SQL Query Documentation

Project Information

Project Name:	Credit Risk Analysis
Database Name:	Global_Sales_SupplyChain_Analysis

Query Documentation

Query 1: Total Sales

Objective:

What is the total sales revenue generated across all global markets?

SQL Query:

```
SELECT  SUM(sales) AS total_sales
FROM global_sales_supply;
```

Result:

Row no	total_sales
1	36784734.31

Business Insights:

The company generated a total sales revenue of **₹36.78 million** across all regions. This figure sets a solid baseline for evaluating market performance, identifying growth opportunities, and prioritizing strategic investments across supply channels.

Query 2: Total Orders

Objective:

How many unique customer orders were placed globally?

SQL Query:

```
SELECT  COUNT(DISTINCT order_id) AS total_orders
```

FROM global_sales_supply;

Result:

Row no	total_orders
1	65752

Business Insights:

A total of **65,752 unique orders** were recorded, indicating strong customer engagement and operational throughput. This metric helps assess order volume trends, forecast demand, and optimize fulfillment strategies across global markets.

Query 3:Average Order Value

Objective:

What is the average revenue generated per order?

SQL Query:

SELECT SUM(sales)/COUNT(DISTINCT order_id)

AS avg_order_value

FROM global_sales_supply;

Result:

Row no	Avg_order_value
1	559.45

Business Insights:

The **average order value (AOV)** stands at **₹559.45**, reflecting the typical revenue contribution per transaction. This KPI is essential for evaluating customer purchasing behavior, pricing strategy effectiveness, and identifying opportunities to increase basket size through upselling or bundling.

Query 4: On Time Delevery

Objective:

What percentage of orders were delivered on time?

SQL Query:

```
SELECT
  ROUND(100.0 * COUNT(CASE WHEN shipping_status = 'On Time' THEN 1 END) /
COUNT(shipping_status), 2) AS on_time_percentage
FROM
  global_sales_supply;
```

Result:

Row no	On_time_percentage
1	18.70

Business Insights:

Only **18.70%** of orders were delivered on time, highlighting a significant gap in shipping reliability. This low fulfillment efficiency could impact customer satisfaction and brand trust, signaling an urgent need to improve logistics, partner SLAs, or inventory planning.

Query 5: Avg Shipping Days

Objective:

What is the Average shipping delay across all borders?

SQL Query:

```
SELECT AVG(shipping_delay_in_days) AS avg_shipping_days
FROM global_sales_supply;
```

Result:

Row no	Avg_shipping_days
1	0.57

Business Insights:

The **average shipping delay is just 0.57 days**, suggesting that while delays exist, they're typically minor. However, paired with a low on-time delivery rate (18.70%), this points to frequent short delays that could still affect customer experience and satisfaction.

Query 6: Top 5 Product by Sales

Objective:

Which products generated the highest sales revenue?

SQL Query:

```
SELECT product_name, SUM(sales) AS total_sales

FROM global_sales_supply

GROUP BY product_name

ORDER BY SUM(sales) DESC LIMIT 5;
```

Result:

Row no	Product_name	Total_sales
1	"Field & Stream Sportsman 16 Gun Fire Safe"	6929653.50
2	"Perfect Fitness Perfect Rip Deck"	4421143.02
3	"Diamondback Women's Serene Classic Comfort Bi"	4118425.42
4	"Nike Men's Free 5.0+ Running Shoe"	3667633.20
5	"Nike Men's Dri-FIT Victory Golf Polo"	3147800.00

Business Insights:

The top 5 revenue-generating products include **"Field & Stream Sportsman 16 Gun Fire Safe"** leading with **₹6.93 million**, followed by premium fitness and apparel items. This indicates strong consumer demand for safety equipment and branded lifestyle products — valuable for inventory planning, promotional focus, and cross-sell strategies.

Visualized via clustered bar chart for clear comparison.

Query 7: Order Status breakdown by Top 5 Product categories

Objective:

How are order statuses distributed across the top 5 most-ordered product categories?

SQL Query:

```
WITH top_categories AS (
   SELECT category_name
   FROM global_sales_supply
   GROUP BY category_name
   ORDER BY COUNT(order_id) DESC
   LIMIT 5
)

SELECT
   category_name,
   order_status,
   COUNT(order_id) AS total_orders
FROM
   global_sales_supply
WHERE
   category_name IN (SELECT category_name FROM top_categories)
   AND order_status IN ('CANCELLED', 'COMPLETE', 'ON_HOLD', 'PENDING', 'PROCESSING')
GROUP BY
   category_name, order_status
ORDER BY
   category_name, order_status;
```

Result:

Row no	category_name	order_status	total_orders
1	Cleats	COMPLETE	8085
2	Cleats	ON_HOLD	1365
3	Cleats	PENDING	2774
4	Cleats	PROCESSING	3016
5	Fishing	COMPLETE	5645
6	Fishing	ON_HOLD	943
7	Fishing	PENDING	1929
8	Fishing	PROCESSING	2108
9	Indoor/Outdoor Games	COMPLETE	6348
10	Indoor/Outdoor Games	ON_HOLD	1088
11	Indoor/Outdoor Games	PENDING	2250
12	Indoor/Outdoor Games	PROCESSING	2231
13	Men's Footwear	COMPLETE	7369
14	Men's Footwear	ON_HOLD	1220
15	Men's Footwear	PENDING	2537
16	Men's Footwear	PROCESSING	2630
17	Women's Apparel	COMPLETE	7036
18	Women's Apparel	ON_HOLD	1163
19	Women's Apparel	PENDING	2314
20	Women's Apparel	PROCESSING	2460

Business Insights:

The **Cleats** category leads in completed orders (**8K+**), followed closely by **Indoor/Outdoor Games (6.3K)** and **Men's Footwear (7.3K)** — indicating high-volume fulfillment. However, each of these categories still shows **2K–3K+ orders** in **pending** and **processing** stages, highlighting potential supply chain or inventory management inefficiencies.

