MARKET ANALYTICS CASE STUDY ANALYSIS

BY

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INTRODUCTION

The dataset under study is for mobile application having parameters such as date, date_from_install, color, impressions, clicks, revenue, and number of installs by user type from August 2014 to January 2015.

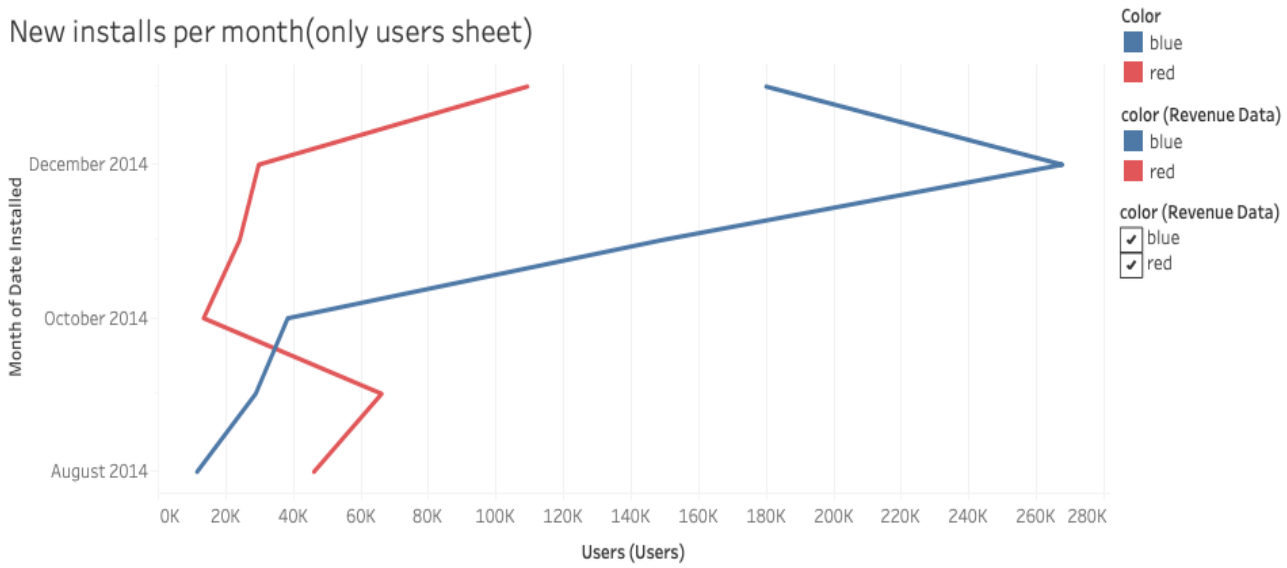
The main idea of this analysis is to study the consumer behavior and suggest data driven product growth strategy.

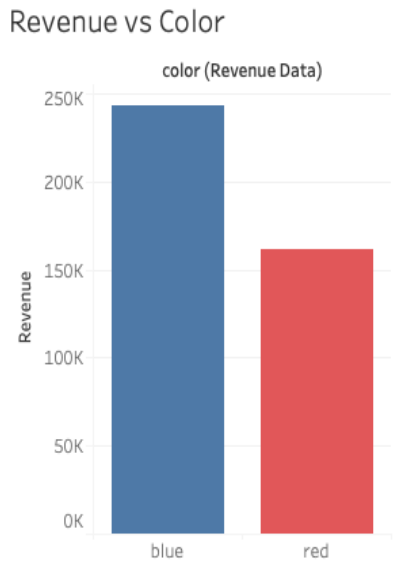
I have used Tableau for data preparation and visualization, Microsoft Excel to perform operation to calculate relevant metrics and forecast future numbers using pivot table and regression based forecast function.

