# Udacity
Marketing Analytics

Nanodegree Program
Project: Craft a Report

Objective Results

While the total sales revenue increased by ~32 % from **1,594,914$** in 2017 to **2,092,431$** in 2018, which means that **the first objective had been met**, the total ad spend also increased by ~ 38 % which is the second objective increased from 607,610$ in 2017 to 837,156 $ in 2018, which mean that **the second objective hadn't been met.**
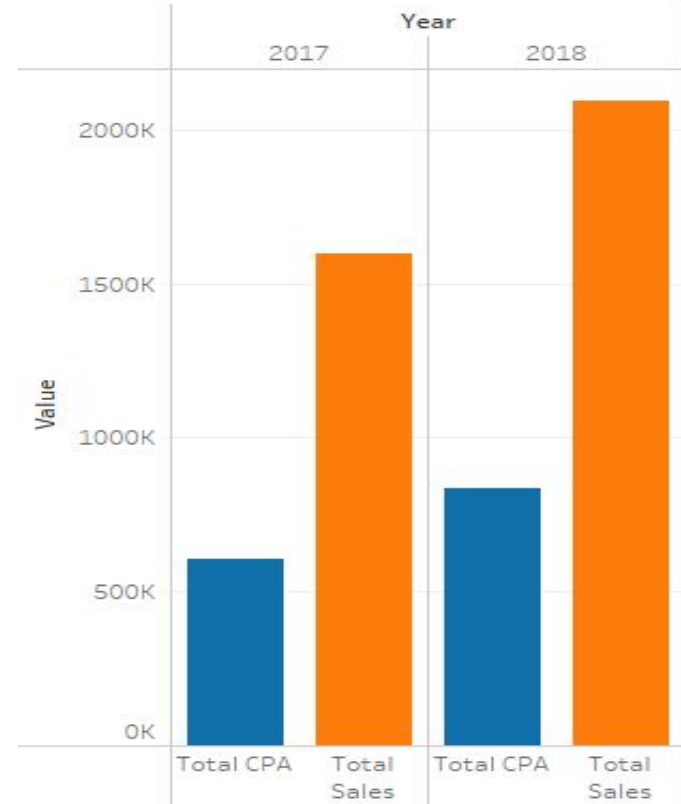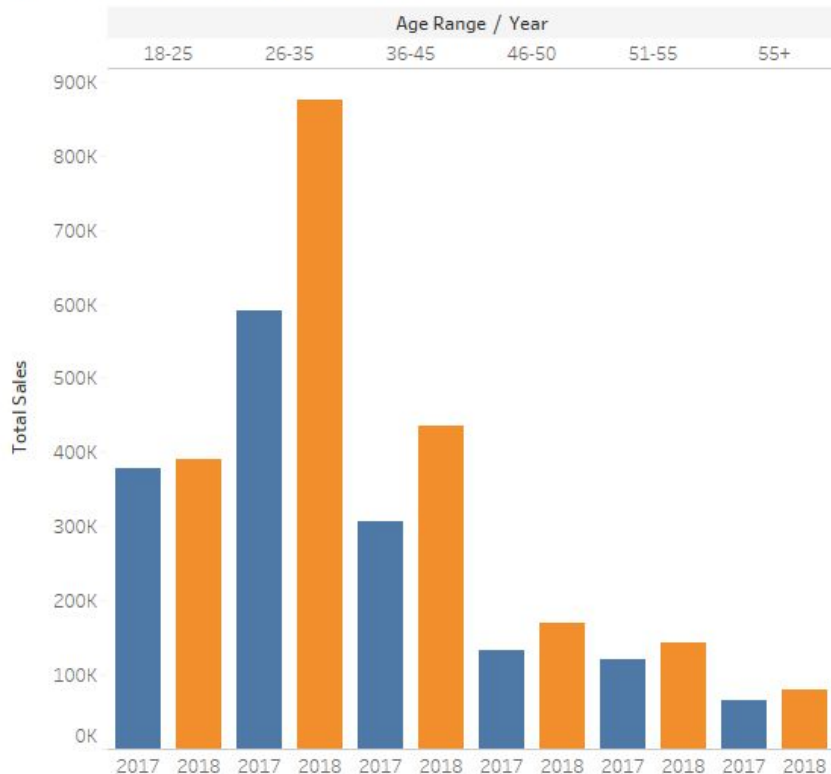
Evaluate the Audience

Demonstrate sales amount by age-range:

Which Age-Range generated the most sales?

