Business Case Solving

Cochin Traders
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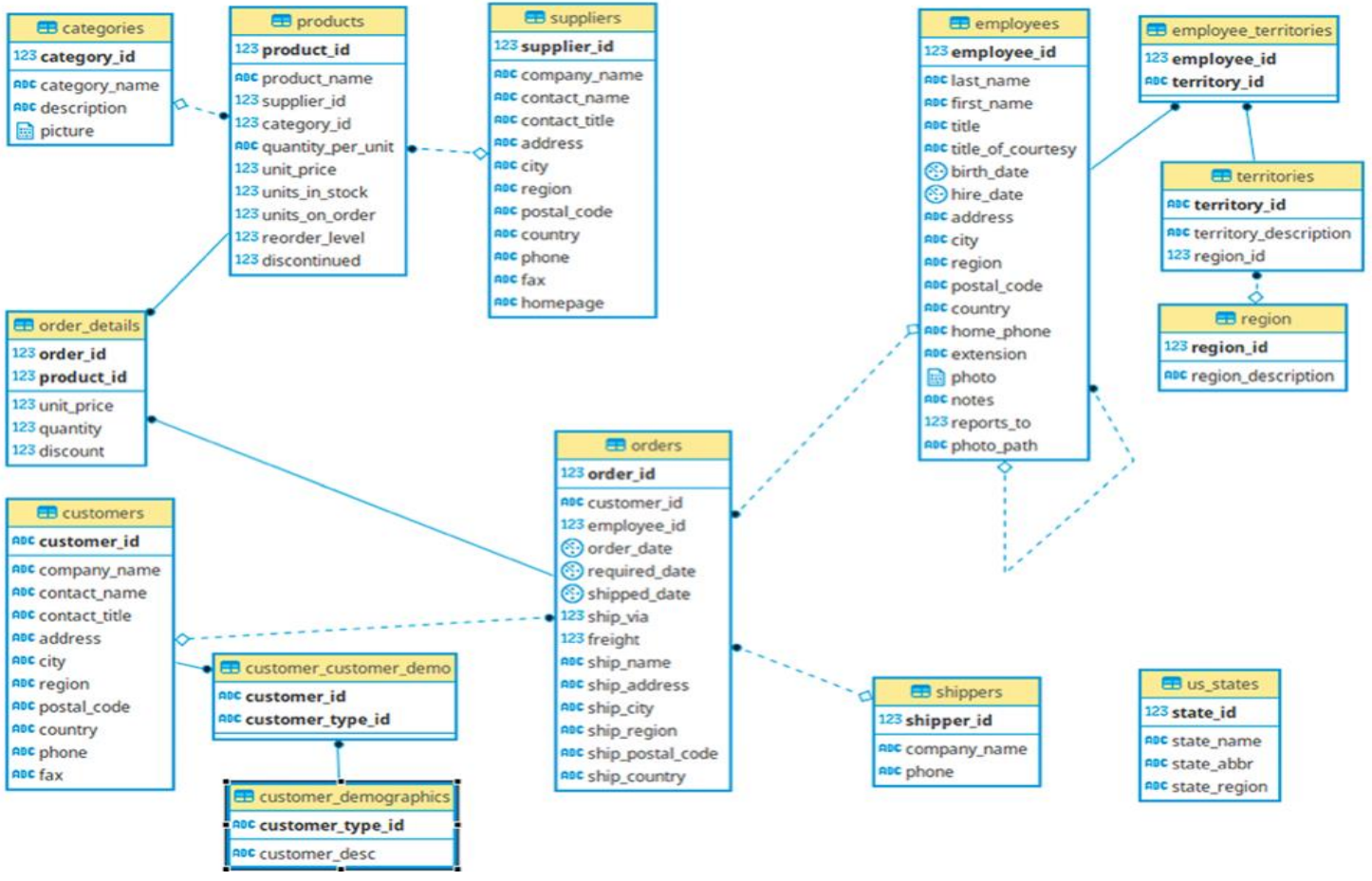
Schema


categories
category_id
category_name
description
picture
products
product_id
product_name
supplier_id
category_id
quantity_per_unit
unit_price
units_in_stock
units_on_order
reorder_level
discontinued
suppliers
supplier_id
company_name
contact_name
contact_title
address
city
region
postal_code
country
phone
fax
homepage
employees
employee_id
last_name
first_name
title
title_of_courtesy
birth_date
hire_date
address
city
region
postal_code
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order_details
order_id
product_id
unit_price
quantity
discount
orders
order_id
customer_id
employee_id
order_date
required_date
shipped_date
ship_via
freight
ship_name
ship_address
ship_city
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customers
customer_id
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customer_customer_demo
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customer_type_id
customer_desc
shippers
shipper_id
company_name
phone
us_states
state_id
state_name
state_abbr
state_region

