Marketing Campaign Data Analysis →

$30.42M	13K	$51.8K
Total spending	**AcceptedCmpOverall**	**Average Income**

Total Accepted Campaign

3K (24.54%)
3K (20.01%)
0K (3.36%)
4K (27.98%)
3K (24.1%)

- ● Cmpaign1
- ● Cmpaign2
- ● Cmpaign3
- ● Cmpaign4
- ● Cmpaign5
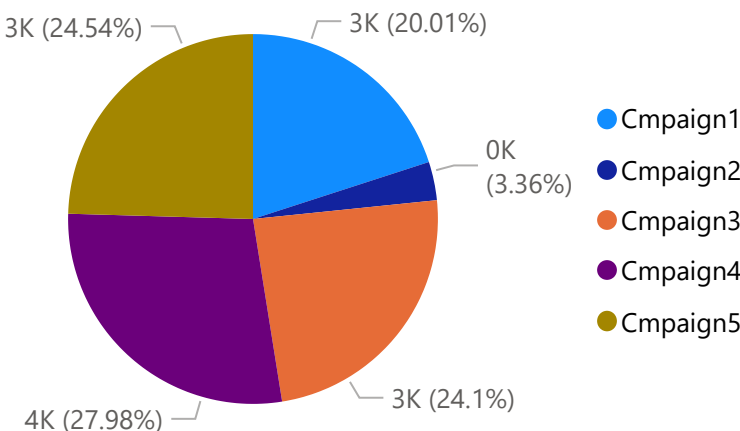
Annual Income and Spending by Age

Age ● 25 ● 26 ● 27 ● 28 ● 29 ● 30 ● 31 ● 32 ● 33 ▶

Spending: $1,000 / $500
Annual Inc: $40K, $50K, $60K
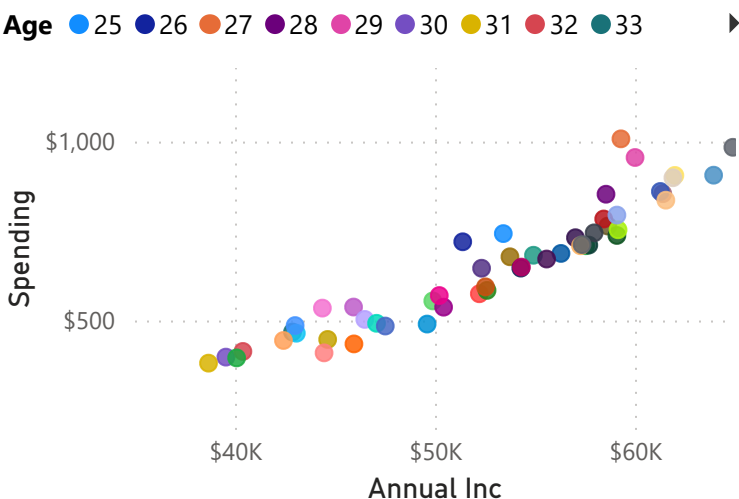
Spending On product by Age_Group

Fruits, GoldProducts, FishPro...: 10M, 5M, 0M

- ● Fruits
- ● GoldProducts
- ● FishProducts
- ● MeatProducts
- ● SweetProducts
- ● Wines
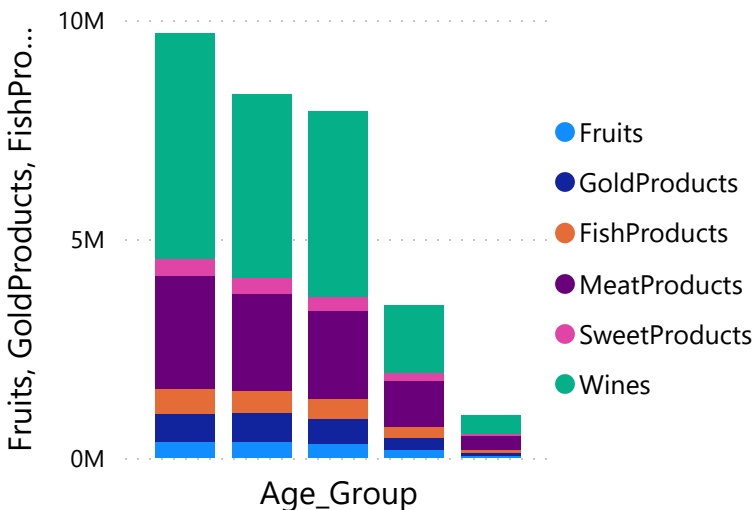
Age_Group

Total No. of Purchases and Web visits perMonth

271K (27.04%)
129K (12.88%)
112K (11.2%)
201K (20.07%)
289K (28.82%)

- ● CatalogPurchases
- ● DealsPurchases
- ● StorePurchases
- ● WebPurchases
- ● WebVisitsMonth
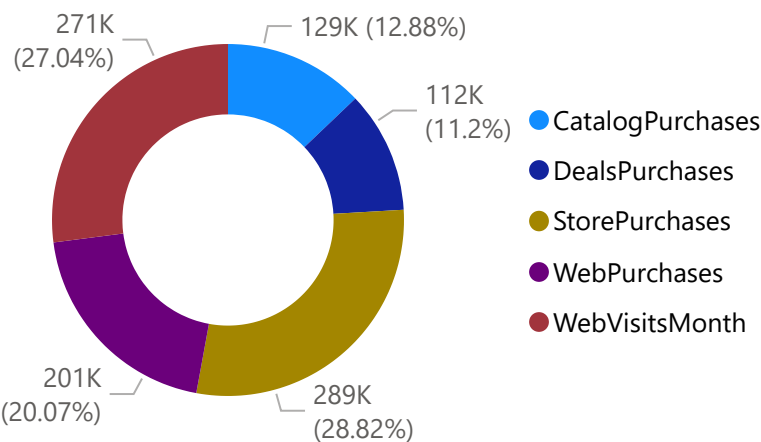
Annual Income and Total spending by Years and Customer_Days

