SQL and Databases:

Project Report

Business Overview

Total Revenue	Total Orders	Total Customers	Avg Rating
124 M	**1512**	**1000**	**3.13**

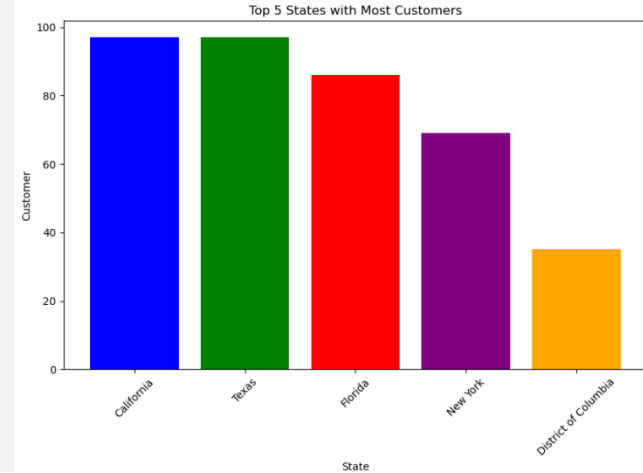| Last Qtr revenue	Last Qtr Orders	Avg Days to Ship	% Good Feedback
23.3 M	**306**	**97.96**	**44.1%**

Customer Metrics

Distribution of Customers across States

- Top 5 states which have the most customers are shown in the graph.

- The graph shows the state along x axis where as customers along y axis


Top 5 States with Most Customers

Observations / Findings

- From the above graph we can observe that the top 5 states which have the maximum customers are California, Texas, Florida, New York, District of Columbia.
- The state which have the maximum customers is California

Average Customer Ratings by Quarter

- Average customers rating in various quarters are shown in the graph.
- The graph shows the Quarters along x axis where as average customers rating along y axis


Average Customer Rating by Quarter
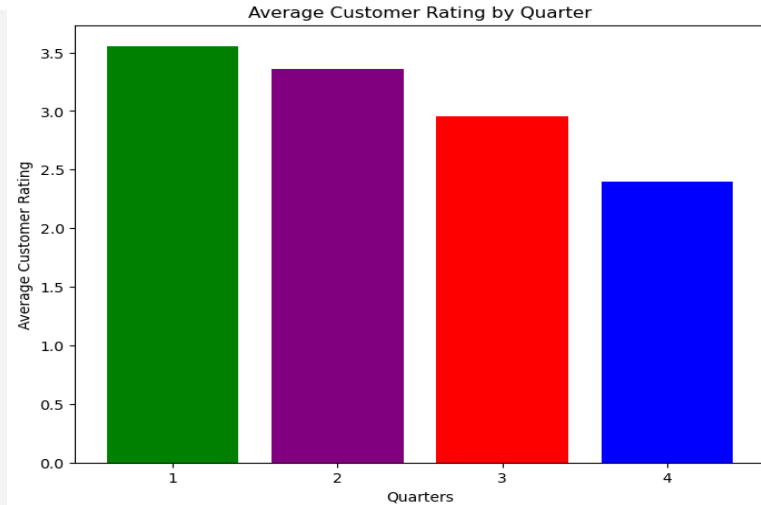
Observations / Findings

- The graph shows that there is decline in the customers ratings as the quarters increases which may be due to dissatisfaction of the customers in the vehicles.

Trend of Customer Satisfaction

- Customers feedback along various quarters is shown in the graph.
- We can observe that in the first quarter 77% of the customers feedback is positive whereas for the fourth quarters it decreases to 40%
- The negative feedback for first quarter is 21% which increases to 59% in the forth quarter.

Percentage Split of Customer Feedback by Quarter
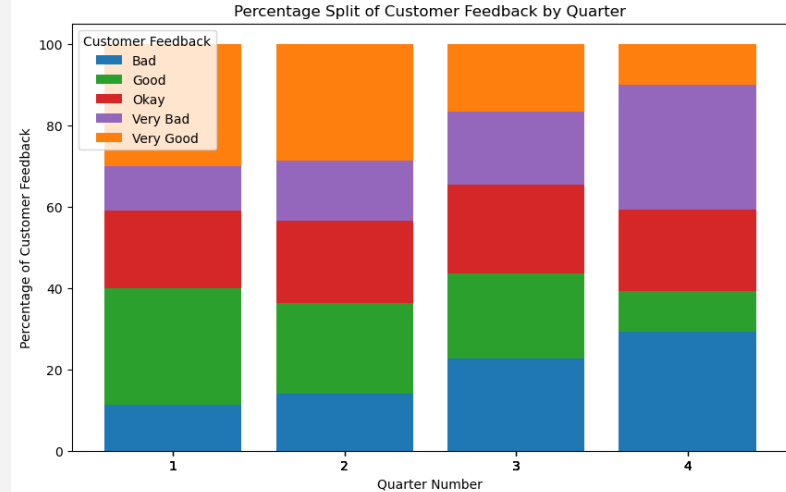
Observations / Findings

As the positive feedback is decreasing and the negative feedbacks of the customers are increasing which shows that the customers are not satisfied with the product as the time increases.

