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Role of Various Factors Impacting Customer Acquisition and Retention in a Product-Based Organization Using SAS®

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Abstract

Customer acquisition and retention are among key performance metrics for any organization. Important factors that impact customer acquisition/retention include acquisition channels, product life cycle, understanding of market segments. This paper presents a case study on a fictitious company, which is a location-based service provider that enables users to share their location with friends and family. We will also explore on how customer acquisition and retention are dependent on the above factors. With the help of SAS graphs and Excel retention curves, we will demonstrate how each factor impacts customer acquisition and retention.

Introduction

For business growth and stability, both customer acquisition and retention are critical. A successful firm should keep existing clients while gaining new ones. A customer-centric marketing plan can help in acquiring and retaining clients without depleting financial and human resources. For instance, adding features to enhance user interaction, understanding when they purchase the subscription, and profiling lost users can improve customer retention and drive revenue. Moreover, aggressive marketing methods to identify potential customers and their attributes, such as the channel of acquisition and location, can increase new users.

Customer acquisition is crucial for businesses to increase their active product users, which consist of both new and returning users. Providing a valuable customer experience by improving the application's user interface can aid in this process.

Customer retention is one of the best measures of a company's service reliability. Over 90% of companies view customer experience as key to driving loyalty and retention. Retaining customers is crucial for consistent growth and financial planning, as existing customers require less maintenance than new ones. Moreover, strong retention rates can drive customer acquisition through referrals and positive reviews.

This paper focuses on how revenue varies with trends in active, new, and returning users, the impact of acquisition channels, the impact of location, and how customer retention rates change with the user interface. It highlights the factors influencing customer acquisition and retention. To keep the focus on SAS graph-based analysis, data preparation steps are not shown.

The Trend of Revenue and Active users

The sample for this analysis included 88,000 records over 12 months of data, with attributes such as event type (registered, connected, last active, trialed, subscribed), date of the event, country of location, and platform (iOS or Android).

A typical customer journey starts with registering, then trialing, and finally subscribing to the product. In a subscription-based business model, revenue is primarily driven by the number of subscriptions each month. One of the major KPIs to monitor trend of active users (new users + returning users) and revenue per each.

To analyze the impact of revenue and changes in active users (represented by the variable `act_user`) over time (using the `year_month` variable), we can create a combo chart. This chart will combine a column chart to represent revenue and a line graph to display active users. The following code using PROC SGPLOT can be used to achieve this visualization.

```
proc sgplot data=rev_cohort_plot;  
    series x=year_month y=revenue;  
    vbarbasic year_month / response=act_user Y2AXIS;  
run;
```

The graphs generated by the code illustrate the trends in revenue and active users. Active users consist of both new and returning users. As seen in Figure 1, active users declined by 80% from June to August, largely due to a decrease in new users. In August, the number of new users dropped significantly, reaching only 3% of the previous month's total. Despite this sharp decline in new users, the impact on revenue was minimal, suggesting that the number of subscribed customers remained relatively stable.

