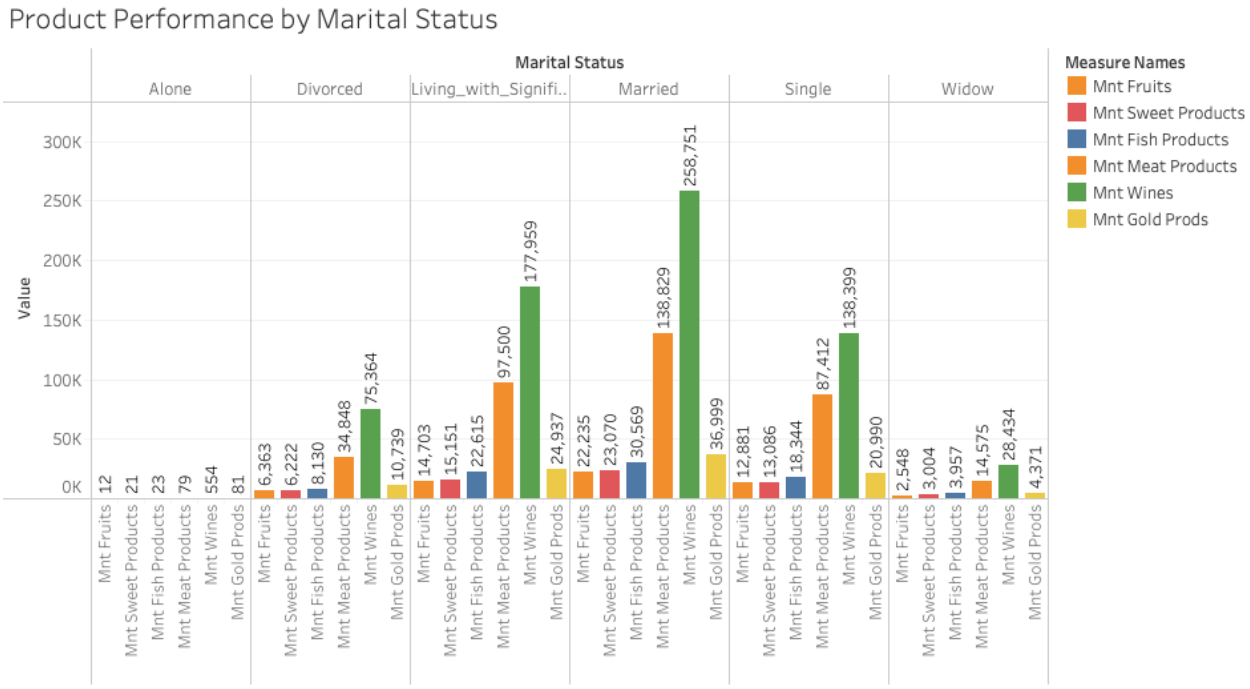
Fig. 6 (pt2)

Summary: Predictor variables Number of deals purchased, number of website visits per month, the recency (frequency) a shopper visits the store all seem to have measurable impacts on a specific customer base. This customer based varies between individuals with an education level equal to a high school education or someone with a PhD degree. It is likely that other variations exist throughout the dataset that have yet to be discovered.

Insights and recommendations: Based on the information above several recommendations emerged from the data. One recommendation is, the store should make an effort to increase traffic to their website. This increased website traffic should increase the campaign response rate. The people in charge of the store should make an effort to improve the website's SEO. The store should work on improving their advertisement of the website as well. They can announce advertisements offering deals while shoppers shop in store. This may be appealing for those who frequently shop in-store that do not visit the website very often. Also, the store should advertise their website using secondary and tertiary levels of public advertisement such as mailing lists or billboards. This would remind their customers those deals are available and may increase their campaign response rate with those who frequently visit the website.

Additional recommendations surround a targeted audience. Increasing advertisements targeting a primary customer based of high school education levels may enhance that groups response rate to campaign offers. Increasing the number of deals, dollars saved, or bundled offers may result in an increase in response rate from these customers while shopping online and instore. It should be considered that this targeted market of individuals with a high school education may not be able to shop online frequently (online "window shopping") because other activities require attention and are prioritized over leisure activities. With considering this time-sensitive window, a shopper may be more inclined to response to a campaign offer if the offer appears to be less of a hassle to obtain. This would save the customer time which may result in a potential positive response to a campaign offer.

