Pizzas Sales Report

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Abstract:

This study explores the dynamics of pizza sales in the current market, focusing on trends, consumer preferences, and sales strategies. Using data from various sources, including industry reports, sales figures, and consumer surveys, the research identifies key factors influencing pizza sales, such as seasonal variations, regional preferences, and the impact of promotional activities. The study highlights a significant shift towards online ordering and delivery services, with a notable increase in demand for gourmet and specialty pizzas. Additionally, the research examines the effectiveness of different marketing strategies, including discounts, loyalty programs, and social media engagement. The findings indicate that successful pizza sales strategies involve a combination of leveraging digital platforms, understanding local tastes, and offering personalized customer experiences. The study concludes with recommendations for pizza businesses to adapt to evolving market conditions and consumer expectations.

This study investigates pizza sales by analyzing detailed order data, categorizing different pizza types, and assessing sales patterns. The research utilizes comprehensive order records to categorize pizzas into broad segments, such as traditional, gourmet, and specialty varieties. It examines how each category performs in terms of volume and revenue, and explores trends in consumer preferences for specific pizza types. Key findings reveal that traditional pizzas (e.g., Margherita, Pepperoni) continue to drive the majority of sales, while gourmet and specialty pizzas show growing popularity, particularly in urban areas. Seasonal variations and promotional events also significantly impact sales patterns. The study further analyzes demographic and geographical data to understand how different customer segments contribute to overall sales. Recommendations include tailoring menu offerings to regional preferences, optimizing inventory based on sales trends, and employing targeted marketing strategies to boost sales across various pizza categories.

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PIZZA SALES REPORT

Project for SQL Module

Objective:

The primary objective of the pizza sales report is to deliver actionable insights into the performance and trends of pizza sales by leveraging SQL queries to analyze data from various sources. The report aims to:

- 1 Analyze Sales Performance: Evaluate overall sales metrics such as total revenue, number of orders, and average order value. This includes identifying high-performing and underperforming periods or categories.
- 2 **Categorize Pizza Types:** Provide a breakdown of sales by pizza categories, such as traditional, gourmet, and specialty pizzas. Determine which categories and specific pizza types are the most popular and profitable.

3 Retrieve the total number of orders placed

The goal is to obtain a count of all orders recorded in the database. This total can provide insights into the overall activity level of the business, evaluate performance trends over time, and assist in inventory and staffing planning.

4 Determine the distribution of orders by hour of the day

The goal is to segment the total number of orders into hourly intervals to understand which hours experience the highest and lowest order volumes. This information can be used to optimize operational efficiency and customer service.

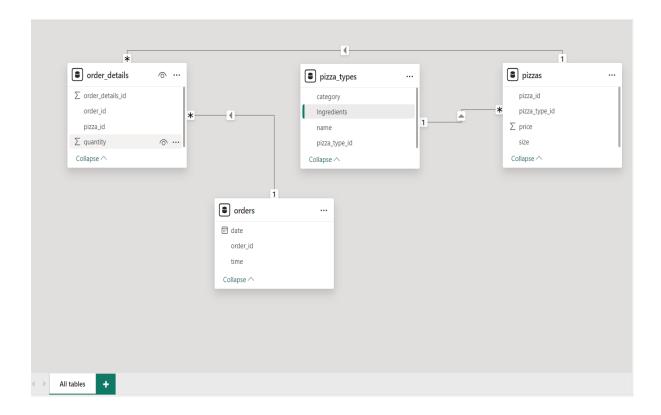
5 Identify Trends and Patterns: Discover seasonal trends, peak sales periods, and patterns in customer preferences. Use historical data to forecast future sales and plan inventory needs.

Functionality:

- Order Details: Record and retrieve details of each order, including items ordered, quantities, prices, and customer information.
- Sales by Pizza Type: Analyze sales performance for different types of pizzas
- **Revenue Tracking:** Calculate total sales revenue, average order value, and sales growth over different periods.
- Sales by Time Period: Examine sales trends by day, week, month, or year to identify peak times and seasonal variations.

