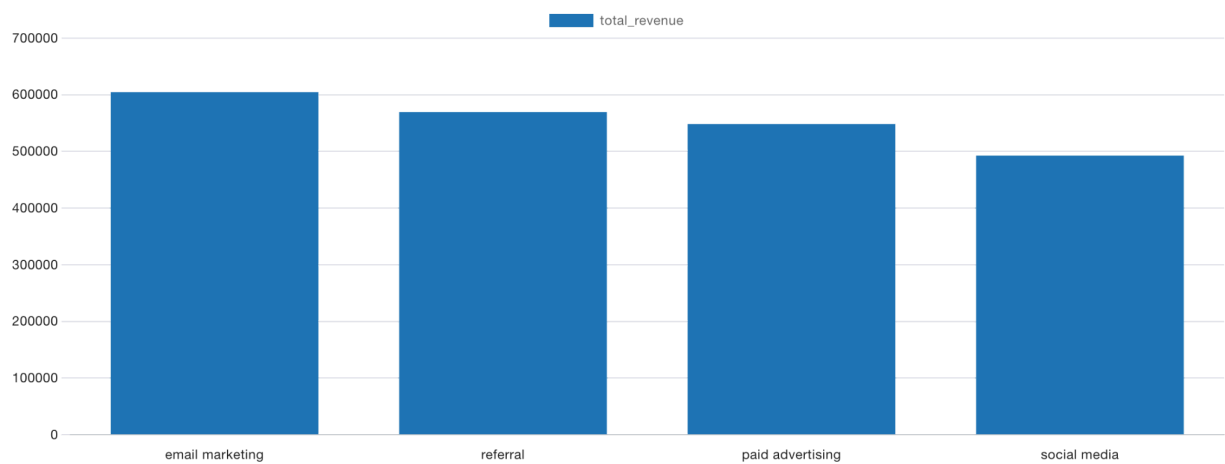


Customer Lifetime Value Analysis

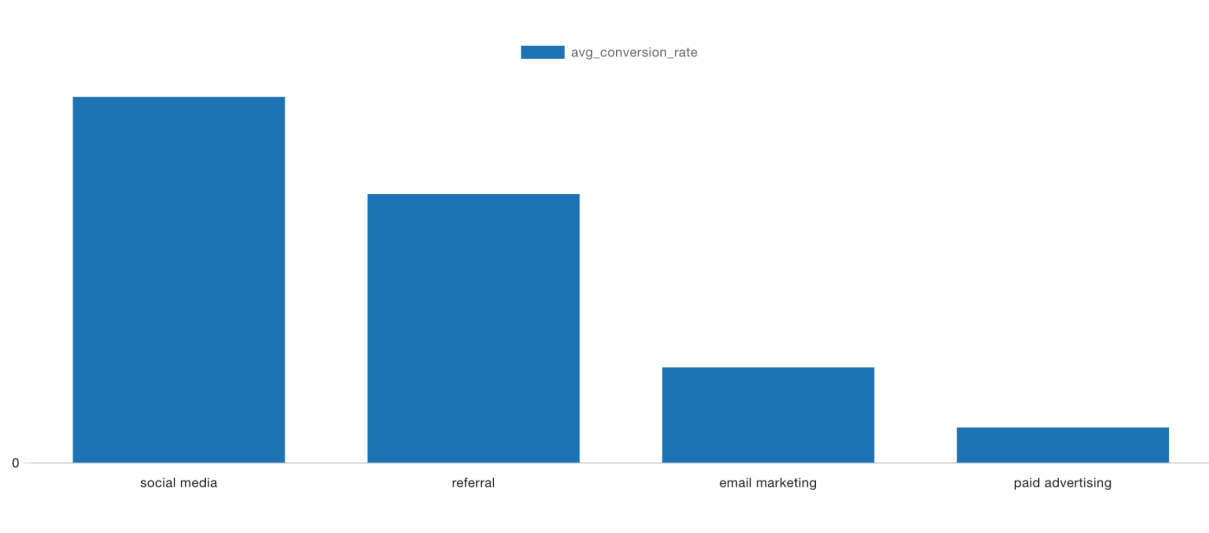
1. Total Revenue by Channel

```
SELECT channel, SUM(revenue) AS total_revenue
FROM customer_data
GROUP BY channel
ORDER BY total_revenue DESC;
```