● Annual Inc ● Sum of spending

Annual Inc: $10M, $0M
Sum of spending: $0.2M, $0.1M, $0.0M

year																												
2161	2855	2162	2854	2856	2211	2653	2411	2193	2513	2393	2441	2541	2814	2196	2543	2659	2641	2658	2166	2483	2413	2201	2834	2213	2512	2614	2593	2655	2596	2419
5.9	7.8	5.9	7.8	7.8	6.1	7.3	6.6	6.0	6.9	6.6	6.7	7.0	7.7	6.0	7.0	7.3	7.2	7.3	5.9	6.8	6.6	6.0	7.8	6.1	6.9	7.2	7.1	7.3	7.1	6.6
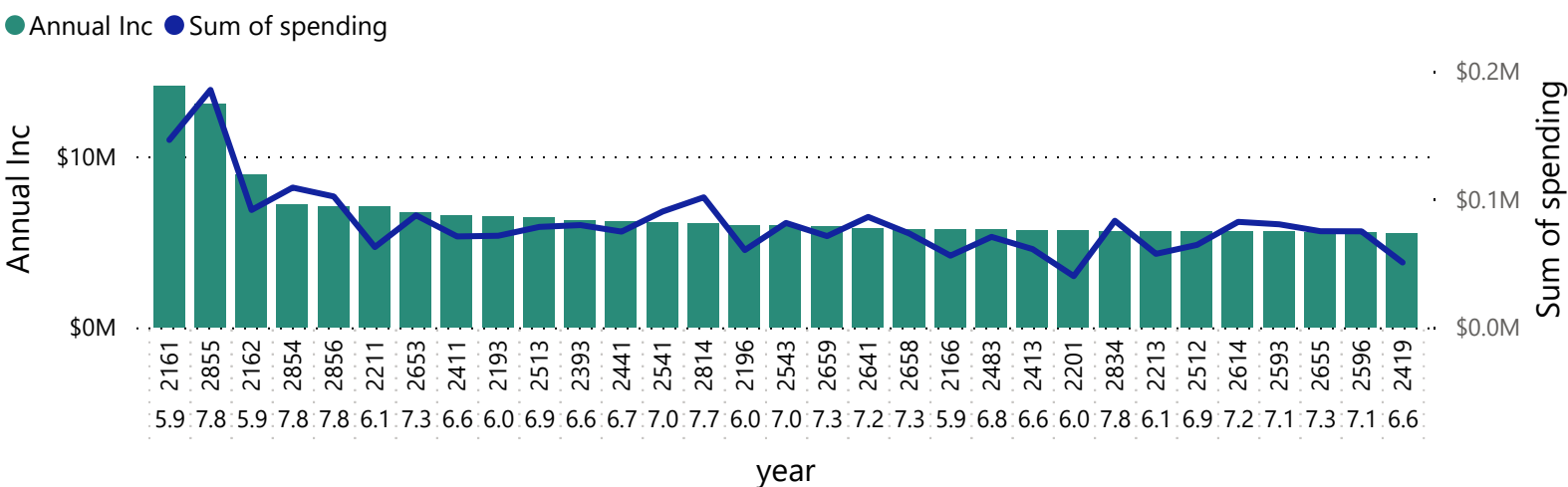
Cohort Analysis to Improve Customer Retention

100.00

RetentionRate

Marital_status ⌄

All ⌄

Education_status ⌄

All ⌄

Age_Group ⌄

All ⌄

Child ⌄

All ⌄

ConversionStatus ⌄

All ⌄

Annual income group ⌄

All ⌄

Customer Retention On the basis of Time

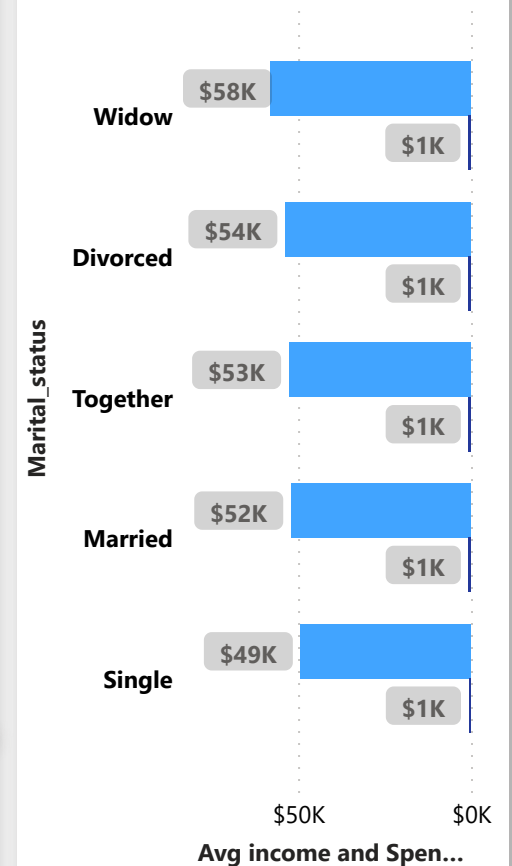| Cohort Month	1	2	3	4	5	6	7	8	9	10	11	12
April 2016	2267	2267	2267	2267	2267	2267	2267	2267	2267	2267	2267	2267
April 2017	2119	2119	2119	2119	2119	2119	2119	2119	2119	2119	2119	2119
August 2015	1203	1203	1203	1203	1203	1203	1203	1203	1203	1203	1203	1203
August 2016	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274
December 2015	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274	2274
December 2016	1962	1962	1962	1962	1962	1962	1962	1962	1962	1962	1962	1962
February 2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017
February 2017	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
January 2016	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440	2440
January 2017	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881	1881
July 2016	2284	2284	2284	2284	2284	2284	2284	2284	2284	2284	2284	2284
July 2017	927	927	927	927	927	927	927	927	927	927	927	927
June 2016	2191	2191	2191	2191	2191	2191	2191	2191	2191	2191	2191	2191
June 2017	1746	1746	1746	1746	1746	1746	1746	1746	1746	1746	1746	1746
March 2016	2370	2370	2370	2370	2370	2370	2370	2370	2370	2370	2370	2370
March 2017	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050
May 2016	2327	2327	2327	2327	2327	2327	2327	2327	2327	2327	2327	2327
May 2017	2512	2512	2512	2512	2512	2512	2512	2512	2512	2512	2512	2512
November 2015	2192	2192	2192	2192	2192	2192	2192	2192	2192	2192	2192	2192
November 2016	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264
October 2015	2131	2131	2131	2131	2131	2131	2131	2131	2131	2131	2131	2131
October 2016	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367
September 2015	1911	1911	1911	1911	1911	1911	1911	1911	1911	1911	1911	1911
September 2016	2318	2318	2318	2318	2318	2318	2318	2318	2318	2318	2318	2318
Total	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**	**49996**

