



SQL and Databases

Project Report

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Business Overview

Total Revenue

124.71 M

Total Orders

1000

Total
Customers

994

Avg Rating

3.13

Last Quarter Revenue

23.35 M

Last Quarter
Orders

199

Avg Days to
Ship

98

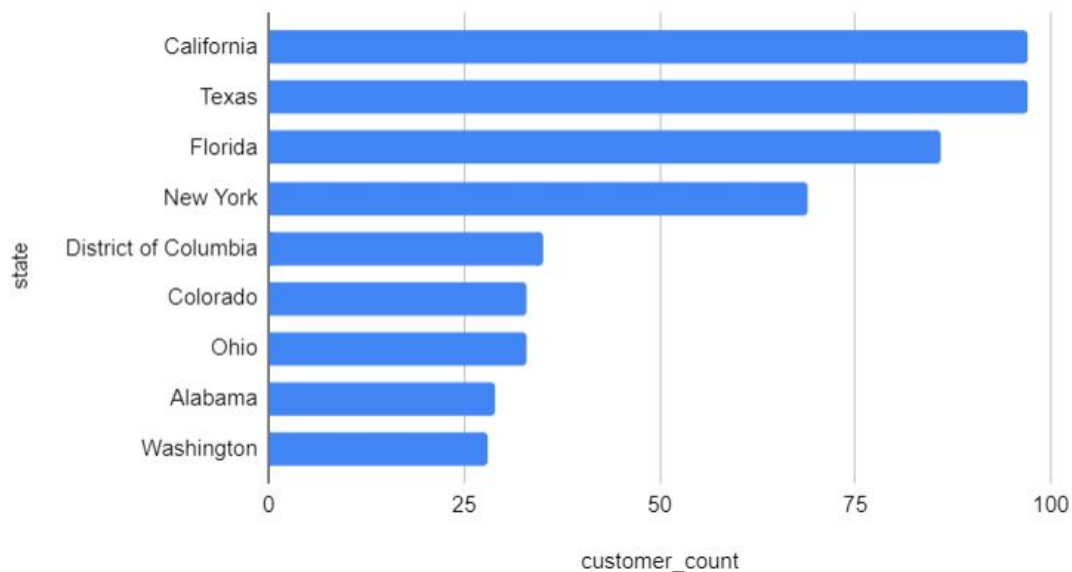
% Good
Feedback

44%

Customer Metrics

Distribution of Customers across States

Customer count vs. State

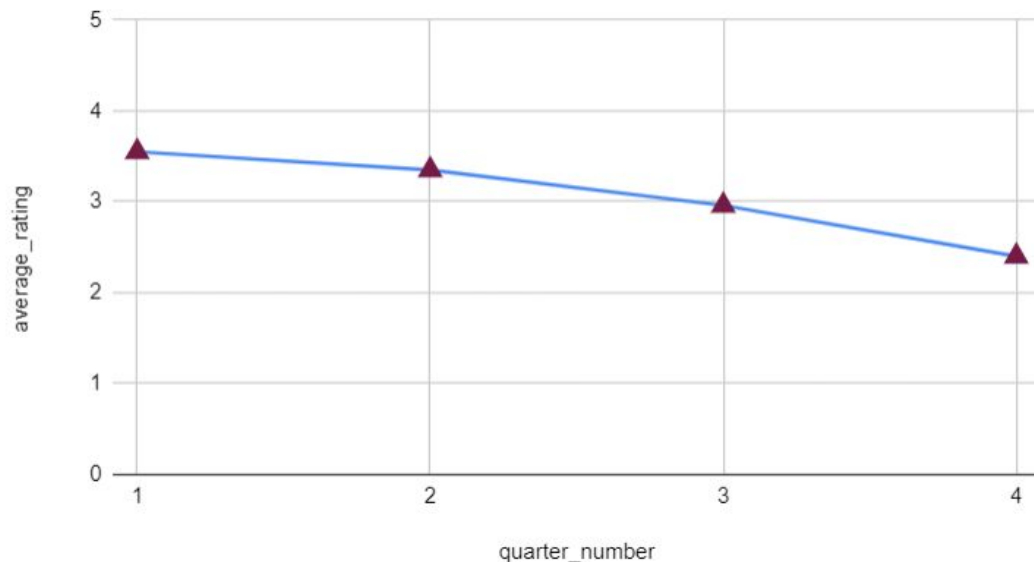


Observations:

- Top 5 states where customers place their orders from are California, Texas, Florida, New York and District of Columbia.
- Around 33% of total customer base live in the above 5 cities.

