CASE STUDY: PARCH AND POSEY PAPER COMPANY

My name is **WOFAI ALFRED EYONG**, a data analyst with "HerTechTrail". Tasked with carrying out exploratory data analytics on sales data from Parch &Posey, I have analyzed the available data and discovered actionable insights which will positively affect the company and guide associated teams as well.

INTRODUCTION

Patch & Posey is a paper selling company located in the United States of America. This company has 50 sales reps across four regions in the United States where it operates. It deals on 3 major types of paper: Standard Paper, Gloss Paper and Poster Paper.

An analysis of its data is important for the identification of important trends which will aid business decision making, customer retention, advertising and drive sales

Data

Parch and Posey's data was stored in the company's database. This database contains the following tables in a .CSV file format in this repository.

accounts: all accounts from Parch and Posey

orders: all orders made from 2014-12-03 to 2017-01-01

regions: the 4 regions in the United States where Parch and Posey operates

Sales_Reps: information on Parch and Posey's sales reps

Web_events: all web event data for Parch and Posey's accounts

Tools

- **PostgreSQL:** This was used to communicate with the database. Queries were generated to answer analytical questions which aid insight generation and explorative analysis
- **Excel:** Generated results from SQL queries were stored as excel files, in a CSV format.
- **Tableau:** This served as the visualization tool

Data preparation

This data was thoroughly cleaned before analysis was carried out. All blanks and duplicates were eliminated.

Data processing

Exploratory data analysis was carried out using PostgreSQL with the aim of mitigating revenue loss and maximizing revenue and sales. Results from the SQL queries were extracted in a CSV format, pivoted and fed into the visualization tool.

**Data Analysis and Visualization**

1. A query to fetch the names of top 10 customers that have placed more than 30 orders and their product preference. Sorting order count in desc; we are to return count of orders made, account name and the count of each product (that is standard, gloss and poster) such that we can tell which of the products these customers prefer. This is also needed to reward our top 10 frequent customers only. The result of this could help to inquire as to why they prefer a product to another, thereby designing a sales/marketing strategy.


TOP 10 HIGH PAYING CUSTOMERS (USD)
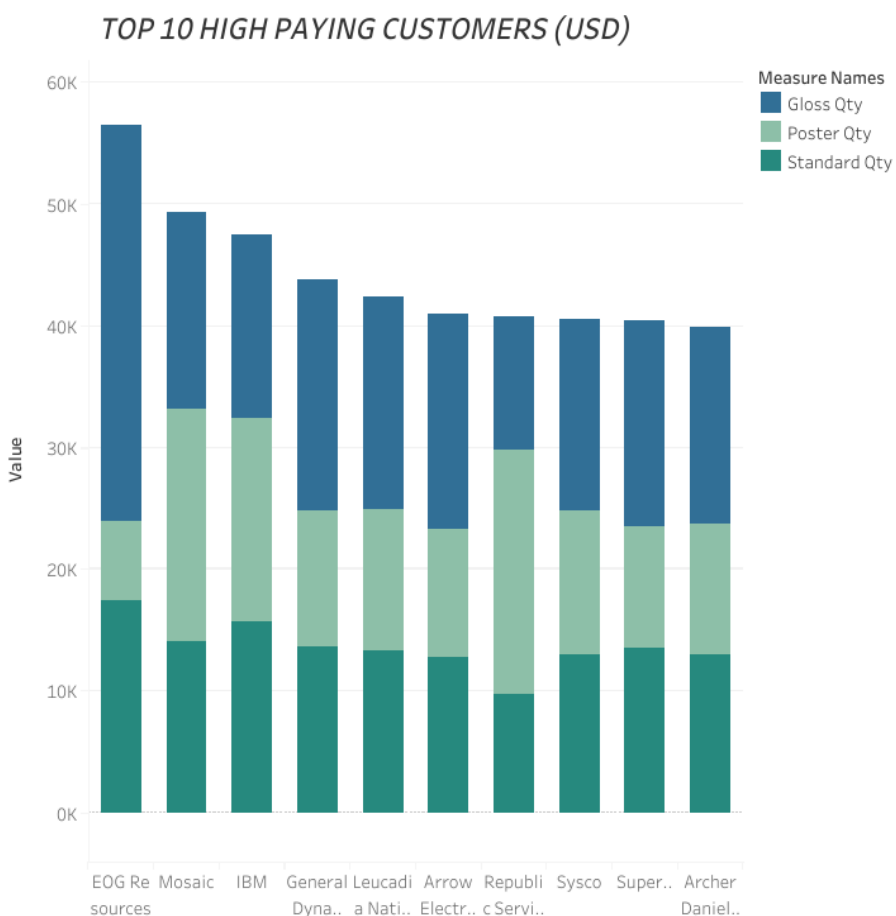
2. A query that shows the total sales made and its distribution over each documented year.

