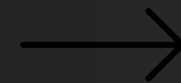# SQL PROJECT ON PIZZA SALES

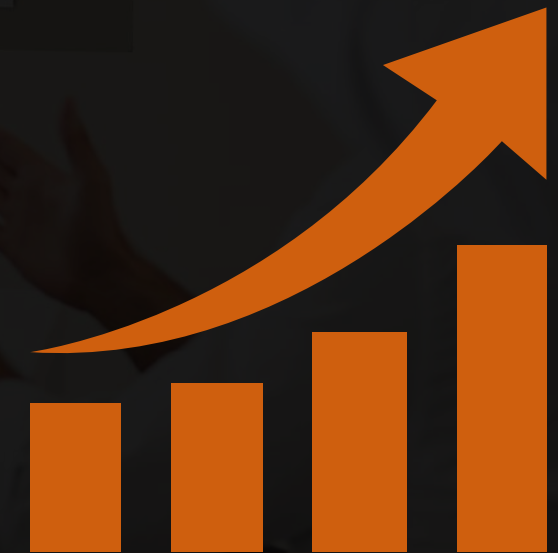presented by
Arif Molla

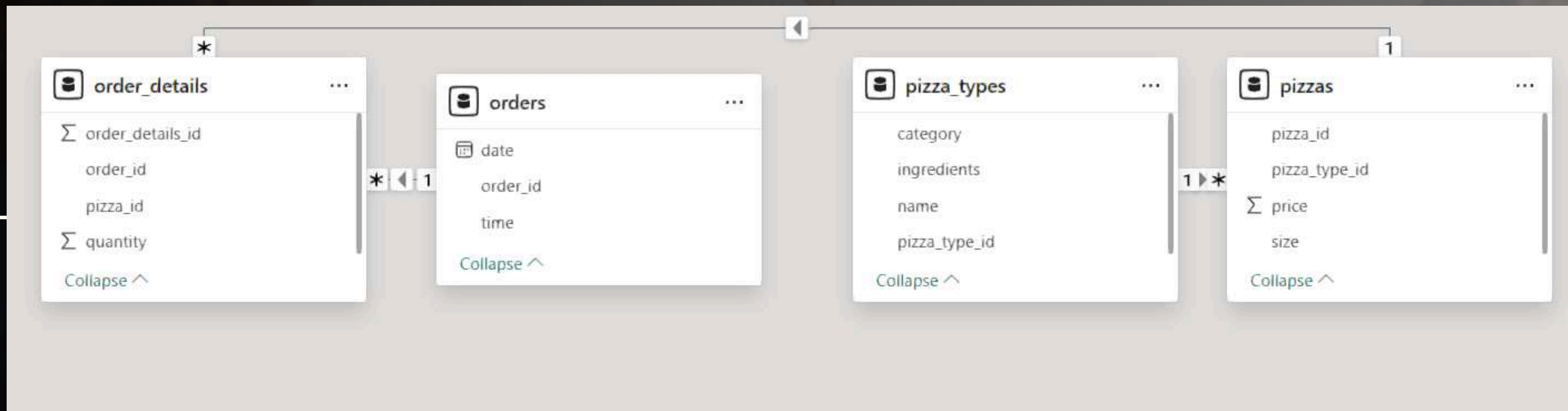# INTRODUCTION

Hello I am Arif Molla.
Welcome to my SQL project on Pizza Sales Data!
In this project, I have analyzed a dataset containing pizza sales records to gain valuable business insights. Using SQL, I explored trends in customer preferences, identified top-selling pizzas, and evaluated sales performance across different time periods and locations. The objective was to demonstrate how data analysis can optimize decision-making for better sales strategies and customer satisfaction.

presented by
Arif Molla

DATA MODELS

RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED

```
1    -- Retrieve the total number of orders placed.
2 •  SELECT
3        *
4    FROM
5        orders;
6 •  SELECT
7        COUNT(order_id) AS total_orders
8    FROM
9        orders;
```

Don't Limit

The query reveals that a total of 21,350 orders have been placed, as captured in the orders table. This metric provides key insight into the overall sales volume and can be used as a foundation for further analysis, such as identifying trends in order frequency, peak sales periods, or customer purchasing behavior.

Result Grid | Filter Rows:

total_orders
21350

04

CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES

```
1    -- Calculate the total revenue generated from pizza sales.
2
3  ● SELECT
4  ⊖     ROUND(SUM(order_details.quantity * pizzas.price),
5              2) AS Total_sales
6    FROM
7        order_details
8            JOIN
9    pizzas ON pizzas.pizza_id = order_details.pizza_id
```

Don't Limit

The query calculates the total revenue generated from pizza sales, which amounts to $817,860.05. This figure is derived by summing the product of the quantity of pizzas sold and their respective prices.

Result Grid | Filter Rows:

Total_sales
817860.05

IDENTIFY THE HIGHEST-PRICED PIZZA

```
Don't Limit

1    -- Identify the highest-priced pizza.

2

3 ●  SELECT

4        pizza_types.name, pizzas.price

5    FROM

6        pizza_types

7            JOIN

8        pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id

9    ORDER BY pizzas.price DESC

10   LIMIT 1;
```

The query identifies "The Greek Pizza" as the highest-priced menu item at $35.95, highlighting it as a premium offering. This indicates its potential to generate higher profit margins and appeal to customers seeking specialty options. Tracking its sales performance can help optimize pricing strategies and menu offerings.

Result Grid	Filter Rows:

name	price
The Greek Pizza	35.95

06

IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED

```
1    -- Identify the most common pizza size ordered.
2
3 •  SELECT
4        quantity, SUM(order_details_id)
5    FROM
6        order_details
7    GROUP BY quantity;
8
9 •  SELECT
10       pizzas.size,
11       COUNT(order_details.order_details_id) AS order_count
12   FROM
13       pizzas
14           JOIN
15       order_details ON pizzas.pizza_id = order_details.pizza_id
16   GROUP BY pizzas.size
17   ORDER BY order_count DESC;
```

From the query results, the Large (L) size is the most ordered pizza size with 18,526 orders, followed closely by Medium (M) with 15,385 orders, and Small (S) with 14,137 orders. The popularity of these sizes suggests customer preference for standard portion sizes, while XL (544 orders) and XXL (28 orders) are less favored, indicating a niche demand for extra-large portions. This insight can guide inventory management and marketing strategies, focusing on optimizing stock and promotions for the most popular sizes.

Result Grid | Filter Rows:

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

```
1    -- List the top 5 most ordered pizza types
2    -- along with their quantities.
3  • SELECT
4        pizza_types.name, SUM(order_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       order_details ON order_details.pizza_id = pizzas.pizza_id
11   GROUP BY pizza_types.name
12   ORDER BY quantity DESC
13   LIMIT 5;
```

The query results reveal the top 5 most ordered pizza types based on quantity. The Classic Deluxe Pizza leads with 2,453 orders, followed by The Barbecue Chicken Pizza (2,432), The Hawaiian Pizza (2,422), The Pepperoni Pizza (2,418), and The Thai Chicken Pizza (2,371). This data indicates a strong customer preference for a variety of flavorful and popular pizza options, which can help prioritize these types in promotional efforts and menu optimization to maximize sales.

Result Grid | Filter Rows:

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

08

```
1        -- Join the necessary tables to find the total quantity of each pizza category ordered.
2
3  •     SELECT
4            pizza_types.category,
5            SUM(order_details.quantity) AS quantity
6        FROM
7            pizza_types
8                JOIN
9            pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
10               JOIN
11           order_details ON order_details.pizza_id = pizzas.pizza_id
12       GROUP BY pizza_types.category
13       ORDER BY quantity DESC;
14
```

The query reveals that Classic pizzas are the most popular, with 14,888 orders, followed by Supreme (11,987), Veggie (11,649), and Chicken (11,050). This highlights customer preferences and can help optimize menu offerings and inventory management.

Result Grid		Filter Rows:
	category	quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

09

DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY

```sql
1    -- Determine the distribution of orders by hour of the day.
2
3 •  SELECT
4        HOUR(order_time) AS Hour, COUNT(order_id) AS Order_Count
5    FROM
6        orders
7    GROUP BY HOUR(order_time);
```

Don't Limit

Result Grid | Filter Rows:

Hour	Order_Count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

The query shows the distribution of pizza orders by hour. Peak order times are during lunchtime (12 PM with 2,520 orders) and early evening (7 PM with 2,399 orders), reflecting high demand during meal hours. Late-night orders are minimal, with only a few after 11 PM. This insight can help optimize staffing and operational efficiency during busy periods.

10

```sql
1    -- Join relevant tables to find the category-wise distribution of pizzas.
2
3 ●  SELECT
4        category AS Category, COUNT(name) AS Distribution
5    FROM
6        pizza_types
7    GROUP BY category;
```

The query identifies the category-wise distribution of pizzas offered. Among the categories, Veggie, Supreme, and Classic pizzas have the highest distribution with 9 types each, while the Chicken category has 6 types. This indicates a balanced variety of pizza options with a focus on vegetarian and premium choices, appealing to a broader customer base.

Category	Distribution
Chicken	6
Classic	8
Supreme	9
Veggie	9

11

```
Don't Limit

1    -- Group the orders by date
2    -- and calculate the average number of pizzas ordered per day.
3
4
5 •  SELECT
6        ROUND(AVG(quantity), 0) AS average_pizza_orders
7    FROM
8        (SELECT
9            orders.order_date, SUM(order_details.quantity) AS quantity
10       FROM
11           orders
12       JOIN order_details ON orders.order_id = order_details.order_id
13       GROUP BY orders.order_date) AS order_quantity;
14
```

The query calculates the average number of pizzas ordered per day, which is 138 pizzas. This provides insight into daily demand, helping businesses plan inventory, staffing, and operations efficiently. It also serves as a baseline for evaluating performance on high-demand or low-demand days.