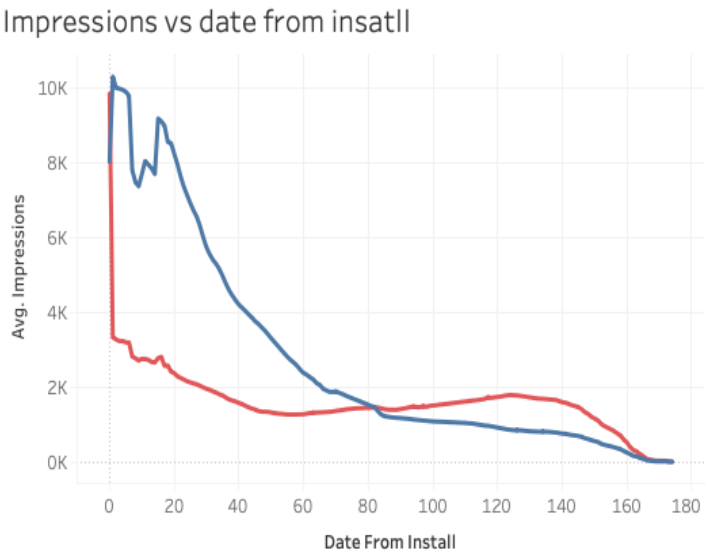
We will be focusing on mainly two important metrics Customer Lifetime Value (LTV) and Average Order Value (AOV) based on red and blue color cohorts.