TOTAL SALES PER YEAR FROM 2013 - 2017
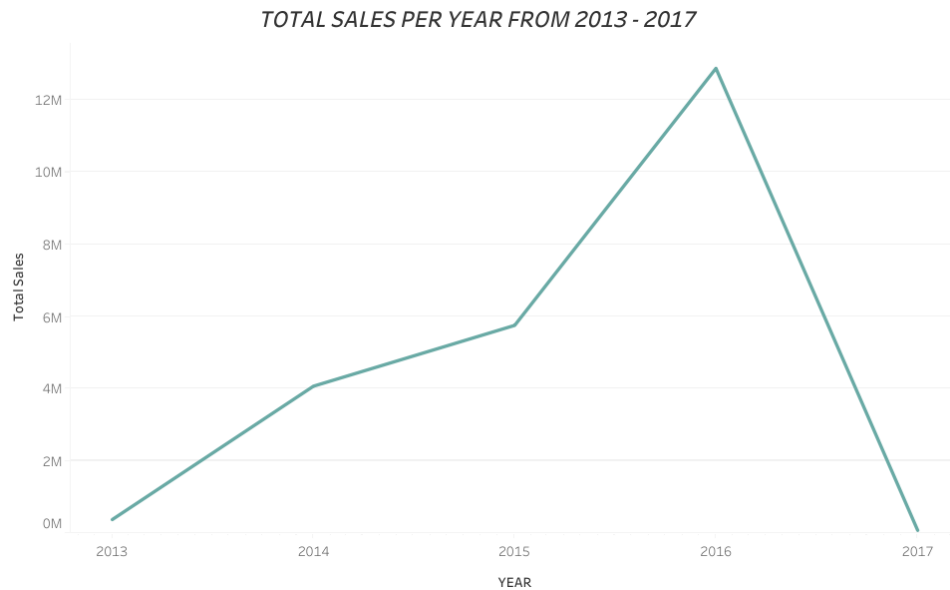
3. A query that shows the total monthly revenue per year. This query returns the average order on a monthly basis. This is aimed at ascertaining if the company has a busy season or peak period

