



SQL and Databases:

Project Report

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Business Overview

Total Revenue

76,871,803

Total Orders

1000

Total Customers

485 Distinct Customers

Avg Rating

3 (okay)

Last Qtr Revenue

14,922,858

Last Qtr Orders

199

Avg Days to Ship

105 days

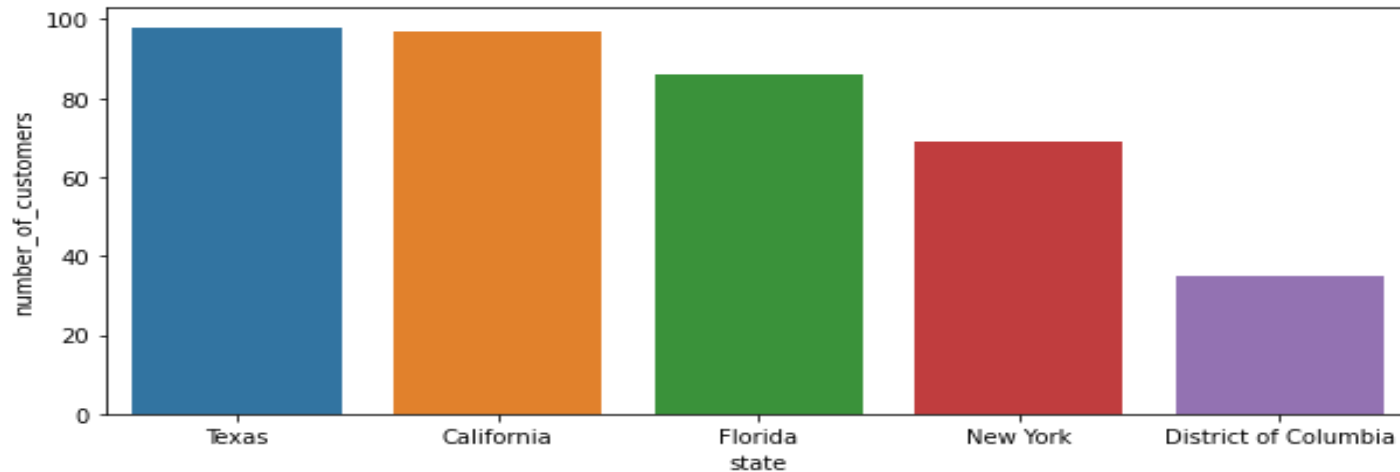
% Good Feedback

20.5%

Customer Metrics

Distribution of Customers across States

Hint: You can use a bar chart to show the top 5 states with most customers. State in the x-axis and Customer Count as the y-axis