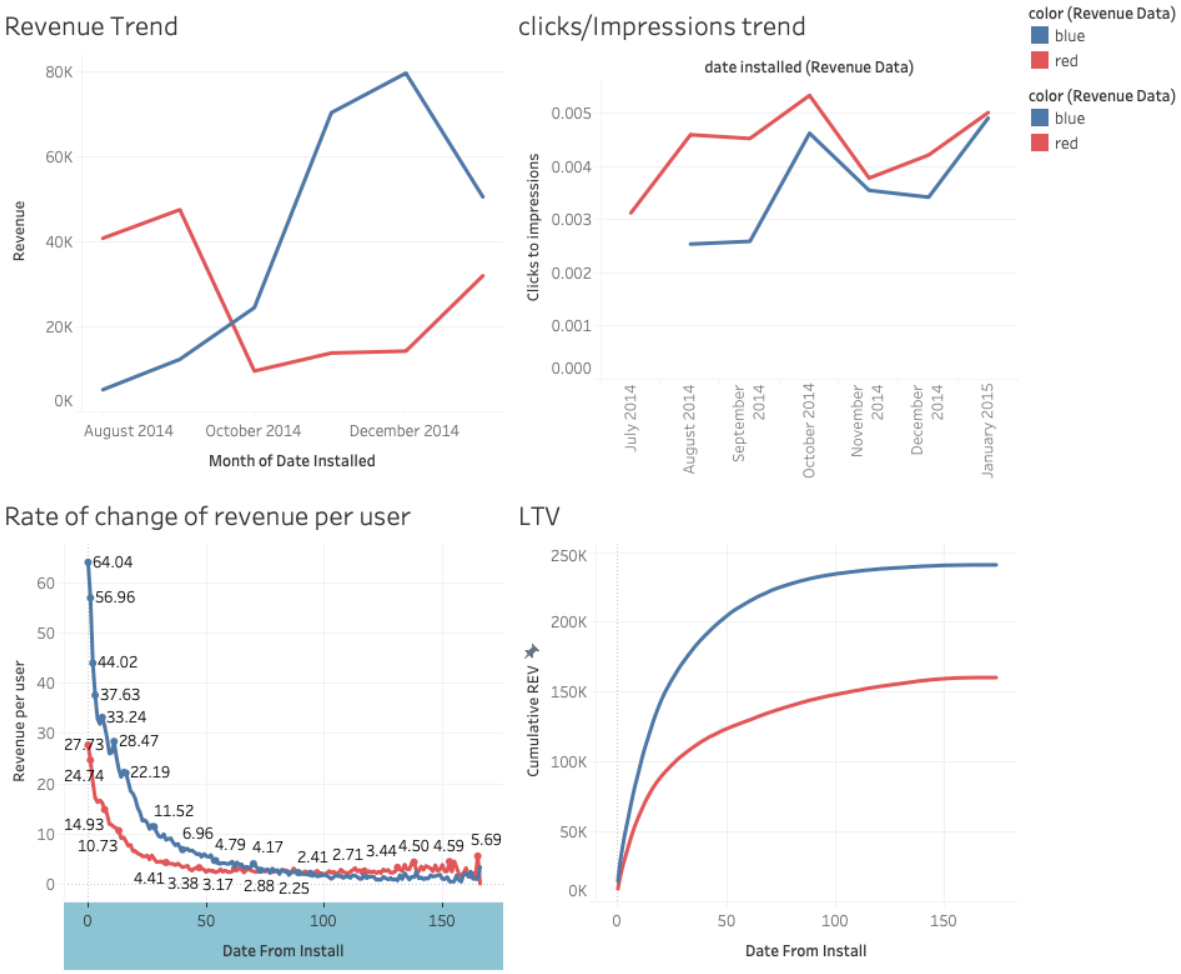
EXPLORATORY ANALYSIS and LTV

I have created dash boards in Tableau to identify patterns and changes in consumer behavior.









CAC and PAYBACK TIME

Assuming a $0.75 cost per acquisition, on average, we calculate the time it takes the users to pay back their acquisition cost.

COLOR	USERS	Acquisiton Cost	TOTAL REV	REV PER USER	PAY BACK PERIOD (In Months)
red	288522	0.75	161732.77	0.56	**8.03**
blue	675032	0.75	243147.60	0.36	**12.49**

To calculate time, we divide revenue per user by acquisition cost and multiply by 6 since the time frame in consideration is of 6 months. **It takes approximately 8 months for red and 12.5 months for blue user to reach break-even**.

AVERAGE ORDER VALUE and FUTURE PREDICTION

Based on the data available, I have initially calculated AOV of a user at 30, 90 and 180 days from install in excel. This was further extended to predict AOV for 365 days using pivot table and forecast regression function.

COLOR	DATE FROM INSTALL	TOTAL REVENUE	AOV PER USER
red	30	105262.03	0.36
red	90	144921.40	0.50
red	180	160560.53	0.56
blue	30	171553.49	0.25
blue	90	231939.88	0.34
blue	180	241224.71	0.36

Here we can see that red user has a higher AOV as compared to blue user.

For prediction, refer to sheet “AOV 365 days forecast” which shows for 365 days from install, AOV for red user is -20.88 and blue’s AOV is -66.94

FORECAST		
Color	Date_from_install	AOV
blue	200	-19.63
red	200	-4.21
blue	250	-33.97
red	250	-9.26
blue	365	-66.95
red	365	-20.88

User engagement should be prioritized here since negative AOV is not a good sign for the product.

SUMMARY AND RECOMMENDATIONS

The analysis revealed some interesting insights. Until October 2014, red users had a higher number of new installs and generated more revenue compared to blue users. However, after October 2014, the situation reversed, with blue users surpassing red users in both new installs and revenue. The blue cohort accounted for a significant portion, 60%, of the total revenue.

When considering average impressions shown, blue cohort had the advantage until 80 days from the date of install. After this point, the red

cohort began to receive higher average impressions. Additionally, **red users demonstrated a better ratio of clicks to impressions compared to blue users**.

The revenue per user showed a declining trend as the number of days from install increased. Initially, it was higher for blue users until 75 days, after which red users started generating higher revenue.

Analyzing LTV curve, **red users achieved 75% of their total revenue contribution in approximately 46 days, while blue users achieved the same in 35 days**.

Furthermore, **the red cohort exhibited a higher average order value (AOV) and required less time to become profitable compared to the blue cohort**.

Recommendations:

1. **Focus on Blue Cohort**: Blue accounts for 60% of the total revenue, it would be beneficial to prioritize this user segment in future. Analyze the factors that improve clicks to impressions ratio and enhance their engagement with the application.

2. **Enhance Red Cohort Impressions**: As the red cohort receives higher average impressions after 80 days from install, consider implementing strategies to increase their exposure and visibility during the earlier stages.

3. **Retention Strategies**: Given the declining revenue per user as the number of days from install increases, invest in retention strategies to keep users engaged and active over a longer period.

4. **Leverage LTV Insights**: Utilize the LTV curve analysis to understand the revenue milestones for both cohorts and optimize resource allocation and revenue forecasting.

5. **Capitalize on Red Cohort Strengths**: Leverage the higher AOV and better clicks to impression ratio to increase profitability of the red cohort by offering exclusive content that align with their preferences.

Note: Calculations are done in Excel sheet provided in the email (sheet “revenue and AOV 365 days forecast”) for break even and AOV.