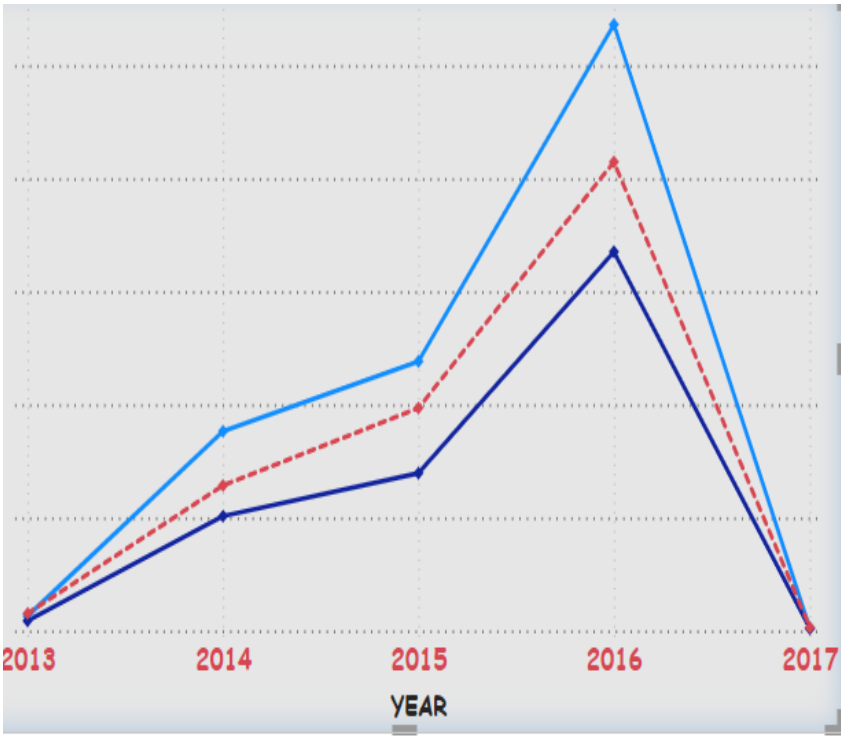

A MARKETING AND SALES ANALYSIS ON PARCH AND POSEY

MARCH 2023

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HERTECHTRAIL CAPSTONE PROJECT
DATA ANALYTICS COHORT 5

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PARCH AND POSEY PROJECT

3.0 INTRODUCTION

HERTECH TRAIL is a community/organization of African women in Tech founded in Nigeria. It runs an Academy with the aim of equipping ladies and women with tech skills. HerTech Trail Academy is the Heart of HerTech Trail. A 100% virtual learning platform for African women in Tech.

3.1 AIMS OF THE PROJECT

This capstone project was given by Hertech Trail Academy. The goal is to give practical experience obtainable in a business environment as a data analyst. The main idea is to encourage individual analytical thinking of the project . As a Data Analytics Starter student in the fifth cohort of her virtual training, the project is a prerequisite to completing the course and graduating from the 3-month program.

3.2 PROJECT DESCRIPTION

Parch and Posey is a global paper company with its Headquarters in the United State (US). The company currently have 3 different paper product lines, which are:

1. Standard
2. Gloss
3. Poster

These paper product lines (standard, gloss, and poster) are sold to companies across the US and the globe.

The Parch and Posey database contains the following tables with varying number of columns.

- **accounts:** contains all accounts from Parch and Posey
- **orders:** contains all orders made from 2013 to 2017.
- **region**: contains all the 4 regions in the United States where the company operates.
- **sales_reps**: information on sales representatives in the US.
- **web_events:** information on all web events for Parch and Posey accounts.

The tables have an individual spreadsheet and are all linked via primary keys and foreign keys. Each table contains important information on customers, their orders and their characteristics, their purchase regions, assigned sales representatives, and the route from which they were integrated into the company.

Below is the Entity Relationship Diagram (ERD) for Parch and Posey:

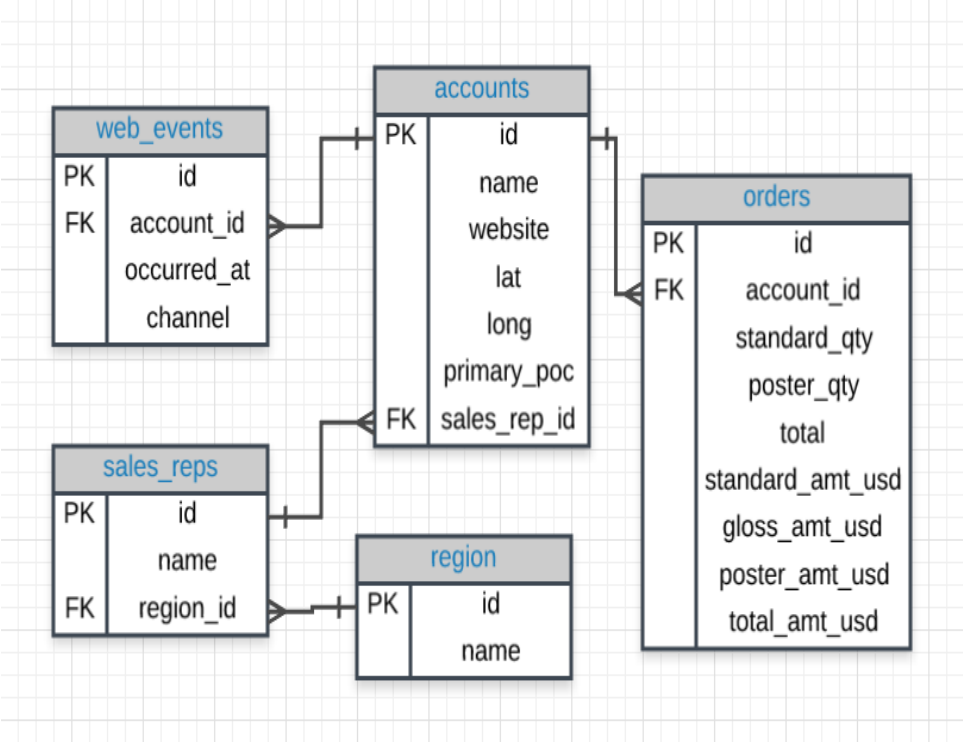

Diagram I

This Diagram will aid visualizing of the data we want to analyze which includes:

1. The names of the tables
2. The columns in the table
3. The way the table works together i.e., the relationships that exist among the tables being analyzed.

3.3 PROJECT OBJECTIVE

As the company's new employed data analyst, a task has been assigned to access the company's database (using SQL) and conduct a detailed analysis on different performance of the company, to generate insights that will help the product and marketing managers make informed decisions. This is to further drive the sales of the different paper types and create reward schemes for loyal customer patronage.

3.1 MATERIALS AND TOOLS

To generate a good insight, below materials and tools were used for analysis and visualization.

1. Parch and Posey Database.
2. Postgresql/ PG admin.

3. Microsoft PowerBI.
4. Microsoft Word.

4.0 DATA DESIGN AND ANALYSIS

To create Parch and Posey Database into PostgreSQL using the Parch and Posey Database given, the following steps were carried out.

1. On the Postgre/PgAdmin, create a new Database with the name Parch and Posey.
2. On the SQL option, CREATE DATABASE “Parch and Posey” with OWNER = postgres, ENCODING = “UTF8”, CONNECTION LIMIT = -1;
3. Save the Database.
4. Copy and paste the Parch and Database on the query tool and run.
5. Review the SQL code.

4.1 BASIC TIPS AND PRACTICE DURING ANALYSIS

To increase the level of quality while working on this project, basic tips and practices were implemented to optimize the code. The prominent practice observed during the analysis of data on this project using the PostgreSQL tool include:

1. All SQL commands were written in UPPER CASE to differentiate the command from table/column names.
2. Table ALIASES was used during joining of two or more tables to differentiate the columns based on the table.
3. Column ALIASES was used to add aggregate to the column_name.
4. Semi colon (;) was always placed at the end of a series of codes to signify the end of the code before executing it.

4.2 FINDINGS FROM THE DATA

4.2.1 FINDING I

I want to write a query to know the lists of all marketing channels in which Parch and Posey distribute information about the product.

QUERY:

```
SELECT DISTINCT channel AS c
FROM web_events
```

INSIGHT

The result shows that there are 6 marketing channels through which Parch and Posey promote and distribute information about the products and services.

4.2.2 FINDING II

I want to have details of the best and worst performing marketing channel to know which channel the company needs to invest more in.

QUERY:

```
SELECT channel, COUNT(*) AS total_count
FROM web_events
GROUP by channel
ORDER BY total_count DESC;
```

INSIGHT

The result shows that Direct channel happens to be the best marketing channel. This implies that parch and posey company need to invest more in this channel.

4.4.3 FINDING III

I want to write a query to identify companies in order of patronage. This will help us know the companies that should be rewarded for higher patronage and to encourage companies with lower rates.

