Pizzas Data Analysis

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Aim

The main aim of the Pizzas Data Analysis project is to gain insights into market trends, consumer preferences, and sales patterns within the pizza industry. This analysis is intended to guide decision-making for menu optimization, marketing strategies, operational efficiency, and business expansion, thereby maintaining a competitive edge in the dynamic pizza market..

Introduction

The Pizzas Data Analysis project is focused on understanding the various factors that influence pizza sales and customer choices. By analyzing data related to orders, pizza types, sizes, and pricing, this project aims to uncover trends that can help businesses optimize their offerings. The project uses MySQL to retrieve and analyze data, offering valuable insights into customer behavior and business performance in the pizza industry

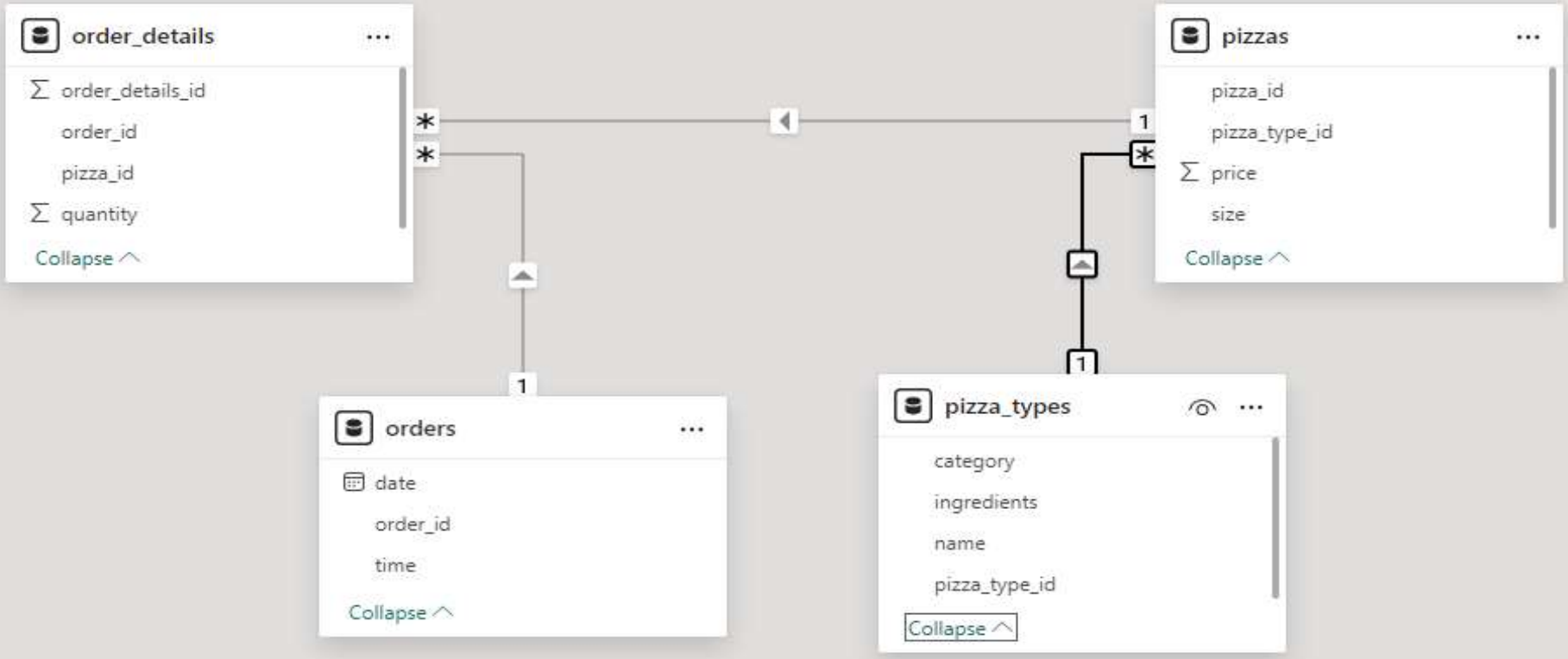
Problem Statement

Optimizing pizza business strategies requires understanding market trends and consumer preferences to drive growth and maintain competitiveness.

OBJECTS

The objective of the Pizza Data Analysis project is to analyze sales data to identify trends in customer preferences and optimize menu offerings and business strategies. The analysis aims to provide actionable insights for improving operational efficiency and increasing revenue.