Database Name - Pizza_hut

2.ER - DIAGRAM (ENTITY RELATION - DIAGRAM)



3 .Table Description

1. Pizzas

Field	Туре	Null	Key
Pizza_type	Text	Yes	
Pizza_type_id	Text	Yes	
Size	Text	Yes	
price	Double	Yes	

2 .Pizza_types

field	Туре	null	Key
Pizza_type_id	Text	Yes	
Name	Text	Yes	
Category	Text	Yes	
Ingredients	Text	Yes	

3. Orders

field	Туре	null	Key
Order_id	Int	No	
Order_date	Date	No	
Order time	time	No	

4 .Order_details

field	type	null	key
Order_detail_id	Int	No	PRI
Order_id	Int	No	
Pizza_id	Text	No	
Quantity	Int	No	

4. Commands

- create database Pizza_Hut;
- use Pizza_hut;

• create Pizzas table

```
create table pizzas (
pizza_type text null,
pizza_type_id text null,
size text null,
price double null );
```

• create Pizza_types table

```
create table pizza_types (
pizza_type_id text null,
name text null,
category text null,
ingredients text null);
```

create orders table

```
create table orders (
order_id int not null,
order_date date not null,
order_time time not null,
primary key(order_id));
```

• create order_details table

```
create table order_details (
  order_details_id int not null,
  order_id int not null,
  pizza_id text not null,
  quantity int not null,
  primary key(order_details_id) );
```

Insert Queries for Pizzas Table

```
INSERT INTO Pizzas (pizza_id, pizza_type_id, size, price) VALUES
('bbq_ckn_s', 'bbq_ckn', 'S', '12.75'),
        ('bbq_ckn_m', 'bbq_ckn', 'M', '16.75'),
        ('bbq_ckn_I', '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'),
        ('southw_ckn_s', 'southw_ckn', 'S', '12.75'),
        ('southw_ckn_m', 'southw_ckn', 'M', '16.75'),
        ('southw_ckn_l', 'southw_ckn', 'L', '20.75'),
        ('thai_ckn_s', 'thai_ckn', 'S', '12.75'),
        ('thai_ckn_m', 'thai_ckn', 'M', '16.75'),
        ('thai_ckn_l', 'thai_ckn', 'L', '20.75'),
        ('big_meat_s', 'big_meat', 'S', '12'),
        ('big_meat_m', 'big_meat', 'M', '16'),
        ('big_meat_l', 'big_meat', 'L', '20.5'),
        ('classic_dlx_s', 'classic_dlx', 'S', '12'),
        ('classic_dlx_m', 'classic_dlx', 'M', '16'),
        ('classic_dlx_l', 'classic_dlx', 'L', '20.5'),
```