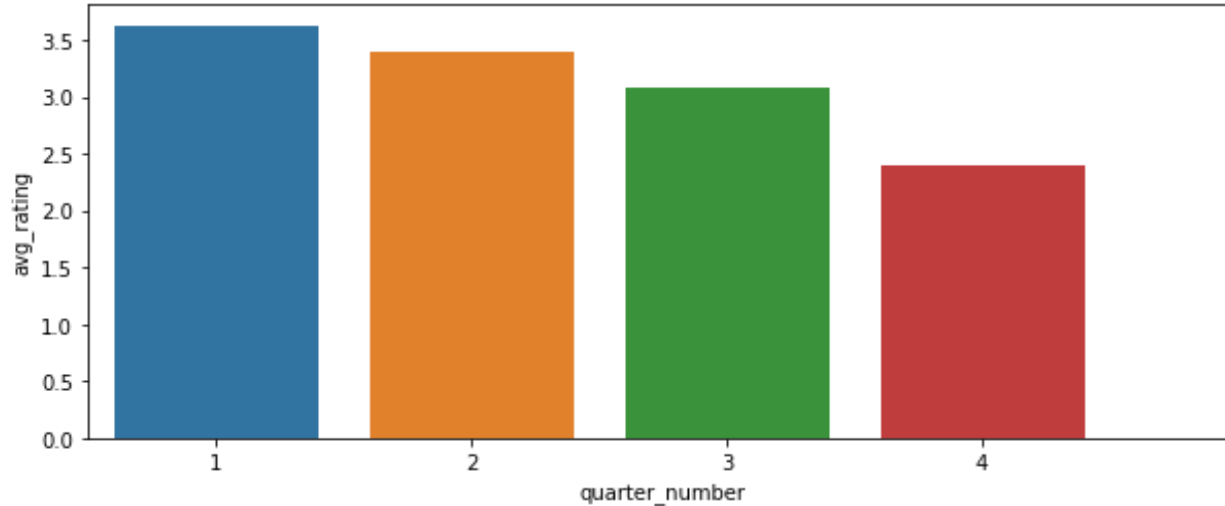


Observations / Findings

- The highest number of customers is from Texas followed by California, Florida,, new York, and then District of Columbia
- Texas and California are very close with a difference of 2-5 customers and leading with a margin of about 15 customers as compared to Florida.
- District of Columbia is the least among the first five and far away in margin from the rest of the top states.

Average Customer Ratings by Quarter

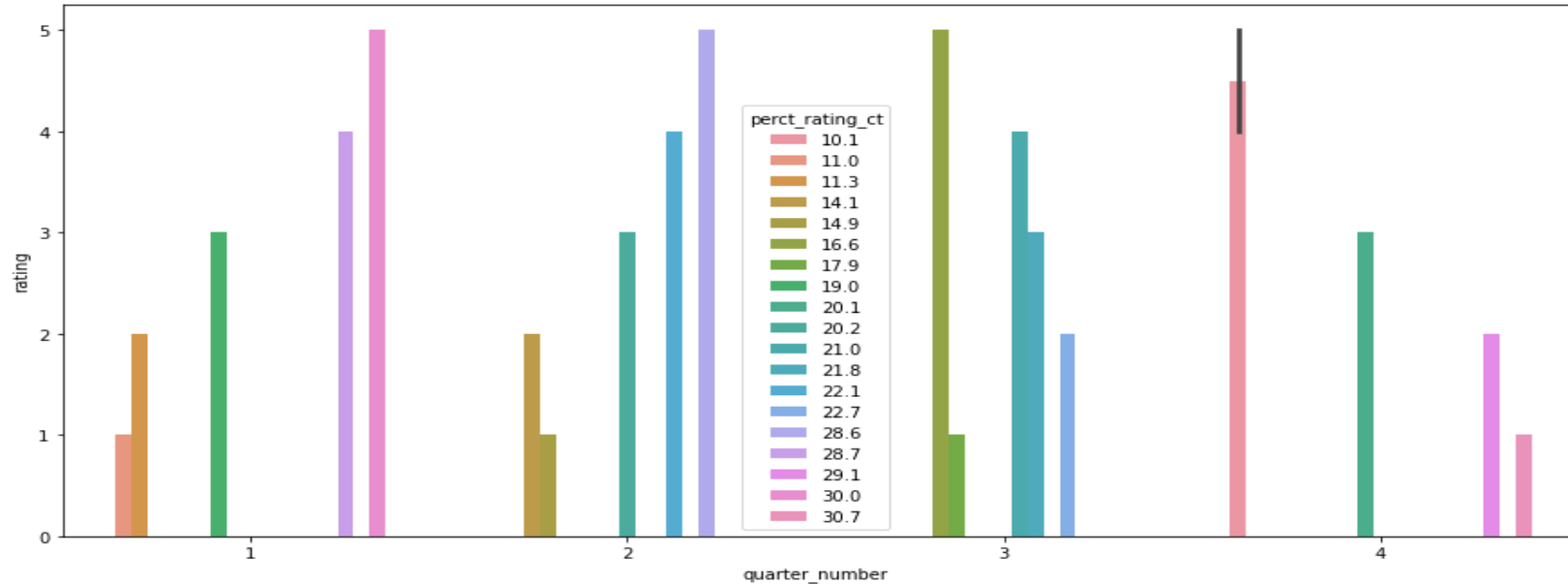
Hint: You can make a bar chart with Quarter Number on the x-axis and the average customer rating in the y-axis



Observations / Findings

- Rating drops at a steady and fairly consistent rate as one moves from the first quarter to the fourth
- Overall average rating is 3 ('okay') with the highest average rating given from the 1st quarter