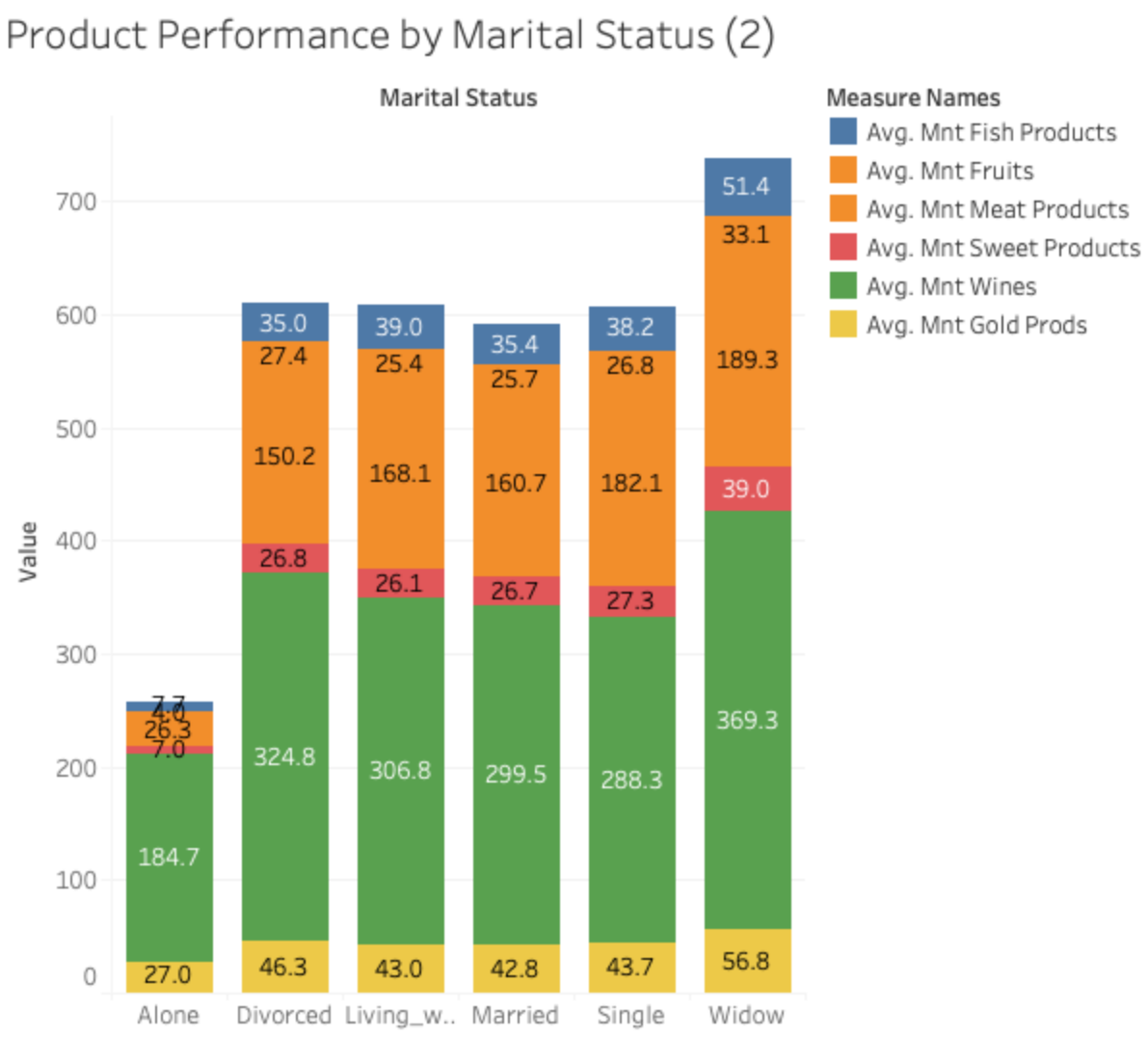
To increase the response rate of campaign offers that include a targeted customer base of the profile mentioned in Fig. 6 should include offers for married couples with kids in residing in the residence. Advertising a family shopping day with a bonus of back-to-school savings on the store's website may be a campaign offer that increases the response rate for this targeted audience.



Mnt Fruits, Mnt Sweet Products, Mnt Fish Products, Mnt Meat Products, Mnt Wines and Mnt Gold Prods for each Marital Status. Color shows details about Mnt Fruits, Mnt Sweet Products, Mnt Fish Products, Mnt Meat Products, Mnt Wines and Mnt Gold Prods. The view is filtered on Marital Status, which excludes Refused_to_answer.

Which product categories are performing well and which are not?

Product performance by marital status indicates that wine is the most profitable product across every marital category. The least profitable product is fruits across all martial categories. Increasing profits for fruit may be possible if a bundle of wine and fruit is offered for “Sangria”. This may initiate increases in profits of fruit.



Avg. Mnt Fish Products, Avg. Mnt Fruits, Avg. Mnt Meat Products, Avg. Mnt Sweet Products, Avg. Mnt Wines and Avg. Mnt Gold Prods for each Marital Status. Color shows details about Avg. Mnt Fish Products, Avg. Mnt Fruits, Avg. Mnt Meat Products, Avg. Mnt Sweet Products, Avg. Mnt Wines and Avg. Mnt Gold Prods. The view is filtered on Marital Status, which excludes Refused_to_answer.