('hawaiian_s', 'hawaiian', 'S', '10.5'),

```
('hawaiian m', 'hawaiian', 'M', '13.25'),
('hawaiian l', 'hawaiian', 'L', '16.5'),
('ital cpcllo s', 'ital cpcllo', 'S', '12'),
('ital cpcllo m', 'ital cpcllo', 'M', '16'),
('ital_cpcllo_l', 'ital_cpcllo', 'L', '20.5'),
('napolitana_s', 'napolitana', 'S', '12'),
('napolitana_m', 'napolitana', 'M', '16'),
('napolitana_l', 'napolitana', 'L', '20.5'),
('pep_msh_pep_s', 'pep_msh_pep', 'S', '11'),
('pep_msh_pep_m', 'pep_msh_pep', 'M', '14.5'),
('pep_msh_pep_l', 'pep_msh_pep', 'L', '17.5'),
('pepperoni_s', 'pepperoni', 'S', '9.75'),
('pepperoni_m', 'pepperoni', 'M', '12.5'),
('pepperoni_l', 'pepperoni', 'L', '15.25'),
('the_greek_s', 'the_greek', 'S', '12'),
('the greek m', 'the greek', 'M', '16'),
('the greek I', 'the greek', 'L', '20.5'),
('the greek xl', 'the greek', 'XL', '25.5'),
('the greek xxl', 'the greek', 'XXL', '35.95'),
('brie carre s', 'brie carre', 'S', '23.65'),
('calabrese s', 'calabrese', 'S', '12.25'),
('calabrese m', 'calabrese', 'M', '16.25'),
('calabrese_l', 'calabrese', 'L', '20.25'),
('ital_supr_s', 'ital_supr', 'S', '12.5'),
('ital_supr_m', 'ital_supr', 'M', '16.5'),
('ital_supr_l', 'ital_supr', 'L', '20.75'),
('peppr_salami_s', 'peppr_salami', 'S', '12.5'),
('peppr_salami_m', 'peppr_salami', 'M', '16.5'),
('peppr_salami_l', 'peppr_salami', 'L', '20.75'),
('prsc_argla_s', 'prsc_argla', 'S', '12.5'),
```

```
('prsc_argla_m', 'prsc_argla', 'M', '16.5'),
('prsc_argla_l', 'prsc_argla', 'L', '20.75'),
('sicilian', 'S', '12.25'),
('sicilian_m', 'sicilian', 'M', '16.25'),
('sicilian_l', 'sicilian', 'L', '20.25'),
('soppressata_s', 'soppressata', 'S', '12.5'),
('soppressata_m', 'soppressata', 'M', '16.5'),
('soppressata_I', 'soppressata', 'L', '20.75'),
('spicy_ital_s', 'spicy_ital', 'S', '12.5'),
('spicy_ital_m', 'spicy_ital', 'M', '16.5'),
('spicy_ital_l', 'spicy_ital', 'L', '20.75'),
('spinach_supr_s', 'spinach_supr', 'S', '12.5'),
('spinach_supr_m', 'spinach_supr', 'M', '16.5'),
('spinach_supr_I', 'spinach_supr', 'L', '20.75'),
('five_cheese_s', 'five_cheese', 'S', '12.5'),
('five_cheese_m', 'five_cheese', 'M', '15.5'),
('five_cheese_I', 'five_cheese', 'L', '18.5'),
('four_cheese_s', 'four_cheese', 'S', '11.75'),
('four_cheese_m', 'four_cheese', 'M', '14.75'),
('four_cheese_l', 'four_cheese', 'L', '17.95'),
('green_garden_s', 'green_garden', 'S', '12'),
('green_garden_m', 'green_garden', 'M', '16'),
('green_garden_I', 'green_garden', 'L', '20.25'),
('ital_veggie_s', 'ital_veggie', 'S', '12.75'),
('ital_veggie_m', 'ital_veggie', 'M', '16.75'),
('ital_veggie_l', 'ital_veggie', 'L', '21'),
('mediterraneo_s', 'mediterraneo', 'S', '12'),
('mediterraneo_m', 'mediterraneo', 'M', '16'),
('mediterraneo_I', 'mediterraneo', 'L', '20.25'),
('mexicana_s', 'mexicana', 'S', '12'),
```

```
('mexicana_m', 'mexicana', 'M', '16'),
('mexicana_l', 'mexicana', 'L', '20.25'),
('spin_pesto_s', 'spin_pesto', 'S', '12.5'),
('spin_pesto_m', 'spin_pesto', 'M', '16.5'),
('spin_pesto_l', 'spin_pesto', 'L', '20.75'),
('spinach_fet_s', 'spinach_fet', 'S', '12'),
('spinach_fet_m', 'spinach_fet', 'M', '16'),
('spinach_fet_l', 'spinach_fet', 'L', '20.25'),
('veggie_veg_s', 'veggie_veg', 'S', '12'),
('veggie_veg_m', 'veggie_veg', 'M', '16'),
('veggie_veg_l', 'veggie_veg', 'L', '20.25');
```

Insert Queries for Pizza_types Table

INSERT INTO `pizza_types` (`pizza_type_id`, `name`, `category`, `ingredients`) VALUES ('bbq_ckn', 'The Barbecue Chicken Pizza', 'Chicken', 'Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce'),

('cali_ckn', 'The California Chicken Pizza', 'Chicken', 'Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese'),

('ckn_alfredo', 'The Chicken Alfredo Pizza', 'Chicken', 'Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce'),

('ckn_pesto', 'The Chicken Pesto Pizza', 'Chicken', 'Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce'),

('southw_ckn', 'The Southwest Chicken Pizza', 'Chicken', 'Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Chipotle Sauce'),

('thai_ckn', 'The Thai Chicken Pizza', 'Chicken', 'Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce'),

('big_meat', 'The Big Meat Pizza', 'Classic', 'Bacon, Pepperoni, Italian Sausage, Chorizo Sausage'),

('classic_dlx', 'The Classic Deluxe Pizza', 'Classic', 'Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon'),

('hawaiian', 'The Hawaiian Pizza', 'Classic', 'Sliced Ham, Pineapple, Mozzarella Cheese'),

