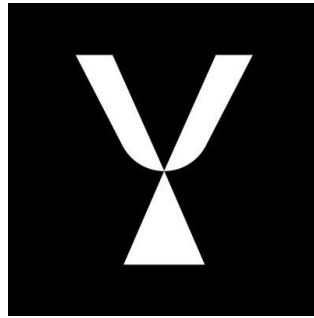


Marketing Insights

Client: SkyFi



Prepared by:

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May 31st, 2023

Title: Marketing Insights and Optimization Using Metabase and Machine Learning

Overview

The goal of this document is to summarize the findings from my analysis of the marketing dataset provided by SkyFi for the Data Analyst Final Take-Home Assignment. The dataset contains a monthly summary of business performance metrics related to sales, costs, customer acquisition, and social media engagement for the year 2023.

By analyzing these together, we can understand the effectiveness of sales and marketing efforts, evaluate and devise strategies to reduce the cost of customer acquisition, and measure the reach and engagement of social media campaigns.

You can find a publicly available copy of the Metabase dashboard used for this analysis [here](#).

Exploratory Data Analysis

Our first order of business will be to perform some preliminary data analysis and understand the individual data contained in each column.

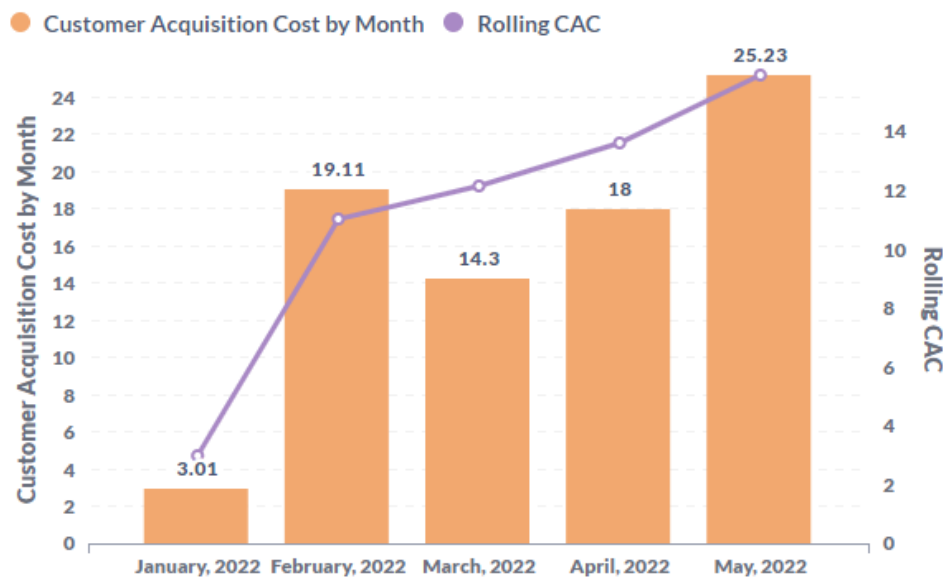
- **Date:** The date of each record, organized by month for the year 2022
- **Marketing Costs:** The amount of money spent on marketing activities in a particular month. This could include costs related to advertising, content creation, promotional events, etc.
- **Sales Costs:** The costs associated with the sales function in the business. This could include salaries for salespeople, commissions, costs related to CRM systems, etc.
- **Overhead Costs:** The ongoing business expenses not directly tied to creating a product or service, but that are necessary for operations. This could include administrative expenses, utilities, rent, etc.
- **Total Costs:** The sum of the Marketing Costs, Sales Costs, and Overhead Costs for each month
- **Number of New Customers:** The number of new customers that were acquired in each month
- **Total Revenue:** The total income generated from all sales within each month
- **Social Media Impressions:** The number of times social media content was displayed to users. This doesn't mean the content was clicked, but it was seen
- **Social Media Engagements:** The number of interactions people have with the social media content. This could include likes, comments, shares, saves, clicks, etc

To start our analysis, a database was created in Snowflake, along with a schema matching the same format as the data provided. Once the table was filled with the marketing data, a

connection was established to a private Metabase server allowing users to query and visualize the data in an interactive dashboard. We will use this dashboard to answer the following questions:

What is the trend in customer acquisition cost (CAC) over time? How would you explain any changes in CAC?