How much does an average customer spend on each product category?

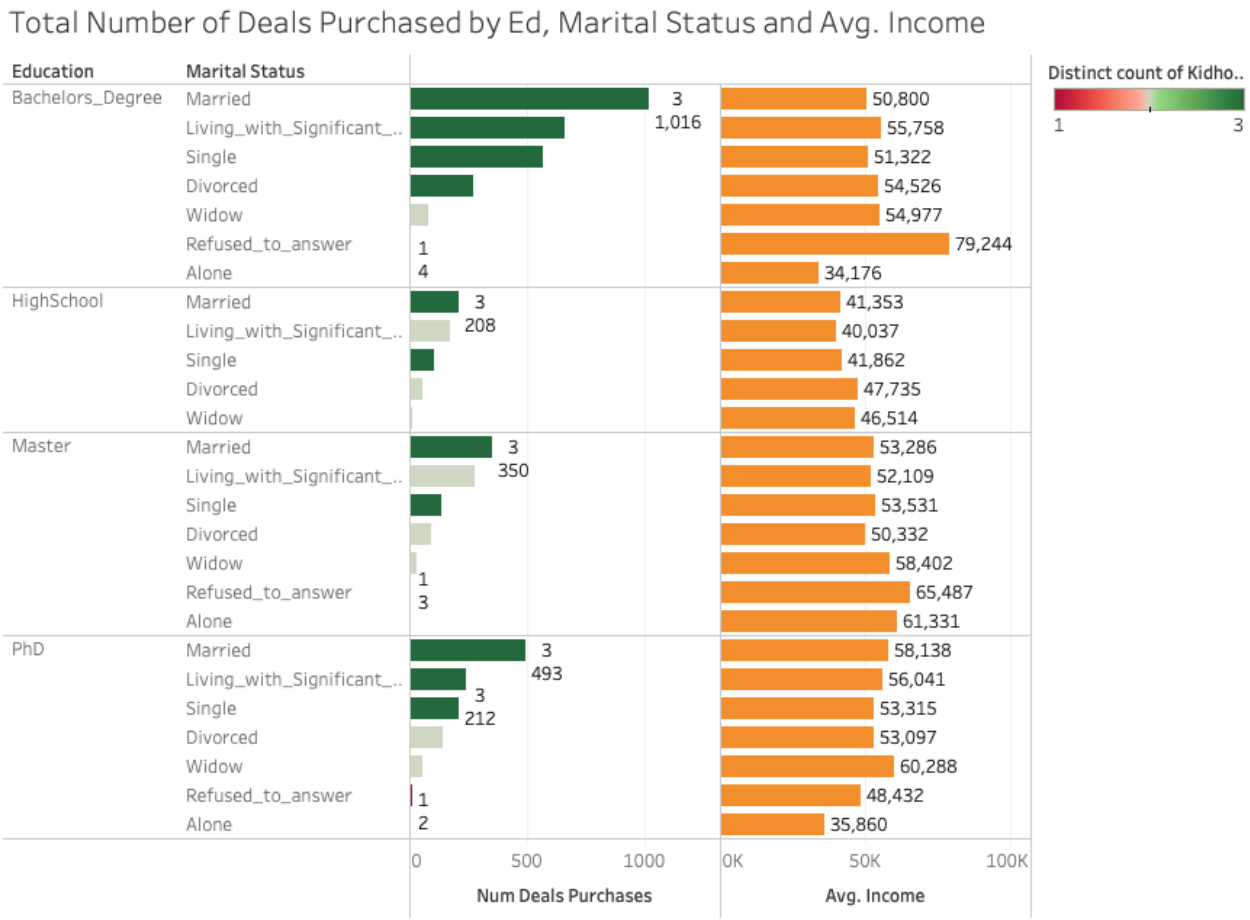
The image above depicts how much the average customer spends on each product category by marital status. Fruit and Meat products are both displayed in orange, however the lower number figure in orange is from the fruit products. This is based on these products being the least profitable as mentioned previously among all product categories.

How much does an average customer spend in all categories? Hint: You can create a new variable in Tableau or calculate totals on the Excel file.

Below is a table indicating the total averages a customer spends in each product category. Additionally, the total average is approximately $605.79 USD while the average of the average is approximately $100.96 USD which may be considered average customer spending per store vist.

Products Avg.