TOTAL MONTHLY REVENUE PER YEAR
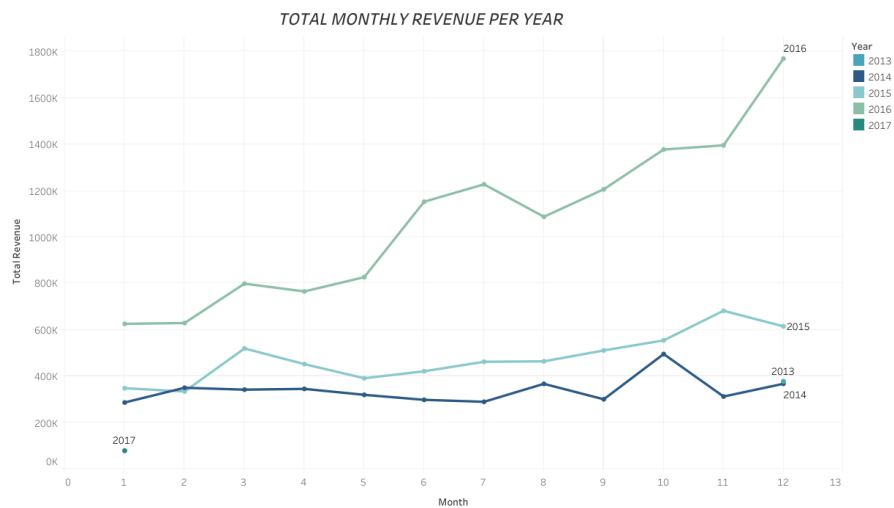
4. A query that shows the patronage rate of companies. Here, we can zoom in on important classes of customers which may include the high or low performing companies
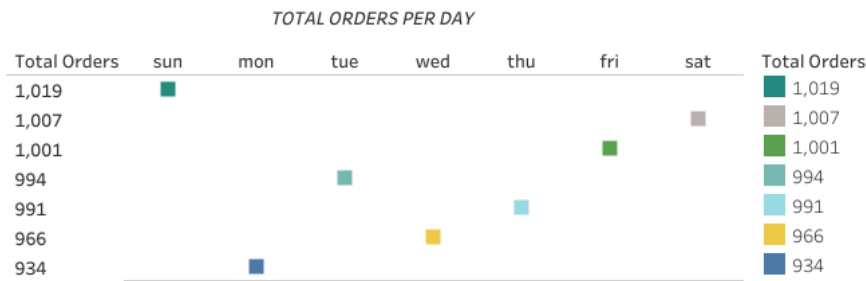
COMPANY PATRONAGE RATE(LOW PERFORMERS)
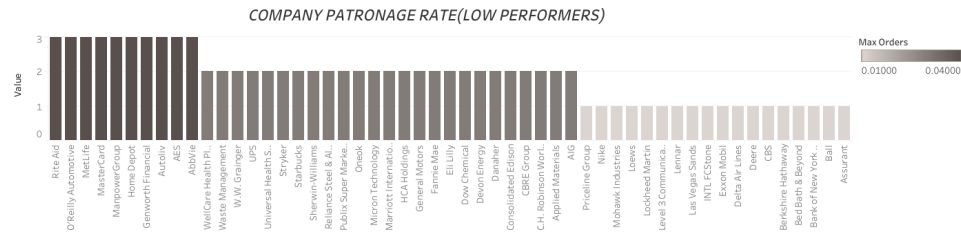
5. A query that returns the yearly percentage of each revenue line (poster, gloss and standard) to the total revenue in USD. This is intended to indicate which revenue line generates more income.

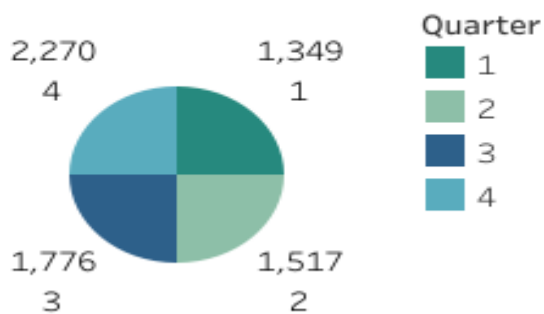PERCENTAGE OF YEARLY PAPER SALES BY PAPER TYPE
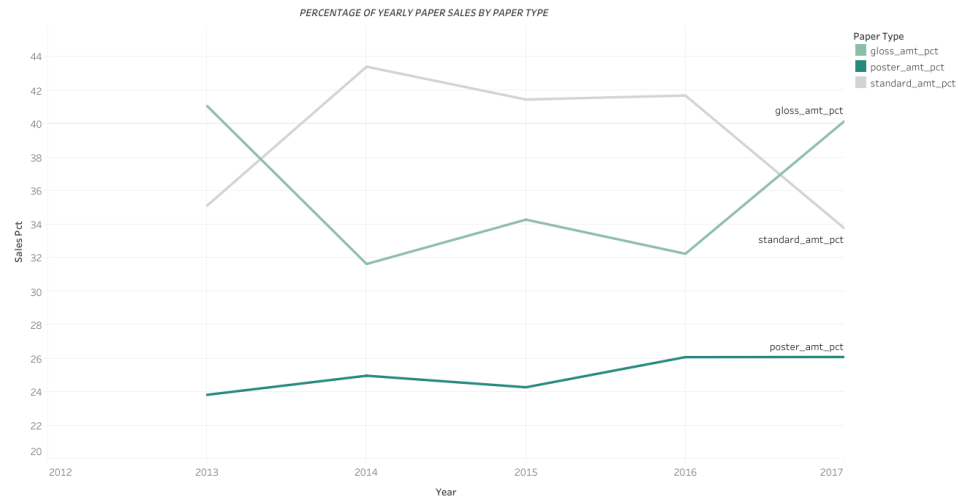
6. A query that returns companies with the highest orders. This query was necessary as it was noticed that the number of orders was not directly proportional to the revenue generated by a company.