2. Average Conversion Rate by Channel

```
SELECT channel, AVG(conversion_rate) AS avg_conversion_rate
FROM customer_data
GROUP BY channel
ORDER BY avg_conversion_rate DESC;
```



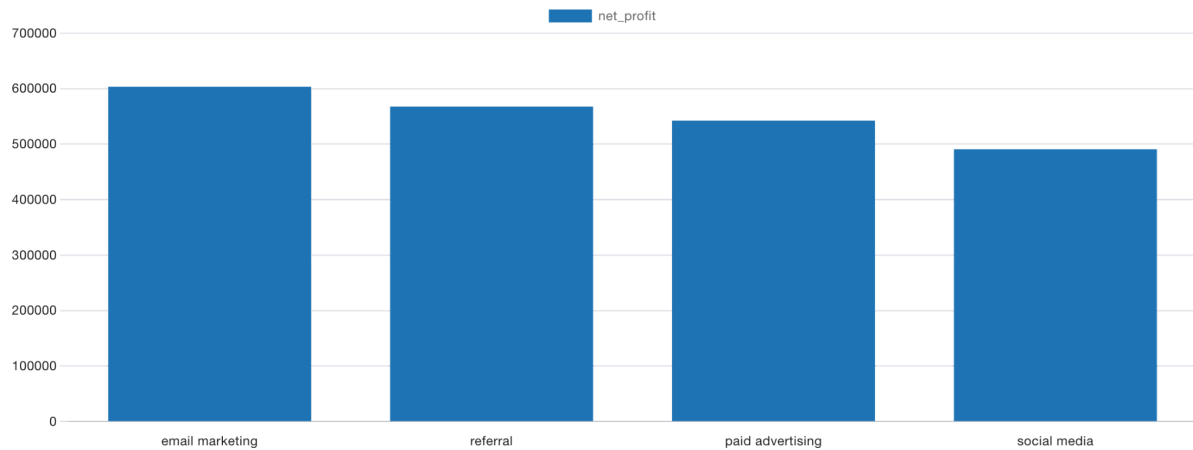
3. Total Cost vs Total Revenue

```
SELECT
    SUM(cost) AS total_cost,
    SUM(revenue) AS total_revenue
FROM customer_data;
```



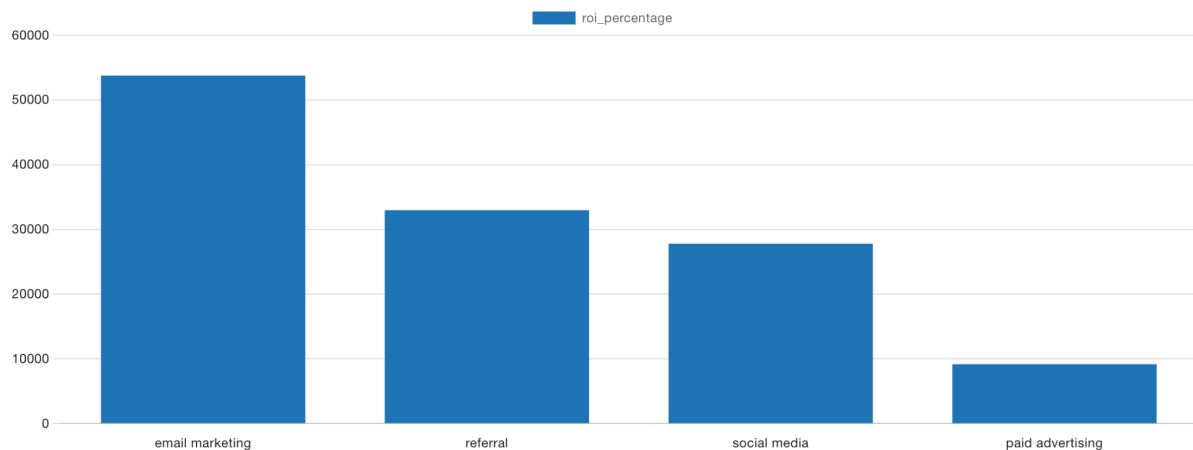
4. Top 5 Most Profitable Channels

```
SELECT channel, SUM(revenue) - SUM(cost) AS net_profit
FROM customer_data
GROUP BY channel
ORDER BY net_profit DESC
LIMIT 5;
```