FirstPurchaseDate ⌄

All ⌄

18.21

Conversion Rate

50K

Active customers

Spending and avg Income by MaritalStatus

● Avg_Annual Inc ● Average of spending

Marital_status		
Widow	$58K	
	$1K	
Divorced	$54K	
	$1K	
Together	$53K	
	$1K	
Married	$52K	
	$1K	
Single	$49K	
	$1K	

$50K $0K

Avg income and Spen...

Useful Insights

Total Customers participated in different Campaigns over the Time(year,month)

| Year	Month	Total customers	Cmpaign1	Cmpaign2	Cmpaign3	Cmpaign4	Cmpaign5
2016	May	2327	94	15	115	199	182
2016	January	2440	117	24	151	200	177
2016	August	2274	89	12	177	201	170
2017	March	2050	137	20	131	207	169
2016	September	2318	133	13	164	169	161
2015	October	2131	103	30	156	191	140
2016	October	2367	116	24	191	174	139
2015	November	2192	113	27	106	191	138
2017	April	2119	104	26	127	179	138
2016	February	2017	124	16	137	132	137
Total		**49996**	**2554**	**429**	**3076**	**3570**	**3132**

Total Accepted Cmpaigns and Conversion_Rate by Marital_status
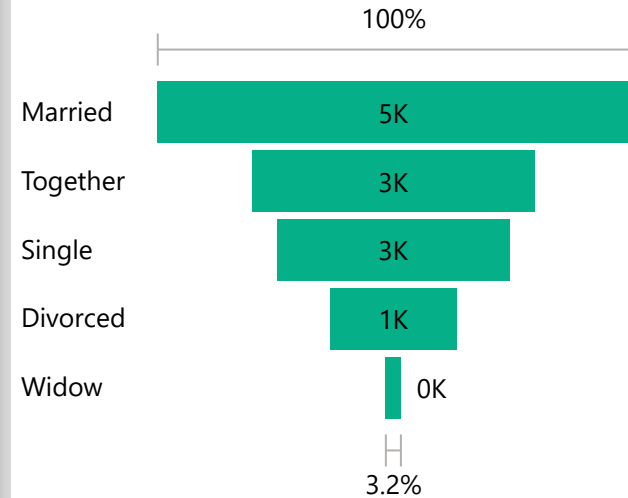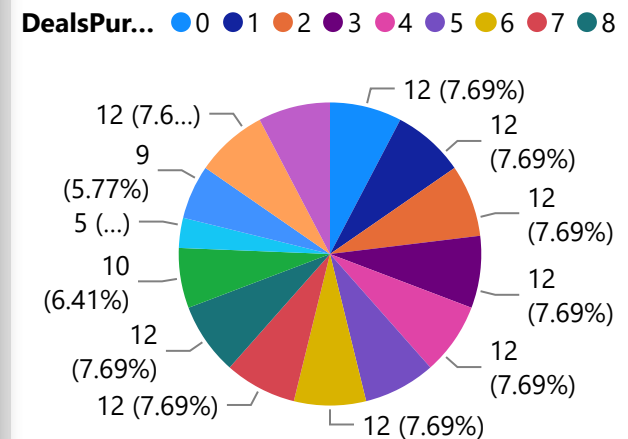

