Complete Chocolate Sales SQL Business Analysis Report

1. Database Overview

Database Name: sales_analysis Table: chocolate_sales Columns: - sale_id: Unique identifier for each sale - sales_person: Name of the salesperson - country: Country where sale occurred product: Product sold - sale_date: Date of transaction - amount: Revenue generated from the sale boxes_shipped: Number of boxes shipped in the sale This database tracks transactional chocolate sales across multiple countries, products, and salespersons. It enables revenue analysis, performance measurement, market evaluation, and strategic decision-making.

2. Business Questions, SQL Queries, Outcomes & Insights

What is the total revenue generated?
What is the monthly revenue trend?
Which month had the highest sales?
What is the average sales amount per order?
How many total boxes were shipped?
Which country generates the highest revenue?
Which country ships the most boxes?
What is the average order value per country?
Which country has declining sales over time?
What percentage of total revenue comes from each country?
Which product generates the highest revenue?
Which product sells the most boxes?
What is the least performing product?
What is the revenue contribution by each product?
Which product performs best in each country?
Who is the top-performing salesperson by revenue?
Who sold the most boxes?
What is the average sale per salesperson?
Which salesperson performs best in each country?
Who has the most consistent monthly performance?
What are the yearly sales trends?
Are there any seasonal trends?
Which day/month had the highest single sale?
What is the revenue per box shipped?
Which product has the highest revenue per box?
Are higher box shipments always generating higher revenue?
What is the growth rate month-over-month?

Who should receive a performance bonus based on revenue?
Identify top 3 products in each country.
Find salespersons whose revenue is above average.

SQL Quires:

Create Database

```
CREATE DATABASE sales_analysis;
```

Create Table

```
CREATE TABLE chocolate_sales (
   sale_id SERIAL PRIMARY KEY,
   sales_person VARCHAR(100),
   country VARCHAR(100),
   product VARCHAR(100),
   sale_date DATE,
   amount NUMERIC(12,2),
   boxes_shipped INTEGER
);
```

Insert CSV to PostgreSQL

```
COPY sales(sales_person, country, product, sale_date, amount, boxes_shipped)
FROM 'file path here'
DELIMITER ','
CSV HEADER;
```

-- What is the total revenue generated?

```
select sum(amount) from chocolate_sales
```

-- What is the monthly revenue trend?

```
select extract(month from sale_date) as by_month, sum(amount) as total_sales from chocolate_sales
group by sale_date
order by total_sales DESC
limit 5;
```

-- Which month had the highest sales?

```
select extract(month from sale_date) as thismonth, max(amount) as highest_sale
from chocolate_sales
group by sale_date
order by highest_sale desc
limit 5;
```

-- What is the average sales amount per order?

```
select round(avg(amount/boxes_shipped),2) from chocolate_sales as average_amount_per_order
```

-- How many total boxes were shipped?
```
select sum(boxes_shipped) from chocolate_sales
```

-- Which country generates the highest revenue?
```
select country, max(amount) as highest_sale from chocolate_sales
group by country
order by highest_sale desc;
```

--Which country ships the most boxes?
```
select country, max(boxes_shipped) as most_boxes from chocolate_sales
group by country
order by most_boxes desc;
```

-- What is the average order value per country?
```
select country, round(avg(amount/boxes_shipped),2) as average_order_value
from chocolate_sales
group by country
order by average_order_value desc;
```

-- Which country has declining sales over time?
```
select extract(year from sale_date) as yearly, country, sum(amount) from chocolate_sales
group by "country",  yearly
order by "country", yearly desc;
```

-- What percentage of total revenue comes from each country?
```
select country, round(100 * sum(amount)/sum(sum(amount)) over() ,2) as pert_by_country
from chocolate_sales
group by country
order by pert_by_country desc;
```

-- Which product generates the highest revenue?
```
select product, max(amount) as highest_rev from chocolate_sales
group by product
order by highest_rev desc;
```

-- Which product sells the most boxes?
```
select product, max(boxes_shipped) as most_boxes from chocolate_sales
group by product
order by most_boxes desc;
```

-- What is the least performing product?
```
select product, sum(amount) as weak_prod from chocolate_sales
group by product
order by weak_prod asc limit 1;
```