Tables used:

1. Customers
2. Suppliers
3. Employees
4. Products
5. Shippers
6. Orders
7. Order_Details

Ques. Fetch the full name and hiring date of all Employees who work as Sales Representatives.

```
select concat(firstname,' ',lastname) as
full_name, hiredate
from `cochin_traders.employees`
where title = "Sales Representative"
order by full_name
```

Row	full_name	hiredate
1	Anne Dodsworth	1994-11-15
2	Janet Leverling	1992-04-01
3	Margaret Peacock	1993-05-03
4	Michael Suyama	1993-10-17
5	Nancy Davolio	1992-05-01
6	Robert King	1994-01-02

The data analysis reveals key details about the Sales Representatives' team within the company. By extracting the full names and hiring dates of these employees, we gain insights into the team's composition and growth over time.

Ques. Which of the products in our inventory need to be reordered?

```
select productid,productname
from `cochin_traders.products`
where unitsinstock < reorderlevel
order by productid
```

Row	productid	productname
2	3	Aniseed Syrup
3	11	Queso Cabrales
4	21	Sir Rodney's Scones
5	30	Nord-Ost Matjeshering
6	31	Gorgonzola Telino
7	32	Mascarpone Fabioli
8	37	Gravad lax
9	43	Ipoh Coffee
10	45	Rogede sild
11	48	Chocolade
12	49	Maxilaku
13	56	Gnocchi di nonna Alice
14	64	Wimmers gute Semmelknödel
15	66	Louisiana Hot Spiced Okra
16	68	Scottish Longbreads
17	70	Outback Lager
18	74	Longlife Tofu

By Finding out the stock levels we can proactively address potential stockouts and ensure uninterrupted availability to meet customer demands.

Ques. Find and display the details of customers who have placed more than 5 orders.

```
select count(o.orderid) as Total_count,
c.companyname
from `cochin_traders.customers` c left join
`cochin_traders.orders` o
on c.customerid=o.customerid
group by c.companyname
having count(o.orderid) >= 5
order by Total_count
limit 15
```

Row	Total_count	companyname
1	5	Hungry Coyote Import Store
2	5	Romero y tomillo
3	5	Rancho grande
4	5	Princesa Isabel Vinhos
5	5	Océano Atlántico Ltda.
6	5	Galería del gastrónomo
7	5	Morgenstern Gesundkost
8	5	Comércio Mineiro
9	5	Folies gourmandes
10	5	Vins et alcools Chevalier
11	6	Santé Gourmet
12	6	Franchi S.p.A.
13	6	Alfreds Futterkiste
14	6	Cactus Comidas para llevar
15	6	Toms Spezialitäten

By finding out the top customers we can identify the loyal customers, driving repeat business, and ultimately contributing to the company's sustainable growth

Ques: An employee of ours (Margaret Peacock, EmployeeID 4) has the record of completing most orders. However, there are some customers who've never placed an order with her. Show such customers.

```
select distinct customerid
from `cochin_traders.orders`
where customerid not in
(
SELECT customerid
from `cochin_traders.orders`
WHERE employeeid = 4
)
```

This insight prompts us to plan accordingly to bridge this gap and provide more discounts so that all those pending customers can start placing their orders.

Row	customerid
1	NORTS
2	CONSH
3	SEVES
4	THEBI
5	LAZYK
6	LAUGB
7	DUMON
8	FRANR
9	VINET
10	SPECD
11	PERIC
12	SANTG
13	PRINI
14	GROSR

Ques. Retrieve the top 5 best-selling products on the basis of the quantity ordered.

```
with cte as
(
select productid,sum(quantity) as
quantity
from `cochin_traders.orders_details`
group by productid
),
cte2 as
(
  select
p.productid,p.productname,dense_rank()
over(order by quantity desc) as rnk
  from cte c join
`cochin_traders.products` p
  on c.productid=p.productid
)
select *
from cte2
where rnk <=5
order by rnk
```