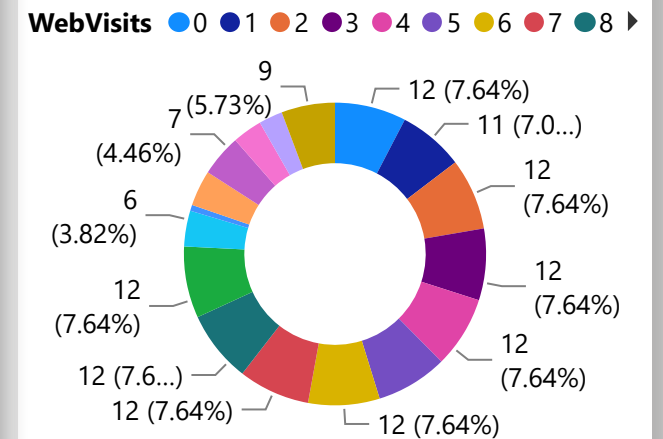## Conversion_Status by Education
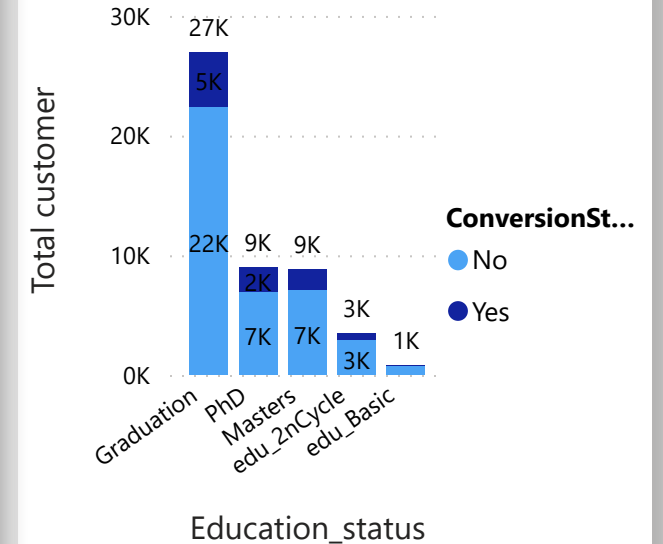
Average of Kids and Average of Teen by Campaigns_status
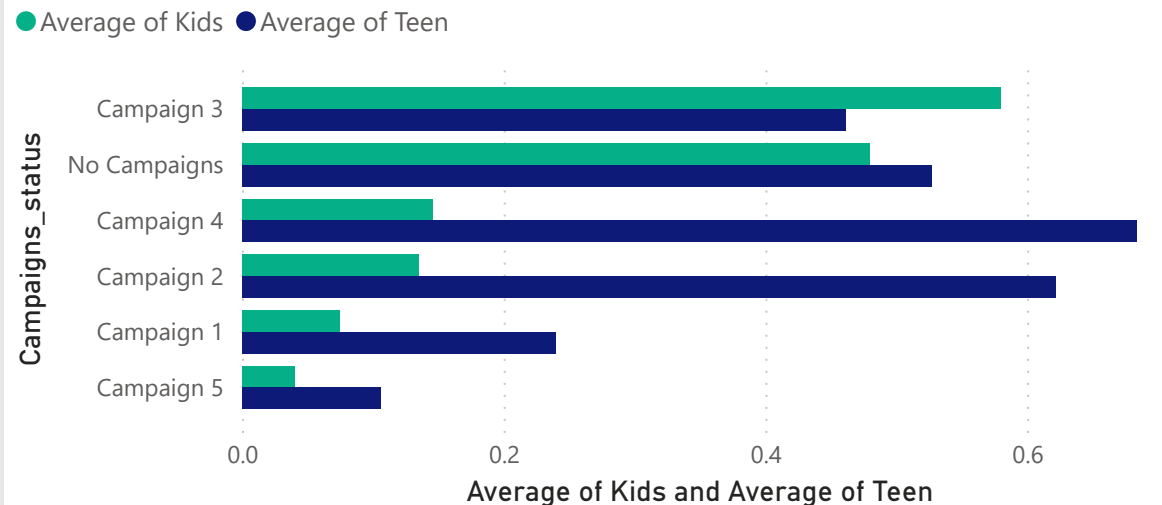
Total Catalog purchase versus Catalog purchase with discount

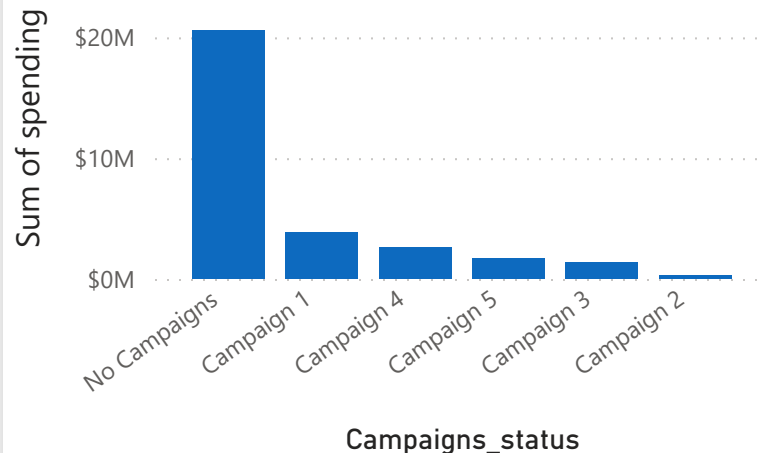## Number of WebPurchases Versus Number of Web Visits per Month
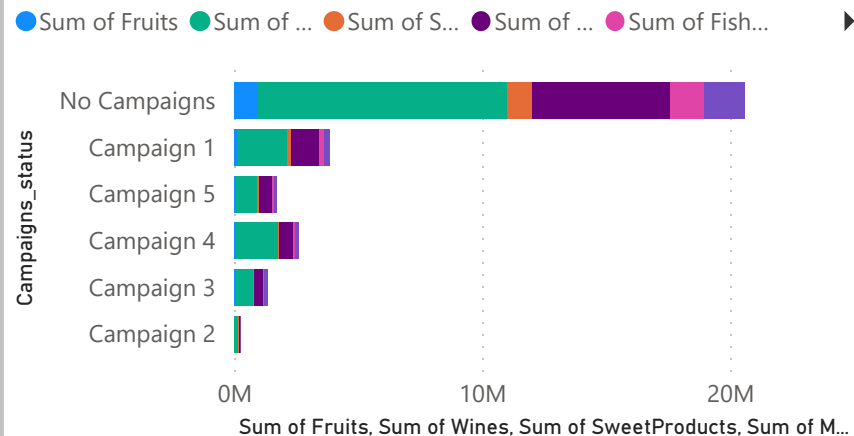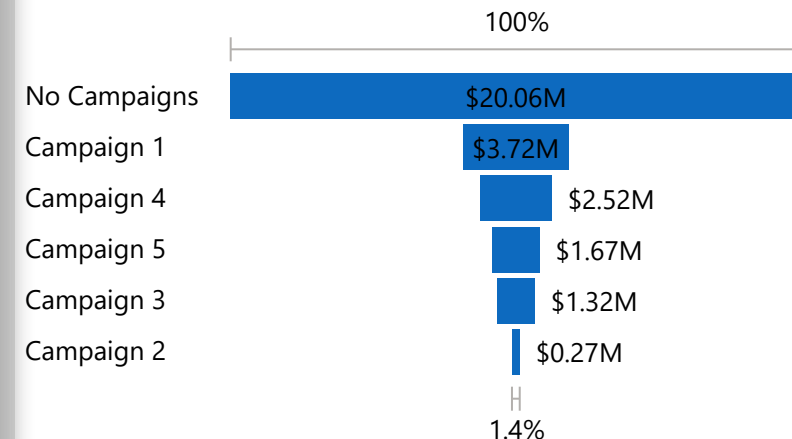
$30.42M
Total spending

Sum of spending by Campaigns_status

Spending done on different products by Campaign_status

Legend: ● Sum of Fruits ● Sum of ... ● Sum of S... ● Sum of ... ● Sum of Fish... ▶

Sum of Fruits, Sum of Wines, Sum of SweetProducts, Sum of M...