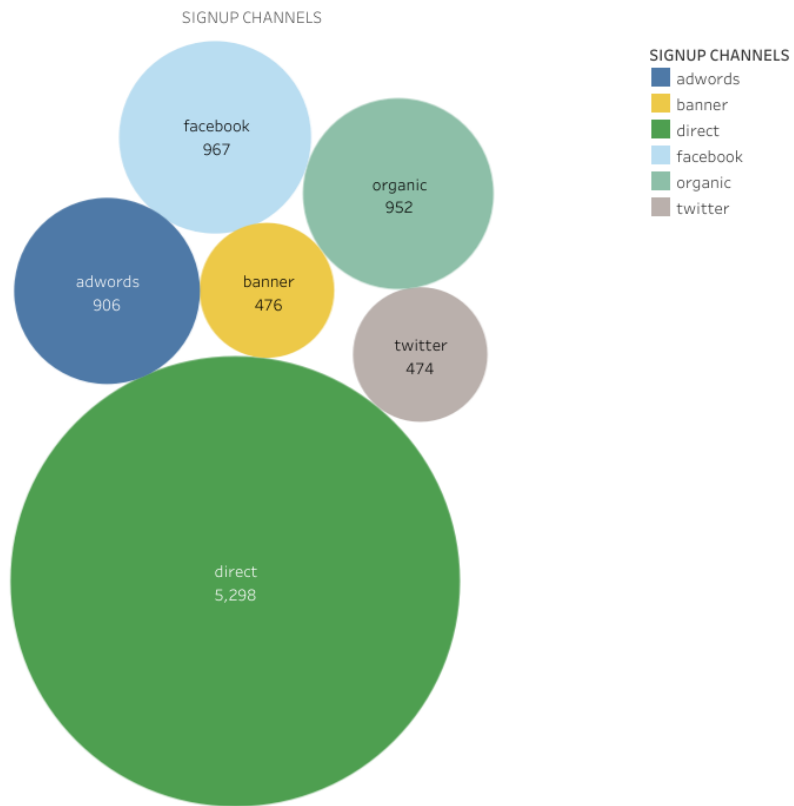TOP 15 COMPANIES WITH THE HIGHEST ORDERS
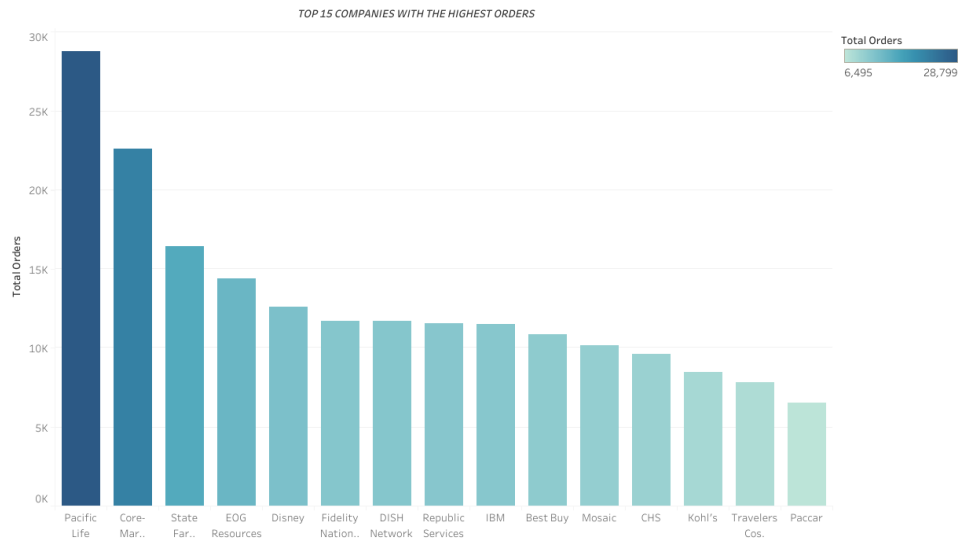
7. A query that identified the average orders by weekday and the average order by year-quarter. This was necessary to ascertain the presence or absence of peak periods
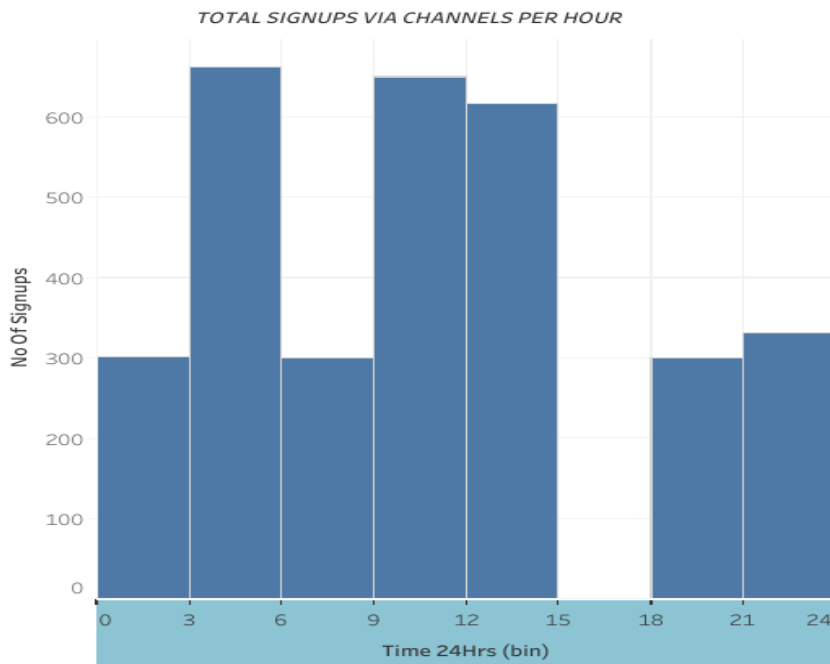