Result Grid | Filter Rows:

average_pizza_orders
138

DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE

```
     Don't Limit

1    -- Determine the top 3 most ordered pizza types based on revenue.
2
3 ●  SELECT
4        pizza_types.name as Name,
5        SUM(order_details.quantity * pizzas.price) AS Revenue
6    FROM
7        pizza_types
8            JOIN
9        pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
10           JOIN
11       order_details ON order_details.pizza_id = pizzas.pizza_id
12   GROUP BY pizza_types.name
13   ORDER BY Revenue DESC
14   LIMIT 3;
```

The query identifies the top 3 most ordered pizza types based on revenue: The Thai Chicken Pizza ($43,434.25), The Barbecue Chicken Pizza ($42,768), and The California Chicken Pizza ($41,409.50). These results highlight the most profitable items, providing valuable insights for prioritizing marketing, promotions, and inventory management to maximize sales and revenue.

Result Grid | Filter Rows:

Name	Revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

```sql
1    -- Calculate the percentage contribution of each pizza type to total revenue.
2
3    SELECT
4        pizza_types.category,
5        ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
6                        ROUND(SUM(order_details.quantity * pizzas.price),
7                                2) AS Total_sales
8                    FROM
9                        order_details
10                            JOIN
11                        pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,
12                2) AS Revenue
13   FROM
14       pizza_types
15           JOIN
16       pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
17           JOIN
18       order_details ON order_details.pizza_id = pizzas.pizza_id
19   GROUP BY pizza_types.category
20   ORDER BY Revenue;
```
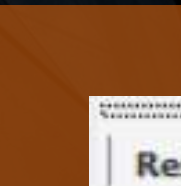
The query calculates the percentage contribution of each pizza category to the total revenue. The breakdown is as follows: Classic pizzas contribute the highest with 26.91%, followed by Supreme (25.46%), Chicken (23.96%), and Veggie (23.68%). This analysis helps identify which categories drive revenue and informs strategic decisions for menu focus, pricing adjustments, and promotional efforts.

category	Revenue
Veggie	23.68
Chicken	23.96
Supreme	25.46
Classic	26.91

14

ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME

```sql
1       -- Analyze the cumulative revenue generated over time.
2
3  •    select order_date,
4       sum(Revenue) over(order by order_date) as Cum_Revenue
5       from
6  ⊝    (SELECT
7           orders.order_date,
8           SUM(order_details.quantity * pizzas.price) AS Revenue
9       FROM
10          order_details
11              JOIN
12          pizzas ON order_details.pizza_id = pizzas.pizza_id
13              JOIN
14          orders ON orders.order_id = order_details.order_id
15      GROUP BY orders.order_date) AS Sales;
```

The analysis shows a consistent upward trend in cumulative revenue from 2015-01-01 to 2015-12-31, indicating steady growth. This helps in identifying revenue patterns, making strategic decisions, and financial forecasting to drive future profitability.

order_date	Cum_Revenue
2015-01-01	2713.850000000004
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55
2015-01-06	14358.5
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.4
2015-01-10	23990.350000000002
2015-01-11	25862.65
2015-01-12	27781.7

15

```sql
1    -- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
2
3  • select name, Revenue
4    from
5    (select category, name, Revenue,
6    rank() over(partition by category order by Revenue desc) as rn
7    from
8    (SELECT
9        pizza_types.category,
10       pizza_types.name,
11       SUM(order_details.quantity * pizzas.price) AS Revenue
12   FROM
13       pizza_types
14           JOIN
15       pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
16           JOIN
17       order_details ON order_details.pizza_id = pizzas.pizza_id
18   GROUP BY pizza_types.category , pizza_types.name) as a) as b
19   where rn<=3;
```

The analysis highlights that "The Thai Chicken Pizza" leads in revenue at 43,434.25, followed by "The Barbecue Chicken Pizza" at 42,768, and "The California Chicken Pizza" at 41,409.5. These top three pizzas are key revenue drivers, aiding in inventory, marketing, and menu decisions.

Result Grid | Filter Rows:

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 Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.7...
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

ACTION PLAN

Based on my analysis and insights, I will outline an action plan to address key findings and capitalize on opportunities. This may include adjustments to sales strategies, investment in new technologies or resources, or targeted initiatives to address specific market segments or customer needs.

THANK YOU!

Thank you for your attention to our sales report presentation. If you have any questions or would like to discuss the findings in more detail, please don't hesitate to reach out to me.