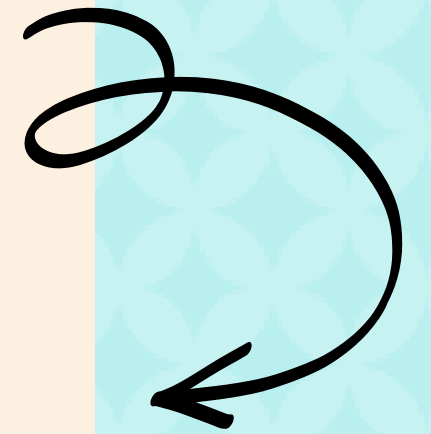
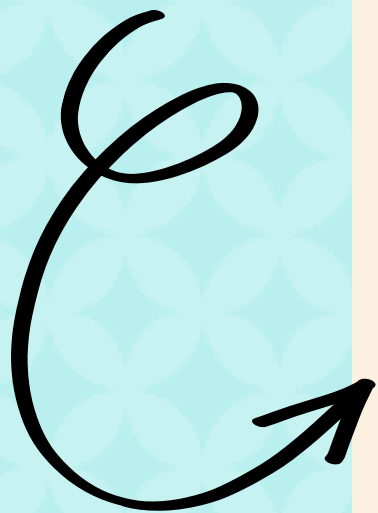


# PROJECT OVERVIEW

This project involves analyzing the sales data of a pizza company to uncover key business insights. Using MySQL Workbench, we examine various datasets including order details, order timings, pizza types, and pricing.

## AIM

Our goal is to understand customer preferences, optimize inventory, and boost revenue. This analysis will inform strategic decisions to enhance overall business performance



# DATA OVERVIEW

## order\_details

order_details_id	order_id	pizza_id	quantity
1	1	hawaiian_m	1
2	2	classic_dlx_m	1
3	2	five_cheese_l	1
4	2	ital_supr_l	1
5	2	mexicana_m	1
6	2	thai_ckn_l	1
7	3	ital_supr_m	1
8	3	prsc_argla_l	1
9	4	ital_supr_m	1
10	5	ital_supr_m	1

Datasets involved 4 tables:

- order\_details: Contains specifics about each order.
- orders: Records of order dates and times.
- pizza\_types: Information on different pizza types.
- pizzas: Details on pizza sizes and prices.

## orders

order_id	order_date	order_time
1	2015-01-01	11:38:36
2	2015-01-01	11:57:40
3	2015-01-01	12:12:28
4	2015-01-01	12:16:31
5	2015-01-01	12:21:30
6	2015-01-01	12:29:36
7	2015-01-01	12:50:37
8	2015-01-01	12:51:37
9	2015-01-01	12:52:01
10	2015-01-01	13:00:15

## pizza\_types

pizza_type_id	name	category	ingredients
bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers, Green Pepp...
cali_ckn	The California	The Barbecue Chicken Pizza	Chicken, Artichoke, Spinach, Garlic, Jalapeno P...
ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms...
ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garl...
southw_ckn	The Southwest Chicken Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, ...
thai_ckn	The Thai Chicken Pizza	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, T...
big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sau...
classic_dlx	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppe...
hawaiian	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
ital_cpdllo	The Italian Capocollo Pizza	Classic	Capocollo, Red Peppers, Tomatoes, Goat Chee...
napolitana	The Napolitana Pizza	Classic	Tomatoes, Anchovies, Green Olives, Red Onion...
pep_msh_pep	The Pepperoni, Mushroom, ...	Classic	Pepperoni, Mushrooms, Green Peppers

## pizzas

pizza_id	pizza_type_id	size	price
bbq_ckn_s	bbq_ckn	S	12.75
bbq_ckn_m	bbq_ckn	M	16.75
bbq_ckn_l	bbq_ckn	L	20.75
cali_ckn_s	cali_ckn	S	12.75
cali_ckn_m	cali_ckn	M	16.75
cali_ckn_l	cali_ckn	L	20.75
ckn_alfredo_s	ckn_alfredo	S	12.75
ckn_alfredo_m	ckn_alfredo	M	16.75
ckn_alfredo_l	ckn_alfredo	L	20.75
ckn_pesto_s	ckn_pesto	S	12.75
ckn_pesto_m	ckn_pesto	M	16.75
ckn_pesto_l	ckn_pesto	L	20.75

# Basic Analysis - Order Volume

Question: How can we measure our customer demand effectively?