('ital_cpcllo', 'The Italian Capocollo Pizza', 'Classic', 'Capocollo, Red Peppers, Tomatoes, Goat Cheese, Garlic, Oregano'),

('napolitana', 'The Napolitana Pizza', 'Classic', 'Tomatoes, Anchovies, Green Olives, Red Onions, Garlic'),

('pep_msh_pep', 'The Pepperoni, Mushroom, and Peppers Pizza', 'Classic', 'Pepperoni, Mushrooms, Green Peppers'),

('pepperoni', 'The Pepperoni Pizza', 'Classic', 'Mozzarella Cheese, Pepperoni'), ('the_greek', 'The Greek Pizza', 'Classic', 'Kalamata Olives, Feta Cheese, Tomatoes, Garlic, Beef Chuck Roast, Red Onions'),

('brie_carre', 'The Brie Carre Pizza', 'Supreme', 'Brie Carre Cheese, Prosciutto, Caramelized Onions, Pears, Thyme, Garlic'),

('calabrese', 'The Calabrese Pizza', 'Supreme', 'Nduja Salami, Pancetta, Tomatoes, Red Onions, Friggitello Peppers, Garlic'),

('ital_supr', 'The Italian Supreme Pizza', 'Supreme', 'Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic'),

('peppr_salami', 'The Pepper Salami Pizza', 'Supreme', 'Genoa Salami, Capocollo, Pepperoni, Tomatoes, Asiago Cheese, Garlic'),

('prsc_argla', 'The Prosciutto and Arugula Pizza', 'Supreme', 'Prosciutto di San Daniele, Arugula, Mozzarella Cheese'),

('sicilian', 'The Sicilian Pizza', 'Supreme', 'Coarse Sicilian Salami, Tomatoes, Green Olives, Luganega Sausage, Onions, Garlic'),

('soppressata', 'The Soppressata Pizza', 'Supreme', 'Soppressata Salami, Fontina Cheese, Mozzarella Cheese, Mushrooms, Garlic'),

('spicy_ital', 'The Spicy Italian Pizza', 'Supreme', 'Capocollo, Tomatoes, Goat Cheese, Artichokes, Peperoncini verdi, Garlic'),

('spinach_supr', 'The Spinach Supreme Pizza', 'Supreme', 'Spinach, Red Onions, Pepperoni, Tomatoes, Artichokes, Kalamata Olives, Garlic, Asiago Cheese'),

('five_cheese', 'The Five Cheese Pizza', 'Veggie', 'Mozzarella Cheese, Provolone Cheese, Smoked Gouda Cheese, Romano Cheese, Blue Cheese, Garlic'),

('four_cheese', 'The Four Cheese Pizza', 'Veggie', 'Ricotta Cheese, Gorgonzola Piccante Cheese, Mozzarella Cheese, Parmigiano Reggiano Cheese, Garlic'),

('green_garden', 'The Green Garden Pizza', 'Veggie', 'Spinach, Mushrooms, Tomatoes, Green Olives, Feta Cheese'),

('ital_veggie', 'The Italian Vegetables Pizza', 'Veggie', 'Eggplant, Artichokes, Tomatoes, Zucchini, Red Peppers, Garlic, Pesto Sauce'),

('mediterraneo', 'The Mediterranean Pizza', 'Veggie', 'Spinach, Artichokes, Kalamata Olives, Sun-dried Tomatoes, Feta Cheese, Plum Tomatoes, Red Onions'),

('mexicana', 'The Mexicana Pizza', 'Veggie', 'Tomatoes, Red Peppers, Jalapeno Peppers, Red Onions, Cilantro, Corn, Chipotle Sauce, Garlic'),

('spin_pesto', 'The Spinach Pesto Pizza', 'Veggie', 'Spinach, Artichokes, Tomatoes, Sun-dried Tomatoes, Garlic, Pesto Sauce'),

('spinach_fet', 'The Spinach and Feta Pizza', 'Veggie', 'Spinach, Mushrooms, Red Onions, Feta Cheese, Garlic'),

('veggie_veg', 'The Vegetables + Vegetables Pizza', 'Veggie', 'Mushrooms, Tomatoes, Red Peppers, Green Peppers, Red Onions, Zucchini, Spinach, Garlic');

Insert Queries for Orders and Order_details

Importing data from Excel to SQL can be an efficient way to manage large datasets, especially when dealing with a significant number of rows.