The Customer Acquisition Cost (CAC) is typically calculated by dividing the total costs associated with acquisition by total new customers, within a specific time period.



As we can see, the CAC seems to be trending up over time, from \$3.01 in January to \$25.23 in May. There may be various factors contributing to this increase.

Marketing Efficiency: There could be less efficiency in marketing campaigns over time, meaning the marketing spend is not converting into customers as effectively as before.

Sales Strategy: Changes in the sales approach or strategy can also affect the CAC. For instance, if there was a strategic shift to focus on higher-value customers who take more effort and cost to acquire, this could result in an increased CAC.

Market Conditions: Changes in the market conditions, such as increased competition or changes in customer behavior, can also lead to an increase in CAC.

Seasonality: Certain months might naturally have higher acquisition costs due to seasonal variations in consumer behavior.

Which month had the highest ROI?

The Return On Investment (ROI) is calculated by comparing the total profit and dividing it by the total costs over a specific time period.



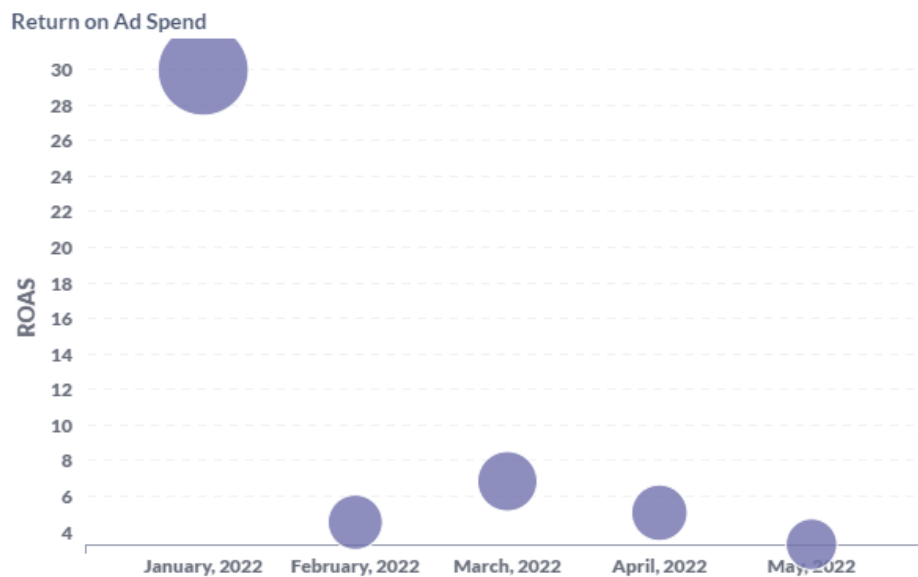
The month with the highest ROI was January, but has been steadily declining from there. Some potential areas of improvement for increasing the ROI can be described below.

Marketing Strategies: The marketing strategies might need a relook. The rising marketing costs are not yielding a proportionate increase in the number of new customers. There is room to consider optimizing their ad targeting, improving the conversion rates, or trying different marketing channels.

Sales Processes: There might be a need to review the sales process to identify if there are any inefficiencies that are causing the sales costs to rise. Improving lead qualification or using automation to streamline the sales process would reduce sales costs and lead to an increase in ROI over time.

Which month had the highest ROAS?

The Return on Advertising Spend (ROAS) is calculated by dividing the revenue generated from the advertising campaign by the cost of that advertising campaign.



The ROAS peaked in January and then slowly drifted down towards 3.3 for May. Some ideas for improving the ROAS over time could be described below

Reducing Marketing Costs: Focusing only on marketing campaigns which have proven to drive results and discontinue advertising for unsuccessful campaigns.

Increasing the Conversion Rate: If Social Media Impressions are high but the number of new customers is low, we should consider new strategies for converting more of those impressions into customers. This could involve changes to the marketing content and focusing on strategies for customer engagement.

