## [Q1] What is the distribution of customers across states?

**OBSERVATION** - By Executing the above query we get California & Texas has highest number of customers. That is 97. And, Maine, Wyoming, & Vermont have least customer count that is 1.

```
1. SELECT state, COUNT(customer_id) FROM customer_t
2. GROUP BY state;
```

## [Q2] What is the average rating in each quarter?

**OBSERVATION** - By Executing the above query we get Quarter 1 - 3.5548, Quarter 2 - 3.3550, Quarter 3 - 2.9563, Quarter 4 - 2.3970.

```
1. SELECT Quarter_number, AVG(IF(customer_feedback = "Very Bad", 1,
2. IF(customer_feedback = "Bad", 2,
3. IF(customer_feedback = "Okay", 3,
4. IF(customer_feedback = "Good", 4, 5)))))
5. AS `Average Rating`
6. FROM order_t
7. GROUP BY Quarter_number
8. ORDER BY quarter_number;
```

## [Q3] Are customers getting more dissatisfied over time?

**OBSERVATION** - By Executing the above query we can highlight that in Quarter 1, 2, & 3 most of the people gave very good feedback. But suddenly is Quarter 4, around 60% of people gave bad feedback. May be this is because of the transport medium. Most of the Air shipping products got bad feedback.

```
1. SELECT quarter_number,
2. CONCAT(ROUND(SUM(IF(customer_feedback = "Very Bad", 1, 0))/COUNT(customer_feedback) * 100,
2), "%") AS `Very Bad`,
3. CONCAT(ROUND(SUM(IF(customer_feedback = "Bad", 1, 0))/COUNT(customer_feedback) * 100, 2),
"%") AS Bad,
4. CONCAT(ROUND(SUM(IF(customer_feedback = "Okay", 1, 0))/COUNT(customer_feedback) * 100, 2),
"%") AS `Okay`,
5. CONCAT(ROUND(SUM(IF(customer_feedback = "Good", 1, 0))/COUNT(customer_feedback) * 100, 2),
"%") AS Good,
6. CONCAT(ROUND(SUM(IF(customer_feedback = "Very Good", 1, 0))/COUNT(customer_feedback) * 100,
2), "%") AS `Very Good` FROM order_t
7. GROUP BY quarter_number
8. ORDER BY quarter_number;
```

## [Q4] Which are the top 5 vehicle makers preferred by the customer.

**OBSERVATION** - By Executing the above query we can showcase that Chevrolet with order count 83, Ford with 63, Toyota with 52, Pontiac with 50, Dodge with 50 count got ordered most times.

```
1. SELECT vehicle_maker, COUNT(order_id) AS order_count FROM product_t
2. JOIN order_t
3. ON product_t.product_id = order_t.product_id
4. GROUP BY vehicle_maker
5. ORDER BY order_count DESC
6. LIMIT 5;
```

## [Q5] What is the most preferred vehicle make in each state? #doubt

**OBSERVATION** - By Executing the above query we can tell that In Texas Chevrolet is preferred most. Remaining data can be seen in the output table.

```
1. SELECT State, vehicle_maker, COUNT(order_t.order_id) AS count FROM customer_t
2. JOIN order_t
3. ON customer_t.customer_id = order_t.customer_id
4. JOIN product_t
5. ON product_t.product_id = order_t.product_id
6. GROUP BY state, vehicle_maker
7. ORDER BY state, count DESC;
```

## [Q6] What is the trend of number of orders by quarters?

**OBSERVATION** - By Executing the above query we get Quarter 1 - 310 orders, Quarter 2 - 262, Quarter 3 - 229, Quarter 4 - 199.

```
1. SELECT quarter_number, COUNT(order_id) FROM order_t
2. GROUP BY quarter_number
3. ORDER BY quarter_number;
```

## [Q7] What is the quarter over quarter % change in revenue? #doubt

**OBSERVATION** - By Executing the above query we get Quarter 1 - 26,519,199.19, Quarter 2 - 21,595,874.35, Quarter 3 - 19,719,917.59, Quarter 4 - 15,280,009.98.

```
1. SELECT quarter_number, SUM(Vehicle_price) AS Price FROM order_t
2. GROUP BY quarter_number
3. ORDER BY quarter_number;
```

## [Q8] What is the trend of revenue and orders by quarters?

**OBSERVATION** - By Executing the above query we get the result. The is answer is none another but the joining of the above two queries.

```
1. SELECT quarter_number, SUM(Vehicle_price) AS Price, COUNT(order_id) AS Count FROM order_t
2. GROUP BY quarter_number
3. ORDER BY quarter_number;
```

## [Q9] What is the average discount offered for different types of credit cards?

**OBSERVATION** - By Executing the above query we get that most discount is given on laser Credit Card and least is Diners Club International

```
1. SELECT credit_card_type, AVG(discount) FROM order_t
2. RIGHT JOIN customer_t
3. ON order_t.customer_id = customer_t.customer_id
4. GROUP BY credit_card_type;
```

## [Q10] What is the average time taken to ship the placed orders for each quarter?

**OBSERVATION** - By Executing the above query we get Quarter 1 - 57 Days, Quarter 2 - 71 Days, Quarter 3 - 117 Days, Quarter 4 - 174 Days.

```
1. SELECT quarter_number, AVG(DATEDIFF(ship_date, order_date)) AS Average_delay FROM order_t
2. GROUP BY quarter_number
3. ORDER BY quarter_number;
```

# Final Verdict

The reason for the bad feedback, least orders and bad rating in Quarter 4 is because of the delay in delivery. It took on an average 174 days to get an order. This triggered the customer and made their experience bad.

Thanks & Regards