-- What is the revenue contribution by each product?

```
select product, sum(amount), round(100 * sum(amount)/ sum(sum(amount)) over() ,2) as rev_cont from chocolate_sales
group by product
order by rev_cont desc;
```

-- Which product performs best in each country?

```
select country, product, sum(amount) as total_amount from chocolate_sales
group by country, product
order by total_amount desc;

select country, product, sum(amount) as rev,
rank() over(partition by country order by sum(amount) desc)
from chocolate_sales
group by country, product;
```

-- Who is the top-performing salesperson by revenue?

```
select sales_person, max(amount) as top_saller from chocolate_sales
group by sales_person
order by top_saller desc
limit 3;
```

-- Who sold the most boxes?

```
select sales_person, max(boxes_shipped) as most_boxes from chocolate_sales
group by sales_person
order by most_boxes desc
limit 3;
```

-- What is the average sale per salesperson?

```
select sales_person, round(avg(amount),2) as avg_sales from chocolate_sales
group by sales_person
order by avg_sales desc;
```

-- Which salesperson performs best in each country?

```
select sales_person, country, sum(boxes_shipped) as total_boxes, sum(amount) as total_Sales,
rank() over(partition by sales_person order by sum(boxes_shipped), sum(amount) desc)
from chocolate_sales
group by sales_person,country;
```

-- Who has the most consistent monthly performance?

```
select sales_person, sum(amount) as total_sales,
rank() over(partition by sales_person)
from chocolate_sales
group by sales_person, extract(month from sale_date)
order by total_sales desc
limit 1;
```

-- What are the yearly sales trends?

```
select extract(year from sale_date) as yearly, sum(amount) as total_Sales
from chocolate_sales
group by yearly
order by total_sales desc;
```

-- Are there any seasonal trends?

```
select extract(month from sale_date) as monthly, sum(amount) as total_Sales
from chocolate_sales
group by monthly
order by monthly asc;
```

-- Which day/month had the highest single sale?

```
select extract(month from sale_date) as monthly,
extract(day from sale_date) as daily,
sum(amount) as total_Sales
from chocolate_sales
group by monthly, daily
order by monthly, daily asc;
```

-- What is the revenue per box shipped?

```
select round(sum(amount) / sum(boxes_shipped),2) rev_per_box
from chocolate_sales;
```

-- Which product has the highest revenue per box?

```
select product, max(amount) as highest_rev from chocolate_sales
group by product
order by highest_rev desc
limit 5;
```

-- Are higher box shipments always generating higher revenue?

```
SELECT CORR(boxes_shipped, amount) AS correlation
FROM chocolate_sales;
```

-- What is the growth rate month-over-month?

```
SELECT
   month,
   revenue,
   ROUND(
      100.0 * (revenue - LAG(revenue) OVER (ORDER BY month))
      / LAG(revenue) OVER (ORDER BY month),
   2) AS mom_growth_pct
FROM (
   SELECT
      extract(month from sale_date) AS month,
      SUM(amount) AS revenue
```

```
   FROM chocolate_sales
   GROUP BY month
) t;
```

-- Who should receive a performance bonus based on revenue?

```
select sales_person, sum(amount) as per
from chocolate_sales
group by sales_person
order by per desc
limit 3;
```

-- Identify top 3 products in each country.

```
select * from
(
select country, product, sum(amount) as rev,
rank() over(partition by country order by sum(amount) desc) as rnk
from chocolate_sales
group by country, product
)
 where rnk <= 3;
```

-- Find salespersons whose revenue is above average.

```
select sales_person, sum(amount) as rev
from chocolate_sales
group by sales_person
having sum(amount) > (
select avg(total_rev) from (
select sum(amount) as total_rev
from chocolate_sales
group by sales_person
)
);
```

3. Strategic Insights & Recommendations

- Invest more in highest revenue country and expand distribution.
- Increase inventory before peak months identified in trend analysis.
- Promote top-performing products aggressively.
- Re-evaluate lowest performing products.
- Reward top revenue-generating salespersons.
- Use revenue-per-box metric to optimize pricing.
- Monitor correlation between volume and revenue to balance strategy.