Trend of Customer Satisfaction

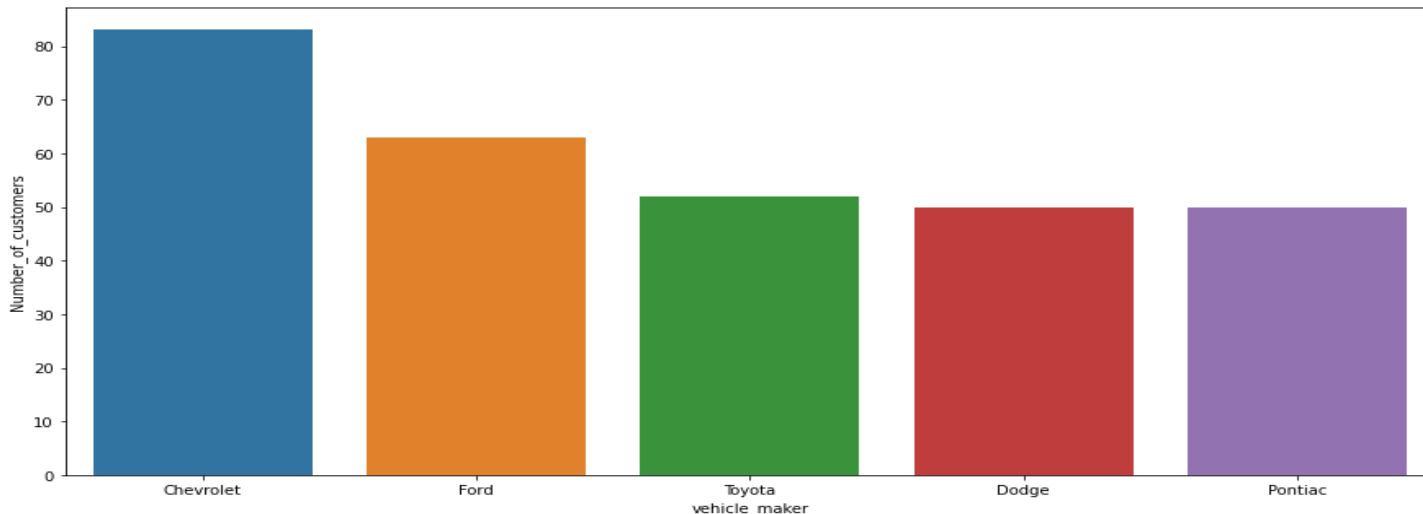


Observations / Findings

- As seen from the chart, 'very good' value 5 and 'good' value 4 has higher percentage in the first quarter but declined heavily towards the 2nd, 3rd and 4th quarter with higher percentages of low rating in the 4th quarter
- This indicates a declined in customers satisfaction over the quarters.
- The second and third quarters experience an approximate average satisfaction percentage which is 'okay' value 3

Top Vehicle makers preferred by customers

Hint: You can make a bar chart with top N vehicle makers on the x-axis and the number of customers in the y-axis



Observations / Findings

- Top 5 vehicles in descending order are Chevrolet, ford, Toyota, Dodge and Pontiac
- Chevrolet is leading with an approximate margin of 15 customers to the closest contemporary which is ford, while Toyota, Dodge and Pontiac have a close values in patronage.

Most preferred vehicle make in each state

Hint: You can provide a list of states and the with the vehicle make most preferred there in the form of text or a neatly formatted table