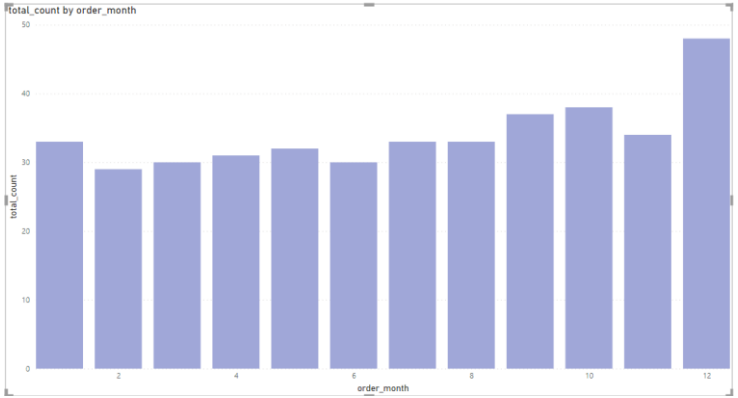
Row	productid	productname	rnk
1	60	Camembert Pierrot	1
2	59	Raclette Courdavault	2
3	31	Gorgonzola Telino	3
4	56	Gnocchi di nonna Alice	4
5	16	Pavlova	5

Following finding has helped us to tailor down the top 5 best-selling products, determined by the quantity ordered. These products shows that they are customer favorites, showcasing their strong market demand. So, when all these products are always in stock, we're meeting customer preferences effectively.

Ques. Analyze the monthly order count for the year 1997.

```
with cte as
(
select extract(month from orderdate) as
order_month,extract(year from orderdate)
as order_year,count(orderid) as
total_count
from `cochin_traders.orders`
group by order_month,order_year
)
select order_month,total_count from cte
where order_year=1997
order by order_month
```

Row	order_month	total_count
1	1	33
2	2	29
3	3	30
4	4	31
5	5	32
6	6	30
7	7	33
8	8	33
9	9	37
10	10	38
11	11	34
12	12	48



By understanding historical fluctuations, we can proactively allocate resources, enhance staffing during busy periods, and strategize promotions to align with high-demand months.

Ques: Calculate the difference in sales revenue for each month compared to the previous month.

```
with cte as
(
select *,extract(m\onth from o.orderdate) as order_month,
extract(year from o.orderdate) as order_year,
od.unitprice*od.quantity as revenue
from `cochin_traders.orders` o join `cochin_traders.orders_details` od
on o.orderid=od.orderid
),
```

Ques: Calculate the difference in sales revenue for each month compared to the previous month. Cntd..

```
cte2 as
(
select order_month,order_year,round(sum(revenue),2) as revenue
from cte
group by order_month,order_year
order by order_month,order_year
)
select *,round(cte2.revenue - lag(cte2.revenue) over(order by
order_year,order_month),2) as month_on_month_difference
from cte2
order by order_year,order_month
```

Row	order_month	order_year	revenue	month_on_month_dif
1	7	1996	30192.1	*null*
2	8	1996	26609.4	-3582.7
3	9	1996	27636.0	1026.6
4	10	1996	41203.6	13567.6
5	11	1996	49704.0	8500.4
6	12	1996	50953.4	1249.4
7	1	1997	66692.8	15739.4
8	2	1997	41207.2	-25485.6
9	3	1997	39979.9	-1227.3
10	4	1997	55699.39	15719.49

Our data analysis has displayed the Monthly difference in sales revenue compared to the previous month. This insight offers a wide view of revenue trends, highlighting periods of growth, stability, and potential areas for improvement

Ques: Calculate the percentage of total sales revenue for each product.

```
WITH TotalSales AS
(
  SELECT SUM(od.UnitPrice * od.Quantity) AS
TotalSalesRevenue
  FROM `cochin_traders.orders_details` od
)
SELECT p.ProductName, round(SUM(od.UnitPrice
* od.Quantity),2) AS TotalRevenue,
round((SUM(od.UnitPrice * od.Quantity) /
ts.TotalSalesRevenue) * 100,2) AS
PercentageOfTotalSales
FROM `cochin_traders.products` p
JOIN `cochin_traders.orders_details` od
ON p.ProductID = od.ProductID
cross join TotalSales ts
GROUP BY p.ProductName, ts.TotalSalesRevenue
ORDER BY p.productname
```

Row	ProductName	TotalRevenue	PercentageOfTotalSa
1	Alice Mutton	35482.2	2.62
2	Aniseed Syrup	3080.0	0.23
3	Boston Crab Meat	19048.3	1.41
4	Camembert Pierrot	50286.0	3.71
5	Carnarvon Tigers	31987.5	2.36
6	Chai	14277.6	1.05
7	Chang	18559.2	1.37
8	Chartreuse verte	13150.8	0.97
9	Chef Anton's Cajun Seasoning	9424.8	0.7
10	Chef Anton's Gumbo Mix	5801.15	0.43
11	Chocolade	1542.75	0.11
12	Côte de Blaye	149984.2	11.07
13	Escargots de Bourgogne	6664.75	0.49

Our data-driven approach has allowed us to calculate the percentage of total sales revenue attributed to each individual product. This insight provides a clear understanding of each product's role in our overall revenue stream.