Steps to Import Data from Excel to SQL

1. Prepare the Excel File:

• Ensure that your Excel file is well-organized, with clearly defined column headers and consistent data formatting.

2. Save as CSV (Optional but Recommended):

 Save the Excel file as a CSV (Comma-Separated Values) file. This format is often easier to import into SQL databases.

3. Open SQL Server Management Studio (SSMS) or Your SQL Tool:

o Launch your SQL database management tool where you intend to import the data.

4. Use the Import Wizard:

- o In SQL Server, you can use the **Import and Export Wizard**.
- o Go to **Object Explorer** \rightarrow Right-click the database \rightarrow **Tasks** \rightarrow **Import Data**.

5. Choose Data Source:

- Select Microsoft Excel as the data source. If you saved as CSV, choose Flat File Source instead.
- o Browse to select your Excel or CSV file.

6. Configure Destination:

o Specify the SQL Server database where you want to import the data.

7. Map Columns:

 Map the columns from the Excel file to the corresponding columns in the SQL database table.

8. Run the Import:

 Execute the import operation. The wizard will import data into the specified SQL table.

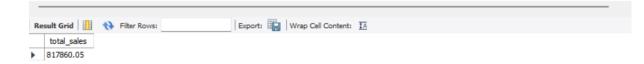
9. Verify and Clean Up:

- Check the SQL table to ensure that the data has been imported correctly.
- o Perform any necessary data cleaning or transformation tasks.

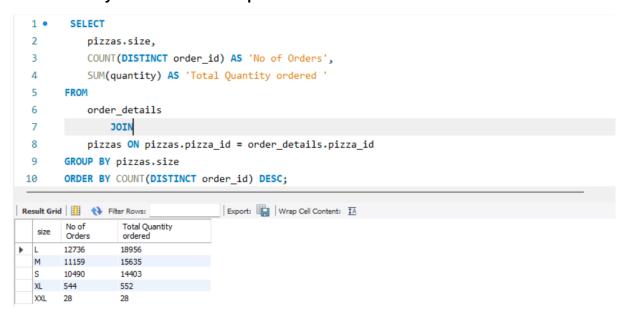
5. Queries

• Retrieve the total number of orders placed -

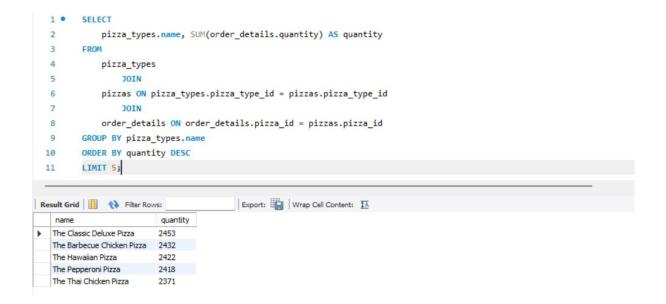
Calculate the total revenue generated from pizza sales—



Identify the most common pizza size ordered –



• List the Top 5 most ordered pizza type along with their quantities--

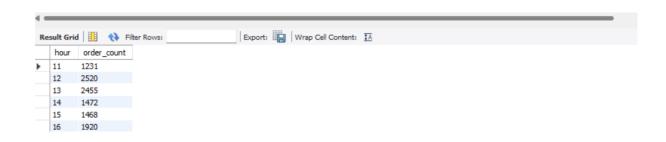


 Join the necessary tables to find the total quantity of each pizza category ordered –

```
SELECT
           pizza_types.category,
 3
           SUM(order_details.quantity) AS quantity
 4
          pizza_types
          pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
 9
          order_details ON order_details.pizza_id = pizzas.pizza_id
10
       GROUP BY pizza_types.category
11
       ORDER BY quantity DESC;
Export: Wrap Cell Content: IA
  category quantity
 Classic
          14888
 Supreme 11987
  Veggie
          11649
 Chicken 11050
```

Determine the distribution of orders by hour of the day –

```
1 • SELECT
2     HOUR(order_time) AS hour, COUNT(order_id) AS order_count
3     FROM
4     orders
5     GROUP BY HOUR(order_time);
```