TOTAL ORDERS PER DAY

Total Orders	sun	mon	tue	wed	thu	fri	sat	Total Orders	
1,019	■							■	1,019
1,007							■	■	1,007
1,001						■		■	1,001
994			■					■	994
991					■			■	991
966				■				■	966
934		■						■	934

ORDERS PER QUARTER

Quarter
1
2
3
4

2,270
4

1,349
1

1,776
3

1,517
2

8. A query that shows the most effective channel for new customer acquisition

SIGNUP CHANNELS

facebook
967

organic
952

adwords
906

banner
476

twitter
474

direct
5,298

SIGNUP CHANNELS
- adwords
- banner
- direct
- facebook
- organic
- twitter

9. Total signups via channels per hour

TOTAL SIGNUPS VIA CHANNELS PER HOUR

No Of Signups

Time 24Hrs (bin)

10. A query that returns the performance of sales representatives with the highest orders and revenue generated. This query is geared towards giving commission to top performing sales reps based on order quantity and revenue.

SALES REPRESENTATIVE PERFORMANCE RATING
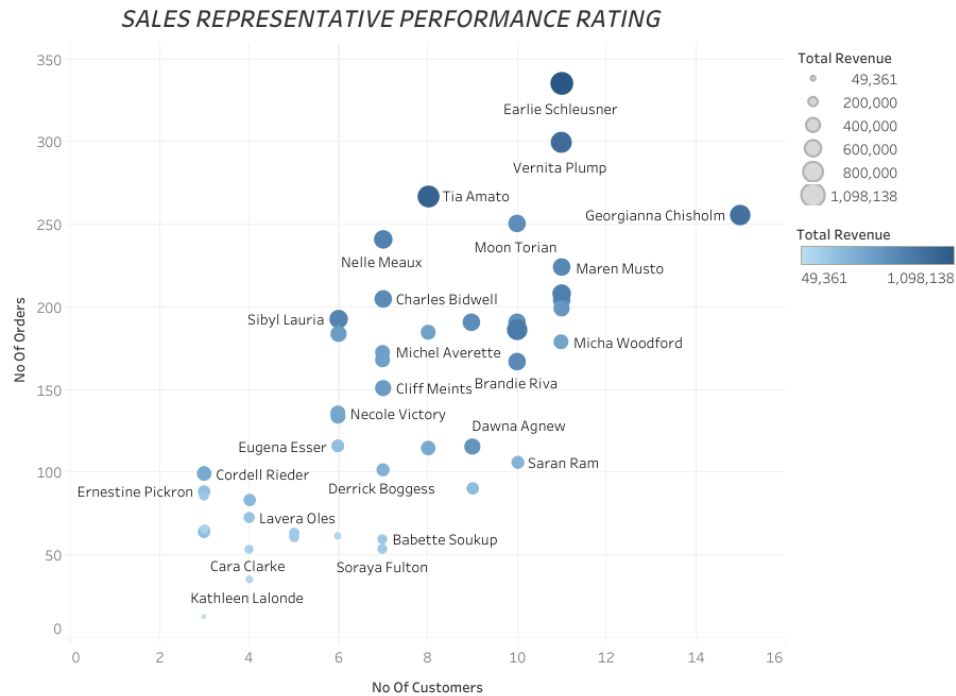
Challenges/Results/Recommendation

