PROJECT REPORT ON SWIGGY DATA ANALYSIS

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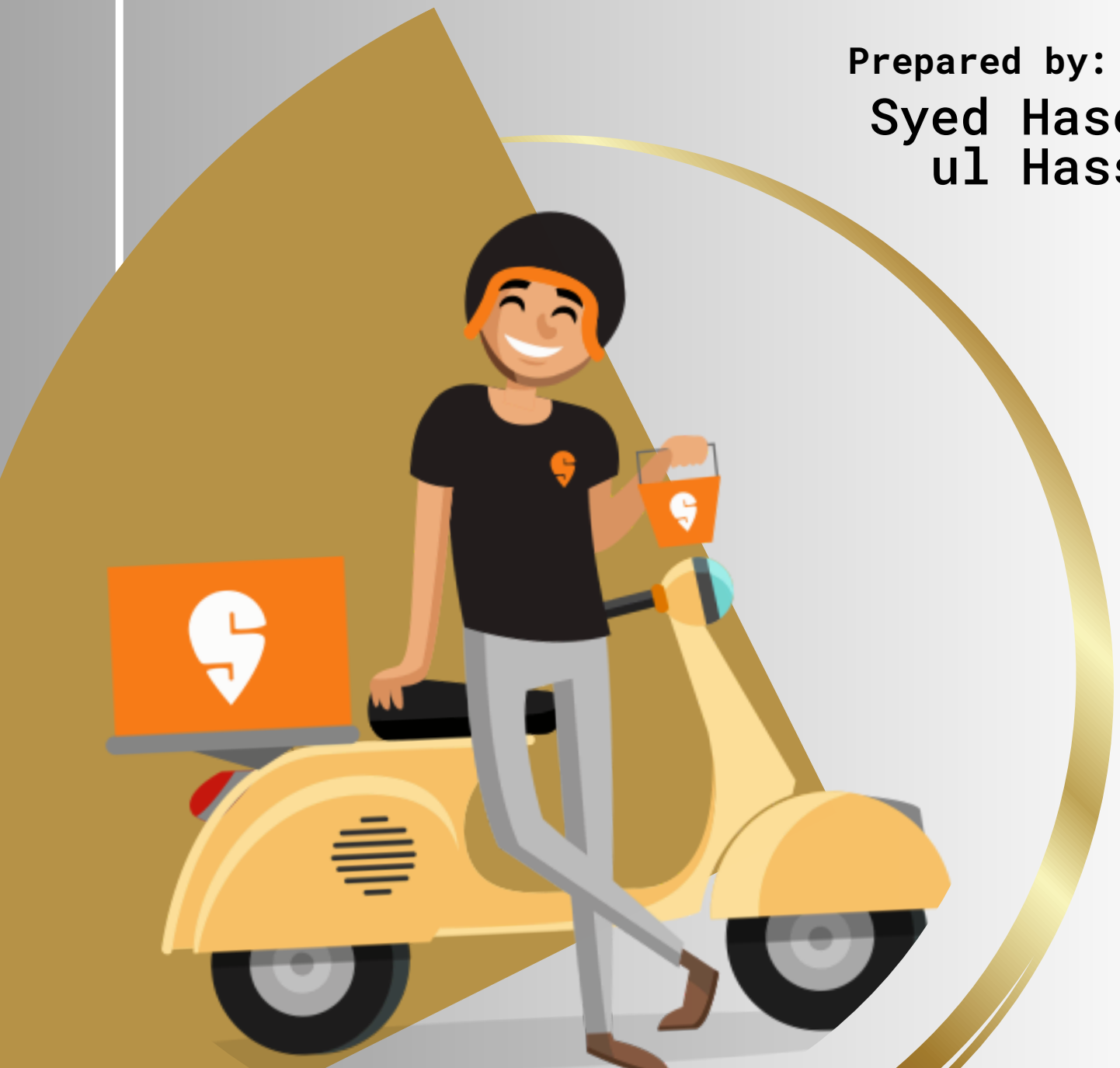

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INTRODUCTION

The objective of this project is to perform a comprehensive analysis of Swiggy's data to derive actionable business insights. Swiggy, a leading food delivery platform, accumulates vast amounts of data regarding users, restaurants, food items, orders, and delivery partners. Analyzing this data helps in understanding customer behavior, restaurant performance, and overall business growth, enabling Swiggy to make data-driven decisions for improving customer satisfaction and operational efficiency.

In today’s competitive market, data-driven decision-making is essential. Analyzing Swiggy’s data will help enhance service offerings, optimize delivery logistics, and tailor marketing strategies. By understanding trends and patterns, Swiggy can identify expansion opportunities, strengthen restaurant partnerships, and boost customer retention. This project aims to provide a foundation for improved operations and sustainable growth in the food delivery industry.

DATA OVERVIEW

The dataset used in this analysis includes the following tables:

1. Users: Contains information about Swiggy's customers.
2. Restaurants: Details about the restaurants listed on Swiggy.
3. Food: Various food items offered by the restaurants.
4. Menu: Pricing details of food items at different restaurants.
5. Orders: Customer orders including amounts, dates, and ratings.
6. Delivery Partners: Information about Swiggy's delivery partners.
7. Order Details: Specific food items included in each order.

