



SQL and Databases:

Project Report

By: NITESH KUMAR TEMBHARE

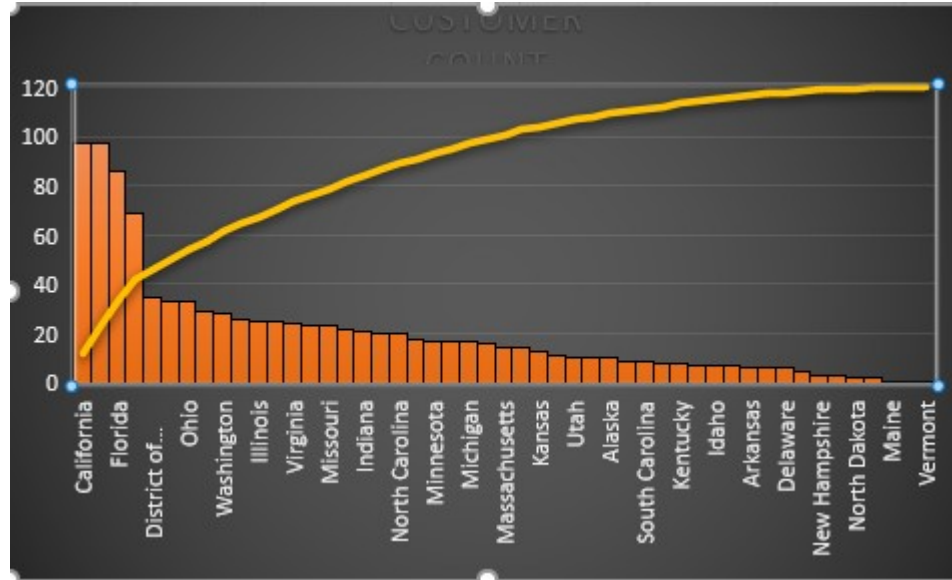


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Customer Metrics

Distribution of Customers across States



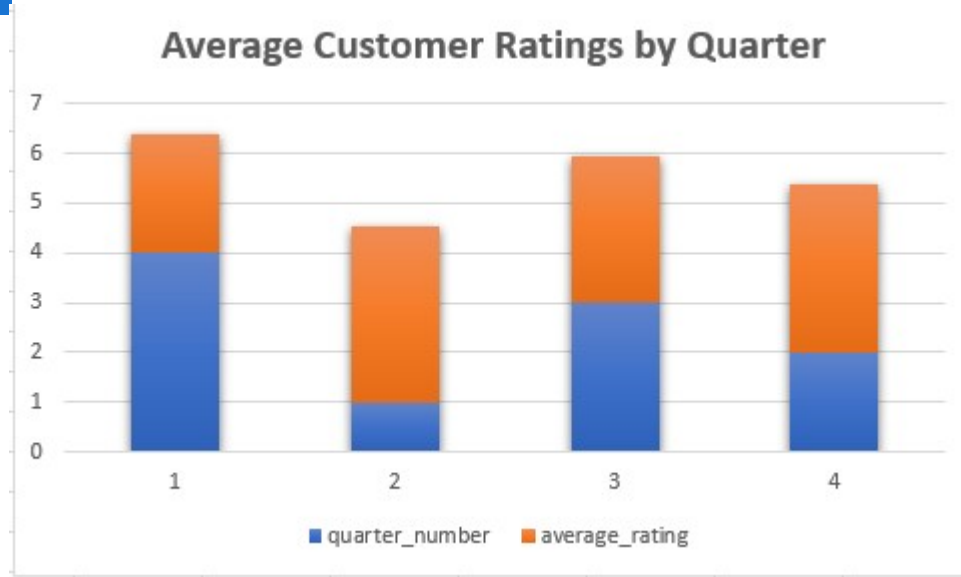
Observations

The customer counts vary widely across states, with California and Texas having the highest counts (97 each), while several states have much lower counts, such as Maine, Mississippi, Wyoming, and Vermont (1 to 3 each)

California and Texas stand out with the highest customer counts, suggesting densely populated areas or high market demand in these states.