Total Accepted Cmpaigns and Conversion_Rate by Spending

100%

No Campaigns	$20.06M
Campaign 1	$3.72M
Campaign 4	$2.52M
Campaign 5	$1.67M
Campaign 3	$1.32M
Campaign 2	$0.27M

1.4%

Count of Total Customer by Marital_status and Age_Group

Age_Group ● 18-30 ● 31-40 ● 41-50 ● 51-60 ● Over 60
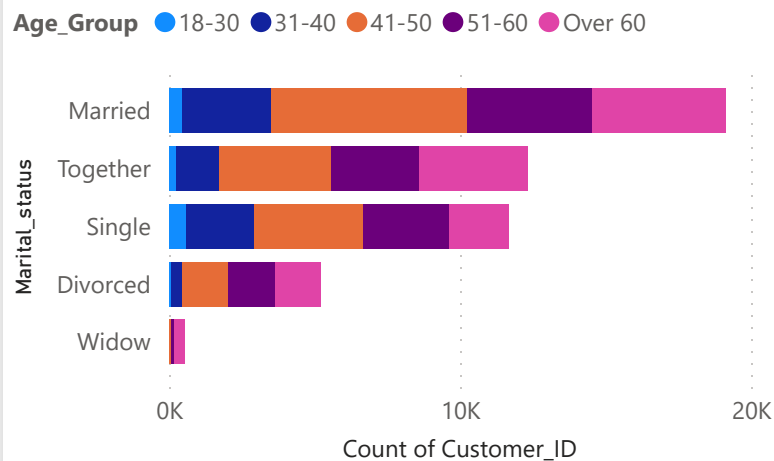
Total Spending over products purchase by Marital_Status

Legend: ● Sum of Fis... ● Sum of ... ● Sum of Gol... ● Sum of S... ● Sum of ... ▶

Marital_status			
Married	3.1M	6.1M	12M
Together	2.0M	4.0M	8M
Single	1.8M	3.1M	6M
Divorced	1.8M		3M
unknown			1M
Widow			0M
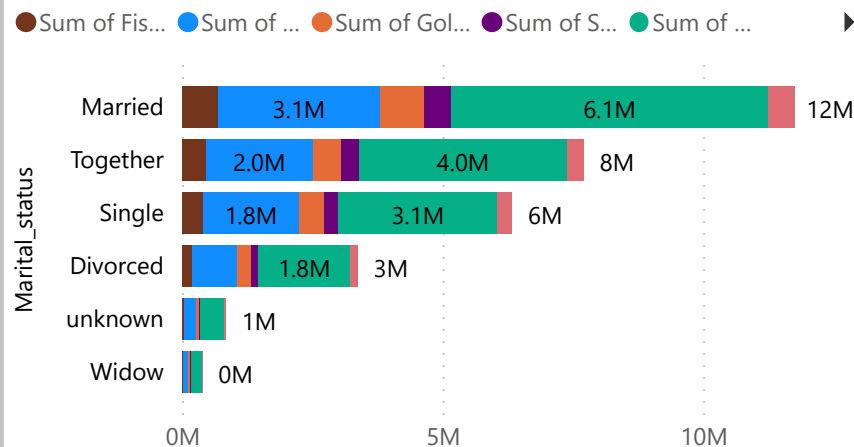
Count of Total Customer and Conversion_Rate by Education_status

Campaigns_sta... ● Campaign 1 ● Campaign 2 ● Campaign 3 ▶
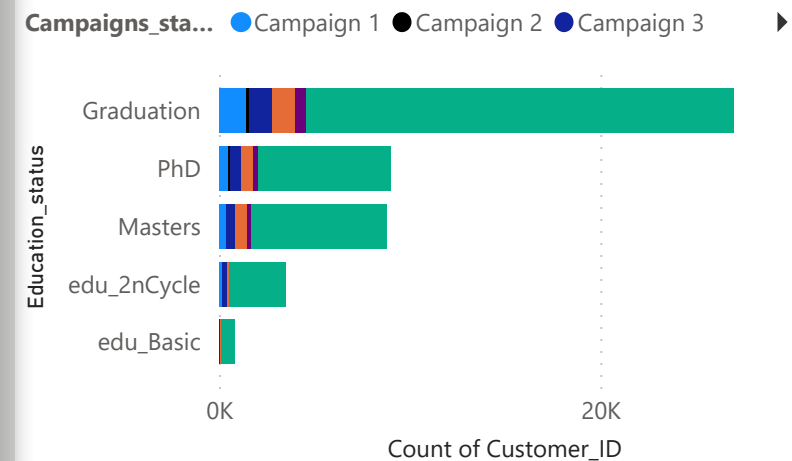
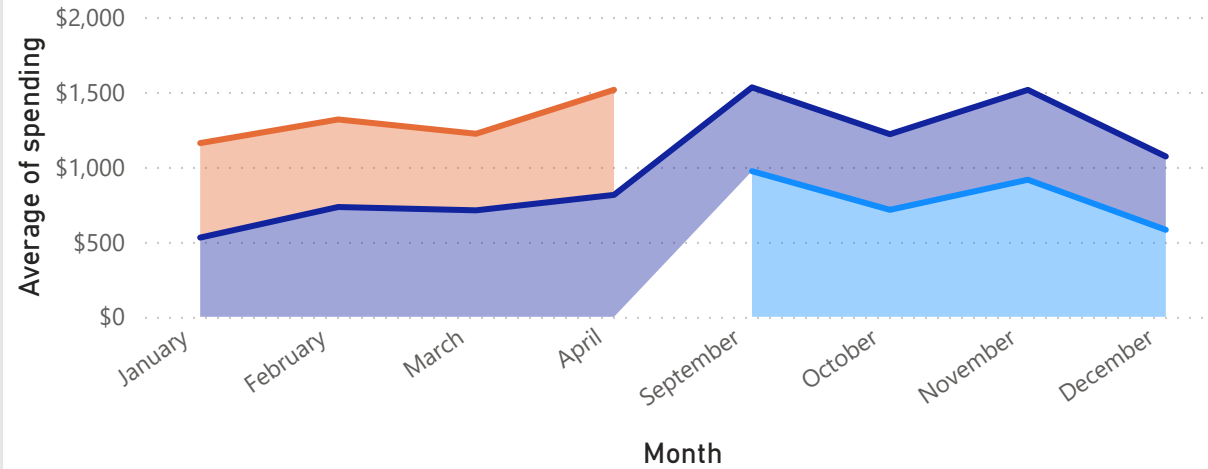# Customer behaviour, Conversion rate and Cmpaigns Trends

