

DHANUSHWR KUMAR

Elbrit Life Sciences Assignment

Resume Link: https://drive.google.com/file/d/1CwFL2_o36zuTl0day0fyljYwHDwA2wL_/view

Dashboard Link: https://drive.google.com/file/d/1POHpMU7C6wPQsg4Bf_xKsrx7Wadt1QEH/view

Answers to questions are attached below

ELBRIT LIFE SCIENCES - APR TO SEP 2024 SALES DASHBOARD

TOTAL SALES METRICS

Total Primary Sales

270.16M

Total Sales Return

-6.55M

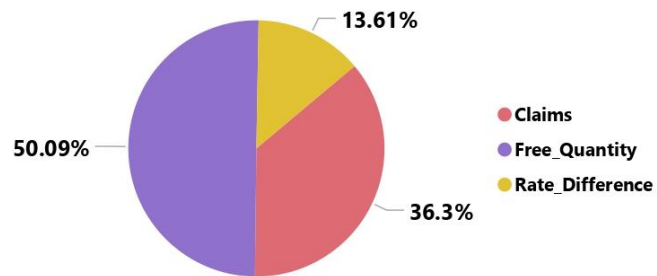
Total Breakage

-1.05M

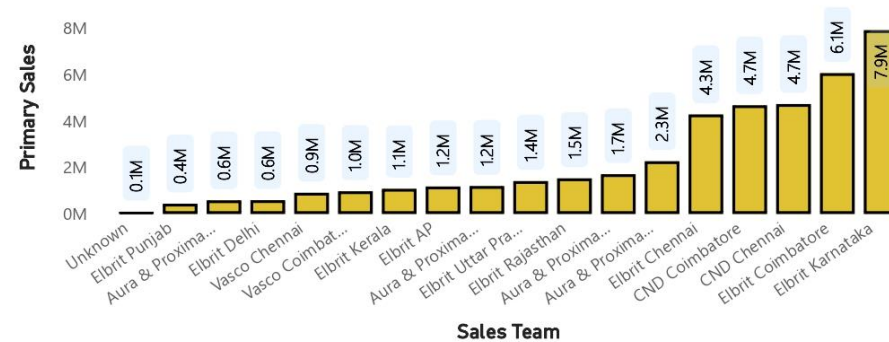
Total Expiry

-7.15M

Total Offers



September - Primary_Sales by Sales Team



FORECASTED VALUES OF OCT & NOV

OCTOBER:

Primary Sales

41.39M

Return

-4.08M

Breakage

-92.33K

Expiry

-1.78M

NOVEMBER:

Primary Sales

41.16M

Return

-7.94M

Breakage

-81.89K

Expiry

-2.35M

1. What was the highest-selling product in September?

```
SELECT `Item Name`, SUM(`Primary Sales`) AS Total_Sales
FROM `elbrit-lifesciences.Elbrit.Sales_data`
WHERE EXTRACT(MONTH FROM `Date`) = 9
GROUP BY `Item Name`
ORDER BY Total_Sales DESC
LIMIT 1;
```

Item Name	Total_Sales
NEURONZ D	2308078.58000000

2. Which product had the highest sales for the "CND Chennai" sales team in May?

```
SELECT `Item Name`, SUM(`Primary Sales`) AS Total_sales
FROM `elbrit-lifesciences.Elbrit.Sales_data`
WHERE `Sales Team` = 'CND Chennai' AND EXTRACT(MONTH FROM `Date`) = 5
GROUP BY `Item Name`
ORDER BY Total_sales DESC
LIMIT 1;
```

Item Name	Total_sales
NEURONZ D	1161546.19

3. Which customer had the maximum stock returns in October for the Bangalore HQ?

```
SELECT `Customer`, SUM(`Sales Return`) AS Total_return_sales
FROM `elbrit-lifesciences.Elbrit.Sales_data`
WHERE EXTRACT(MONTH FROM `Date`) = 10 AND `HQ` = 'HQ- Bangalore'
GROUP BY `Customer`
ORDER BY Total_return_sales DESC
LIMIT 1;
```

There is no data to display. Data available only from April to September 2024.