East Coast states like New York, New Jersey, and Florida, as well as West Coast states like Washington and California, have notable customer counts, indicating regional market trends.

Average Customer Ratings by Quarter



Observations

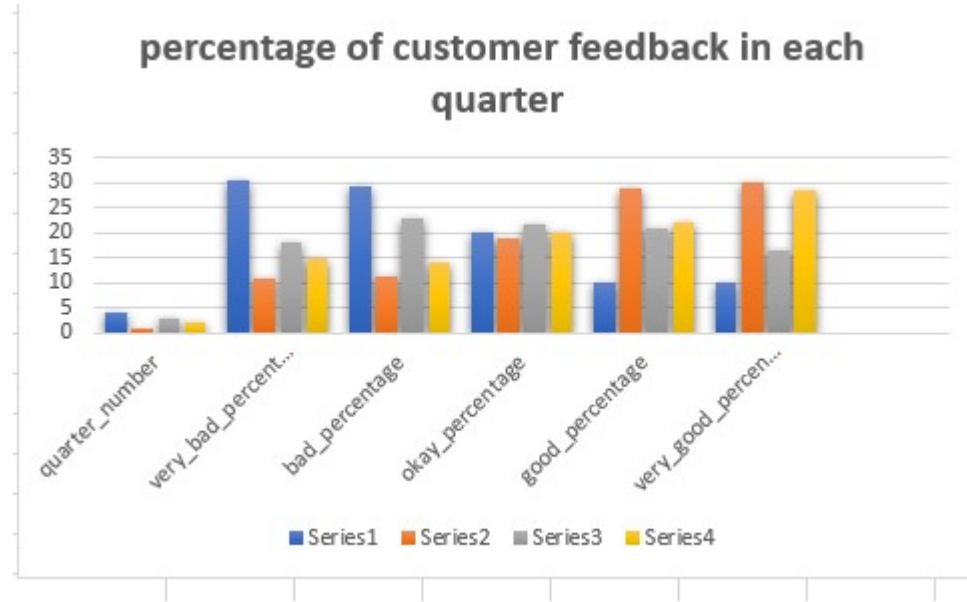
The average rating exhibits a fluctuating trend across quarters, indicating potential variations in customer satisfaction or performance.

A positive overall trend is observed, with average ratings increasing from Quarter 4 to Quarter 1.

Quarter 3 experiences a slight dip in average rating, followed by a recovery in Quarter 4.

The data suggests a dynamic pattern in customer feedback, emphasizing the importance of continuous monitoring and improvement efforts.

Trend of Customer Satisfaction



Observations

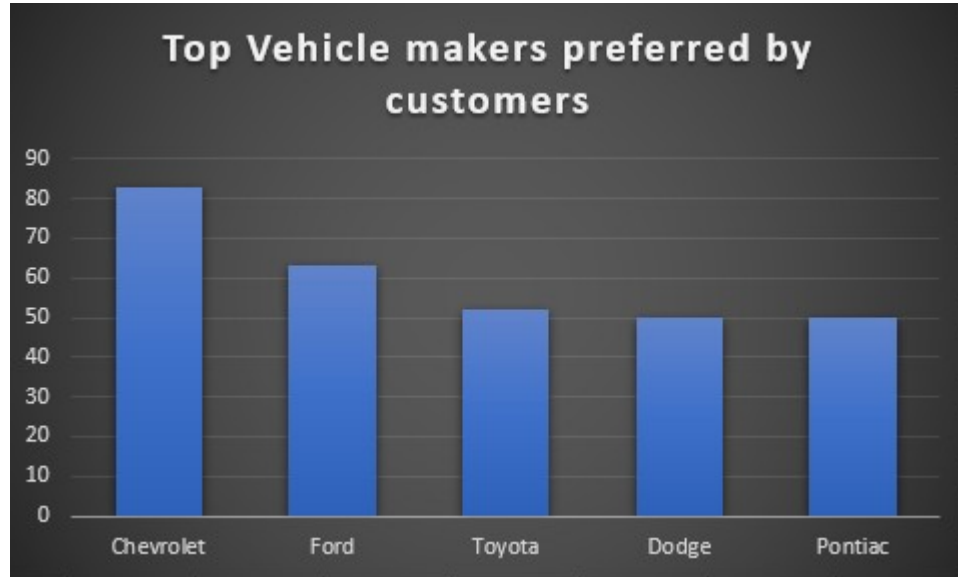
The data shows significant variability in customer feedback percentages across different quarters.

