**A CASE STUDY ON THE SALES ANALYSIS AND VISUALS OF PARCH AND POSEY PAPER COMPANY**

My name is **NNEOMA ENYI,** a Data Analyst learner at Hertechtrail Academy tasked with performing exploratory data analytics on sales data from Parch & Posey. I have carried out the analysis and it revealed actionable insights, which I am confident enough that it will benefit the company and its associated teams, and help them make strategic business decisions.

**INTRODUCTION**

Parch & Posey is a paper-selling company in the United States. It has 50 sales reps across four regions and sells three types of paper: standard, gloss, and poster.

**DATA**

Parch & Posey's data was stored in a database in CSV format. It contained the following tables:

**account**s: 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 USED FOR THIS ANALYSIS**

**PostgreSQ**L: used to communicate with the database and generate queries

**Excel**: used to store results from SQL queries in CSV format

**Tableau**: used for visualization

**DATA PREPARATION**

This data was thoroughly cleaned before analysis was carried out. All null and duplicate values were removed, and the data type was checked in order to aid the data modeling.

Data processing

Exploratory data analysis was carried out using PostgreSQL with the aim of generating revenue and sales. Results from the SQL queries were saved in Excel format and loaded into Tableau as the visualization tool.

**DATA ANALYSIS AND VISUALIZATION**

1. A query to generate the Sum of the total amount of paper sales in USD, the total sales generated from 2013-2017 from the three different papers in Parch and Posey.

---1. /\*Sum of total amount of paper sales in usd\*/

SELECT SUM(total\_amt\_usd) AS total\_sales

FROM orders

**Total Sales $23.14M**

1. A Query to generate the total amount of Poster paper sales in Parch and Posey, this is to give insight on which type of paper has the highest sales in the period of those five years.

---2. /\*Total poster amount\*/

SELECT SUM(poster\_amt\_usd) AS total\_poster

FROM orders

**Total Poster Amount $5.88M**

1. A Query to generate the total amount of Standard paper sales in Parch and Posey, this is to give insight on which type of paper has the highest sales in the period of that five years.

---3. /\*Total standard amount\*/

SELECT SUM(standard\_amt\_usd) AS total\_std

FROM orders

**Total Standard Amount $9.67M**

1. A Query to generate the total amount of Gloss paper sales in Parch and Posey, this is to give insight on which type of paper has the highest sales in the period of those five years.

---4. /\*Total gloss amount\*/

SELECT SUM(gloss\_amt\_usd) AS total\_gloss

FROM orders

**Total Gloss Amount $7.59M**

1. A Query that shows each region by Total sales per year, this is to see how each region makes sales and also the region that makes more sales and generates the revenue for the company. Northeast happens to be the most performing region with more sales.

---5. /\*Region with the highest total sales \*/

SELECT region, MAX(total\_sales.total\_amount) AS Max\_amount

FROM

(SELECT s.name AS sales\_rep, r.name AS Region, SUM(o.total\_amt\_usd) AS total\_amount

FROM orders o

JOIN accounts a ON a.id = o.account\_id

JOIN sales\_reps s ON s.id=a.sales\_rep\_id

JOIN region r on r.id=s.region\_id

GROUP BY s.name, r.name) AS total\_sales

GROUP BY region

ORDER BY MAX(total\_sales.total\_amount)DESC

6. A Query to generate the average order quantity sold for the period of five years in Parch and Posey

---6. /\*Average orders\*/

SELECT AVG(total)

FROM orders

7. A Query to retrieve orders made on a monthly basis. This is a way to keep track of the sales the company makes and be able to know when and how to make better strategic decisions for the growth of the company.

---7. /\*Total orders per day

SELECT date\_trunc('month', occurred\_at), SUM(total) AS total\_orders

FROM orders

GROUP BY date\_trunc('month', occurred\_at)

ORDER BY date\_trunc

8. A Query to show the most effective channel. This shows the number of times a channel was used and this will help the company to make better decisions. This query also shows that direct channel was the most used over the years.

---8. /\*Most used channel

SELECT COUNT(channel), channel

FROM web\_events

GROUP BY channel

ORDER BY COUNT(channel) DESC

LIMIT 1

9. A Query to show the total sales per year and the year with the highest revenue in the period of 5 years.

---9. /\*Total sales by year\*/

SELECT date\_trunc('year', occurred\_at), SUM(total\_amt\_usd) AS total\_sales

FROM orders

GROUP BY date\_trunc('year', occurred\_at)

ORDER BY date\_trunc

10. A Query to show the Top 10 companies with the highest orders. Sorting order count in desc; this is needed to help us know the companies that patronize parch and posey so they can be rewarded there promoting sales/marketing.

---10. /\*Top 10 companies buying\*/

SELECT name

FROM accounts a

JOIN orders o

ON a.id=o.account\_id

ORDER BY total\_amt\_usd DESC

**INSIGHTS AND RECOMMENDATIONS**

* The Standard Paper has the highest sales with $9.67M in the years 2013 to 2017 respectively, consider allocating additional resources to further promote this product and capitalize on its strong performance.
* The Poster paper has the lowest sales with $5.88M which signify strong customer demand, there is a need to promote the quality and versatility of this product to attract customer and generate larger revenue.
* Parch and Posey's sales grew rapidly from 2013 to 2016 but then fell sharply in 2017. The Standard paper sold more than any other product from 2014 to 2016. Monthly revenue has always been highest at the end of the year, and this trend has continued from 2014 to 2017. We need to investigate why sales fell in 2017. We should also advertise more at the beginning of the year when sales are lower.
* The most popular sales channel is direct, with 5,298 sales. The social media manager should work on improving sales ads on other channels. We should reward high-performing salespeople and encourage lower-performing salespeople to improve. More analysis is needed to understand the situation better and develop effective solutions.

**CONCLUSION**

**Further analysis is required for more insights and in-depth solutions for this company**

**DASHBOARD**

Link to the Dashboard

[Hertechtrail project 2 | Tableau Public](https://public.tableau.com/app/profile/nneoma.enyi/viz/Hertechtrailproject2/Dashboard2?publish=yes)

