**Restaurant order analysis**

Analyze order data to identify the most and least popular menu items and types of cuisine

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**Project overview**

This data analysis project aims to provide insights into the sales performance of an international Restaurant. By analyzing various aspects of the sales data, we seek to identify trends, make data-driven recommendations, and gain a deeper understanding of the company's performance.

**Data sources**

**Item data**: The primary dataset used for this analysis is the Menu\_item file, containing detailed information about each Menu made by the company.

**Order details data**: The primary dataset used for this analysis is the Order\_details file, containing detailed information about each orders obtained by the company.

**Tools used**

* MySQL - For ETL and EDA.

**Data cleaning / preparation**

In the initial data preparation phase, we performed the following tasks:

1. Data loading and inspection.
2. Handling missing values.
3. Data cleaning and formatting.

**Exploratory Data Analysis**

EDA involved exploring the sales data to answer key questions, such as:

**Objective 1 Exploring the items table**

1. Find the number of items on the menu.
2. What are the least and most expensive item on the menu ?
3. How many italian dishes are on the menu ?
4. What are the least and most expensive italian dishes on the menu ?
5. How many dishes are in each category ?
6. What is the average dish price within each category ?

**Objective 2 Exploring the orders table**

1. What is the date range of the table ?
2. How many orders where made within this date range ?
3. How many items where ordered within this date range ?
4. Which orders had the most number of items ?
5. How many orders had more than 12 items ?

**Objective 3 Analyze the Customer Behaviour**

**Combine the menu\_items table and order\_details table into a single table**

1. What were the least and most ordered items ? What categories where they in ?
2. What were the top 5 orders that spent the most money ?
3. View the details of the highest spent order. What insights can you gather from them ?
4. View the details of top 5 highest spent orders. What insights can you gather from them ?

**Data analysis**

**Objective 1 Exploring the items table**

1. Find the number of items on the menu.

select count(\*) from menu\_items;

1. What are the least and most expensive item on the menu ?

Select \* from menu\_items order by price;

OR

Select \* from menu\_items order by price desc;

OR

Select max(price) as MAX,min(price) AS MIN from menu\_items ;

1. How many italian dishes are on the menu ?

Select count(item\_name) from menu\_items where category = 'Italian';

1. What are the least and most expensive italian dishes on the menu ?

select item\_name,price from menu\_items

where category = 'Italian'

order by price;

select item\_name,price from menu\_items

where category = 'Italian'

order by price DESC;

1. How many dishes are in each category ?

select category,count(item\_name) as no\_of\_items from menu\_items

group by category;

1. What is the average dish price within each category ?

select category,round(avg(price),0) as AvgPrice from menu\_items

group by category

order by AvgPrice desc;

**Objective 2 Exploring the orders table**

1. What is the date range of the table ?

select min(order\_date) as Min\_Date\_range, Max(order\_date) AS Max\_Date\_range

from order\_details;

1. How many orders where made within this date range ?

select count(distinct order\_id) as no\_of\_orders from order\_details;

1. How many items where ordered within this date range ?

select count(order\_details\_id) as no\_of\_orders from order\_details

where order\_date Between '2023-01-01' and '2023-03--31';

1. Which orders had the most number of items ?

select order\_id,count(item\_id) as items from order\_details

group by order\_id;

1. How many orders had more than 12 items ?

select count(\*) from

(select order\_id,count(item\_id) as items from order\_details

group by order\_id

having items > 12

order by items desc)AS Num\_orders;

**Objective 3 Analyze the Customer Behaviour**

Combining the menu\_items and order\_details tables into a single table

SELECT \* from order\_details o INNER JOIN menu\_items m

ON o.item\_id = m.menu\_item\_id;

1. What were the least and most ordered items ? What categories where they in ?

SELECT item\_name, category, COUNT(order\_details\_id) AS num\_purchase

FROM order\_details o inner JOIN menu\_items m

ON o.item\_id = m.menu\_item\_id

GROUP BY item\_name, category

ORDER BY num\_purchase DESC;

1. What were the top 5 orders that spent the most money ?

SELECT order\_id, SUM(price) AS total\_amount

FROM order\_details o inner JOIN menu\_items m

ON o.item\_id = m.menu\_item\_id

GROUP BY order\_id

ORDER BY total\_amount DESC

LIMIT 5 ;

1. View the details of the highest spent order. What insights can you gather from them ?

SELECT \* FROM order\_details o

INNER JOIN menu\_items m

ON o.item\_id = m.menu\_item\_id

WHERE order\_id = 440 ;

1. View the details of top 5 highest spent orders. What insights can you gather from them ?

SELECT order\_id, category, COUNT(item\_id) AS item

FROM order\_details o inner JOIN menu\_items m

ON o.item\_id = m.menu\_item\_id

WHERE order\_id IN (440, 2075, 1957, 330, 2675 )

GROUP BY order\_id, category;

**Results / Findings**

The analysis results are summarized as follows:

1. The most and least expensive item in the Restaurant is Shrim scrampi (Italian) & Edamame (Asian).
2. The most and least ordered items are American Hamburger & Mexican Chicken Tacos.

**References**

Maven Analytics.

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