Quarter 1 has the highest percentages for "good" (28.71%) and "very good" (30%), indicating a particularly positive period.

Quarter 4 exhibits the highest percentages for both "very bad" (30.65%) and "bad" (29.15%), signaling potential concerns during this quarter.

Overall, there is a diverse pattern in feedback categories, reflecting changing sentiments over the observed quarters.

Top Vehicle makers preferred by customers



Observations

Chevrolet leads with the highest count of 83, indicating strong market presence.

Ford follows closely with 63, and Toyota and Dodge share the third position with 52 and 50, respectively.

The top 5 vehicle makers, including Pontiac, suggest a competitive market with diverse consumer preferences.

This data highlights key players and their market share, guiding strategic considerations for businesses in the automotive industry.

Most preferred vehicle make in each state

Observations / Findings

The dataset showcases a diverse representation of vehicle makers across various states in the United States.

American brands like Chevrolet, Ford, and Dodge are prominent, reflecting their popularity and market share.

The inclusion of luxury brands such as Mercedes-Benz, Cadillac, and BMW indicates a mix of consumer preferences, including high-end vehicles.

Asian automakers, particularly Toyota, are consistently present, reaffirming their widespread acceptance and market presence.

The dataset hints at regional variations in vehicle preferences, with states showing distinct patterns in the choice of brands.

SUV and truck-focused brands like GMC and Chevrolet are prevalent, suggesting a demand for larger vehicles in certain regions.



Revenue Metrics

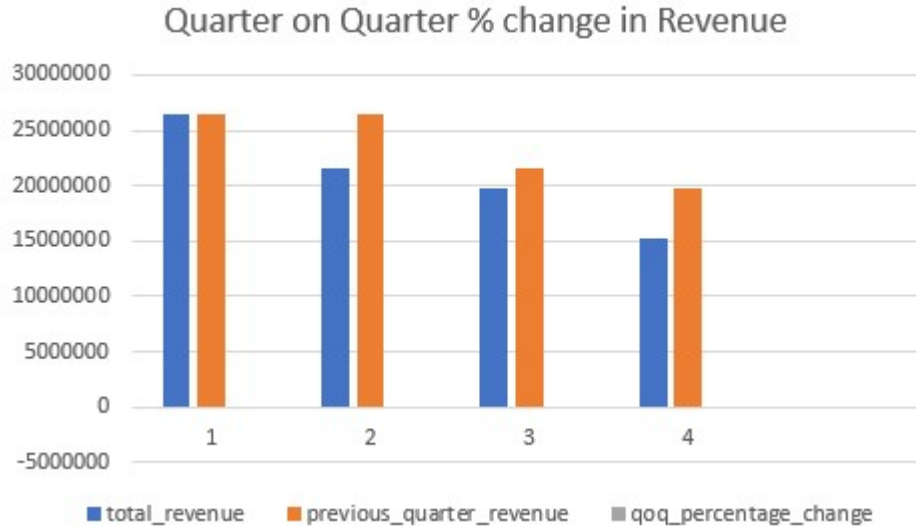
Trend of purchases by Quarter



Observations

The dataset reveals a declining trend in order counts from quarter 1 (310) to quarter 4 (199). Quarter 2 has the second-highest order count (262), while quarter 3 falls further with 229 orders.