Challenge 1

Who are the top high paying customers?

Result

This visualization shows the top 10 high paying companies, ordered by how much has been spent on Patch and Posey. EOG resources has spent the highest amount of money ($382,873.30) purchasing paper and Leucadia National has placed the most orders (71) compared to other companies. Assurant recorded the lowest order count (1). A list of other low performing companies has also been highlighted.

Recommendation

These companies should be appreciated during special occasions to ensure retention. These group of companies are customers who have attained loyalty level and do not require adverts anymore.

Focus should be placed on lower performing companies. Adverts should directly target them and reminder programs will boost purchase from such companies.

Challenge 2

What is the situation of Patch and Posey as regards sales and revenue?

Result

Patch and Posey experienced exponential growth in sales from 2013 to 2016. Sales significantly dwindled from 2016 to 2017.

The standard paper made significantly more than others from 2014 to 2016 where it was overtaken by gloss paper type.

Monthly revenue has been observed to climb steadily at the beginning of the year and peak at the end of the year. This trend was observed from 2014 to 2017.

An average of 2,270 orders were recorded during the 4th quarter of the year. This backs up previously observed trends as regards peak periods.

Recommendation

Further analysis is required to detect the cause of dwindling sales in the company.

During observed peak periods, temporary staffing can be embraced to ensure that all required orders are met. Advertisement should be carried out at the beginning of the year as low sales has been observed

Challenge 3

Peak Periods

Result

Analysis shows that orders peak at the end of every year.

Sundays also recorded the highest number of orders, followed closely by Saturday and then Friday. This is likely due to preparation for a new office week.

Recommendation

Staff should always be available to ensure maximization of peak periods.

Challenge 4

How can we reach new clients?

Results

Analysis on sign up channels showed that directly reaching out to companies was more effective as regards converting potential clients to customers. Adworks and Facebook follow closely behind, making them great platforms for adverts. Twitter recorded the lowest conversion rate.

New signup rates were observed by 3am to 6am and between 9am and 12pm.

Recommendation

Reaching out to potential clients directly is the best route to take. Online, 3am -6am and 9am to 12pm will also produce best results

Challenge 5

Most Productive Sales representative

Result

Earlier Schleusner with about $1,098,138 in revenue and 335 orders has brought in the highest revenue compared to other sales representatives. The chart also indicated several other high performing sales representatives such as Venita Plump, Georgianna Chisholm, Tia Amato and Moon Torian.

Recommendation

High performing sales representatives should be rewarded while lower performers should be encouraged to do better.

CONCLUSION

Although some important insights have been identified, further analysis is required for more insights and in-depth solutions for this company.
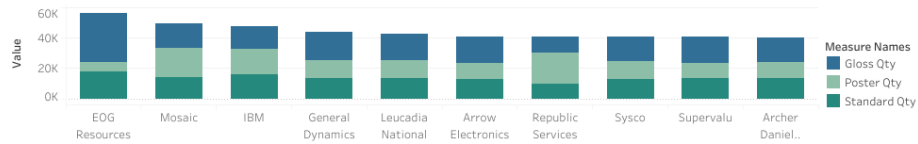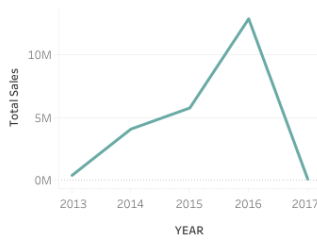
DASHBOARDS

SALES ANALYTICS DASHBOARD

TOP 10 HIGH PAYING CUSTOMERS (USD)

Measure Names
- Gloss Qty
- Poster Qty
- Standard Qty

TOTAL SALES PER YEAR FROM 2013 - 2017

TOTAL SALES
..