4. Which sales team had the maximum percentage of primary sales returned due to expiry?

```
WITH Sales_Returns AS (  
  SELECT  
    `Sales Team`,  
    SUM(`Primary Sales`) AS Total_Sales,  
    SUM(ABS(`Against Expiry`)) AS Expiry_Returns  
  FROM  
    `elbrit-lifesciences.Elbrit.Sales_data`  
  GROUP BY  
    `Sales Team`  
)  
  
SELECT  
  `Sales Team`,  
  Total_Sales,  
  Expiry_Returns,  
  (Expiry_Returns / Total_Sales) * 100 AS Return_Percentage  
FROM  
  Sales_Returns  
WHERE `Sales Team` != 'Unknown'  
ORDER BY  
  Return_Percentage DESC  
LIMIT 1;
```

Sales Team	Total_Sales	Expiry_Returns	Return_Percentage
Elbrit Punjab	2201643.1000000006	196769.96000000008	8.93741406134355

(NOT CONSIDERING BLANKS)

5. What percentage of overall primary sales was affected by breakage?

```
SELECT  
(SUM(ABS(`Breakage`)) * 100.0 / SUM(ABS(`Primary Sales`))) AS Breakage_sales_percentage  
FROM `elbrit-lifesciences.Elbrit.Sales_data` ;
```

Breakage_sales_percentage
0.36046635850643038

6. What were the primary sales for the Delhi HQ in the month of September?

```
SELECT SUM(`Primary Sales`) AS Primary_sales  
FROM `elbrit-lifesciences.Elbrit.Sales_data`  
WHERE `HQ` IN ('HQ- North Delhi', 'HQ- South Delhi', 'HQ- West Delhi', 'HQ- East Delhi') AND EXTRACT(MONTH FROM `Date`) = 9;
```

Primary_sales
151873.400000000002

7. What were the sales of "Britorva 20" in September for PALEPU PHARMA DIST PVT LTD under Coimbatore HQ?

```
SELECT SUM(`Primary Sales`) AS Total_sales
FROM `elbrit-lifesciences.Elbrit.Sales_data`
WHERE `Item Name` = 'BRITORVA 20' AND
      `Customer` = 'PALEPU PHARMA DIST PVT LTD CBE' AND
      EXTRACT(MONTH FROM `Date`) = 9 AND
      `HQ` = 'HQ-Coimbatore'
```

Total_sales
4637.1

Bonus:

1) What is the forecasted value of primary sales for the October month?

```
WITH Month_Sales AS (  
  SELECT  
    EXTRACT(MONTH FROM `Date`) AS Month,  
    SUM(`Primary Sales`) AS Total_Sales  
  FROM  
    `elbrit-lifesciences.Elbrit.Sales_data`  
  GROUP BY  
    EXTRACT(MONTH FROM `Date`)  
,  
Growth_Rates AS (  
  SELECT  
    Month,  
    Total_Sales,  
    (Total_Sales - LAG(Total_Sales) OVER (ORDER BY Month)) / LAG(Total_Sales) OVER (ORDER BY Month) AS Growth_Rate  
  FROM  
    Month_Sales  
,  
Forecasted_Sales AS (  
  SELECT  
    Month,  
    Total_Sales,  
    COALESCE(Growth_Rate, 0) AS Growth_Rate  
  FROM  
    Growth_Rates  
,  
October_November AS (  
  SELECT  
    10 AS Month,  
    (SELECT Total_Sales FROM Month_Sales WHERE Month = 9) * (1 + (SELECT AVG(Growth_Rate) FROM Forecasted_Sales)) AS  
Forecasted_Sales
```

UNION ALL

SELECT

11 AS Month,
((SELECT Total_Sales FROM Month_Sales WHERE Month = 9) * (1 + (SELECT AVG(Growth_Rate) FROM Forecasted_Sales))) *
(1 + (SELECT AVG(Growth_Rate) FROM Forecasted_Sales)) AS Forecasted_Sales

)