- Objective: Determine the total number of orders placed.
- Insight Sought: Understanding overall demand.

```
39      -- Retrieve the total number of orders placed.  
40 •    select count(order_id) as total_orders from orders;  
41
```



Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	total_orders
▶	21350

# Basic Analysis - Revenue Insights

Question: How can we measure our customer demand effectively?

- Objective: Determine the total number of orders placed.
- Insight Sought: Understanding overall demand.

```
48  -- Calculate the total revenue generated from pizza sales.
49  •  SELECT
50      ROUND(SUM(order_details.quantity * pizzas.price),
51             4) AS total_revenue
52  FROM
53      order_details
54      JOIN
55      pizzas ON order_details.pizza_id = pizzas.pizza_id;
```

Result Grid



Filter Rows:

Export:



Wrap Cell Content:



	total_revenue
▶	817860.05

# Basic Analysis - Pricing Strategy

Question: Which pizza commands the highest price on our menu?

- Objective: Identify the highest-priced pizza.
- Insight Sought: Refine pricing strategy.


```
62  -- Identify the highest-priced pizza.
63  ●  SELECT
64      pizza_types.name, (pizzas.price)
65  FROM
66      pizza_types
67      JOIN
68      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
69  ORDER BY pizzas.price DESC
70  LIMIT 1;
```

<

Result Grid



 Filter Rows:

Export: 

Wrap Cell Content: 

Fetch rows:

	name	price
▶	The Greek Pizza	35.95

# Basic Analysis - Product Demand

Question: Which pizza types are our top sellers?

- Objective: List the top 5 most ordered pizza types along with their quantities.
- Insight Sought: Focus on high-demand products.

```
92  -- List the top 5 most ordered pizza types along with their quantities.
93  • SELECT
94      pizza_types.name, SUM(order_details.quantity) AS quantity
95  FROM
96      pizza_types
97      JOIN
98      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
99      JOIN
100     order_details ON order_details.pizza_id = pizzas.pizza_id
101  GROUP BY pizza_types.name
102  ORDER BY quantity DESC
103  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

# Basic Analysis - Product Popularity

Question: What is the most preferred pizza size among our customers?

- Objective: Identify the most common pizza size ordered.
- Insight Sought: Optimize inventory and menu offerings.

76    -- Identify the most common pizza size ordered.

77 •   SELECT

78       pizzas.size,

79       COUNT(order\_details.order\_details\_id) AS no\_of\_pizzas\_sold

80    FROM

81       order\_details

82       JOIN

83       pizzas ON order\_details.pizza\_id = pizzas.pizza\_id

84    GROUP BY pizzas.size

85    ORDER BY no\_of\_pizzas\_sold DESC

86    LIMIT 1;

<

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

Fetch rows:

	size	no_of_pizzas_sold
▶	L	18526



# Intermediate Analysis - Category Demand

Question: How does demand vary across different pizza categories?

- Objective: Find the total quantity of each pizza category ordered.
- Insight Sought: Balance product categories.

```
109  -- Join the necessary tables to find the total quantity of each pizza category ordered.
110  •  SELECT
111      pizza_types.category,
112      SUM(order_details.quantity) AS total_quantity
113  FROM
114      pizza_types
115      JOIN
116      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
117      JOIN
118      order_details ON order_details.pizza_id = pizzas.pizza_id
119  GROUP BY pizza_types.category
120  ORDER BY total_quantity DESC;
121
```

<	Result Grid			Filter Rows: <input type="text"/>	Export:	Wrap Cell Content:
	category	total_quantity				
▶	Classic	14888				
	Supreme	11987				
	Veggie	11649				
	Chicken	11050				

# Intermediate Analysis - Order Timing

Question: When do our customers place orders most frequently?

- Objective: Determine the distribution of orders by hour of the day.
- Insight Sought: Optimize staffing and operations.

128 -- Determine the distribution of orders by hour of the day.

129 • SELECT

130        HOUR(order\_time) AS hour, COUNT(order\_id) AS order\_id

131        FROM

132        orders

133        GROUP BY hour;

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	hour	order_id
▶	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

# Intermediate Analysis - Category Distribution

Question: What is the distribution of pizza sales by category?

- Objective: Find the category-wise distribution of pizzas.
- Insight Sought: Improve marketing and menu design.