Top Vehicle makers preferred by customers

- Vehicle makers preferred by the customers is shown the the graph.
- The vehicle makers is shown the x axis where as no of the customers are shown in the y axis

vehicle_maker	Total_customers
Chevrolet	83
Ford	63
Toyota	52
Dodge	50
Pontiac	50

Top 5 Vehicle makers preferred by customers
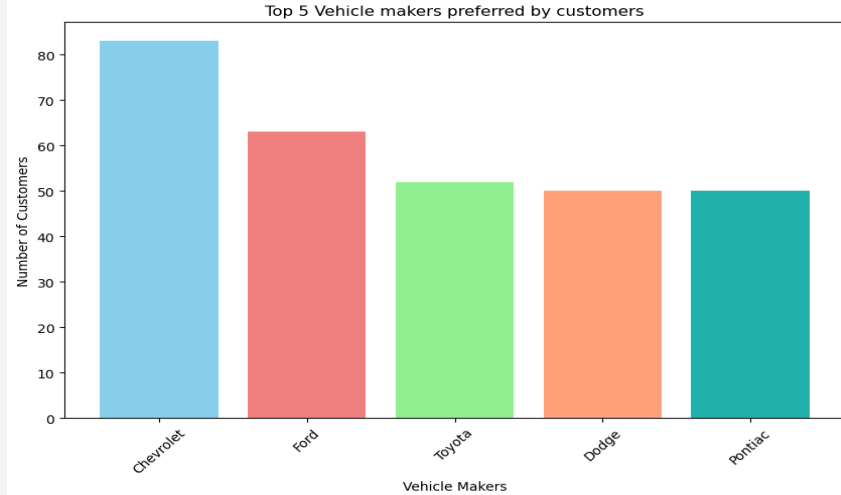
Observations / Findings

We can observe from the above graph that Chevrolet vehicle maker is preferred by maximum customers followed by Ford, Toyota, Dodge and Pontiac

Most preferred vehicle make in each state

- The most preferred vehicle makers in each state is shown in the graph.
- From the graph it is clear that maximum states preferred Chevrolet vehicle maker where Oldsmobile vehicle maker is preferred by very less states



Preferred Vehicle Make by State
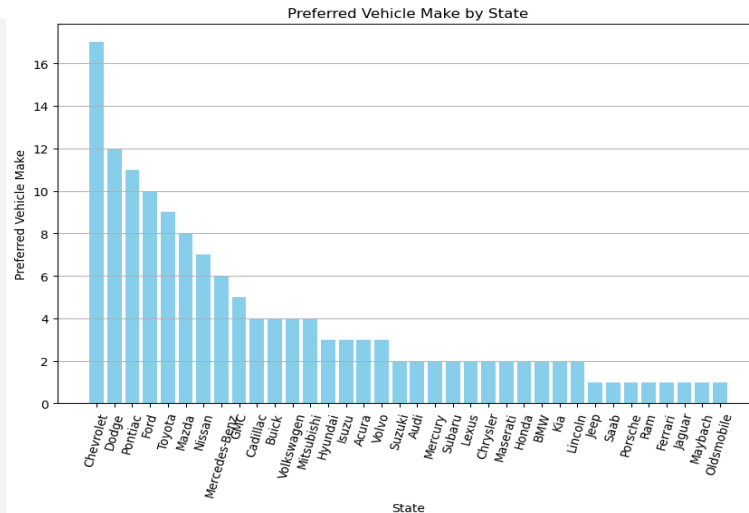
Observations / Findings

From the graph it is clear that the demand of Chevrolet vehicle makers is comparatively high as it preferred by maximum states whereas Oldsmobile, Maybach etc. demand is comparatively low

Revenue Metrics

Trend of purchases by Quarter

- The graph shows the number of orders per quarter.
- Quarter no is shown on x -axis where as no of orders are shown on y - axis