5. ROI for Each Channel

```
SELECT channel,  
       (SUM(revenue) - SUM(cost)) / SUM(cost) * 100 AS roi_percentage  
FROM customer_data  
GROUP BY channel  
ORDER BY roi_percentage DESC;
```



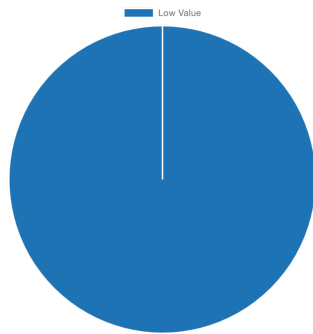
6. Customer Segmentation by Revenue

```
SELECT  
  CASE  
    WHEN revenue > 10000 THEN 'High Value'
```

```

        WHEN revenue BETWEEN 5000 AND 10000 THEN 'Medium Value'
        ELSE 'Low Value'
    END AS customer_segment,
    COUNT(*) AS customer_count
FROM customer_data
GROUP BY customer_segment
ORDER BY customer_count DESC;

```



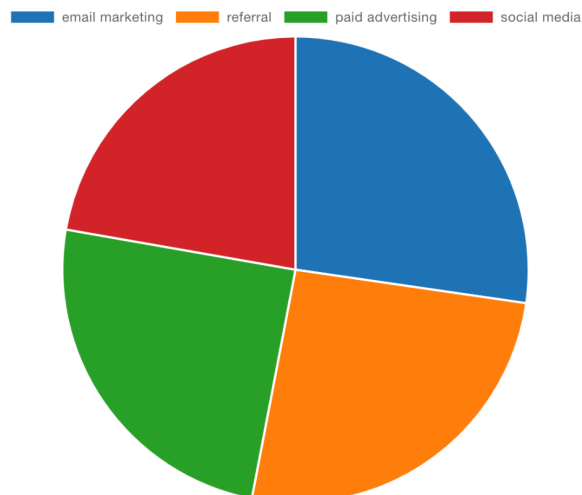
Low Value : 800

7. Channel Contribution to Total Revenue (Percentage)

```

SELECT channel,
       SUM(revenue) * 100.0 / (SELECT SUM(revenue) FROM customer_data)
AS revenue_percentage
FROM customer_data
GROUP BY channel
ORDER BY revenue_percentage DESC;