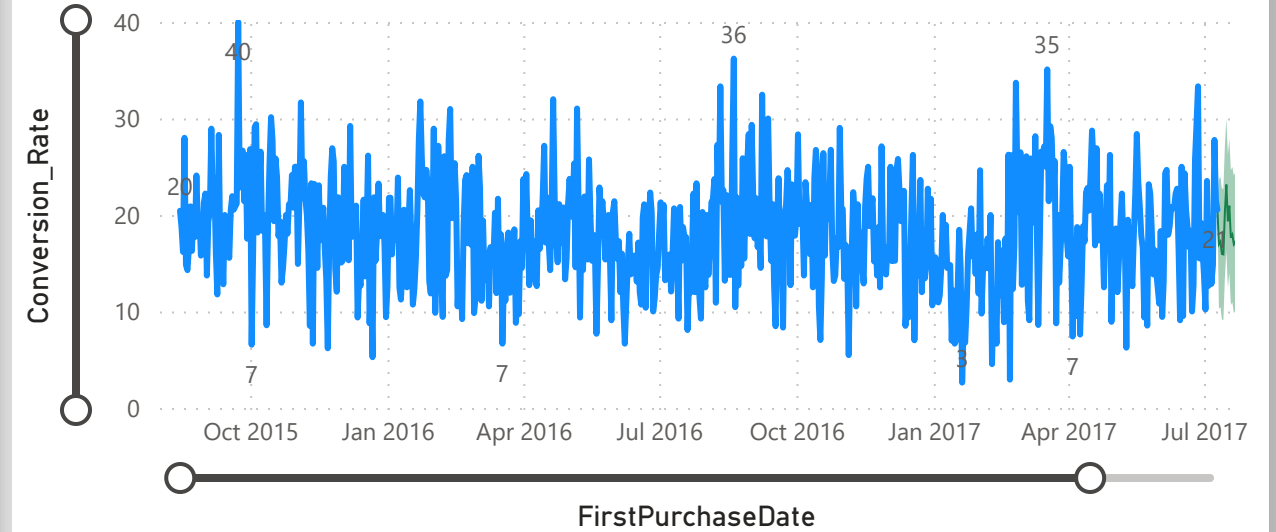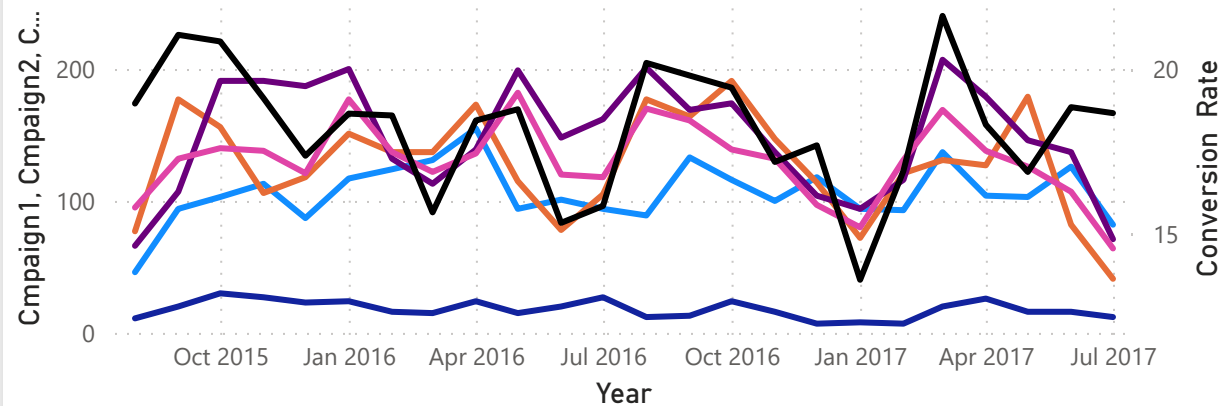## Average of spending on Products by Month and Year