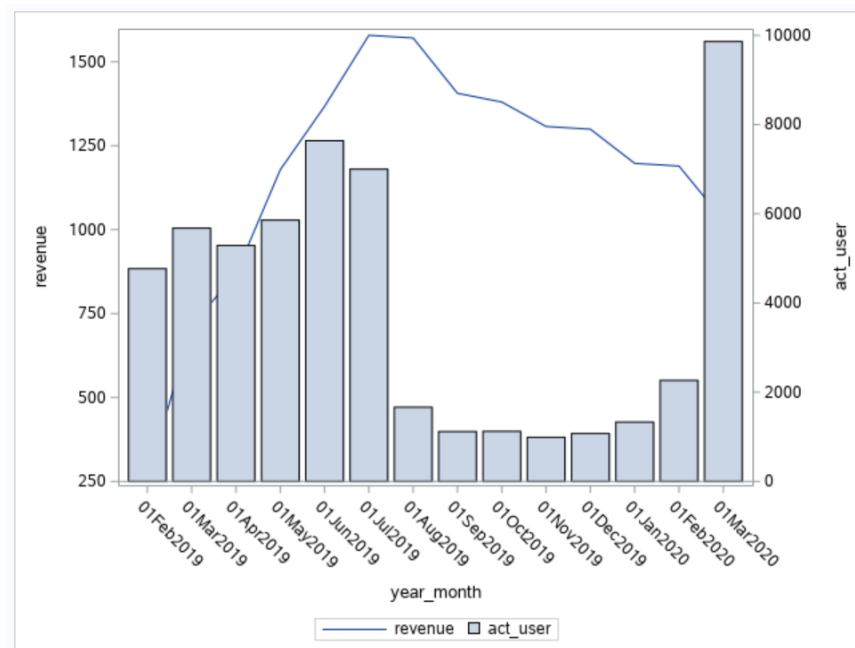


Figure 1

To further analyze the different user types, we can create a line chart to visualize the trends of active users (act_user), new users (new_user), and returning users (ret_user) across the months of the year (using the year_month variable). The following PROC SGPLOT code in SAS can be used to generate this chart:

```
proc sgplot data=all_users_plot;
  series x=year_month y=act_user;
  series x=year_month y=new_user;
  series x=year_month y=ret_user;
run;
```

The graph in Figure 2, generated from the above code, displays the trends of new, active, and returning users. It clearly shows a decline in new users by August, resulting in all active users being composed solely of returning users.

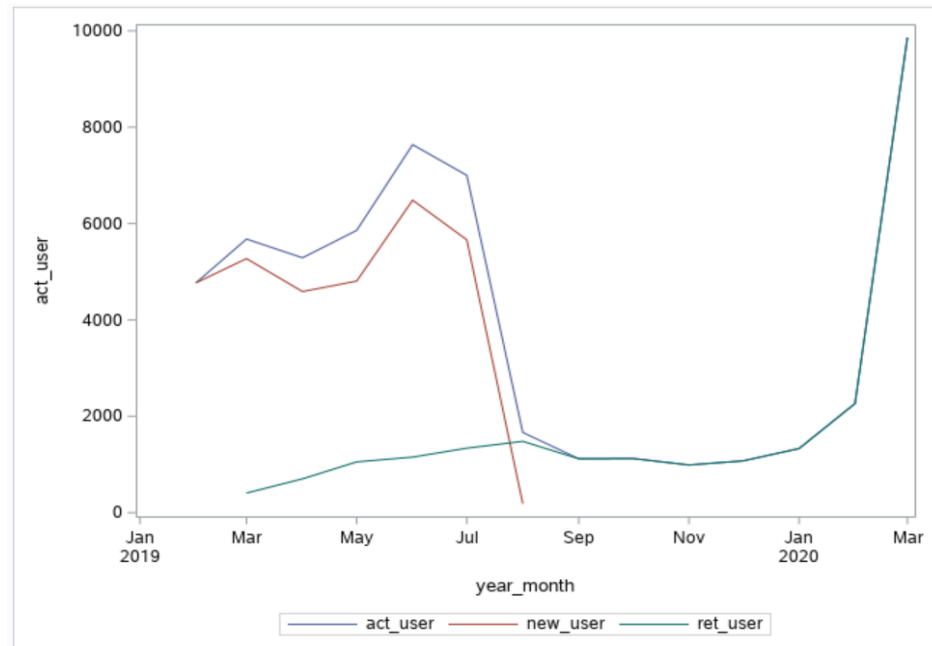


Figure 2

Impact of Channel on Customer Acquisition

Customer acquisition and retention rates are influenced by several factors, including the acquisition channel. Users gained through paid channels are typically the result of marketing campaigns, while organic users come from referrals or without any direct costs.