QUERY:

```
with customers AS (SELECT accounts.id AS id, accounts.name AS name ,
COUNT(orders.id)AS order_count FROM orders
JOIN accounts ON accounts.id = orders.account_id
GROUP BY 1, 2)
SELECT *, round((CAST(order_count AS numeric)/CAST((SELECT
MAX (order_count)FROM customers) AS numeric)),2) AS max_orders
FROM customers
ORDER BY max_orders DESC;
```

INSIGHT

The result shows the table in order of highest rate of patronage. This shows the number of customers who have been loyal and deserved to be rewarded. While those with lower rates can be targeted to encourage an increase in patronage.

4.2.4 FINDING IV

A query that shows the sales rep performance from all regions regarding orders and total revenue. This is aimed at giving appraisal and commission to the top 10 sales rep with highest order of patronage.

QUERY:

```
SELECT s.id AS sales_rep_id, s.name AS sales_rep_name,
r.name AS region,
COUNT(DISTINCT a.id) AS no_of_customers,
COUNT(o.id) AS no_of_orders,
SUM(o.total_amt_usd) AS total_revenue
FROM accounts a
JOIN orders o ON a.id = o.account_id
JOIN sales_reps s ON a.sales_rep_id = s.id
JOIN region r ON r.id = s.region_id
GROUP BY 1,2,3
ORDER BY 6 DESC;
```

RESULT:

The result shows the top 10 sales reps. with the highest performance.

4.2.5 FINDING V

A query that provides the sales rep. from Northeast with their associated accounts. The regional manager needs a table that shows the region's name, the sales rep. name and account name for analysis.

QUERY

```
SELECT s.name sales_rep, r.name  region,
a.name accounts, a.id account_id
FROM sales_reps s
JOIN region r ON r.id = s.region_id
JOIN accounts a ON s.id = a.sales_rep_id
WHERE r.name = 'Northeast'
and a.name IS NOT NULL
ORDER BY 1,3;
```

INSIGHT:

The result shows the table for Northeast sales rep and their account name.

4.2.6 FINDING VI

A query that provides the sales_rep for west region along with their number of customers and total revenue.

QUERY

```
SELECT s.id as sales_rep_id, s.name AS sales_rep_name, r.name AS region,
COUNT(DISTINCT a.id) AS no_of_customers,
COUNT(o.id) AS no_of_orders,
SUM(o.total_amt_usd) AS total_revenue
FROM accounts a
JOIN orders o ON a.id = o.account_id
JOIN sales_reps s ON a.sales_rep_id = s.id
JOIN region r ON r.id = s.region_id
WHERE r.name = 'West'
GROUP BY 1,2,3
ORDER BY 4 DESC
```

INSIGHT

The table shows the sales reps for the west region with the total number of customers and total revenue.

4.2.7 FINDING VII

A query to fetch the names of top 10 companies that order more than 50 products. The company wants to reward customers who have been consistent and to know their preferred product.

QUERY

```
with stg_purchases AS (SELECT a.id,a. name, COUNT (o.id)
AS order_count, SUM(standard_qty) AS standard_qty,
SUM (gloss_qty) AS gloss_qty,
SUM(poster_qty) AS poster_qty,
SUM(total_amt_usd)AS total_amt_usd
FROM orders o
JOIN accounts a ON a.id = o.account_id
GROUP BY 1,2)
SELECT * FROM stg_purchases
WHERE order_count > 50
ORDER BY order_count DESC
LIMIT 10;
```

INSIGHT:

The result shows the top 10 companies that have more than 50 orders and their most preferred product (standard_qty, gloss_qty, poster_qty). This result will give a good insight into why a company prefers one product to another and this will help to redesign a new marketing strategy.

5.0 DATA VISUALIZATION

After a thorough analysis of several questions to generate an insight for Parch and Posey in a bid to improve the marketing and sales performance, the results were visualized using Microsoft Power BI tool for better presentation to the stakeholders.

6.0 CONCLUSION

In conclusion, it can be deduced that the direct channel is the best marketing channel, Also, the company has higher patronage in the month of December. Most companies order more of the standard paper compared to the other products.

7.0 RECOMMENDATION

I will recommend that parch and posey should strategize on how to make other marketing channels active, this will give room for more awareness of the product. The company also needs to plan on improving the product sales by giving a quarterly appraisal to the best performing sales reps quarterly from all the regions. This will encourage other sales reps to improve the product marketing and sales in their respective region, which will also generate more revenue for the company.

8.0 REFERENCES

https://www.youtube.com/watch?v=Ej2_R_TNMXQ

https://www.youtube.com/watch?v=eeXtrn62Bp4

Udacity

HertechTrail

Datacamp