Observations / Findings

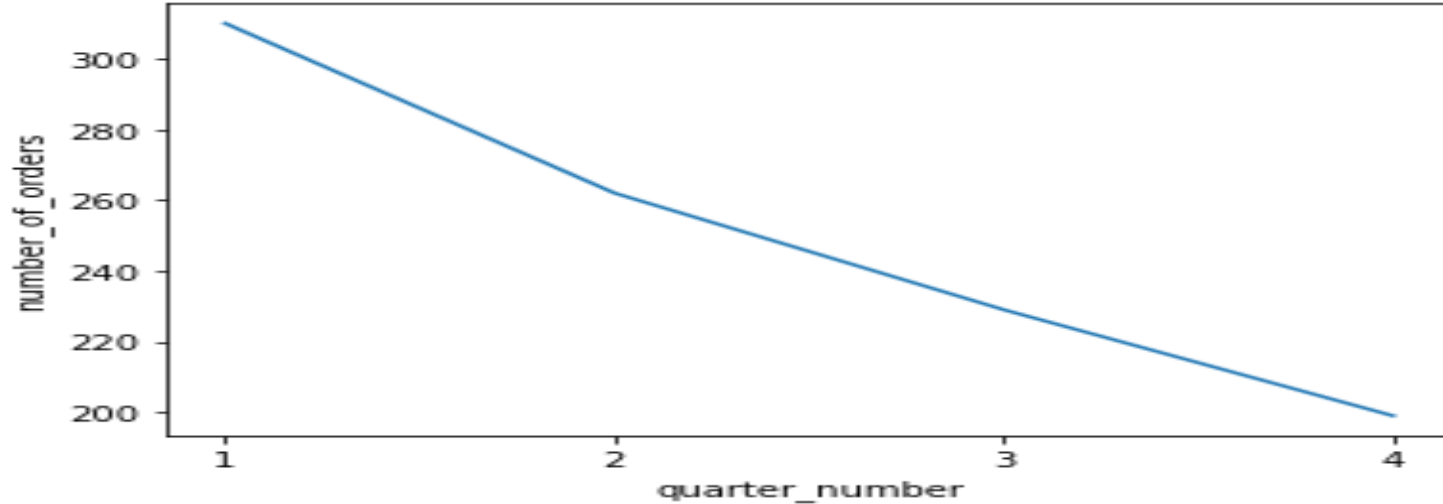
- The vehicle maker with the highest rank is Audi and is most preferred in the state of Florida

state	vehicle_maker	rank_no
Florida	Audi	1
New York	Bentley	2
Wyoming	Buick	3
Pennsylvania	Cadillac	4
Idaho	Chevrolet	5
Alaska	Chevrolet	5
Delaware	Chevrolet	5
Connecticut	Citroen	8
South Carolina	Dodge	9
Mississippi	Dodge	9
New Mexico	Dodge	9
Minnesota	Dodge	9
Iowa	Dodge	9
West Virginia	Eagle	14
North Dakota	Ford	15
Michigan	Ford	15
Colorado	Isuzu	17
California	Jaguar	18
Ohio	Kia	19

Revenue Metrics

Trend of purchases by Quarter

Hint: You can use a line chart with Quarter Number in the x-axis and No of Orders in the y-axis



Observations / Findings

- There is a downslide trend in orders placed over the quarters moving from 1st to 4th quarter.
- The margin difference from 1st to 2nd quarter is the largest with 40% decline in orders received by the company.

Quarter on Quarter % change in Revenue

Hint: You can use a line chart with Quarter Number in the x-axis and revenue in the y-axis, and give the % change as text at each point, OR you can just have a neatly formatted table with the % changes, if that would look cleaner

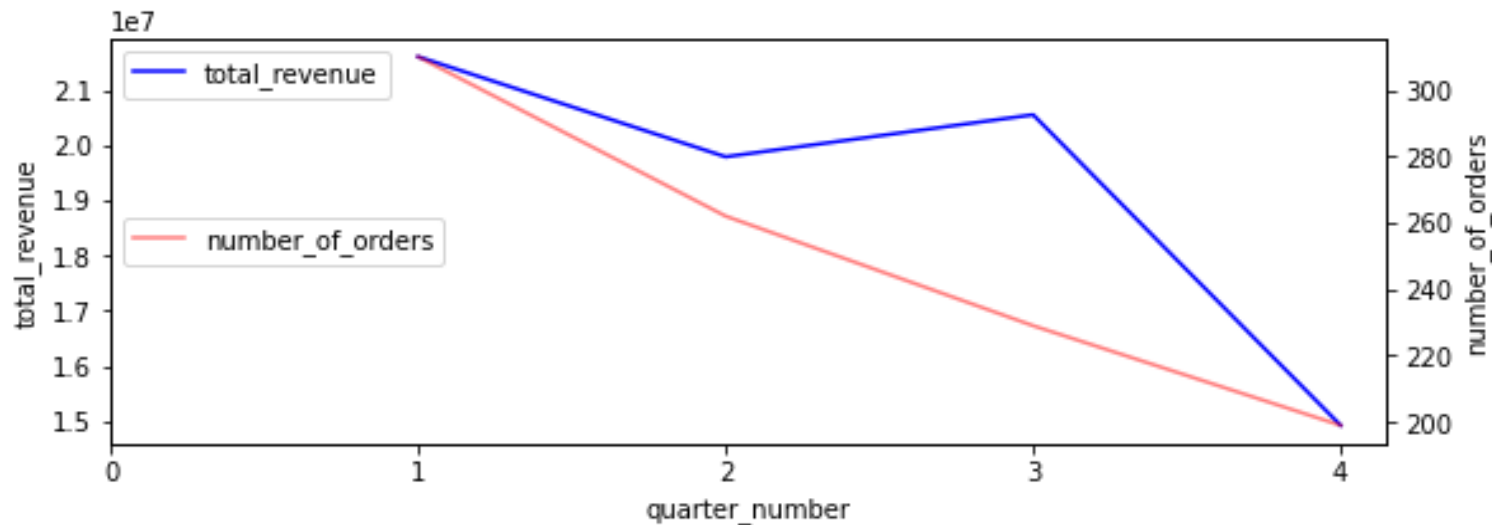
quarter_number	revenue	previous_quarter_revenue	QoQ_revenue(%)
1	21605075	NaN	NaN
2	19790741	21605075.0	-8.4
3	20553129	19790741.0	3.9
4	14922858	20553129.0	-27.4