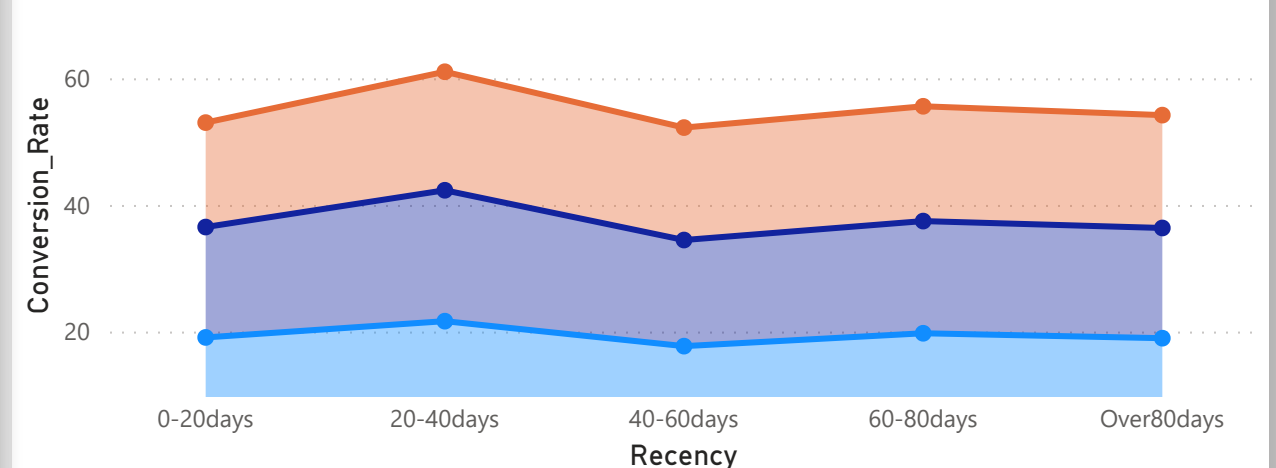## Forecasting Conversion_Rate for 3 month by FirstPurchaseDate

Trends of Cmpaign1, Cmpaign2, Cmpaign3, Cmpaign4 and Cmpaign5 by Year, Quarter and Month and Conversion Rate

Conversion_Rate by Recency_group and Year

Active customers, Sum of Complain by Campaigns_status

● Active customers ● Sum of Complain

Campaigns_status

No Campaigns	41K
Campaign 3	3K
Campaign 1	3K
Campaign 4	3K
Campaign 5	
Campaign 2	
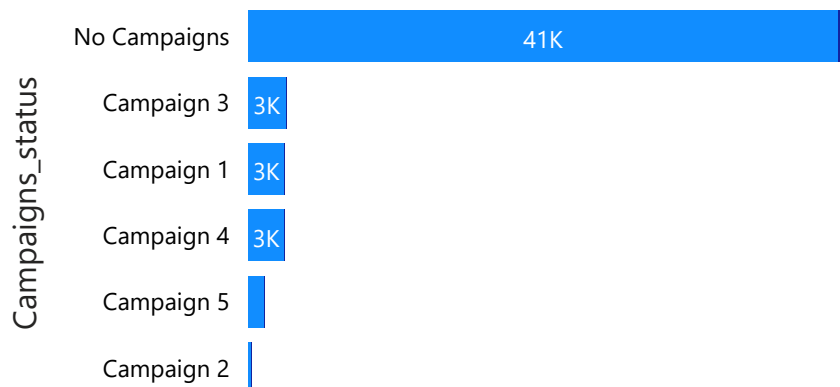
Active customers and Sum of Complain

Total AcceptedCampaigns, Response of perviousCampaign, Complain and Conversion_Rate by Education_status and Marital_status

Marital_status ● Divorced ● Married ● Single ● Together ● Widow

Response of per...

● Graduation

●

No Campaigns

Graduation

● Masters

Graduation

edu_2nCycle

Total Accepted Campaigns

▶ ──────────────────○

Campaign 1 · Campaign 2 · Campaign 3 · Campaign 4 · Campaign 5 · No Campaigns

Correlation between Campaign1, Campaign2, Campaign3, Campaign4, Campaign5, Response of pervious Campaign and Complain

Correlation Analysis

	Cmp1	Cmp2	Cmp3	Cmp4	Cmp5	Response	Complain
Cmp1	1	0.024	-0.078	0.0097	0.065	-0.059	-0.18
Cmp2	0.024	1	0.057	0.034	0.034	0.022	-0.3
Cmp3	-0.078	0.057	1	-0.12	-0.015	0.078	-0.13
Cmp4	0.0097	0.034	-0.12	1	-0.094	-0.0029	-0.075
Cmp5	0.065	0.034	-0.015	-0.094	1	0.11	-0.21
Response	-0.059	0.022	0.078	-0.0029	0.11	1	-0.051
Complain	-0.18	-0.3	-0.13	-0.075	-0.21	-0.051	1

Correlation diagram

Correlation Analysis between Campaigns

	CmpOverall	Cmp1	Cmp2	Cmp3	Cmp4	Cmp5	Complain	Response	Annual Inc	Year	spending	ustomer_ID	Age	fPurchases
AcceptedCmpOverall	1	0.61	0.31	0.41	0.6	0.68	-0.013	0.41	0.34	-0.0049	0.43	-0.0082	0.015	0.26
Cmp1	0.61	1	0.15	0.094	0.23	0.38	-0.016	0.28	0.29	0.016	0.35	-0.0036	0.023	0.21
Cmp2	0.31	0.15	1	0.041	0.23	0.18	-0.004	0.12	0.082	-0.012	0.1	0.00028	0.0098	0.067
Cmp3	0.41	0.094	0.041	1	-0.055	0.072	0.013	0.22	-0.019	-0.012	0.025	-0.012	-0.052	0.0061
Cmp4	0.6	0.23	0.23	-0.055	1	0.33	-0.015	0.17	0.23	-0.0048	0.25	-0.0038	0.069	0.2
Cmp5	0.68	0.38	0.18	0.072	0.33	1	-0.017	0.31	0.34	-0.0037	0.42	-0.00012	0.0013	0.22
Complain	-0.013	-0.016	-0.004	0.013	-0.015	-0.017	1	-0.011	-0.052	-0.0014	-0.045	0.0061	-0.023	-0.04
Response	0.41	0.28	0.12	0.22	0.17	0.31	-0.011	1	0.17	-0.14	0.25	-0.004	-0.018	0.17
Annual Inc	0.34	0.29	0.082	-0.019	0.23	0.34	-0.052	0.17	1	0.015	0.8	-0.0026	0.25	0.71
Year	-0.0049	0.016	-0.012	-0.012	-0.0048	-0.0037	-0.0014	-0.14	0.015	1	-0.1	-0.0056	0.026	-0.15
spending	0.43	0.35	0.1	0.025	0.25	0.42	-0.045	0.25	0.8	-0.1	1	-0.0027	0.17	0.75
Customer_ID	-0.0082	-0.0036	0.00028	-0.012	-0.0038	-0.00012	0.0061	-0.004	-0.0026	-0.0056	-0.0027	1	-0.0042	-0.0037
Age	0.015	0.023	0.0098	-0.052	0.069	0.0013	-0.023	-0.018	0.25	0.026	0.17	-0.0042	1	0.23
TotalNumOfPurchases	0.26	0.21	0.067	0.0061	0.2	0.22	-0.04	0.17	0.71	-0.15	0.75	-0.0037	0.23	1