• Joint revelant tables to find the category-wise distribution of pizzas -

```
SELECT
 1 •
 2
          category, COUNT(name)
 3
      FROM
 4
          pizza_types
      GROUP BY category;
 5
Export: Wrap Cell Content: IA
  category COUNT(name)
 Chicken
 Classic 8
 Supreme 9
Veggie 9
```

 Group the orders by date and calculate the average number of pizzas ordered per day –

```
1 •
       SELECT
           ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
  2
  3
       FROM
           (SELECT
  4
  5
               orders.order_date, SUM(order_details.quantity) AS quantity
  6
           FROM
               orders
  7
           JOIN order_details ON orders.order_id = order_details.order_id
  8
  9
           GROUP BY orders.order_date) AS order_quantity;
 10
Export: Wrap Cell Content: 1A
  avg_pizza_ordered_per_day
138
```

• Determine the top 3 most ordered pizza types based on revenue -

```
SELECT
 1 .
 2
           pizza_types.name,
           SUM(order_details.quantity * pizzas.price) AS revenue
 3
 4
 5
           pizza_types
 6
 7
          pizzas ON pizzas.pizza_type_id = pizza_types.pizza_type_id
 8
           order_details ON order_details.pizza_id = pizzas.pizza_id
 9
       GROUP BY pizza_types.name
10
       ORDER BY revenue DESC
11
 12
       LIMIT 3;
Export: Wrap Cell Content: IA
                       43434.25
 The Thai Chicken Pizza
  The Barbecue Chicken Pizza 42768
  The California Chicken Pizza 41409.5
```

• Calculate the percentage contribution of each pizza type to total revenue --

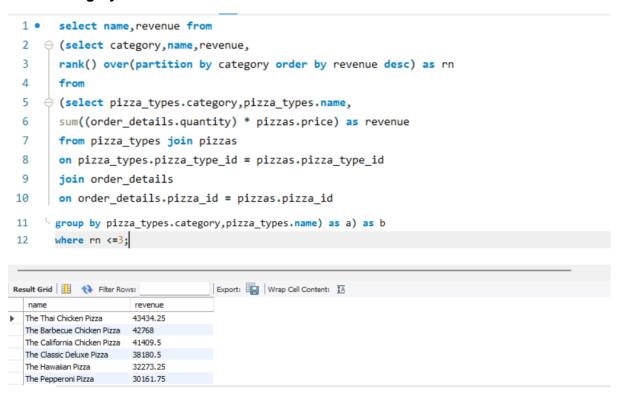
```
SELECT
 1 •
 2
           pizza types.category,
 3
           ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
 4
                          ROUND(SUM(order_details.quantity * pizzas.price),
 5
                                     2) AS total_sales
 6
                       FROM
 7
                           order_details
 8
                          pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,
 9
 10
                   2) A5 revenue
 11
        FROM
 12
           pizza_types
 13
               JOIN
            pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
 14
 15
           order_details ON order_details.pizza_id = pizzas.pizza_id
 16
 17
        GROUP BY pizza_types.category
 18
        ORDER BY revenue DESC;
 19
                                      Export: Wrap Cell Content: IA
category revenue
  Classic
          26.91
  Supreme 25.46
  Chicken 23.96
  Veggie 23.68
```

Analyze the cumulative revenue generated over time –

```
1 •
       select order date,
       sum(revenue)over(order by order_date) as cum_revenue
 2
 3
 4

⊖ (select orders.order_date,
 5
       sum(order_details.quantity * pizzas.price) as revenue
 6
       from order_details join pizzas
       on order_details.pizza_id = pizzas.pizza_id
 7
 8
 9
       on orders.order_id = order_details.order_id
       group by orders.order_date) as sales;
10
Export: Wrap Cell Content: TA
  order_date cum_revenue
 2015-01-01 2713.8500000000004
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
```

 Determine the top 3 most ordered pizza types based on revenue for each pizza category



CONCLUSION

In conclusion, pizza sales continue to thrive due to a combination of factors such as versatility, convenience, and the ability to cater to diverse dietary preferences. The rise of online ordering and delivery services has further boosted sales, making pizza more accessible than ever. Additionally, trends like gourmet toppings and healthier options have helped expand the market. As consumer tastes evolve, the pizza industry remains adaptable, ensuring its popularity for years to come.

THANK YOU