Average Customer Ratings by Quarter

Average rating vs Quarter Number



Observations

- Average customer rating for Q1 is 3.55, Q2 is 3.35, Q3 is 2.96, Q4 is 2.4 on a scale of 5.
- Customer's opinion on an average was 'Okay' but gradually turned into 'Bad'.
- Legends considered: Very good: 5, Good: 4, Okay: 3, Bad: 2, Very bad: 1

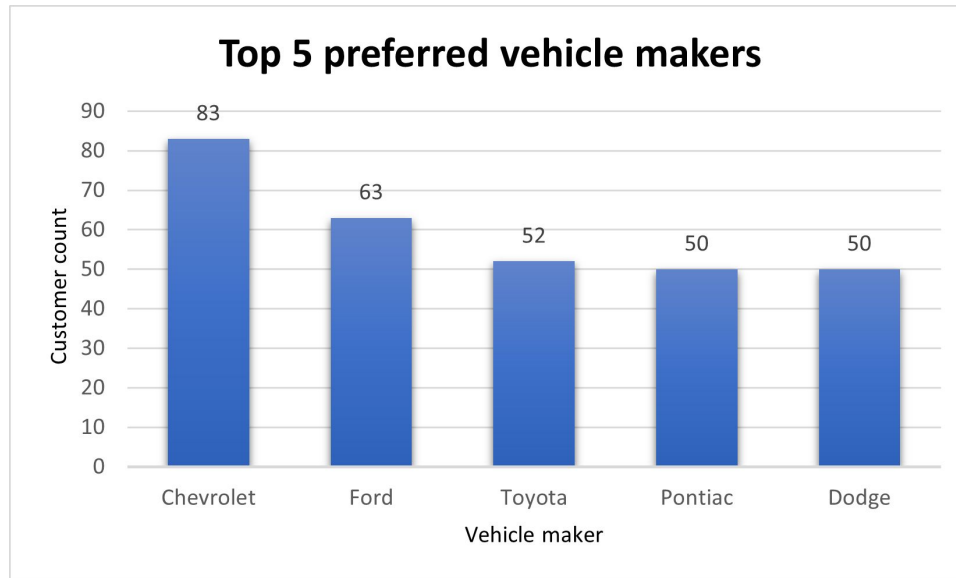
Trend of Customer Satisfaction



Observations

- Customers are getting dissatisfied over time.
- 30% of customers provided 'Very good' as a feedback in first quarter and 10% 'Very bad' but the metrics reversed in last quarter. 30% have given 'Very bad' as feedback.
- The reasons for customer dissatisfaction in areas like car quality, delay in shipping time, after purchase service, price need to be analyzed.

Top Vehicle makers preferred by customers



Observations:

- Customers from all the states prefer 'Chevrolet' the most.
- Following are Ford, Toyota, Pontiac, Dodge.
- On a side note, more luxurious cars tend to be re-sold less compared to less luxurious cars. MG, RollsRoyce, Austin, Ram are preferred least by customers.

Most preferred vehicle make in each state

Most preferred vehicle makers by state are shown in tables below:

State	Most preferred vehicle makers
Alabama	Dodge
Alaska	Chevrolet
Arizona	Pontiac, Cadillac
Arkansas	Suzuki, Chevrolet, Pontiac, Volkswagen, Mitsubishi, GMC
California	Ford, Dodge, Audi, Nissan, Chevrolet
Colorado	Chevrolet
Connecticut	Chevrolet, Mercury, Maserati, Volvo
Delaware	Mitsubishi
District of Columbia	Chevrolet
Florida	Toyota
Georgia	Toyota
Hawaii	Ford, Toyota, Pontiac, Nissan, Cadillac, GMC
Idaho	Dodge