Observations / Findings

- From the table, percentage change in revenue is considerably low over the quarters with a minimal decline-difference of about 8% from 1st to 2nd . However there was 5% recovery increase from 2nd to 3rd quarter but was followed with a huge decrease of about 28% in the last quarter.
- Although the 1st quarter had the highest total revenue, overall change in revenue is almost negligible until that of the last quarter.

Trend of Revenue and Orders by Quarter

Hint: You can create a dual axis line chart with Quarter Number in the x-axis, and Revenue as the 1st y-axis and Orders as the 2nd y-axis in the same chart.

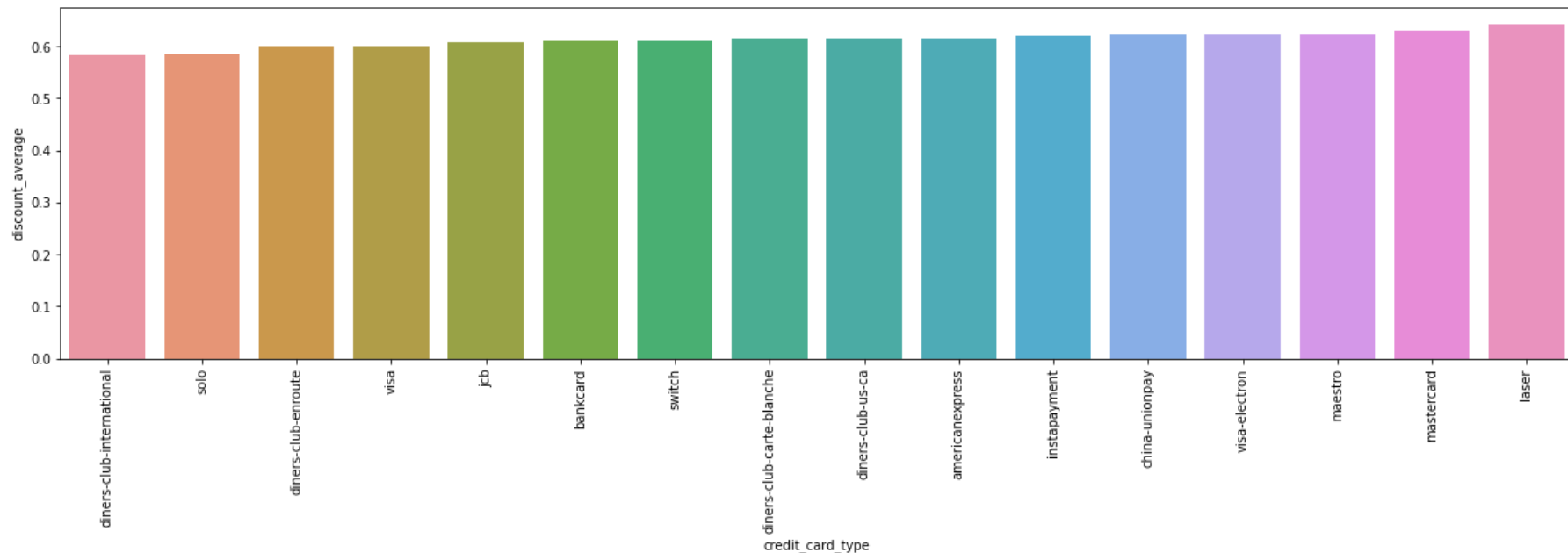


Observations / Findings

- Both revenue and orders followed a closely related path in decline from first to second quarter. Although there is an increase in revenue towards the third quarter and later declined in the fourth quarter, the orders, however, keep declining till the end of the quarters.
- Findings show that the change in orders from second to 4th quarter has no correlation with the change in revenue generated. Other variables need to be assessed to check the cause of instability in revenues and also decline in orders over the quarters.

Shipping Metrics

Average discount offered by Credit Card type

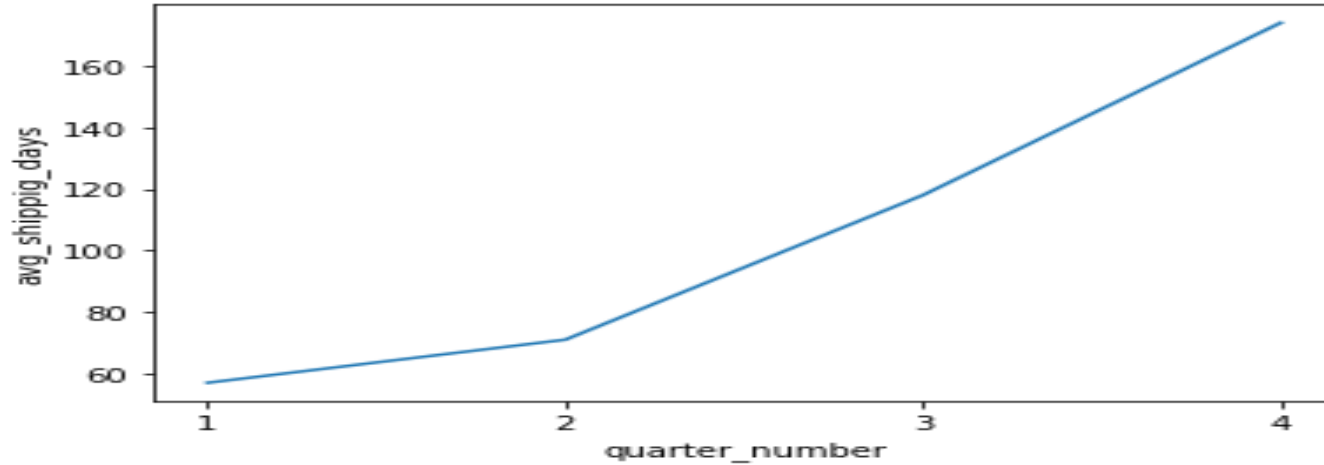


Observations / Findings

- The variation in average discount across all credit card type is little, with zero outliers in the data.
- Laser being the card type with the highest avg discount of approximate 0.63%.
- Diners-club card type is the least with 0.59% average discount

Time taken to ship orders by Quarter

Hint: You can make a bar chart with Quarter Number on the x-axis and average time to ship in the y-axis



Observations / Findings

- There is a linear correlation in the average shipping days across the quarters whereby as one moves from one quarter to the next, there is a corresponding increase in the days spent in shipping the products.
- The increase in days from 2nd to 4th quarter is much more than that of 1st to 2nd quarter. The reason for more delay in shipping might get worse if precautionary measures are not deployed.



Insights and Recommendations

- There is an overall decrease in the services, income and patronage of the company over the quarters.
- Factors responsible should be addressed promptly to avoid collapse of the company.
- Shipping days had a steady decline, this is most likely one of the top reasons why orders and patronage had also declined over the quarters.
- All employee in charge of shipping should be motivated and equipped with necessary and updated equipment that can facilitate effective shipping of products.
- Top vehicle makers with highest customers should be given incentives and work bonus to motivate them and encourage others to improve in their services