- Overall, the highest age range in terms of total amount of sales generated by users as well as the number of transactions is the age-range **26-35**, **it increased by almost 48% from 2017 to 2018.**
- The total sales made by users in age range 36-45 increased by almost 42% from 2017 to 2018.
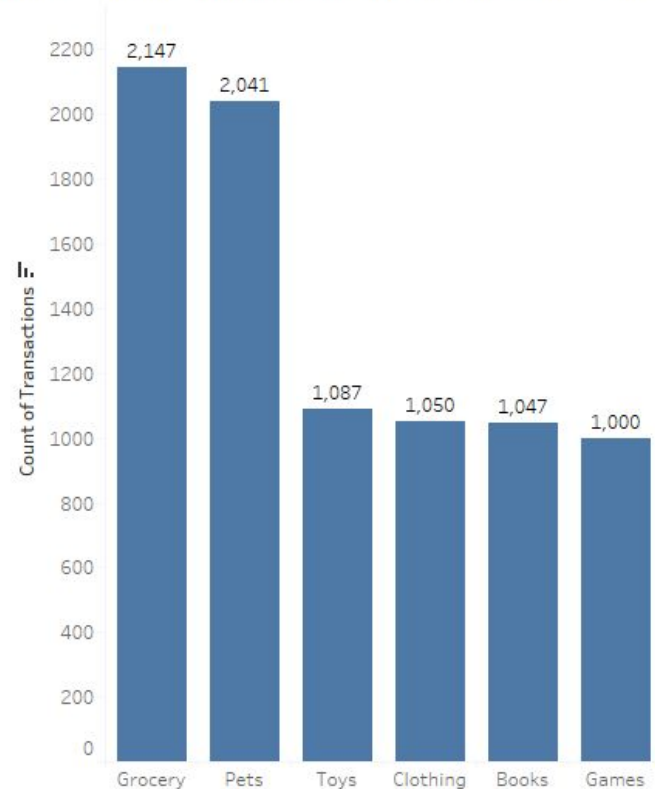
Sales amount by Age-range

Evaluate the Audience

Which product category was least popular to 18-25 year olds?

In terms of count of transactions, Grocery and Pets are the first and second highest product category respectively, while **Games is the least popular** for our audience in age-range 18-25 years.

Number of Transactions by Product Category to 18-25 year olds

Evaluate the Marketing

Was the ROI on our Paid Channel positive or negative? What was it? Which age-range had the best CPA?

	Year		
	2017	2018	Grand Total
Count of Customers	663	940	1,603
Total Sales	656,431	893,189	1,549,621
Total CPA	607,610	837,156	1,444,766
ROI	0.08	0.07	0.07

ROI = (Revenue - Cost)/Cost

We've increased the paid marketing costs to acquire new customers from 2017 to 2018, the ROI on our paid channel is **still positive** through the years, the number of acquired customers increased by 41.77%, however the ROI slightly decreased by 0.01% **from 0.08 in 2017 to 0.07 in 2018**.
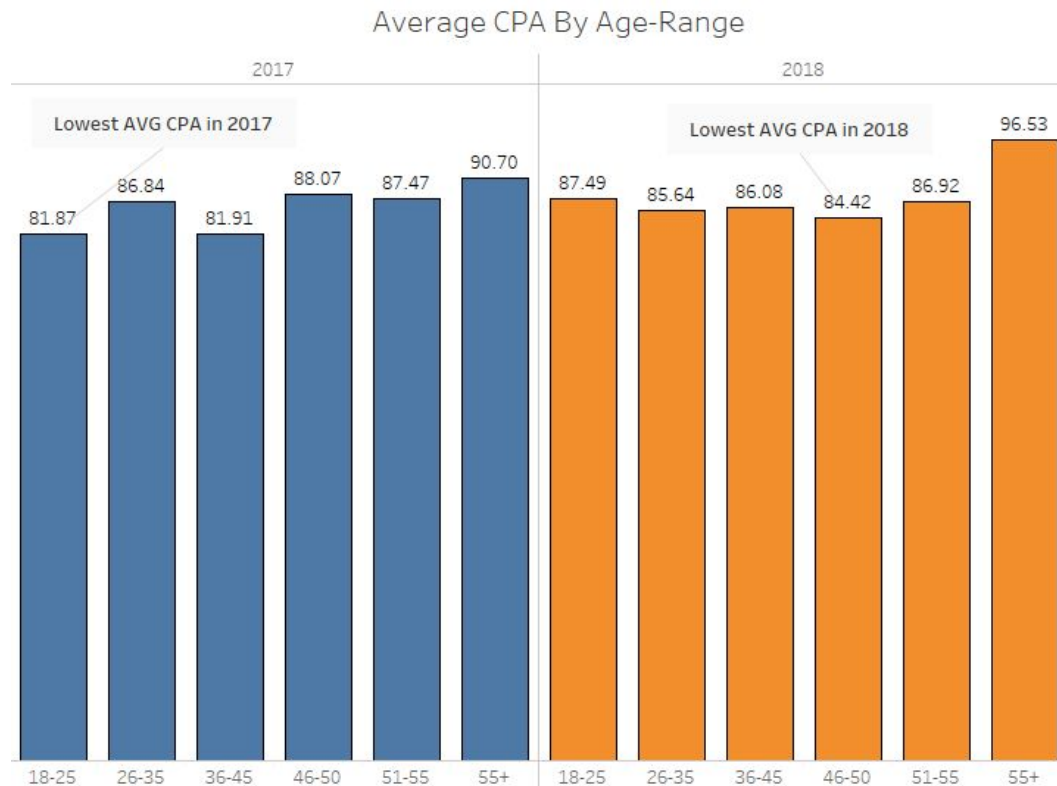
Evaluate the Marketing

Which age-range had the best CPA?