```



Email Marketing : 27.2%

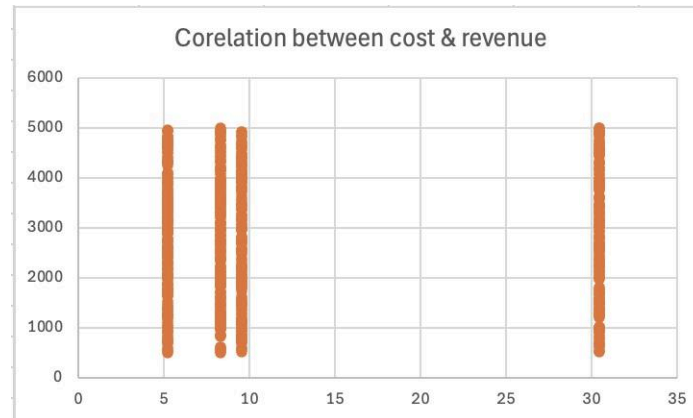
Referral : 25.7%

Paid Advertising : 24.7%

Social Media : 22.2%

8. Correlation Between Cost and Revenue (Raw Data)

```
SELECT cost, revenue  
FROM customer_data;
```



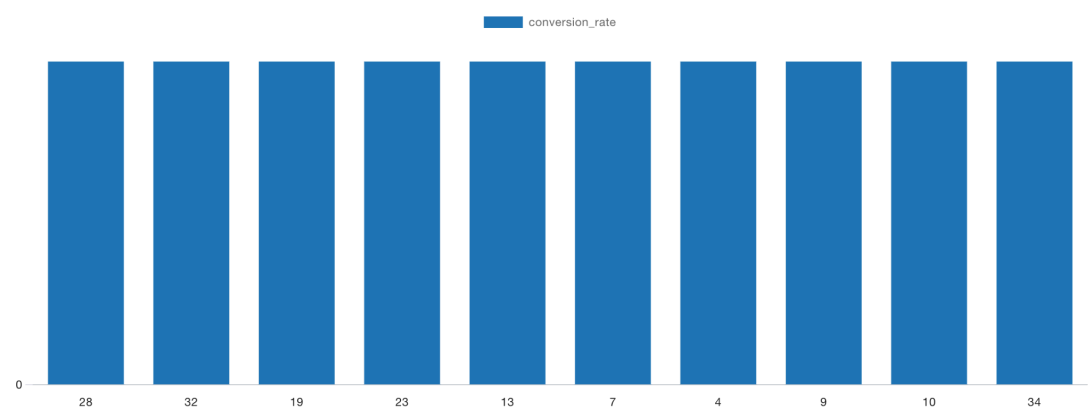
9. Outlier Detection in Revenue

```
WITH stats AS (  
    SELECT AVG(revenue) AS mean_revenue,  
           (MAX(revenue) - MIN(revenue)) / 2 AS approx_stddev  
    FROM customer_data  
)  
SELECT customer_id, revenue  
FROM customer_data, stats  
WHERE revenue > (mean_revenue + 2 * approx_stddev)  
    OR revenue < (mean_revenue - 2 * approx_stddev);
```

Query was runned , and no outliers were found in the dataset

10. Customers with the Highest Conversion Rates

```
SELECT customer_id, channel, conversion_rate
FROM customer_data
ORDER BY conversion_rate DESC
LIMIT 10;
```



Overall Insight of the Dataset:

The dataset provides a comprehensive view of customer acquisition and revenue generation across multiple marketing channels. Here’s a summary of the key findings and actionable insights:

Performance by Channel

- Email Marketing** leads in revenue contribution (27.2%) and ROI, making it the most effective channel overall. This channel is ideal for further investment and optimization.
 - Referral** and **Paid Advertising** closely follow, contributing significantly to the revenue, but may require additional optimization to improve ROI.
 - Social Media**, while contributing the least to total revenue (22.2%), boasts high conversion rates, making it a strong candidate for engagement-focused campaigns.
-

Customer Insights

1. All customers were classified as **Low Value**, indicating that individual customer spending is modest. Strategies like cross-selling, upselling, or loyalty programs could increase average revenue per customer.
 2. The dataset does not exhibit revenue outliers, suggesting consistent spending patterns across customers.
-

Profitability

1. The dataset demonstrates profitable channels, with Email Marketing, Referral, and Paid Advertising generating significant net profits.
 2. Optimizing cost-heavy channels like **Paid Advertising** for better ROI can help boost profitability further.
-

Conversion Trends

1. Channels like **Social Media** have the highest conversion rates, indicating strong customer engagement. Investing in content or promotional strategies here can further capitalize on this potential.
-

Cost vs Revenue

1. Revenue significantly outpaces costs, indicating efficient resource allocation across channels. However, continuous monitoring and optimization are recommended to sustain this efficiency.
-

Actionable Recommendations

1. **Focus on High-ROI Channels:** Allocate more resources to **Email Marketing** and **Referral**, as they have proven to be the most profitable and impactful channels.
2. **Optimize Cost-Heavy Channels:** Investigate high-cost, low-ROI channels like **Paid Advertising** and identify areas for cost reduction.
3. **Enhance Customer Value:** Introduce targeted promotions or personalized campaigns to move customers into higher-value segments.
4. **Leverage Social Media Conversion Rates:** Invest in content creation and influencer marketing to maximize engagement and revenue potential from social platforms.