```
140      -- Join relevant tables to find the category-wise distribution of pizzas.
141 •    SELECT
142          category, COUNT(name) AS no_of_pizzas
143      FROM
144          pizza_types
145      GROUP BY category;
146
```

	category	no_of_pizzas
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

# Intermediate Analysis - Order Patterns

Question: What are the daily order trends for our pizzas?

- Objective: Group orders by date and calculate the average number of pizzas ordered per day.
- Insight Sought: Identify peak sales periods.

```
152  -- Group the orders by date and calculate the average number of pizzas ordered per day.
153  •  SELECT
154      ROUND(AVG(quantity), 0) AS avg_pizzas_per_day
155  FROM
156      (SELECT
157          orders.order_date, SUM(order_details.quantity) AS quantity
158      FROM
159          orders
160      JOIN order_details ON orders.order_id = order_details.order_id
161      GROUP BY orders.order_date) AS temp;
```

<	
Result Grid	Filter Rows: <input type="text"/>
Export:  Wrap Cell Content:	
avg_pizzas_per_day	
▶	138

# Intermediate Analysis - Revenue Drivers

Question: Which pizza types generate the most revenue?

- Objective: Determine the top 3 most ordered pizza types based on revenue.
- Insight Sought: Focus on high-revenue products.

```
168 -- Determine the top 3 most ordered pizza types based on revenue.
169 • SELECT
170     pizza_types.name AS name_of_pizza,
171     ROUND(SUM(order_details.quantity * pizzas.price),
172           2) AS revenue
173 FROM
174     order_details
175     JOIN
176     pizzas ON order_details.pizza_id = pizzas.pizza_id
177     JOIN
178     pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
179 GROUP BY name_of_pizza
180 ORDER BY revenue DESC
181 LIMIT 3;
```



Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	name_of_pizza	revenue				
▶	The Thai Chicken Pizza	43434.25				
	The Barbecue Chicken Pizza	42768				
	The California Chicken Pizza	41409.5				

# Advanced Analysis - Revenue Contribution

Question: How much does each pizza type contribute to our total revenue?

- Objective: Determine the top 3 most ordered pizza types based on revenue.
- Insight Sought: Focus on high-revenue products.

```
188 -- Calculate the percentage contribution of each pizza type to total revenue.
189 • SELECT
190     pizza_types.category,
191     ROUND(SUM(order_details.quantity * pizzas.price),
192           3) AS revenue,
193     CONCAT(ROUND((SUM(order_details.quantity * pizzas.price) / (SELECT
194                   ROUND(SUM(order_details.quantity * pizzas.price),
195                       4)
196                   FROM
197                       order_details
198                       JOIN
199                           pizzas ON order_details.pizza_id = pizzas.pizza_id)) * 100,
200           3),
201           ' %') AS revenue_percentage
202 FROM
203     pizza_types
204     JOIN
205     pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
206     JOIN
207     order_details ON order_details.pizza_id = pizzas.pizza_id
208 GROUP BY pizza_types.category
209 ORDER BY revenue DESC;
```

Result Grid   Filter Rows:

	category	revenue	revenue_percentage
▶	Classic	220053.1	26.906 %
	Supreme	208197	25.456 %
	Chicken	195919.5	23.955 %
	Veggie	193690.45	23.683 %

# Advanced Analysis - Revenue Trends

Question: How has our revenue evolved over time?

- Objective: Analyze the cumulative revenue generated over time.
- Insight Sought: Track financial performance.