To visualize the trends of new users (new_users) by acquisition channel over time (using the year_month variable), we can create a line chart. This will allow us to observe how the number of new users from each channel changes month by month. The following code can be used to generate the line chart.

```
proc sgplot data=cust_acquis_by_channel;  
    series x=year_month y=new_users/group=source;  
run;
```

Figure 3 below illustrates the trends of new users by acquisition channel. Among the total acquisitions, the paid channel appears to be the least effective. This trend indicates that marketing campaigns may need to be more aggressive to enhance user acquisition through paid channels.

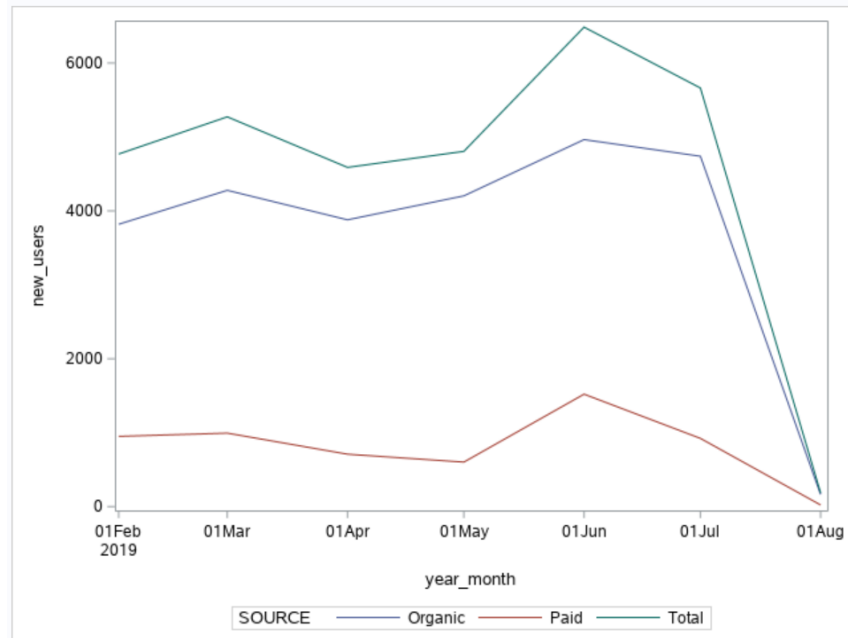


Figure 3

Impact of Location on Customer Acquisition

New customers are acquired from various locations, and analyzing the trend of new users by location can be a valuable way to assess customer acquisition performance. To visualize the trends of new customers by country over time (using the year_month variable), we can use a line chart to show how the number of new users from each country changes month by month. The following code can be used to create the line chart.

```
proc sgplot data=cust_acquis_by_country;  
    series x=year_month y=new_user/group=country;  
run;
```

The graphs in Figure 4, generated from the above code, display the number of new users acquired by location. The trend shows that the majority of new traffic, around 80%, is coming from the US. This location-based trend allows the business to tailor its customer acquisition strategies to user demographics, enabling the marketing team to adjust their efforts accordingly.