TOTAL SUBSCRIBERS
..

TOTAL ORDERS
6912

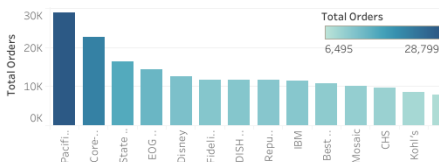### COMPANY PATRONAGE RATE

Orders
0.01 to 0.261

0.0100   0.2500
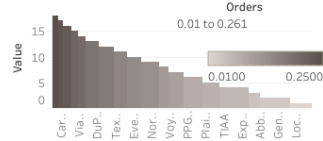
TOTAL MONTHLY REVENUE PER YEAR
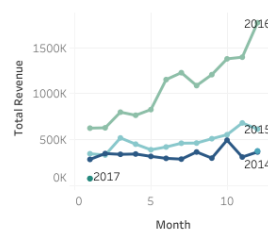
PARCH AND POSEY

SALES ANALYTICS DASHBOARD

TOP 15 COMPANIES WITH THE HIGHEST ORDERS

Total Orders
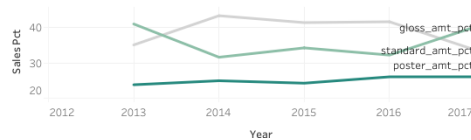6,495   28,799
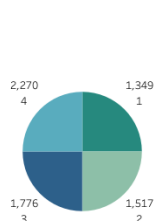
TOTAL SIGNUPS VIA CHANNELS PER HOUR

SIGNUP CHANNELS

ORDERS PER QUARTER

TOTAL ORDERS PER DAY

Total Orders	sun	mon	tue	wed	thu	fri	sat
1,019							
1,007							
1,001							
994							
991							
966							
934							

PERCENTAGE OF YEARLY PAPER SALES BY PAPER TYPE

gloss_amt_pct
standard_amt_pct
poster_amt_pct

SALES REPRESENTATIVE PERFORMANCE RATING
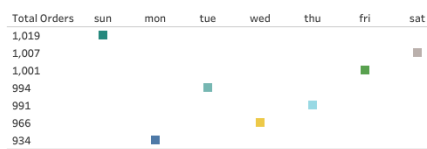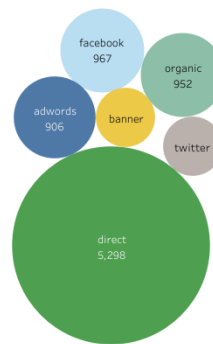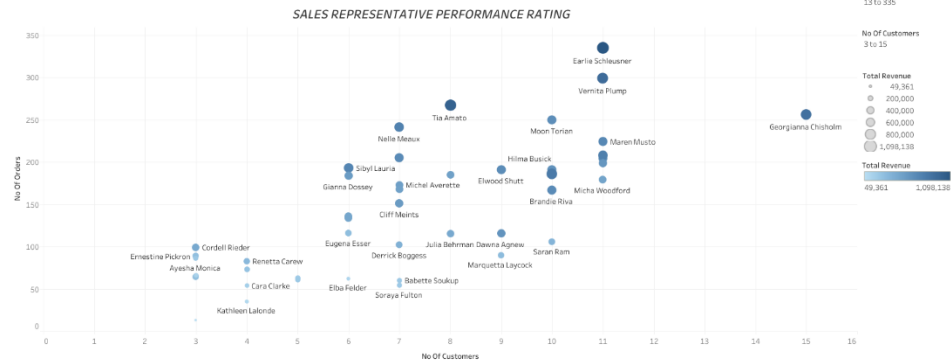
LINK TO DASHBOARDS:
https://public.tableau.com/views/PARCHANDPOSEYSSALESANALYTICSDASHBOARD/sales?:
language=en-GB&:display_count=n&:origin=viz_share_link