This operational imbalance suggests a need for better demand forecasting, faster replenishment cycles, and order prioritization in high-traffic categories.

Stacked column chart used for clear visualization of status distribution within each category.

Query 8: Sales Trend over Month in the Year 2015

Objective:

How did monthly sales perform throughout 2015?

SQL Query:

```
SELECT
```

```
    TO_CHAR(dt.date, 'YYYY-MM') AS month_year,
    SUM(gss.sales) AS total_sales
FROM
    global_sales_supply gss
JOIN
    date_table dt
    ON gss.order_date = dt.date
        WHERE EXTRACT (YEAR FROM dt.date)= 2015
GROUP BY
    TO_CHAR(dt.date, 'YYYY-MM')
ORDER BY
    month_year;
```

Result:

Row no	month_year	total_sales
1	2015-01	1051590.06
2	2015-02	927009.88
3	2015-03	1051253.67
4	2015-04	1014463.26
5	2015-05	1050478.42
6	2015-06	1024006.15
7	2015-07	1038081.17
8	2015-08	1029494.67
9	2015-09	1018338.58
10	2015-10	1049154.25
11	2015-11	1029120.22
12	2015-12	1057840.86

Business Insights:

Sales were **consistently strong and stable** across 2015, averaging over ₹1 million per month, with **December (₹1.06M)** and **January (₹1.05M)** recording peak sales — likely driven by seasonal demand. The consistent monthly performance indicates a mature and well-performing sales engine, ideal for setting forecasting baselines and identifying promotional windows.

*Trend visualized using a **line chart** to highlight seasonality and stability over time.*

Query 9: Schedule vs Real Shipping Days

Objective:

Which product categories have the highest real vs scheduled shipping delays?

SQL Query:

SELECT category_name,

AVG(days_for_shipping_real) AS avg_real_days,

AVG(days_for_shipping_scheduled) AS avg_scheduled_days

FROM global_sales_supply

GROUP BY category_name

ORDER BY avg_real_days DESC LIMIT 5;Result:

Row no	category_name	avg_real_days	avg_scheduled_days
1	Strength Training	3.7477477477477477	3.0810810810810811
2	Soccer	3.7101449275362319	2.9927536231884058
3	DVDs	3.6438923395445135	3.1138716356107660
4	Kids' Golf Clubs	3.6328125000000000	3.0130208333333333
5	As Seen on TV!	3.6323529411764706	2.9705882352941176

Business Insights:

Categories like **Strength Training** and **Soccer** had the highest overall shipping durations, with noticeable gaps between **scheduled** and **actual shipping times**. The stacked column chart visually emphasizes these delays, helping identify categories where fulfillment processes may need review.

This insight supports **logistics refinement and customer satisfaction strategies**, especially for high-volume or high-priority segments.

Query 10: Sales Contribution by Leading Categories

Objective:

Which categories contribute most to overall revenue?

SQL Query:

SELECT category_name, SUM(sales) AS total_sales

FROM global_sales_supply

GROUP BY category_name

ORDER BY SUM(sales) DESC LIMIT 5;

Row no	category_name	total_sales
1	Fishing	6929653.50
2	Cleats	4431942.66
3	Camping & Hiking	4118425.42
4	Cardio Equipment	3694843.20
5	Women's Apparel	3147800.00

Business Insights:

The **tree map highlights "Fishing" as the dominant revenue-generating category**, contributing the largest share of total sales, followed by **Cleats** and **Camping & Hiking**. This visual makes it easy to compare **sales distribution across top categories** at a glance, helping stakeholders quickly identify which segments deserve greater investment or strategic focus.

Use this view for **executive dashboards**, especially when prioritizing product line performance and sales strategy.

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Query 11: Sales Contribution breakdown by Leading states

Objective:

Which customer states generate the highest sales revenue?

SQL Query:

SELECT category_name,

AVG(days_for_shipping_real) AS avg_real_days,

AVG(days_for_shipping_scheduled) AS avg_scheduled_days

FROM global_sales_supply

GROUP BY category_name

ORDER BY avg_real_days DESC LIMIT 5;

Result:

Row no	customer_state	total_sales
1	PR	14150241.50
2	CA	5929033.90
3	NY	2301325.11
4	TX	1869746.06
5	IL	1561644.50

Business Insights:

Puerto Rico (PR) leads with a massive **$14.1M in total sales**, significantly outpacing other states like **California (CA)** and **New York (NY)**. The stacked bar chart format provides a clear, proportional comparison — ideal for **reporting to leadership** and **benchmarking PostgreSQL results** in cross-tool validation or BI integration tests.

This view supports decisions on **state-wise sales focus, regional promotions, and resource allocatio**