```
219  -- Analyze the cumulative revenue generated over time.
220  •  select order_date, round(sum(revenue) over(order by order_date),3) as cumulative_sum
221      from
222      (select orders.order_date , sum(order_details.quantity*pizzas.price) as revenue
223       from order_details
224       join pizzas
225       on order_details.pizza_id=pizzas.pizza_id
226       join orders
227       on order_details.order_id=orders.order_id
228       group by orders.order_date) as temp;
```





Result Grid			Filter Rows:
	order_date	cumulative_sum	
▶	2015-01-01	2713.85	
	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	23990.35	
	2015-01-11	25862.65	
	2015-01-12	27781.7	
	2015-01-13	29831.3	
	2015-01-14	32358.7	
	2015-01-15	34343.5	

# Advanced Analysis - Category Revenue Drivers

Question: Which pizza types are the top revenue generators within each category?

- Objective: Determine the top 3 most ordered pizza types based on revenue for each pizza category.
- Insight Sought: Identify key products within categories.

```
235 -- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
236 • select category,name,revenue, rn as ranking
237 from
238 (select category,name,revenue,
239 rank() over(partition by category order by revenue desc) as rn
240 from
241 (select
242     pizza_types.category ,
243     pizza_types.name ,
244     sum(order_details.quantity * pizzas.price) as revenue
245 from pizza_types
246 join pizzas
247 on pizza_types.pizza_type_id = pizzas.pizza_type_id
248 join order_details
249 on order_details.pizza_id=pizzas.pizza_id
250 group by pizza_types.category, pizza_types.name) as temp) as temp1
251 where rn<=3;
```

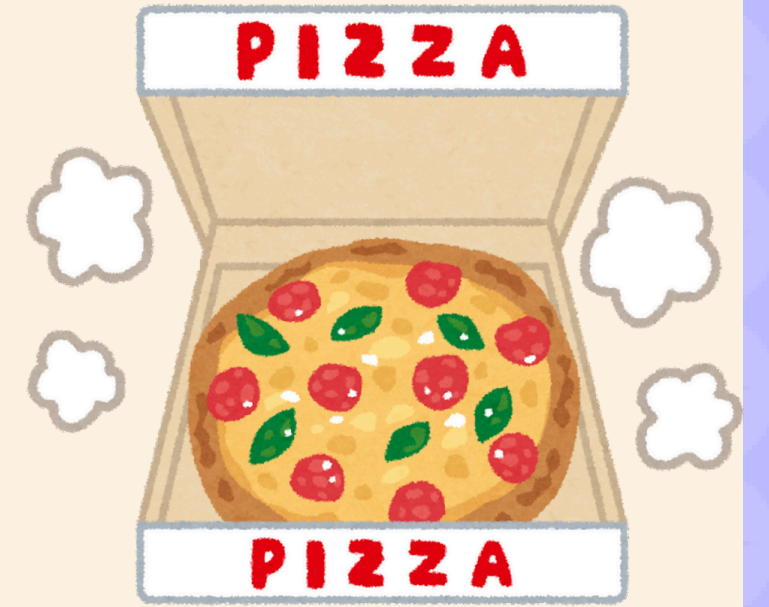
Result Grid     Filter Rows: <input type="text"/>   Export:    Wrap Cell Content: 				
	category	name	revenue	ranking
▶	Chicken	The Thai Chicken Pizza	43434.25	1
	Chicken	The Barbecue Chicken Pizza	42768	2
	Chicken	The California Chicken Pizza	41409.5	3
	Classic	The Classic Deluxe Pizza	38180.5	1
	Classic	The Hawaiian Pizza	32273.25	2
	Classic	The Pepperoni Pizza	30161.75	3
	Supreme	The Spicy Italian Pizza	34831.25	1
	Supreme	The Italian Supreme Pizza	33476.75	2
	Supreme	The Sicilian Pizza	30940.5	3
	Veggie	The Four Cheese Pizza	32265.700000000065	1
	Veggie	The Mexicana Pizza	26780.75	2
	Veggie	The Five Cheese Pizza	26066.5	3



# Conclusion

## *Summary of Key Findings:*

- Identified total order volume and peak order times.
- Determined the highest-priced pizza and most popular pizza size.
- Highlighted top-selling pizza types and their contribution to revenue.



## *Potential Business Actions:*

- Adjust Inventory: Optimize stock based on popular pizza sizes and top-selling types.
- Pricing Strategy: Reevaluate pricing based on the highest-priced and most ordered pizzas.
- Marketing Campaigns: Target promotions for peak hours and high-demand categories.



# Thank you!

If you have any questions, feel free to ask!

By

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