| quarter_number	number_of_orders_per_quater
1	464
2	400
3	342
4	306

Quarterly Order Count
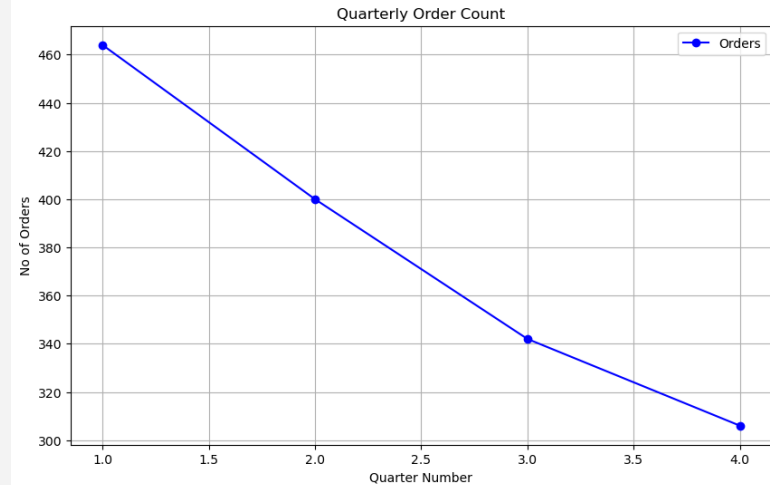
Observations / Findings

From the above graph and table we can observe that the count of orders are decreasing as the quarter no increases as we can see that the no of orders in the first quarter is 310 which decreases to 199 in 4rth quarters thus there is approximately 60% decrease in the no of orders.

Quarter on Quarter % change in Revenue

- The graph shows the quarter by quarter percentage change is revenue .
- The quarter no is shown on the x-axis where as revenue is shown on the y axis.
- The graph shows the significantly drop in revenue as the quarter no increases.
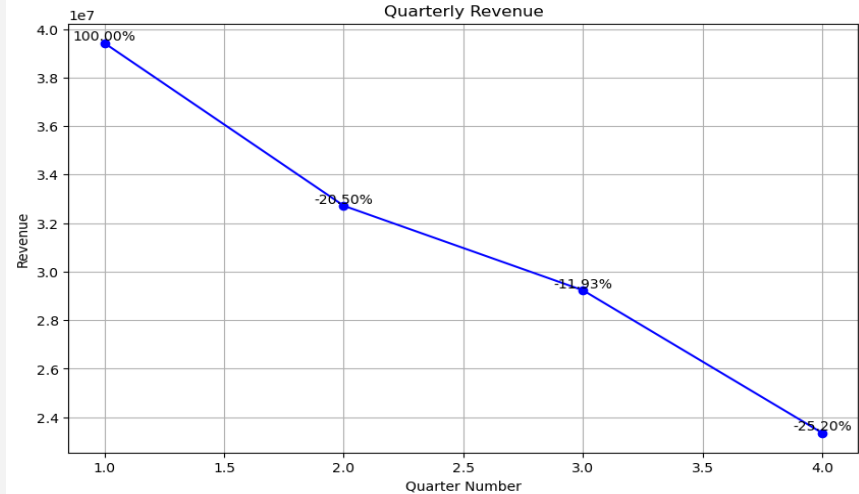
Observations / Findings

From the graph it is observed that there is a 20% decrease in the revenue from first quarter to second quarter and 25% decrease in the revenue from the third quarter to fourth quarter which is quite high. Thus , it is a subject of concern why revenue decreases so drastically.

Trend of Revenue and Orders by Quarter

- The graph shows the quarterly revenue and orders.
- The quarter numbers are shown along x axis where as revenue and orders are shown along y axis.
- The blue line represent the revenue where as red line represent orders.
- It is observed from the graph that both revenue and orders line shows downward which indicates fall in the revenue as well as orders as quarter no increases.


Quarterly Revenue and Orders
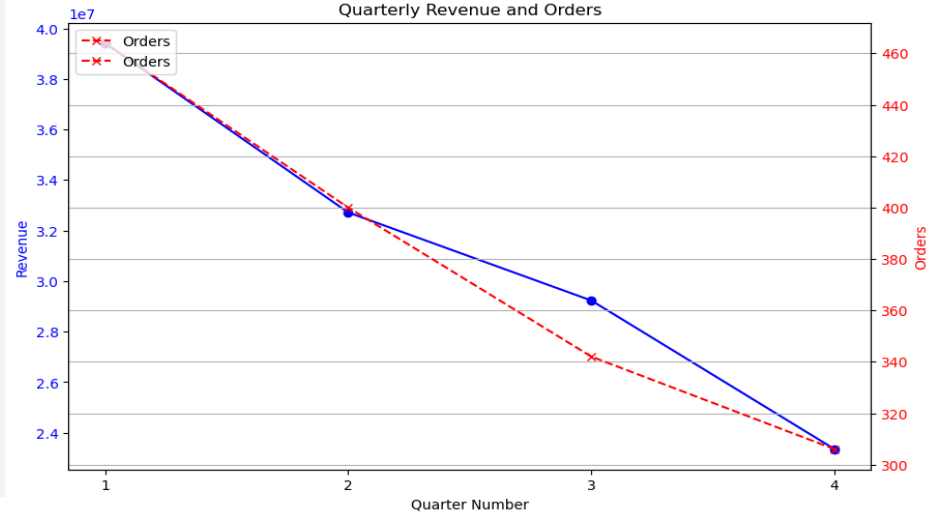
Observations / Findings

From the above graph it is clear that both revenue and orders are decreasing as the quarter number increases which is a serious concern.