It depends on how we define the best CPA, it could be the least Average CPA, or it could be the CPA that resulted in higher ROI, or simply CPA which has been decreased from year to year.
It seems that age ranges 18-25 and 36-45 have the least Avg CPA in 2017, while the least average CPA during 2018 was for age range 46-60.

Age Range	Avg. CPA		ROI	
	2017	2018	2017	2018
18-25	81.87	87.49	0.07	0.06
26-35	86.84	85.64	0.07	0.06
36-45	81.91	86.08	0.12	0.07
46-50	88.07	84.42	0.10	0.10
51-55	87.47	86.92	0.05	0.07
55+	90.70	96.53	0.08	0.05

Average CPA By Age-Range

| 2017 | 2018 |

Lowest AVG CPA in 2017

Lowest AVG CPA in 2018

81.87 86.84 81.91 88.07 87.47 90.70 87.49 85.64 86.08 84.42 86.92 96.53

18-25 26-35 36-45 46-50 51-55 55+ 18-25 26-35 36-45 46-50 51-55 55+

Evaluate the Marketing

Which channel was the biggest driver in sales for 2017? For 2018?
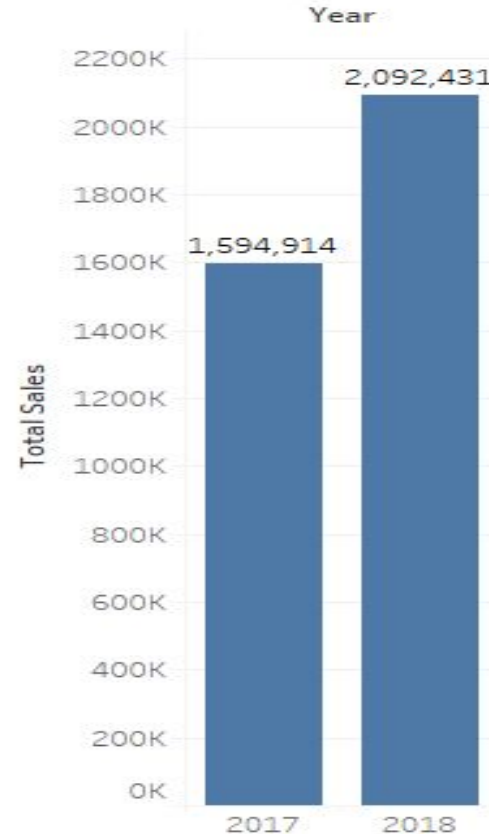
The paid channel is the biggest driver in sales which represents 41.61% from the total sales in 2017 as well 2018 with 42.69%. followed by social and blog channels respectively.
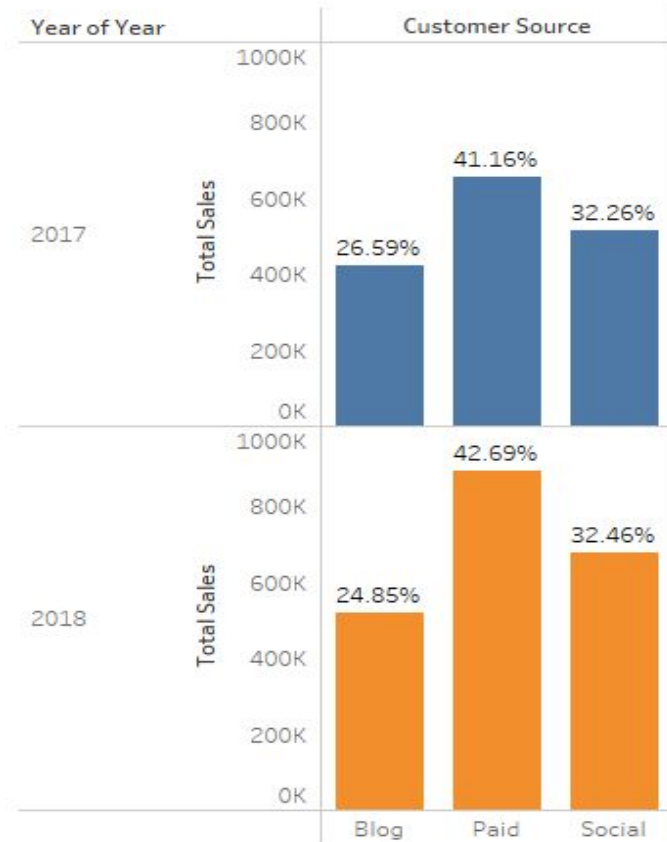
Evaluate the Sales

How much revenue did we generate in 2017? In 2018?