State	Most preferred vehicle makers
Illinois	Ford, GMC, Chevrolet
Indiana	Mazda
Iowa	Chrysler, Chevrolet, Hyundai, Isuzu, Dodge, Mazda, Porsche, Jeep, Ford, Pontiac, Subaru
Kansas	GMC, Lexus, Buick, Mercedes-Benz, Suzuki, Honda, Dodge, Volkswagen, Ford, Mazda, Maserati, Nissan, Saab
Kentucky	Acura, Mercury, Audi, Ram, Volvo, Pontiac, Nissan, Mercedes-Benz
Louisiana	BMW, Nissan, Ford, Pontiac, Kia
Maine	Mercedes-Benz
Maryland	Ford
Massachusetts	Dodge, Chevrolet
Michigan	Ford
Minnesota	GMC
Mississippi	Dodge, Toyota

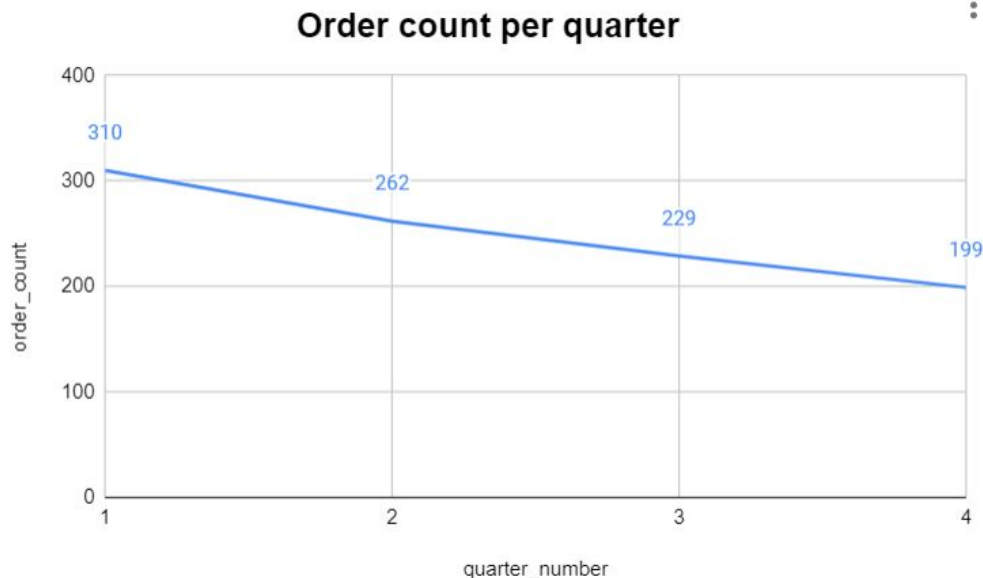
Most preferred vehicle make in each state

State	Most preferred vehicle maker
Missouri	Chevrolet
Montana	Chevrolet, Mitsubishi, Dodge
Nebraska	Chevrolet, Mercedes-Benz, Volkswagen, Nissan, Pontiac, Toyota, Cadillac
Nevada	Pontiac
New Hampshire	Chrysler, Lincoln, Lexus
New Jersey	Mercedes-Benz, Hyundai
New Mexico	Dodge
New York	Toyota, Pontiac
North Carolina	Volvo
North Dakota	Hyundai, Ford
Ohio	Chevrolet
Oklahoma	Toyota, Ferrari, Mazda
Oregon	Toyota
Pennsylvania	Toyota

State	Most preferred vehicle maker
South Carolina	Acura, Buick, BMW, Kia, Mazda, Mitsubishi, Dodge, Jaguar, Isuzu
Tennessee	Mazda
Texas	Chevrolet
Utah	Maybach, Volkswagen, Isuzu, Subaru, Lincoln, Chevrolet, Oldsmobile, Pontiac, Dodge, Buick
Vermont	Mazda
Virginia	Ford
Washington	Chevrolet
West Virginia	Mercedes-Benz
Wisconsin	Pontiac, Chevrolet, Acura, Mazda, Nissan, Cadillac, Dodge, Honda
Wyoming	Buick

Revenue Metrics

Trend of purchases by Quarter



Observations:

- Number of cars ordered has been decreasing steadily with each quarter.
- Nearly 60% less cars have been order in fourth quarter compared to that of first quarter.
- Sharp dip in the number of cars ordered has been seen in between 1st and 2nd quarters.
- The revised business models need to take into account the initial ups and downs happened in the business that led to the sharp dip.