What was the conversion rate for each month, and how does it compare to previous months? What factors do you think contributed to any changes in the conversion rate?

The conversion is calculated as the number of new customers divided by the number of social media impressions.



The conversion rate started out fairly high, but has recently been trending downwards. This could be the result of an increase in impressions due to successful social media posts, but might not necessarily translate into new customers.

This doesn't necessarily have to be a bad thing, especially if new customers and social media impressions are still climbing. One potential explanation could be the viral post about the giant heap of clothing pile in Chile. Because the outreach was so large, the conversion rate would naturally decline.

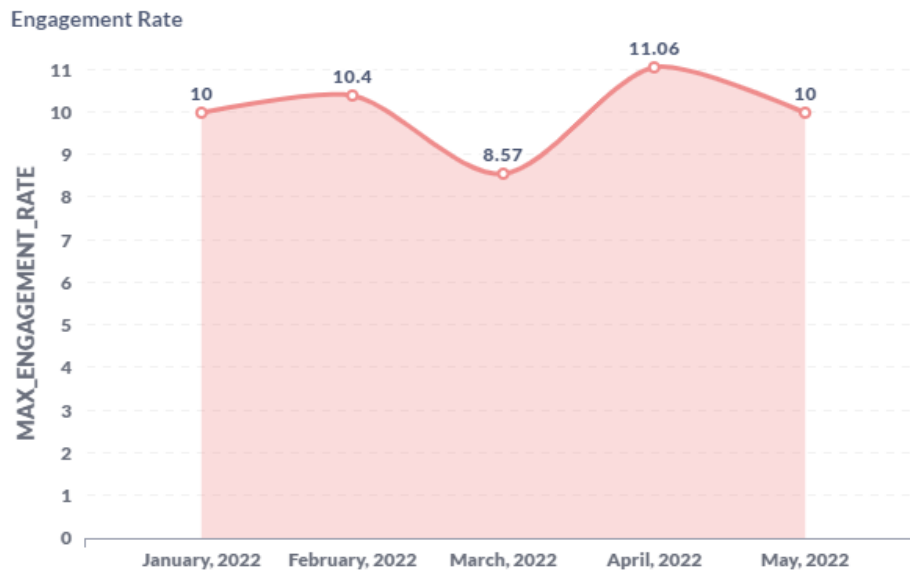
You may find some ideas below on how to tackle the declining conversion rates.

Analyze the Quality of Impressions: Understanding the demographics of the impressions, their source, and their behavior can provide insight into whether the marketing efforts are targeting the right audience.

Improve Content Engagement: Working on the quality of content being promoted. More engaging content can ultimately improve the conversion rate if structured in an optimal way.

Which month had the highest engagement rate?

The engagement rate can be defined as the total engagements divided by the total impressions. Based on this calculation, we can see that April had the highest engagement rate.



It appears that there is almost a direct correlation between marketing costs and engagement rates. In February and April, where marketing costs were the highest, the engagement rates were also the highest. This could suggest that the increase in marketing investment during these months led to more effective or broader-reaching social media campaigns, ultimately leading to higher engagement.

Higher social media engagement seems to also correlate with more new customers. This could mean social media engagements are a significant driver of new customer acquisitions, so it's crucial to understand which specific factors drive engagement. Measuring and tracking content quality, content relevance, frequency, timing, audience engagement, and use of visuals or hashtags could all help provide some insight into how social media engagement might drive new customers.

How would you use this data to inform marketing strategy and decision-making? What insights can you gain from this data, and how would you apply those insights to improve marketing performance?

One of the first areas I'd like to concentrate on would be the Customer Acquisition Cost. From looking at the data, it does seem like there is a correlation between marketing costs and the number of new customers.

Since the customer acquisition cost has been steadily rising, more effort needs to be put into the effectiveness of our marketing campaigns. Some ideas for low-cost customer acquisition channels SkyFi could leverage would be:

Satellite Image Storytelling: SkyFi could publish a series of articles or social media posts that use satellite images to tell fascinating stories. For example, they could show the transformation

of a city over time, the progress of a major construction project, or the impact of natural disasters. Each story could provide a unique perspective on global events, showing the power and value of satellite imaging.