Shipping Metrics

Average discount offered by Credit Card type

- The graph shows the average discount offered by various credit card
- The card types are shown along x-axis where as the average discount are shown along y –axis.
- It is observed that maximum average discount is offered by laser credit card which is 64% and the least discount is offered by dinners-club-international which is approx. 59%


Average Discount by Card Type
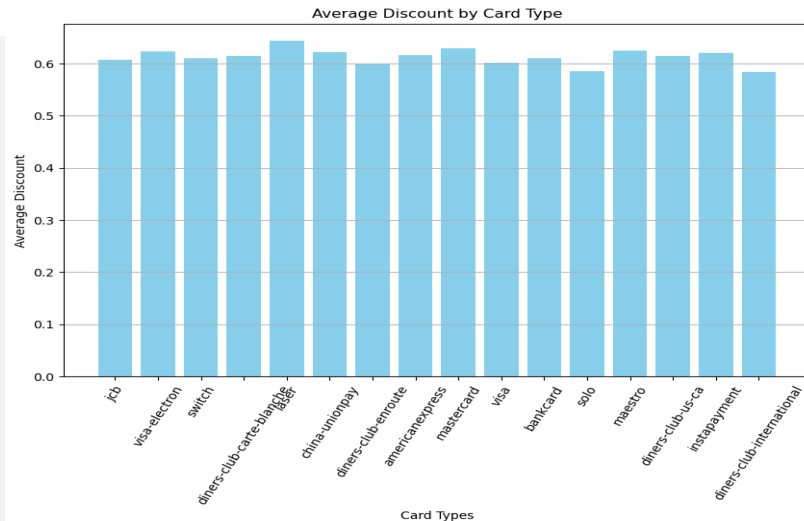
Observations / Findings

- From the graph we can observe that almost all the credit card offers more than 50% discount.
- The highest discount is offered by laser credit card which is approx. 64%

Time taken to ship orders by Quarter

- The graph shows the average time to ship in each quarter.
- In this graph the quarter number is shown along x axis whereas the average time to ship is shown along y –axis.
- It is observed from the graph that shipping time increases as the quarter number increases.

Average Time to Ship by Quarter

x-axis: Quarter Number; y-axis: Average Time to Ship (days)
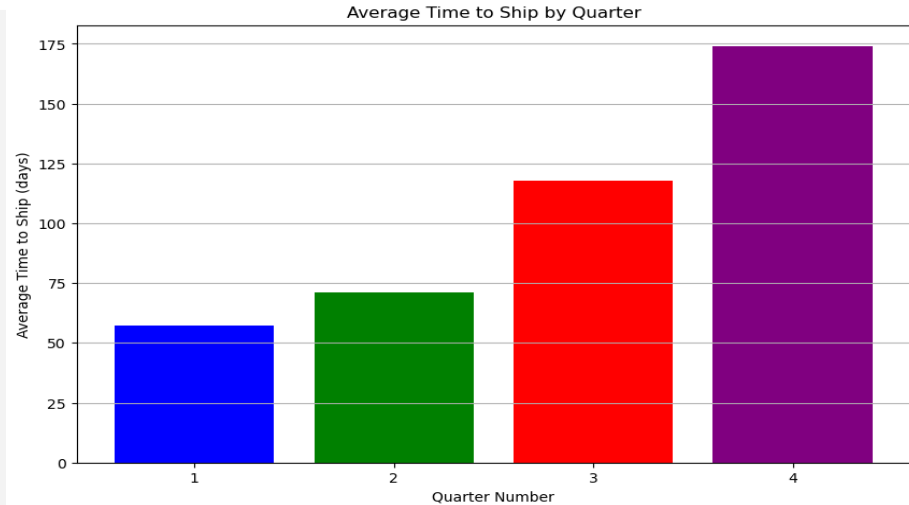
Observations / Findings

From the graph it is observed that shipping time increases as the quarter no increases i.e. in the first quarter the shipping time was 57 days which increases to 174 days in the fourth quarter . Thus it may be the reason for order decreases.

Insights and Recommendations

The main reason for revenue decreases are :-
❑ Shipping time has increased thus more time is required for deliveries.
❑ Orders have decreased from the first quarter to the fourth quarter
❑ Customers negative feedbacks are increasing.

The recommendations are as following –
❑ Shipping time should be decreased to give the deliveries on time.
❑ Also identify why the customers are not satisfied and giving negative feedback. Look for reasons, if any, other than increased shipping time.