Quarter on Quarter % change in Revenue

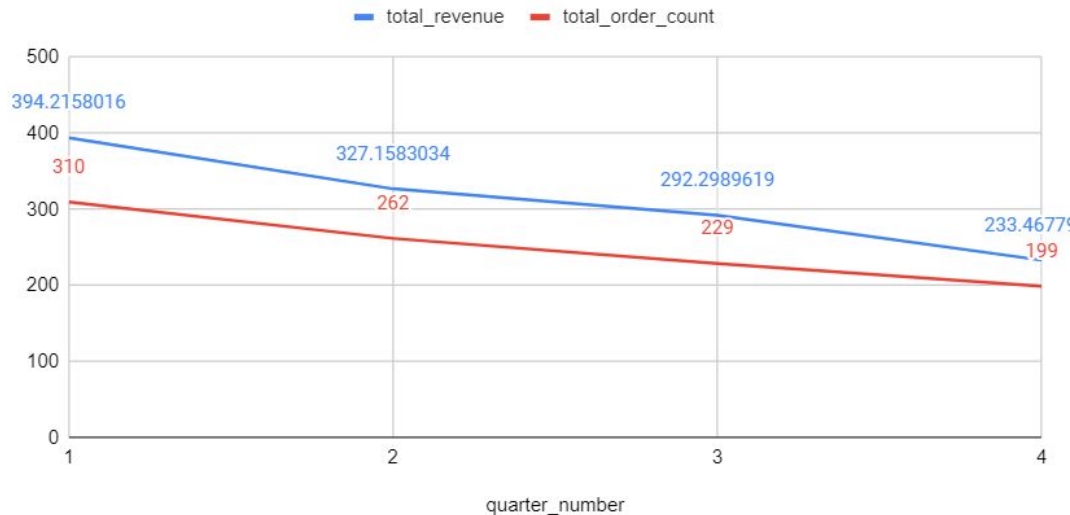
quarter_number	current_quarter_revenue	previous_quarter_revenue	percentage_change_in_revenue
1	39421580.16		
2	32715830.34	39421580.16	-17.010353
3	29229896.19	32715830.34	-10.655191
4	23346779.63	29229896.19	-20.127053

Observations:

- The dip in number of cars ordered per quarter has evidently led to decline in revenue.
- The revenue has declined by around 40% in the 4th quarter compared to that of 1st quarter.
- Sharpest decline in revenue is seen between 3rd and 4th quarters.

Trend of Revenue and Orders by Quarter

Revenue and order count trend per quarter



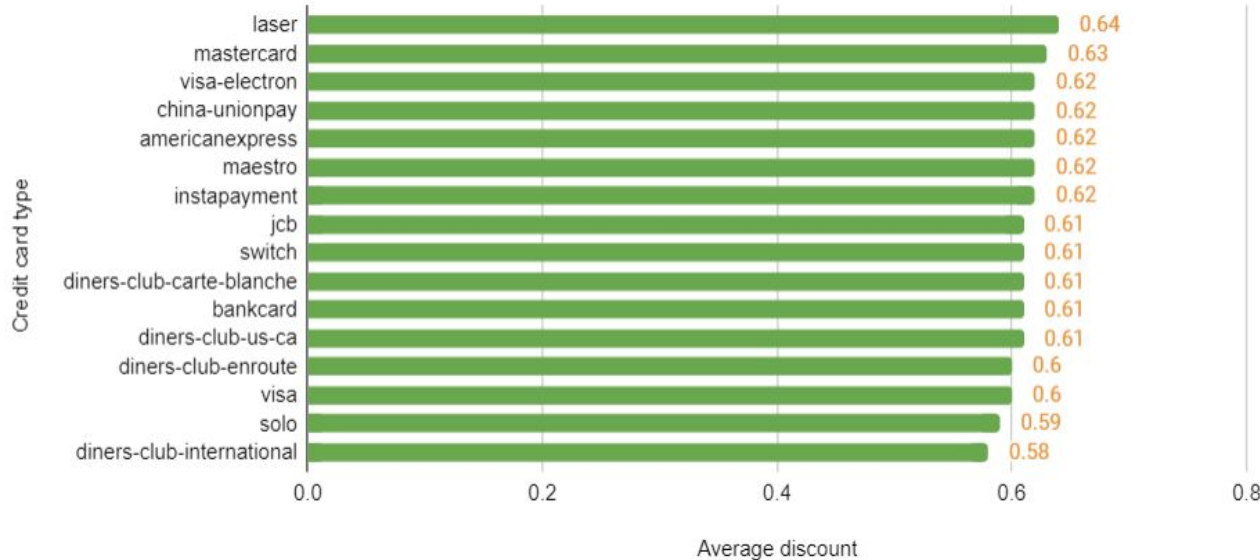
Observations:

- As discussed in the previous slides, revenue and order count have been decreasing steadily with each quarter.
- It also sights a possibility that the feedback in the current quarter led to the decline in order count and revenue generated in subsequent quarters.

Shipping Metrics

Average discount offered by Credit Card type

Average discount per credit card type

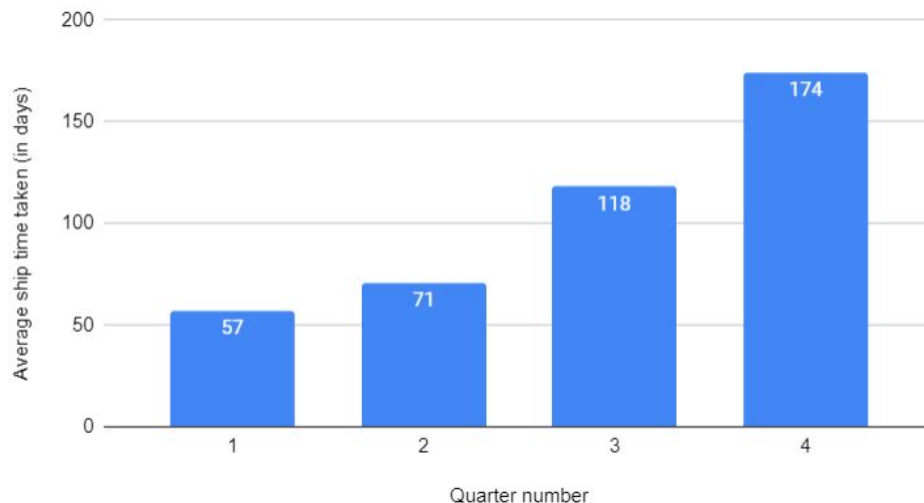


Observations:

- Laser and Master card offer high discounts.
- Solo and diners club international offer the least among the credit card types customers possess.
- Majority of the discount for credit card types lie in the range 0.6 to 0.63

Time taken to ship orders by Quarter

Average ship time in days per quarter



Observations:

- Average time taken to ship ordered cars was within 2 months from order date whereas the time has been increased dramatically in the fourth quarter taking upto nearly 6 months for shipping the ordered car.
- This could be a potential reason for customers dissatisfaction and negative feedback in the last quarter.

Insights and Recommendations

- The possible reasons for customers dissatisfaction could be the durability of the car.
- Surprisingly, the average discount availed by customers who rated 'Bad' or 'Very bad' is 0.63 and that of customers who rated 'Good' or 'Very good' is 0.59.
- It is suggested to review past orders if the received product is in customer's expected state or not. This could be a potential reason for customers' dissatisfaction.
- The average shipping days taken for customers who rated 'Bad' is 111 days whereas for customers who rated 'Good' is 90 days. This delay could be revisited and improved.
- There is no differentiator when it comes to price metrics that can lead to customers dissatisfaction from the data. The average price paid by customers who rated 'Bad' and 'Good' is in the similar range.
- Chevrolet cars are the most preferred by the customers, deals can be brought on such preferred car models and makes in each state to increase sales and recover from losses.
- Efforts to improve after sales service at least in cities where cars are most sold can help in satisfying customers.
- Overall, quality and delivery of the product matter the most in improving sales and customer feedback. So the business could be improved by ensuring all the products to be delivered meet all quality standards and reach to customer in a timely manner.