The total revenue generated in 2017 was 1,594,914$ and it increased by ~ 32% in 2018 to 2,092,431$.

Evaluate the Sales

What was our average order amount in 2017 vs 2018?

	Year	
	2017	2018
Avg. Order Amount	92	93
Number of Orders	17,311	22,391

While the number of orders increased by almost 29.34 %, the average order amount slightly increased from 92 to 92 $ from 2017 to 2018.

Evaluate the Product Categories

**Which product category was most popular in 2017 & 2018?**

The product category with the highest number of orders during 2017 as well as 2018 is the grocery category, followed by the Pets category.
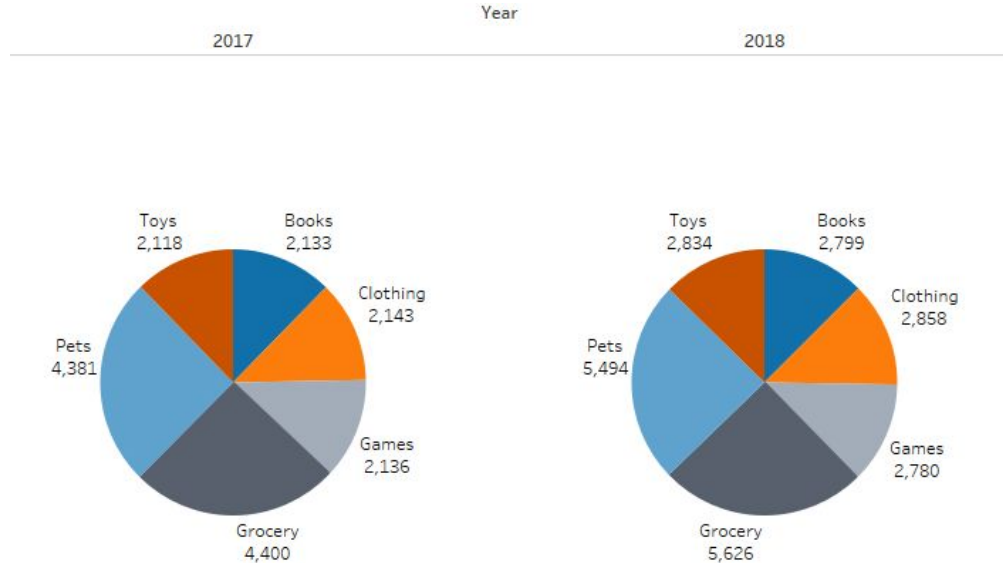
Evaluate the Product Categories

Demonstrate sales by product category

The Grocery category has the highest total sum of sales among all other categories followed by Pets.
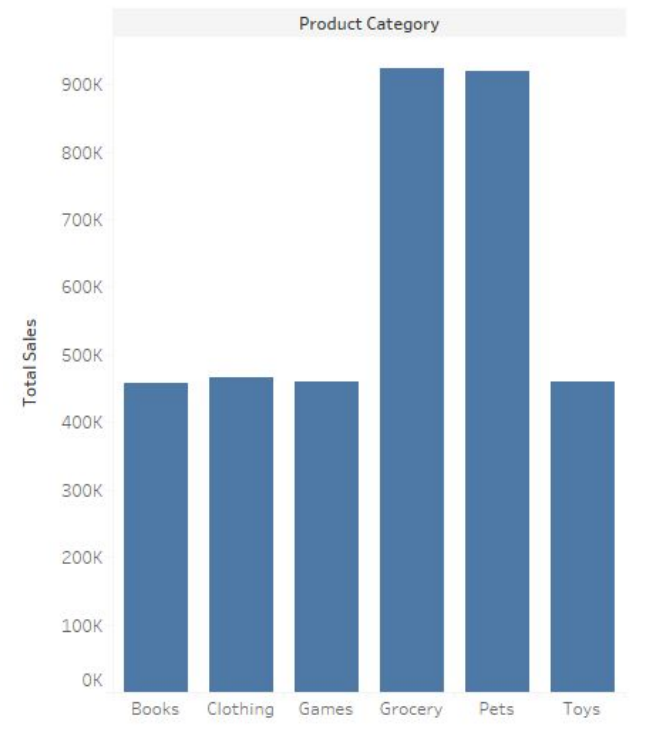
Everything Else

- The project had been done using tableau public for preparing the data for the analysis as well as extracting insights based on quick table calculations and visualizations.