BUSINESS QUESTIONS & ANALYSIS

Question:1

Find customers who have never ordered

SQL QUERY

```
SELECT u.user_id, u.name
FROM users u
LEFT JOIN orders o ON u.user_id = o.user_id
WHERE o.order_id IS NULL;
```

OUTPUT

user_id	name
6	Anupama
7	Rishabh

INSIGHTS

This query helps in understanding how many registered users have never used the service to place an order. This can provide insights into customer engagement and help in devising strategies to convert these users into active customers

CONTINUED

Question:2

Average Price/dish

SQL QUERY

```
SELECT f.f_name, AVG(m.price) AS avg_price
FROM menu m
JOIN food f ON m.f_id = f.f_id
GROUP BY f.f_name;
```

OUTPUT

f_name	avg_price
Non-veg Pizza	450.0000
Veg Pizza	400.0000
Choco Lava cake	98.3333
Chicken Wings	230.0000
Chicken Popcorn	300.0000

INSIGHTS

This analysis provides insights into the pricing strategy for different food items across various restaurants. It helps in understanding the price range of popular dishes and can guide pricing decisions.

CONTINUED

Question:3

Find the top restaurant in terms of the number of orders for a given month

SQL QUERY

```
SELECT re.r_name, COUNT(o.order_id) AS "total_orders"
FROM restaurants re
JOIN orders o ON re.r_id = o.r_id
WHERE MONTH(o.date) = 5
GROUP BY re.r_name
ORDER BY total_orders DESC;
```

OUTPUT

r_name	total_orders
Dosa Plaza	3
dominos	2
kfc	2

INSIGHTS

Determining the most popular restaurant based on the number of orders in a specific month helps in recognizing top-performing partners and planning marketing efforts accordingly

CONTINUED

Question:4

Restaurants with monthly sales greater than x for

SQL QUERY

```
SELECT r.r_name, SUM(o.amount) AS total_sales
FROM restaurants r
JOIN orders o ON r.r_id = o.r_id
WHERE MONTH(o.date) = 5
GROUP BY r.r_id, r.r_name
HAVING SUM(o.amount) > 1
ORDER BY total_sales DESC;
```

OUTPUT

r_name	total_sales
dominos	1000
Dosa Plaza	780
kfc	645

INSIGHTS

Identifying restaurants that generate high monthly sales helps in understanding which partners are most successful and might warrant special attention or promotions

CONTINUED

Question:5

Show all orders with order details for a particular customer in a particular date range

SQL QUERY

```
SELECT u.user_id, u.name, o.order_id, fo.f_name, o.date
FROM users u
JOIN orders o ON u.user_id = o.user_id
JOIN order_details od ON o.order_id = od.order_id
JOIN food fo ON od.f_id = fo.f_id
WHERE u.user_id = 3 AND o.date BETWEEN '2022-05-10' AND '2022-06-29';
```

OUTPUT

user_id	name	order_id	f_name	date
3	Vartika	1011	Non-veg Pizza	2022-05-10
3	Vartika	1015	Chicken Wings	2022-06-22
3	Vartika	1014	Chicken Wings	2022-06-11
3	Vartika	1013	Chicken Wings	2022-05-30
3	Vartika	1012	Masala Dosa	2022-05-20

INSIGHTS

This query provides a detailed view of a customer's order history, including order dates and specific food items ordered. It helps in personalizing marketing and improving customer service

CONTINUED

Question:6

Find restaurants with max repeated customers

SQL QUERY

```
WITH CustomerOrders AS (
    SELECT o.r_id, o.user_id, COUNT(*) AS order_count
    FROM orders o
    GROUP BY o.r_id, o.user_id),
RepeatedCustomers AS (
    SELECT r_id, user_id
    FROM CustomerOrders
    WHERE order_count > 1),
RepeatedCustomerCount AS (
    SELECT r_id, COUNT(*) AS repeated_customer_count
    FROM RepeatedCustomers
    GROUP BY r_id),
MaxRepeatedCustomers AS (
    SELECT MAX(repeated_customer_count) AS max_repeated_customer_count
    FROM RepeatedCustomerCount)
SELECT r.r_name, r.cuisine, rc.repeated_customer_count
FROM RepeatedCustomerCount rc
JOIN MaxRepeatedCustomers mrc ON rc.repeated_customer_count = mrc.max_repeated_customer_count
JOIN restaurants r ON rc.r_id = r.r_id;
```

OUTPUT

r_name	cuisine	repeated_customer_count
kfc	American	2

INSIGHTS

This analysis reveals which restaurant has the most loyal customer base, indicating strong customer satisfaction and potential for stable revenue

