PIZZA SALES ANALYSIS

USING - SQL

PURPOSE OF ANALYSIS

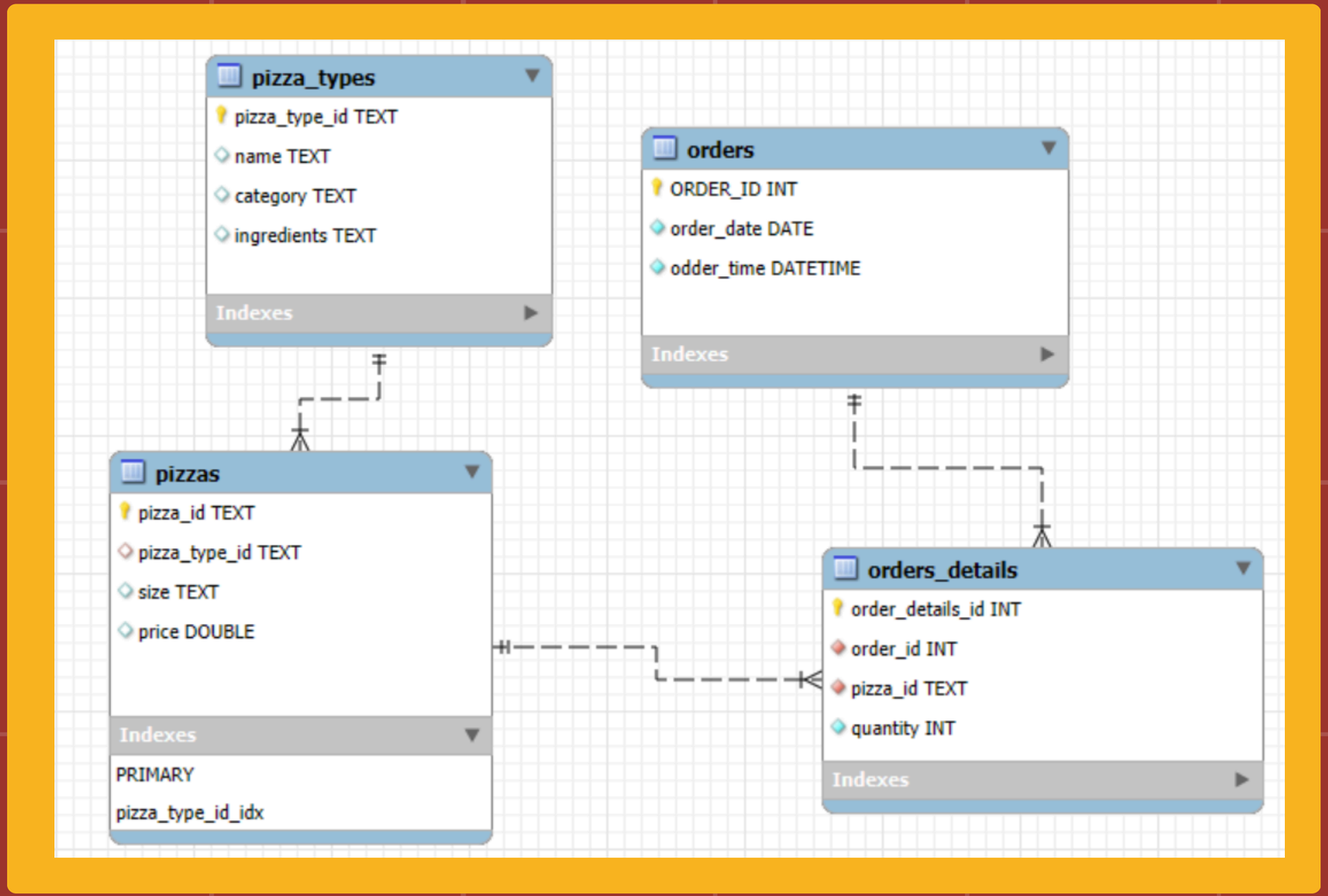
The primary goal of this project is to analyze pizza sales data to uncover meaningful insights that can help improve business operations and drive strategic decision-making. By examining sales patterns, customer preferences, and inventory usage, we aim to:

1. **Identify Sales Trends:** Understand the sales performance over different time periods to identify peak and off-peak times.
2. **Optimize Inventory Management:** Determine the most and least popular pizza types to ensure optimal inventory levels and reduce waste.
3. **Enhance Customer Satisfaction:** Gain insights into customer ordering behavior to tailor marketing strategies and improve service offerings.
4. **Support Data-Driven Decisions:** Provide a foundation for data-driven decision-making to increase efficiency and profitability.

TOOLS USED

- **SQL:** For querying and analyzing the pizza sales data.
- **Database (MySQL):** To store and manage the pizza sales data.
- **Canva:** For creating the visual presentation of the analysis.
- **Excel:** For initial data cleaning and preprocessing.

ENTITY-RELATIONSHIP DIAGRAM



RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED?

```
select count(order_id) as total_orders from orders;
```

total_orders
21350

CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES?

```sql
select
round(sum(orders_details.quantity * pizzas.price), 2) as total_sale
from orders_details join pizzas
on orders_details.pizza_id = pizzas.pizza_id
```

total_sale
817860.05

IDENTIFY THE HIGHEST-PRICED PIZZA?

```sql
select pizza_types.name, pizzas.price
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
order by price DESC limit 1;
```

name	price
The Greek Pizza	35.95

IDENTIFY THE MOST COMMON PIZZA SIZE ORDERE?

```
select pizzas.size, count(orders_details.quantity)
from pizzas join orders_details
on pizzas.pizza_id = orders_details.pizza_id
group by size;
```

size	count(orders_details.quantity)
M	15385
L	18526
S	14137
XL	544
XXL	28

LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES.

```sql
select pizza_types.`name`, sum(orders_details.quantity) as quantity
from pizza_types join pizzas

on pizza_types.pizza_type_id = pizzas.pizza_type_id
join orders_details

on orders_details.pizza_id = pizzas.pizza_id
group by pizza_types.`name`
```

name	quantity
The Hawaiian Pizza	2422
The Classic Deluxe Pizza	2453
The Five Cheese Pizza	1409
The Italian Supreme Pizza	1884
The Mexicana Pizza	1484
The Thai Chicken Pizza	2371
The Prosciutto and Arugula Pizza	1457

JOIN THE NECESSARY TABLES TO FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED

```sql
select pizza_types.category, sum(orders_details.quantity) as quantity
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
join orders_details
on pizzas.pizza_id = orders_details.pizza_id
group by category order by quantity DESC;
```

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

```sql
select hour(order_time), count(order_id) as orders
from orders
group by hour(order_time);
```

hour(order_time)	orders
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336

JOIN RELEVANT TABLES TO FIND THE CATEGORY-WISE DISTRIBUTION OF PIZZAS.

```
select pizza_types.category, count(category)as `count` from pizza_types
group by category;
```

category	count
Chicken	6
Classic	8
Supreme	9
Veggie	9

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE.

```sql
select `name`, sum(orders_details.quantity*pizzas.price) as revenue
from orders_details join pizzas
on orders_details.pizza_id = pizzas.pizza_id
join pizza_types
on pizzas.pizza_type_id = pizza_types.pizza_type_id
group by pizza_types.`name` order by revenue desc;
```

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Spicy Italian Pizza	34831.25
The Southwest Chicken Pizza	34705.75
The Italian Supreme Pizza	33476.75

CALCULATE THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE.

```sql
select pizza_types.category ,
round((sum(orders_details.quantity*pizzas.price)) /
(select sum(orders_details.quantity * pizzas.price)
from orders_details join pizzas
on orders_details.pizza_id = pizzas.pizza_id
) * 100, 2) as revenue
from orders_details join pizzas
on orders_details.pizza_id = pizzas.pizza_id
join pizza_types
on pizzas.pizza_type_id = pizza_types.pizza_type_id
group by pizza_types.category order by revenue desc;
```

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

```sql
select
    order_date,
    revenue_per_day,
    SUM(revenue_per_day) OVER (order by order_date) AS cumulative_revenue
FROM
(select orders.order_date, round(sum(orders_details.quantity*pizzas.price), 2)as revenue_per_day
from orders_details join pizzas
on orders_details.pizza_id = pizzas.pizza_id
join orders
on orders_details.order_id = orders.order_id
group by order_date) as sales ;
```

order_date	revenue_per_day	cumulative_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.9	5445.75
2015-01-03	2662.4	8108.15
2015-01-04	1755.45	9863.6
2015-01-05	2065.95	11929.55

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY.

```sql
select category,total,`rank`
from
(select `name`,category,total,
rank() OVER (partition by category order by total)as `RANK`
from
(select pizza_types.`name`, pizza_types.category, sum(orders_details.quantity*pizzas.price)as total
from pizza_types join pizzas
on pizza_types.pizza_type_id = pizzas.pizza_type_id
join orders_details
on orders_details.pizza_id = pizzas.pizza_id
group by pizza_types.`name`, pizza_types.category) as a) AS b
where `rank` <= 3 ;
```

category	total	rank
Chicken	16701.75	1
Chicken	16900.25	2
Chicken	34705.75	3
Classic	18834.5	1
Classic	22968	2


THANK YOU

QUESTION AND RECOMMENDATIONS

Dear viewer,
If there is any question or any recommendation please let me know.

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