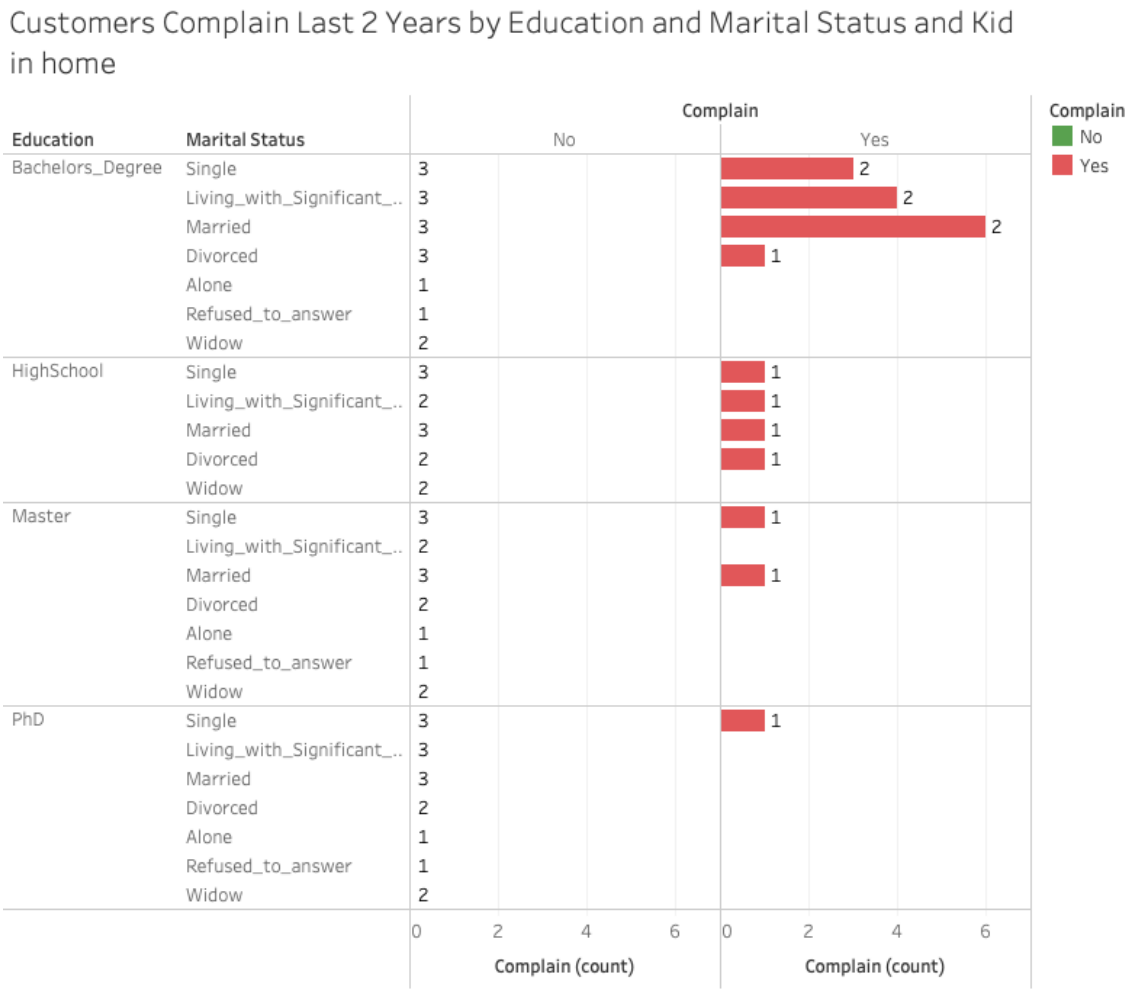
	MntWines	MntFruits	MntMeatProducts	MntFishProducts	MntSweetProducts	MntGoldProds			
Avg spent on each product (in USD)	303.93	26.30	166.95	37.52	27.06	44.02		Sum of Avg	605.79
								Avg of Avg (may be considered per trip)	100.96



Sum of Num Deals Purchases and average of Income for each Marital Status broken down by Education. For pane Average of Income: The marks are labeled by average of Income. For pane Sum of Num Deals Purchases: Color shows distinct count of Kidhome. The marks are labeled by distinct count of Kidhome and sum of Num Deals Purchases.

Which customers are frequent users of coupons (i.e., discounts) - what are their income, marital status, kids, education statuses?

The image above depicts the customer profile who shops number of deals purchases. The most profitable customers in this group are married individuals with a Bachelor's degree and have three children residing in their house hold. Their average income is approximately $50,800 USD.



Sum of Complain (count) for each Marital Status broken down by Complain vs. Education. Color shows details about Complain. The marks are labeled by distinct count of Kidhome.

What are some characteristics of customers who complained in the last 2 years? I.e., are their unique characteristics common to complainers?

The image above depicts the characteristics of a customer who has complained in the last two years. This profile of a common complaining customer is married with a Bachelor's degree and has at least 2 children in their household.