CONTINUED

Question:7

Month over month revenue growth of Swiggy

SQL QUERY

```
with Month_Revenue as (
select Month(date) as Month_No, sum(amount) as Revenue
from orders group by Month_No
),
Growth as (
select Month_No, Revenue, lag(Revenue) over (order by Month_No) as
P_Month_Revenue from Month_Revenue
)
select Month_No, Revenue, P_Month_Revenue, (Revenue-P_Month_Revenue)/P_Month_Revenue*100
as GROWTH_BY_MONTH
from Growth Where P_Month_Revenue is not Null;
```

OUTPUT

Month_No	Revenue	P_Month_Revenue	GROWTH_BY_MONTH
6	3220	2425	32.7835
7	4845	3220	50.4658

INSIGHTS

Tracking monthly revenue growth helps in understanding overall business performance and identifying trends over time. This information is crucial for strategic planning and forecasting

CONTINUED

Question:8

Customer — favourite food

SQL QUERY

```
WITH FoodCount AS (
    SELECT o.user_id, u.name, od.f_id, f.f_name, COUNT(*) AS order_count
    FROM orders o
    JOIN order_details od ON o.order_id = od.order_id
    JOIN food f ON od.f_id = f.f_id
    JOIN users u ON o.user_id = u.user_id
    GROUP BY o.user_id, u.name, od.f_id, f.f_name
),
RankedFood AS (
    SELECT user_id, name, f_id, f_name, order_count,
    RANK() OVER (PARTITION BY user_id ORDER BY order_count DESC) AS ranks
    FROM FoodCount
)
SELECT user_id, name, f_id, f_name AS favorite_food, order_count
FROM RankedFood
WHERE ranks = 1
ORDER BY order_count DESC LIMIT 1;
```

OUTPUT

user_id	name	f_id	favorite_food	order_count
1	Nitish	3	Choco Lava cake	5

INSIGHTS

Understanding individual customer preferences allows for personalized marketing and recommendations, enhancing customer satisfaction and retention

CONTINUED

Question:9

Find the most loyal customers for all restaurant

SQL QUERY

```
WITH CustomerOrderCount AS (
    SELECT o.r_id, o.user_id, u.name AS customer_name, COUNT(*) AS order_count
    FROM orders o
    JOIN users u ON o.user_id = u.user_id
    GROUP BY o.r_id, o.user_id, u.name),
RankedCustomers AS (
    SELECT r_id, user_id, customer_name, order_count,
    RANK() OVER (PARTITION BY r_id ORDER BY order_count DESC) AS ranks
    FROM CustomerOrderCount)
SELECT r_id, customer_name, order_count
FROM RankedCustomers
WHERE ranks = 1
ORDER BY order_count DESC;
```

OUTPUT

r_id	customer_name	order_count
2	Vartika	3
2	Neha	3
3	Nitish	3
4	Ankit	3
1	Neha	2

INSIGHTS

Finding the most loyal customers for each restaurant helps in recognizing and rewarding these customers, fostering loyalty and repeat business

CONTINUED

Question:10

Month-over-month revenue growth of a restaurant

SQL QUERY

```
with Month_Revenue_Restaurant  as (
select r_id, Month(date) as Month_No, sum(amount) as Revenue
from orders group by r_id, Month_No
),
Restaurant_Growth as (
select r_id, Month_No, Revenue, lag(Revenue) over (PARTITION BY r_id order by Month_No) as
P_Month_Revenue from Month_Revenue_Restaurant
)
select r_id, Month_No, Revenue, P_Month_Revenue, (Revenue-P_Month_Revenue)/P_Month_Revenue*100
 as GROWTH_BY_MONTH
from Restaurant_Growth Where P_Month_Revenue is not Null order by r_id, Month_No;
```

OUTPUT

r_id	Month_No	Revenue	P_Month_Revenue	GROWTH_BY_MONTH
1	6	950	1000	-5.0000
1	7	1100	950	15.7895
2	6	990	645	53.4884
2	7	1935	990	95.4545
3	7	460	480	-4.1667

INSIGHTS

Analyzing the revenue growth of a specific restaurant over time helps in understanding its performance and identifying any trends or seasonal patterns

CONCLUSION

The SQL queries provided key insights into:

- Customer behavior and engagement.
- Restaurant performance and sales.
- Order patterns and preferences.
- Revenue growth and business trends.

These analyses enable Swiggy to make data-driven decisions to:

- Improve customer satisfaction and retention.
- Optimize restaurant partnerships and promotions.
- Enhance operational efficiency and revenue growth.

By leveraging the insights derived from the SQL queries, Swiggy can enhance its strategic planning, optimize operations, and drive growth in the competitive food delivery market.

RECOMMENDATIONS

- **Customer Engagement:** Develop targeted marketing campaigns to convert inactive users into active customers.
- **Pricing Strategy:** Use average price insights to adjust pricing strategies for different food items.
- **Restaurant Partnerships:** Focus on promoting top-performing restaurants and those with high monthly sales.
- **Personalized Marketing:** Use detailed order histories and favorite food insights to tailor marketing efforts to individual customers.
- **Loyalty Programs:** Implement loyalty programs to reward repeat customers and foster long-term relationships.