User Generated Content Competition: SkyFi could launch a contest where customers post about their experiences with SkyFi on their social media accounts. The customers could be encouraged to share a story about how SkyFi's services have improved their lives, or they could showcase their setups powered by SkyFi's services. This would generate user-created content and also serve as testimonials to attract new customers. The best stories could win free service upgrades, merchandise, or other prizes.

Email Marketing: SkyFi could create a series of welcome emails for new customers. This series could include helpful tips for getting the most out of their service, introduction to less-known features, or even a fun tech-related fact or puzzle in each email. This would not only engage new customers but also provide them with useful information that enhances their experience with SkyFi's service.

What additional data or metrics would you want to track to better understand the performance of the marketing campaigns? How would you go about collecting and analyzing that data?

Customer Lifetime Value (CLV): This helps understand the net profit attributed to the entire future relationship with a customer. It goes beyond the initial transaction to reflect the total value a customer brings over the life of their relationship with your business.

Customer Value Ratio (CLR): Calculated as the total revenue divided by the number of new customers for a given time period, essentially represents the average revenue generated by each new customer during that period.

Churn Rate: The percentage of customers who stop using your product or service during a given time period. A high churn rate might indicate customer dissatisfaction and can negatively affect CLV. A machine learning model can be built using outside factors to predict churn and

Cost Per Click (CPC) and Click Through Rate (CTR): These are key metrics for pay-per-click (PPC) advertising campaigns. They can help you understand how many people are interacting with your ads and at what cost.

Traffic Sources: Understanding where your website traffic comes from (e.g., organic search, social media, direct traffic, referrals, etc.) can help you better allocate your marketing efforts and budget.

Conversion Rate by Channel: This helps to understand which marketing channels are most effective at turning leads into customers.

To collect and analyze this data, you can use a combination of analytics tools. Google Analytics can be used for understanding website traffic, user behavior, and conversion rate details. CRM platforms can track CLV, churn rates, and other customer-related metrics. Tools like Google Ads and Facebook Ads Manager can provide details on CPC and CTR.

Conclusion

The goal of this marketing report has been to provide insights into SkyFi's business performance metrics and helped us understand how sales, costs, customer acquisition, and social media engagement correlate with each other.

We identified a rising trend in Customer Acquisition Cost (CAC), highlighting a potential inefficiency in converting marketing spend into new customers. Furthermore, the decline in Return on Investment (ROI) and Return on Advertising Spend (ROAS) over the months points towards the need for revamping marketing and sales strategies.

Three important observations were drawn from the analysis:

1. Social media engagement seems to correlate directly with customer acquisition, emphasizing the need to enhance content quality and engagement.
2. Despite increasing social media impressions, conversion rates have seen a downward trend, necessitating a thorough understanding of the demographics and behavior of our audience.
3. The correlation between marketing costs and engagement rates suggests that our marketing investments are effective, but optimization is required to improve the overall efficiency.

Recommendations

Please find below some recommendations for the future for how SkyFi can use the above analysis to make actionable decisions that will benefit the long-term vision of the company.

Focus on Quality of Impressions: To improve the conversion rate, analyze the quality of social media impressions. Understanding the audience's demographics, behavior, and source of engagement can help tailor more effective marketing strategies. Tools like Google Analytics can be deployed to get detailed insights into audience behavior.

Optimize Marketing Spend: Given the direct correlation between marketing costs and engagement rates, there is a need to ensure that our marketing investments yield optimal returns. Regular evaluation of campaigns to identify high-performing and under-performing ones can help optimize the marketing budget. Emphasis should be laid on the campaigns which have proven to drive results.

Customer Retention Programs: As customer acquisition cost is on the rise, it's essential to

focus on customer retention strategies. Regular feedback, effective grievance redressal, and personalized customer experiences can help improve customer retention. Moreover, strategies to improve Customer Lifetime Value (CLV) should be adopted. This could include introducing a loyalty program or providing exclusive benefits to long-term customers.