Calculate Return on Investment (ROI)

10M
Order value with all Campaigns

21M
Order value wihout Campaigns

-0.52
Overall ROI

4M
Order value with Campaign1

27M
Order value without Campaign1

-0.85
ROI for Campaign1

547K
Order value with Campaign2

30M
Order value without Campaign2

-0.98
ROI for Campaign2

2M
Order value with Campaign3

28M
Order value without Campaign3

-0.93
ROI for Campaign3

4M
Order value with Campaign4

26M
Order value without Campaign4

-0.84
ROI for Campaign4

5M
Order value with Campaign5

25M
Order value without Campaign5

-0.80
ROI for Campaign5

30M
Total_Spending in overall

About ROI

· A negative ROI suggests that the campaign did not generate enough additional revenue to justify the associated costs. It indicates a loss or a decrease in profitability. In such cases, it is important to evaluate the campaign's effectiveness and assess whether adjustments or improvements are necessary.

· Negative ROI does not necessarily mean the campaign was a failure, as there might be other factors to consider such as long-term impact, brand awareness, or customer acquisition.

· **What would I suggest to customer on the basis of above information :**

· Here are some suggestions to enhance the company's return on investment (ROI):

· Consider analyzing customer data, conducting market research, or utilizing customer segmentation techniques to ensure the campaign reaches the most relevant and profitable audience.

· Focus on retaining existing customers and leveraging remarketing techniques to reach out to potential customers who have shown interest but did not convert initially.

· Evaluate the effectiveness of the campaign's target audience selection.

· Consider the customer journey and experience during and after the campaign.

· Evaluate website usability, landing page design, and overall customer satisfaction.

- **Based on the provided dataset, here are some useful insights:**
- **Customer demographics:**
- **The dataset includes information such as Total Customer, Annual Income, Age, Education Status and Marital Status. These variables can be used to analyze the customer demographics and segment the customer base accordingly.**
- **During the demographic analysis we found that customer who do not have Kid and Teen are most valuable as their spending was highest . Family with 1 Kid and 1 Teen had lower spending but family with 2 kid and 2 Teen they do spend less as their spending the is very less . 58% customers don't have kids and 40 % customers having 1 kid in the family . And 51.22 % customers don't have teen and 46.59% having 1 teen in the family .Customers having 2 kids and 2 teens having the least spending .**
- **Annual Income :**
- **As far as income group 0- 50 k had the highest majority .0-50k accounted for 47.53% of Sum of Total Customers and was 197.90% higher than 100k Customer who do fall in between 50 – 75 k they had more spending but the conversion rate is higher in between 75-100 k of income group of customers .**
- **Age group : Age group 40 -50 and income group 50 -100 k has highest spending 55 had the highest Spending (1265080) and 48 had the highest Annual Income ($10,91,30,710). Customers who joined in recent 40 -60 days had highest spending of 11.33% of total Spending. Customers who did not participate in campaigning had higher spending .As per the recency group in last 0-20 days customer had spent more which is 11.33 % of all spending . but conversion rate is highest in 20 -40 days of recency group .**
- **According to the age group maximum customers falls between 40 – 60 of age group .**
- **Marital Status :**
- **At 58,009.13, Widow had the highest Average Annual Income and was 17.91% higher than Single, which had the lowest Average Annual Income at 49,195.81.**
- **Average Annual Income and total Average of spending are positively correlated with each other.**
- **Average Annual Income and Average of spending diverged the most when the Marital status was Widow, when Average Annual Income were 57,274.27 higher than Average of spending.**
- **Across all 5 Marital status, Average Annual Income ranged from 49,195.81 to 58,009.13 and Average of spending ranged from 543.81 to 734.86.**
- **On the basis of Marital Status there are five types of customers. Married customers had the highest majority and married accounted for 47.73% of total customers .**
- **Education Status :**
- **On Basis of education Graduate Customers had the highest majority whereas Customers of Basic education had the least number of total Customers . Graduation accounted for 54.93% of Sum of Total Customers. But Campaign conversion point of view Phd customers had highest conversion rate where as Customers with**

· **Areas of improvements and suggestions :**

· To enhance customer retention and increase their spending on other products, it is crucial to focus on customers within the income group of 50,000 to 100,000. These customers exhibit a higher preference for wine and meat products. Therefore, improving technology and promoting other product categories can encourage them to diversify their purchases.

· Although graduate customers constitute the majority in terms of spending, customers with a Ph.D. education level display higher conversion rates. Hence, it is advisable to allocate more attention to Ph.D. customers rather than customers with basic education levels.

· Customers with 2 kids and 2 teens in their families demonstrate lower value compared to other segments. Consequently, the focus should be shifted away from this particular customer segment to prioritize more valuable customers.

· Enhancing marketing techniques is essential to convert website visits into purchases, as the current conversion ratio stands at 17%. Implementing effective strategies to capitalize on website traffic can significantly improve overall sales.

· While customers primarily prefer purchasing from physical stores, efforts should be made to encourage them to engage in web purchases. By promoting the convenience and benefits of online shopping, customers can be enticed to explore the web purchasing option.

· March emerges as the month when customers spend the most. Therefore, it is advisable to intensify marketing campaigns during this month to leverage the higher spending propensity of customers.

· By aligning marketing strategies with the aforementioned insights, businesses can enhance customer retention, increase spending in different product categories, and optimize their overall marketing efforts.