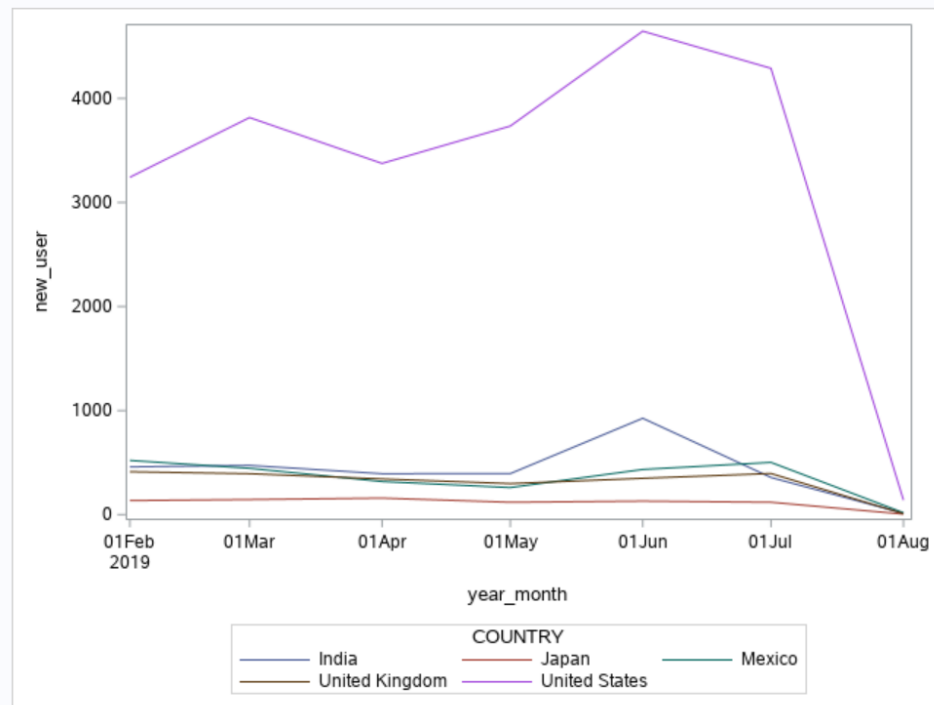


Figure 4

The Trend of Customer Retention

Each event type that follows a customer's first interaction with the product is tracked and logged in the data, enabling the creation of customer cohorts based on the month of their initial interaction. These cohorts help analyze retention trends over time. The retention curves derived from these cohorts provide insights into how well customers are retained over different periods. The retention curve created in Excel is shown below.



Figure 5

The graph in Figure 5 illustrates the customer retention rate following the first interaction with the application. It shows that less than 10% of customer interaction persists after the first month, indicating that improving retention rates is unlikely if new users are not engaged within six months of product usage.

To enhance retention rates, consider implementing strategies such as special pricing for returning customers, customer loyalty programs, and offering recurring subscriptions.

Customer Retention by OS Platforms

Similar to acquisition, customer retention rates are influenced by various factors, including the platform on which the customer uses the product. While product features may vary by OS platform, it is crucial for product owners to ensure a consistent and optimal user interface across all platforms.

The customer retention rates by OS are depicted in the retention curve shown in Figure 6, created in Excel. The data reveals that iOS users exhibit a higher retention rate compared to Android users. This disparity suggests that product owners should focus on improving the user experience on Android to close the gap in retention rates between iOS and Android.

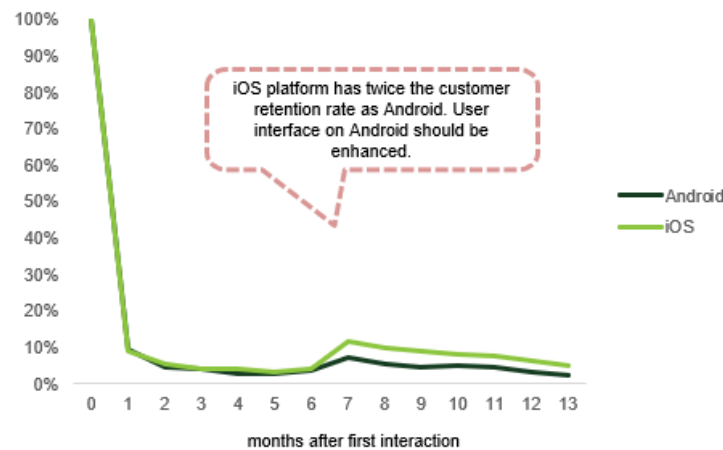


Figure 6

Conclusion

Customer acquisition and retention are essential for generating and sustaining revenue streams for a business. We utilized SAS graphs and Excel retention curves to visualize the key factors affecting these metrics.

In conclusion, both SAS graphs and Excel retention curves are valuable tools for visualizing trends and identifying the variables that influence acquisition and retention rates, enabling businesses to make informed, data-driven decisions to optimize their strategies.

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