SELECT

Month,
Forecasted_Sales

FROM

October_November

Month	Forecasted_Sales
10	41387460.748136096
11	41159832.618663631

2) Which product had the highest forecasted sales for the "CND Chennai" sales team in November?

```
WITH Month_Sales AS (  
  SELECT  
    `Item Name`,  
    EXTRACT(MONTH FROM `Date`) AS Month,  
    SUM(`Primary Sales`) AS Total_Sales  
  FROM  
    `elbrit-lifesciences.Elbrit.Sales_data`  
  WHERE  
    `Sales Team` = 'CND Chennai'  
  GROUP BY  
    `Item Name`, Month  
) ,  
Growth_Rates AS (  
  SELECT  
    `Item Name`,  
    Total_Sales,  
    CASE  
      WHEN LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month) != 0  
      THEN (Total_Sales - LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month)) /  
        LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month)  
      ELSE 0 -- Default to 0 growth if no previous data or no growth  
    END AS Growth_Rate  
  FROM  
    Month_Sales  
) ,  
Latest_Sales AS (  
  SELECT  
    `Item Name`,  
    Total_Sales  
  FROM  
    Month_Sales  
  WHERE  
    Month = 9 -- Latest month (September)
```

```

)
SELECT
  l.`Item Name` AS Product,
  CASE
    WHEN l.Total_Sales * (1 + AVG(g.Growth_Rate)) * (1 + AVG(g.Growth_Rate)) < 0 THEN 0 -- Cap negative forecast to 0
    WHEN l.Total_Sales * (1 + AVG(g.Growth_Rate)) * (1 + AVG(g.Growth_Rate)) = 0 THEN l.Total_Sales -- If forecast is 0, use
total sales
    ELSE l.Total_Sales * (1 + AVG(g.Growth_Rate)) * (1 + AVG(g.Growth_Rate)) -- Normal forecast calculation
  END AS Forecasted_November_Sales
FROM
  Latest_Sales AS l JOIN Growth_Rates AS g ON l.`Item Name` = g.`Item Name`
GROUP BY l.`Item Name`, l.Total_Sales
ORDER BY Forecasted_November_Sales DESC
LIMIT 1;

```

Product	Forecasted_November_Sales
GLIMIBRIT M2 FORTE	1714986.6450129233

3) What were the forecasted sales of "Britorva 20" in October under Coimbatore HQ?

```
WITH Month_Sales AS (  
  SELECT  
    `Item Name`,  
    EXTRACT(MONTH FROM `Date`) AS Month,  
    SUM(`Primary Sales`) AS Total_Sales  
  FROM  
    `elbrit-lifesciences.Elbrit.Sales_data`  
  WHERE  
    `HQ` = 'HQ-Coimbatore' -- Use the Coimbatore HQ sales team  
    AND `Item Name` = 'BRITORVA 20' -- Filter for Britorva 20  
  GROUP BY  
    `Item Name`, Month  
) ,  
Growth_Rates AS (  
  SELECT  
    `Item Name`,  
    Total_Sales,  
    CASE  
      WHEN LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month) != 0  
      THEN (Total_Sales - LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month)) /  
        LAG(Total_Sales) OVER (PARTITION BY `Item Name` ORDER BY Month)  
      ELSE 0 -- Default to 0 growth if no previous data or no growth  
    END AS Growth_Rate  
  FROM  
    Month_Sales  
) ,  
Latest_Sales AS (  
  SELECT  
    `Item Name`,  
    Total_Sales  
  FROM  
    Month_Sales  
  WHERE
```

```

    Month = 9 -- Latest month (September)
)
SELECT
  l.`Item Name` AS Product,
  CASE
    WHEN l.Total_Sales * (1 + AVG(g.Growth_Rate)) < 0 THEN 0 -- Cap negative forecast to 0
    WHEN l.Total_Sales * (1 + AVG(g.Growth_Rate)) = 0 THEN l.Total_Sales -- If forecast is 0, use total sales
    ELSE l.Total_Sales * (1 + AVG(g.Growth_Rate)) -- Normal forecast calculation
  END AS Forecasted_October_Sales
FROM
  Latest_Sales AS l
JOIN
  Growth_Rates AS g
  ON l.`Item Name` = g.`Item Name`
GROUP BY
  l.`Item Name`, l.Total_Sales
ORDER BY
  Forecasted_October_Sales DESC
LIMIT 1;

```

Product	Forecasted_October_Sales
BRITORVA 20	28606.478446572422