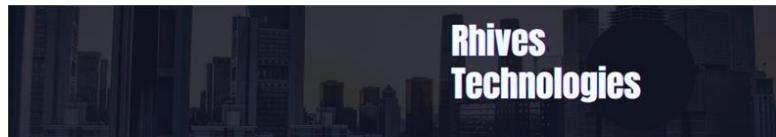# Restaurant Orders Analysis Using SQL

Submitted To: *Rhives Technologies*
Intern: *Yamsani Kalanjan*
Tools Used: SQL (MySQL)
Dataset: Menu Items & Order Details

Rhives Technologies

Content

Project Introduction

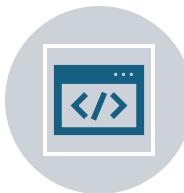This project analyzes restaurant order behaviour using SQL.

The objective is to understand menu pricing, order frequency, customer purchase patterns, and high-value orders.

The analysis is performed using two datasets: *menu_items* and *order_details*.

SQL queries were used for data exploration, filtering, aggregation, and combining tables.

The project focuses on identifying top-selling and least-ordered items to support menu optimization decisions.

Revenue-based analysis was performed to detect high-value orders and understand which items contribute most to total sales.

The study helps reveal customer ordering trends across different categories, enabling better pricing, promotions, and inventory planning.

Dataset Description

➢ **Dataset 1: menu_items**

➢ Contains details of all menu items

➢ Key fields: `menu_item_id`, `item_name`, `category`, `price`

➢ **Dataset 2: order_details**

➢ Contains transactional order information

➢ Key fields: `order_details_id`, `order_id`, `item_id`, `order_date`

➢ **General Notes:**

➢ Relationship: `order_details.item_id` → `menu_items.menu_item_id`

➢ Enables analysis of item prices, categories, and ordering patterns.

menu_item_id	item_name	category	price
101	Hamburger	American	12.95
102	Cheeseburger	American	13.95
103	Hot Dog	American	9.00
104	Veggie Burger	American	10.50
105	Mac & Cheese	American	7.00
106	French Fries	American	7.00
107	Orange Chicken	Asian	16.50
108	Tofu Pad Thai	Asian	14.50
109	Korean Beef Bowl	Asian	17.95
110	Pork Ramen	Asian	17.95

order_details_id	order_id	order_date	order_time	item_id
1	1	2023-01-01	11:38:36	109
2	2	2023-01-01	11:57:40	108
3	2	2023-01-01	11:57:40	124
4	2	2023-01-01	11:57:40	117
5	2	2023-01-01	11:57:40	129
6	2	2023-01-01	11:57:40	106
7	3	2023-01-01	12:12:28	117
8	3	2023-01-01	12:12:28	119
9	4	2023-01-01	12:16:31	117
10	5	2023-01-01	12:21:30	117

SQL Data Analysis

❑ **Tasks Performed:**

❑ Identified total number of menu items

❑ Checked price ranges & category-wise averages

❑ Analyzed order volume and date range

❑ Found items per order

❑ Combined both tables to understand top-selling and least ordered items

❑ Identified highest spend orders

❑ Retrieved details of top 5 orders by revenue

Findings / Insights

- **Menu Items Table :**

- Total menu items identified from the dataset

- Highest and lowest priced items analyzed

- Category-wise price distribution explored

- Defined which category has premium-priced items

- Found availability of items across categories

Findings / Insights


```
-- 2. How many orders were made within this date range? How many items were ordered within this date range?

SELECT COUNT(DISTINCT ORDER_ID) AS NO_OF_ORDERS,COUNT(*) AS NO_OF_ITEMS FROM ORDER_DETAILS;


-- 3. Which orders had the most number of items?

SELECT ORDER_ID,COUNT(*)AS  NO_OF_ITEMS FROM ORDER_DETAILS GROUP BY ORDER_ID ORDER BY NO_OF_ITEMS DESC  LIMIT 1;
```

- **Order Details:**
- Calculated total orders present in the dataset
- Found date range of ordering behaviour
- Identified how many items are ordered per order
- Analyzed distribution of small vs. large orders
- Listed the top 5 highest-order-volume IDs

NO_OF_ORDERS	NO_OF_ITEMS
5370	12234

ORDER_ID	NO_OF_ITEMS
330	14

Findings / Insights

- **Combined Insights:**
- Merged both tables for revenue-based analysis
- Identified top 10 most ordered menu items
- Found least ordered items from the menu
- Determined top 5 highest spend orders
- Retrieved item names, category, quantity, and total value for each
- Highlighted patterns in customer purchasing behaviour

order_id	item_name	category	price
330	Spaghetti & Meatballs	Italian	17.95
330	Korean Beef Bowl	Asian	17.95
330	Chicken Parmesan	Italian	17.95
330	Orange Chicken	Asian	16.50
330	Salmon Roll	Asian	14.95
330	Steak Burrito	Mexican	14.95
330	Tofu Pad Thai	Asian	14.50
330	Tofu Pad Thai	Asian	14.50
330	Spaghetti	Italian	14.50
330	Steak Torta	Mexican	13.95

Conclusion

SQL analysis revealed key insights into menu pricing, category trends, and ordering behaviour.

Combining datasets helped understand top-selling items and revenue-generating orders.

Results can help improve menu strategy, pricing decisions, and customer service.

SQL proved effective for exploring and summarizing real restaurant data.
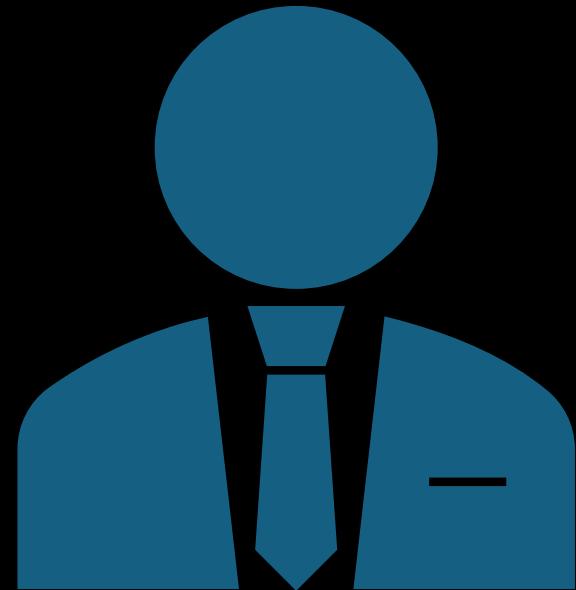
My Profile

Name: Yamsani Kalanjan

Role: Data Analyst Intern — Rhives Technologies

Skills: SQL, Python, Excel, Power BI, Data Cleaning, EDA

Projects: Healthcare EDA, Sales Dashboard, Restaurant SQL Analysis

Goal: Continue improving analytical and visualization skills to contribute to real-world data solutions.