Quarter on Quarter % change in Revenue

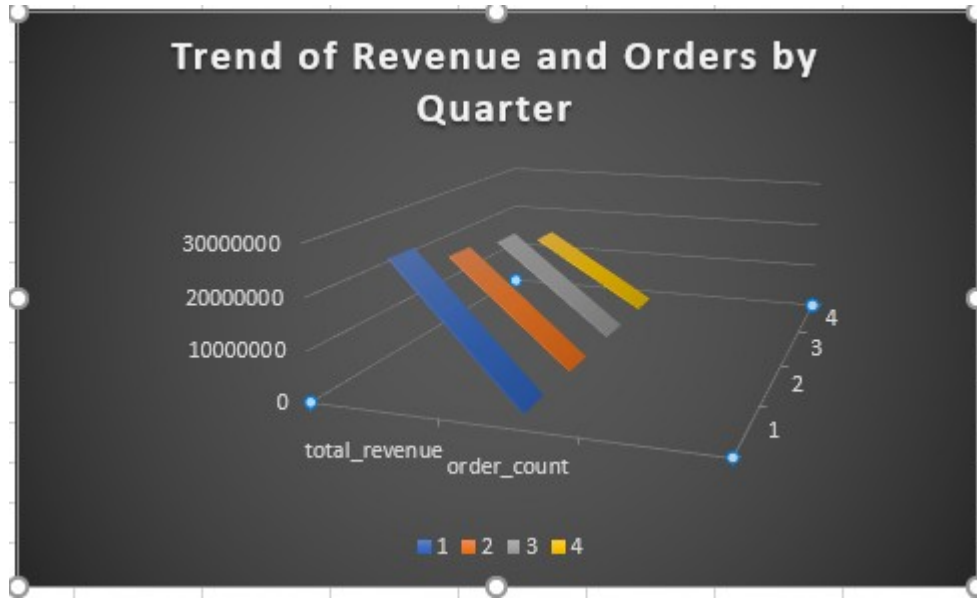


quarter_number	total_revenue	previous_quarter_revenue	qoq_percentage_change
1	26519199.19	NULL	NULL
2	21595874.35	26519199.19	-18.57
3	19719917.59	21595874.35	-8.69
4	15280009.98	19719917.59	-22.51

Observations

The total revenue shows a declining trend from quarter 1 (26,519,199.19) to quarter 4 (15,280,009.98). Quarter 2 experiences an 18.57% decrease in revenue compared to the previous quarter, with a total of 21,595,874.35. Further decline is seen in quarter 3, with total revenue at 19,719,917.59 and a qoq percentage change of -8.69%. Quarter 4 continues the trend, registering 15,280,009.98 in total revenue and a qoq percentage change of -22.51%

Trend of Revenue and Orders by Quarter



Observations

The data reveals a consistent decrease in both total revenue and order count from quarter 1 to quarter 4.

Quarter 1 starts with the highest total revenue of \$26,519,199.19 and 310 orders, setting a benchmark.

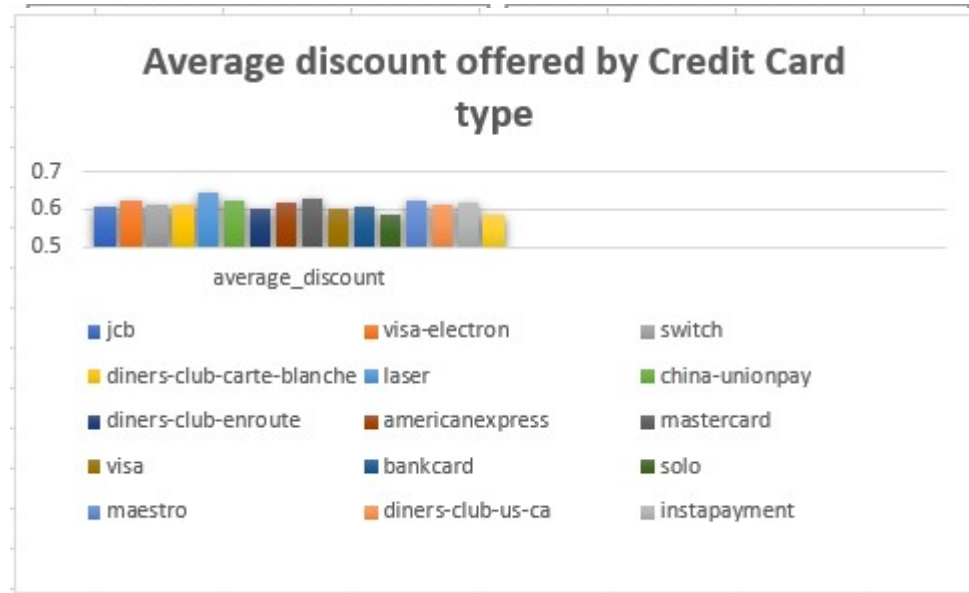
Subsequent quarters show a declining trend, with quarter 4 experiencing the lowest total revenue of \$15,280,009.98 and 199 orders.