ER Diagram


order_details
order_details_id
order_id
pizza_id
quantity
Collapse
pizzas
pizza_id
pizza_type_id
price
size
Collapse
orders
date
order_id
time
Collapse
pizza_types
category
ingredients
name
pizza_type_id
Collapse
1
1
1
1

Tables Structure

- **Pizzas**

Field	Type	Null	Key	Default	Extra
pizza_id	text	YES		NULL	
pizza_type_id	text	YES		NULL	
size	text	YES		NULL	
price	double	YES		NULL	

- **Pizzas Types**

Field	Type	Null	Key	Default	Extra
pizza_type_id	text	YES		NULL	
name	text	YES		NULL	
category	text	YES		NULL	
ingredients	text	YES		NULL	

- Orders

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
order_date	date	NO		NULL	
order_time	time	NO		NULL	

- Orders Details

Field	Type	Null	Key	Default	Extra
orders_details_id	int	NO	PRI	NULL	
order_id	int	NO		NULL	
pizza_id	text	NO		NULL	
quantity	int	NO		NULL	

1. Retrieve the total number of orders placed.

```
3 •  SELECT
4        COUNT(order_id) AS total_orders
5    FROM
6        orders;
```

Result Grid

	total_orders
▶	21350

2. Calculate the total revenue generated from pizza sales.

```
2 •  SELECT
3        ROUND(SUM(orders_details.quantity * pizzas.price),
4                2) AS total_sales
5    FROM
6        orders_details
7            JOIN
8        pizzas ON pizzas.pizza_id = orders_details.pizza_id
9
```

Result Grid

	total_sales
▶	817860.05

3. 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 pizzas.price DESC
LIMIT 1;
```

Result Grid | Filter Rows

name	price
The Greek Pizza	35.95

4. Identify the most common pizza size.

```
2 •  SELECT
3        pizzas.size,
4        COUNT(orders_details.orders_details_id) AS order_count
5    FROM
6        pizzas
7            JOIN
8        orders_details ON pizzas.pizza_id = orders_details.pizza_id
9    GROUP BY pizzas.size
10   ORDER BY order_count DESC;
11
```

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

5. List of the top 5 most ordered pizza types along with their quantities.

```
2  SELECT
3      pizza_types.name, SUM(orders_details.quantity) AS quantity
4  FROM
5      pizza_types
6          JOIN
7      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
8          JOIN
9      orders_details ON orders_details.pizza_id = pizzas.pizza_id
10 GROUP BY pizza_types.name
11 ORDER BY quantity DESC
12 LIMIT 5;
```

name	quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

6. total quantity of each pizza category ordered.

```
2  •  SELECT
3         pizza_types.category,
4         SUM(orders_details.quantity) AS quantity
5     FROM
6         pizza_types
7             JOIN
8         pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
9             JOIN
10        orders_details ON orders_details.pizza_id = pizzas.pizza_id
11    GROUP BY pizza_types.category
12    ORDER BY quantity DESC;
```

	category	quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

7. Determine the distribution of orders by hour of the day.

```
2 •    SELECT
3          HOUR(order_time) as hours, COUNT(order_id) as order_count
4      FROM
5          orders
6      GROUP BY HOUR(order_time);
```

Result Grid | Filter

hours	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336

8. Category wise disturbing pizzas.

```
3 •  SELECT
4        category, COUNT(name)
5    FROM
6        pizza_types
7    GROUP BY category;
```

Result Grid | Filter Rows:

category	count(name)
Chicken	6
Classic	8
Supreme	9
Veggie	9

9. How many pizzas ordered per day by date?

```
2 •  SELECT
3        orders.order_date, SUM(orders_details.quantity)
4    FROM
5        orders
6            JOIN
7        orders_details ON orders.order_id = orders_details.order_id
8    GROUP BY orders.order_date;
```

Result Grid | Filter Rows:

order_date	SUM(orders_details.quantity)
2015-01-01	162
2015-01-02	165
2015-01-03	158
2015-01-04	106
2015-01-05	125
2015-01-06	147
2015-01-07	138

10. top 3 most ordered pizzas types based on revenues.

```sql
SELECT
    pizza_types.name,
    SUM(orders_details.quantity * pizzas.price) AS revenues
FROM
    pizza_types
        JOIN
    pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    orders_details ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY revenues DESC
LIMIT 3;
```

Result Grid | Filter Rows:

name	revenues
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

Conclusion:

The Pizzas Data Analysis project offers critical insights into customer preferences and sales trends, aiding in the optimization of business strategies. By utilizing these findings, businesses can refine their menu, pricing, and promotions to boost competitiveness and growth.