This suggests a potential correlation between revenue and order count, emphasizing the need to analyze contributing factors



Shipping Metrics

Average discount offered by Credit Card type



Observations

The dataset presents average discount rates associated with various credit card types used in transactions.

Maestro has the highest average discount at 0.624, indicating potential higher negotiation power or transaction frequency.

Diners Club International and Solo show relatively lower average discounts at 0.584 and 0.585, suggesting possible differences in merchant agreements.

American Express and Mastercard exhibit competitive average discount rates of 0.616 and 0.629, respectively.

China UnionPay and Visa Electron fall within a similar range, indicating comparable discounting practices.

JCB, Switch, and Bankcard also demonstrate consistency in average discount rates around 0.61, emphasizing stability among these card types.

These insights can guide businesses in understanding pricing dynamics and optimizing strategies based on credit card preferences and associated discounts.

Time taken to ship orders by Quarter



Observations

The dataset reveals significant variations in average shipping times across different quarters.

Quarter 1 boasts the shortest average shipping time at 57.17, indicating efficient order fulfillment during this period.

Quarter 2 follows with a notable increase to 71.11, suggesting a potential logistical challenge or increased demand.

Quarter 3 exhibits a further rise to 117.76, indicating a substantial delay or bottleneck in shipping processes.

Quarter 4 experiences a significant spike in average shipping time, reaching 174.10, signaling potential challenges in meeting customer delivery expectations.

Insights and Recommendations:

Geographic Trends:

Insight: California and Texas have the highest customer counts, suggesting significant market demand in these states. East and West Coast states also show notable customer counts, indicating regional market trends.

Recommendation: Businesses should tailor their marketing and operational strategies based on regional variations in customer demand. Specialized approaches for densely populated areas may differ from those in less populated regions.

Average Rating Trends:

Insight: Average ratings exhibit fluctuations across quarters, with an overall positive trend. There is a dip in Quarter 3, followed by recovery in Quarter 4.

Recommendation: Continuous monitoring and improvement efforts are crucial. Investigate the factors contributing to the fluctuations, especially the dip in Quarter 3, to ensure consistent customer satisfaction.

Customer Feedback Categories:

Insight: Diverse patterns in feedback categories across quarters, with Quarter 1 having the highest positive feedback and Quarter 4 showing higher percentages of negative feedback.

Recommendation: Analyze the specific issues contributing to negative feedback in Quarter 4 and implement strategies to address customer concerns. Focus on maintaining the positive momentum observed in Quarter 1.

Vehicle Maker Market Share:

Insight: Chevrolet leads with the highest count, followed by Ford, Toyota, Dodge, and Pontiac. American brands dominate, but luxury and Asian brands also have a significant presence.

Recommendation: Understand the diverse consumer preferences and regional variations in the choice of vehicle makers. This information can guide marketing strategies and inventory management.

Order Counts and Revenue Trends:

Insight: Declining trend in both order counts and total revenue from Quarter 1 to Quarter 4.

Recommendation: Investigate the factors contributing to the decline in orders and revenue. Consider promotional strategies or product/service adjustments to boost demand and revenue.

Credit Card Discounts:

Insight: Variation in average discounts across different credit card types, with Maestro having the highest.

Recommendation: Evaluate the negotiation power and transaction frequency associated with each credit card type. Optimize pricing strategies based on these insights to maximize profitability

Customer Segments:

Product Performance:

Marketing Campaigns:

Operational Efficiency:

Customer Retention:

Supplier Relationships:

Competitive Analysis:

Regulatory Compliance:

Financial Health:

Human Resources:

Technology Adoption:

