BUMK776: Action Learning Project

Team 9

Team Members:
Sudharshan Meruga
Raju Akoju
Zhanyi Zhang
Aasrita Gajula

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Executive Summary

This report analyzes the relationship between brand spendings and downloads from paid search activities for three brands—K, T, and U—using Google Analytics data. The analysis identifies varying correlations between spending and downloads, with brand T and U showing positive correlations and brand K demonstrating a weak negative correlation. Insights into user behavior and channel performance highlight opportunities for optimizing marketing strategies. Tailored recommendations are provided to enhance website conversions for each brand. Overall, the analysis underscores the importance of strategic resource allocation and continuous optimization to drive engagement and conversions across different brands and market segments.

Objective of Analysis

The primary objective of this project is to conduct data analysis on the efficacy of paid search across the three brands, focusing particularly on their influence on website conversion actions, notably PEF form submissions. To analyze if increased spendings on paid search are associated with higher conversion rates. Determining the effectiveness of distinct paid search channels (e.g., Google/Bing, branded/unbranded) as well as their segmentation by audience targeting parameters such as mobile/desktop, consumer/healthcare-provider.

In addition to addressing the brand's initial inquiries, our analysis seeks to provide strategic insights into performance. We aim to better grasp customer behavior and interactions by thoroughly analyzing each brand's website visits, page views, and conversions. This helps better understand the trends, and potential opportunities that may not have been sought by the companies but offer valuable information for improving future marketing activities.

Methodology

The datasets for this project come from Excel files provided by Epsilon, encompassing Google Analytics data pertaining to the three brands - K, T and U. This data includes the metrics such as website visits, pageviews and conversions. It has been noted that brand K holds the most established position as it has been in the market for the longest period, followed by brand T, with brand U being the most recent entrant in the market.

Using Python, we undertook a data analysis endeavor to examine the relationship between brand spendings and downloads stemming from paid search activities, specifically focusing on Journey Stage 3 PEF Downloads occurring from the months of January to October. Furthermore, we have visually represented this relationship through line graphs that help in data interpretation by having the values of download counts heightened. Graphically representing spendings on search

platforms Google versus Bing helped to understand where the users were coming from and the effect on downloads.

Moreover, we have conducted graphical analysis to understand the distribution of new users to the website from different device categories like desktop, mobile and tablet, as well as the contributions from paid search marketing versus organic search channels for each of the three brands from January to October.

Results and Findings

Brand K spent $6,945,065.12 on paid search marketing across Bing and Google on consumers as well as healthcare professionals and received 674 PEF downloads (Exhibit A: Figure 1) while brand T spent $7,672,078.45 on 376 downloads (Exhibit A: Figure 2). It is seen that brand U spent $615,772.79 and garnered 266 downloads (Exhibit A: Figure 3). Brand K and T spend approximately 4.43x and 8.8x times respectively more per download than what Brand U has spent for downloads. Based on the results of our analysis performed using Python, the correlation coefficient obtained for brand K's spending and PEF downloads is -0.1229 (Exhibit B: Figure 1), indicating a negative correlation. With increase in spendings we notice the download count for brand K decreases. Although there is a slight tendency for spending to decrease as download counts increase due to weak negative correlation, the spending is not significant, and other factors may be influencing the spending and download counts independently taking into account the fact that K is a mature brand in the market. It can be seen that brand T has a correlation coefficient of 0.509 (Exhibit B: Figure 2) indicating that there's a positive correlation for the aforementioned variables. It is seen that when brand T's spendings increased the number of PEF form downloads also increased. For brand U, the correlation coefficient is 0.8573 (Exhibit B: Figure 3), indicating a strong positive correlation between K's spending and downloads. It is noticed that with increase in spendings, the number of downloads increased significantly. This correlation highlights how well the marketing strategies that were put into place during the period sparked user's visit to their website and eventually led to downloads and conversions, as evidenced by the rise in download activity. Since, brand U is relatively newer in the market, it was able to effectively use the marketing spends for desired PEF form downloads.

With the increase in expenditures for Brand K, there was a corresponding rise in the number of new users visiting the website from both desktop and mobile devices, reaching its peak in July. However, while a similar trend was observed for Brands T and U initially, it did not hold true towards the end of the period. On average, the ratio of paid new users to organic new users was approximately 22 times higher for Brand K (Exhibit C: Figure 1), 7 times higher for Brand T (Exhibit C: Figure 2), and 33 times higher for Brand U (Exhibit C: Figure 3). Brand K allocated 5.5 times more budget towards Google advertising compared to Bing (Exhibit D: Figure 1). Despite this, Bing attracted 1.5 times more total users than Google for Brand K. Conversely,

Brands T invested 8.5 times more in Google advertising than Bing (Exhibit D: Figure 2), resulting in 2.3 times more total users from Google than Bing. For Brand U, although they spent 1.5 times more on Google than Bing (Exhibit D: Figure 3), the total number of users on Bing exceeded those on Google by 2.5 times as U spent on Bing as much as it did on Google during the last quarter.

Recommendation

In our analysis, we looked at key aspects of the brands such as search channels, pageviews, page visits.With these insights, this led to us creating favorable recommendations that can help the brands succeed in terms of submissions:

For brand K:
1. **Restructure Paid Search Marketing:** Though K has spent 5.5 times more on Google paid search than Bing, new users came from Bing. Brand K can allocate more budget to Bing for a certain time period and access the engagement on the website.
2. **Remarketing Activities:** Target users from journey stage 2 who have contacted specialists or reps but haven't downloaded the PEF forms in the next journey stage as they have higher changes for conversion.
3. **Review Keywords:** Highest bidding for not just branded but unbranded keywords help better target a wider range of audience.

For brand T:
1. **Optimize Website for Mobile:** Since most users come from mobile devices, having an optimized website can reduce bounce rate which happens due to high load time of the website. Implementing lazy loading can help speed up webpage load times.
2. **Enhance User Experience:** Improving the overall user experience across all touchpoints. Having AI chatbots on the website helps customers get support without delay.
3. **Refining the Content:** Brands should create a content strategy that will attract and encourage users to go to the website and interact.

For brand U:
1. **Include Short and Long - Tailed Keywords:** Since brand U is less mature in the market it has huge potential to reach a wider target audience. By tapping the audience through broad keywords enables higher visits and conversions to the website.
2. **Promotion through Offline Activities:** Offline brand awareness activities help foster trust in the brand.
3. **Social Media/ Marketing Campaigns:** Alongside optimizing the website, creating marketing campaigns for social media platforms can attract another subset of the audience into looking at the brands and potentially lead them to the website.

Conclusion

We can conclude that higher paid search does indeed lead to website conversions- specifically for Brand T and U. Within this analysis, we focused on looking at search channels as well as segmentation of the audience. This allowed us to see how the three brands are affected by paid search spending by major search channels such as Google and Bing and which method did they use to look at the website like: mobile, desktop or tablet.
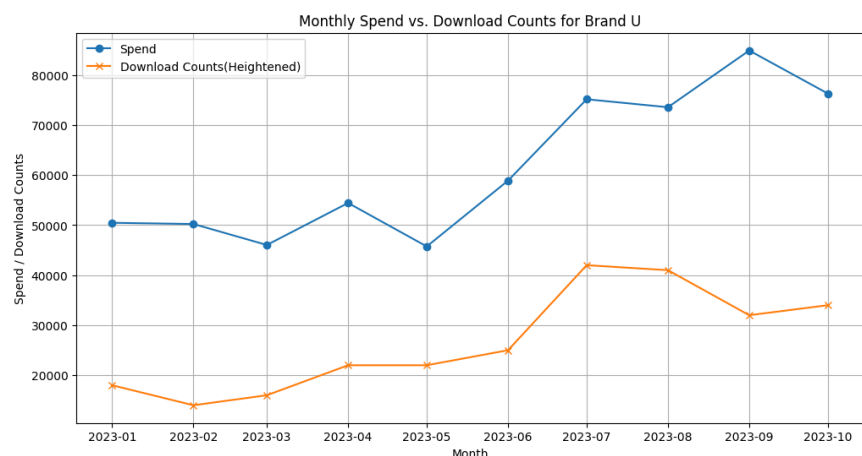
Appendices

Exhibit A: Monthly Spend vs Download Counts
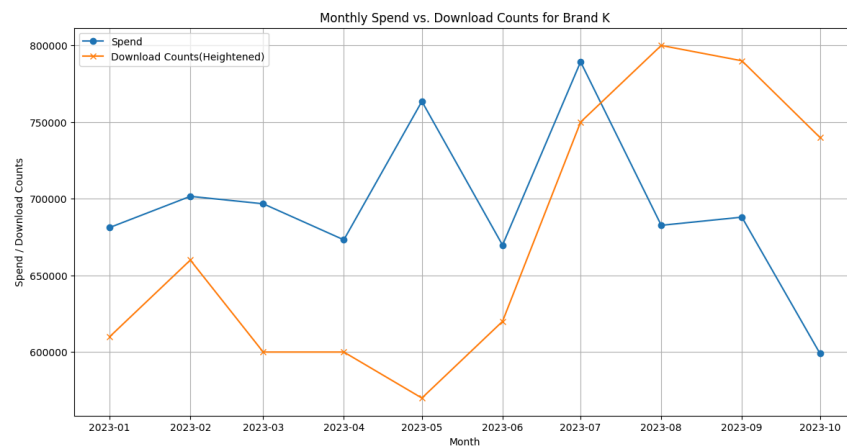
Figure 1: Brand K - Monthly Spend vs PEF Downloads
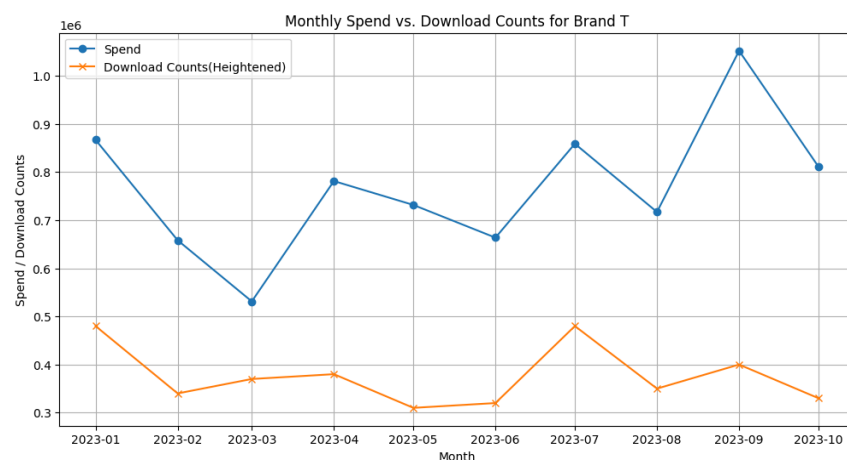
Figure 2: Brand T - Monthly Spend vs PEF Downloads

Figure 3: Brand U - Monthly Spend vs PEF Downloads

Exhibit B: Correlation between Paid Search and PEF Download

```
(     Month      Spend  Download Counts
0   2023-01  681235.55              61
1   2023-02  701578.10              66
2   2023-03  696717.62              60
3   2023-04  673197.72              60
4   2023-05  763518.71              57
5   2023-06  669736.57              62
6   2023-07  789321.86              75
7   2023-08  682672.50              80
8   2023-09  687992.93              79
9   2023-10  599093.56              74,
-0.12285671221065762)
```

Figure 1: Brand K's correlation

```
(     Month       Spend  Download Counts
0   2023-01   866990.65              48
1   2023-02   658300.85              34
2   2023-03   531218.44              37
3   2023-04   781289.48              38
4   2023-05   731704.51              31
5   2023-06   663721.53              32
6   2023-07   858823.14              48
7   2023-08   717046.91              35
8   2023-09  1051978.67              40
9   2023-10   811004.27              33,
0.5018979899102539)
```

Figure 2: Brand T's correlation

```
(     Month     Spend  Download Counts
0   2023-01  50469.69              18
1   2023-02  50230.76              14
2   2023-03  46039.82              16
3   2023-04  54434.97              22
4   2023-05  45744.30              22
5   2023-06  58902.33              25
6   2023-07  75166.31              42
7   2023-08  73573.49              41
8   2023-09  84906.68              32
9   2023-10  76304.44              34,
0.8573141917363036)
```

Figure 3: Brand U's correlation
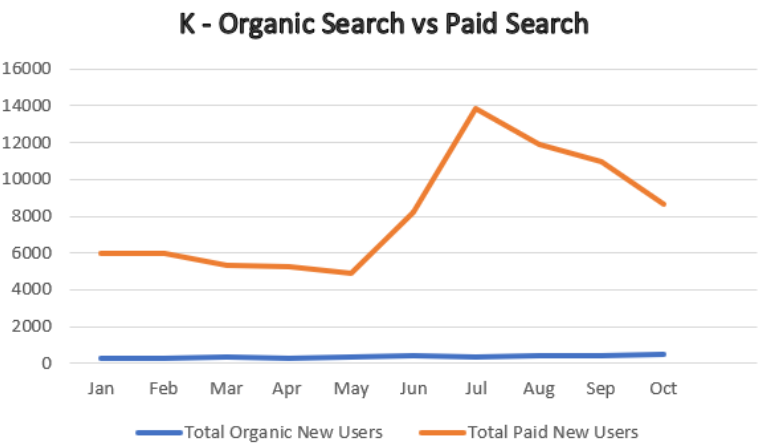
Exhibit C: Organic New Users vs Paid New Users
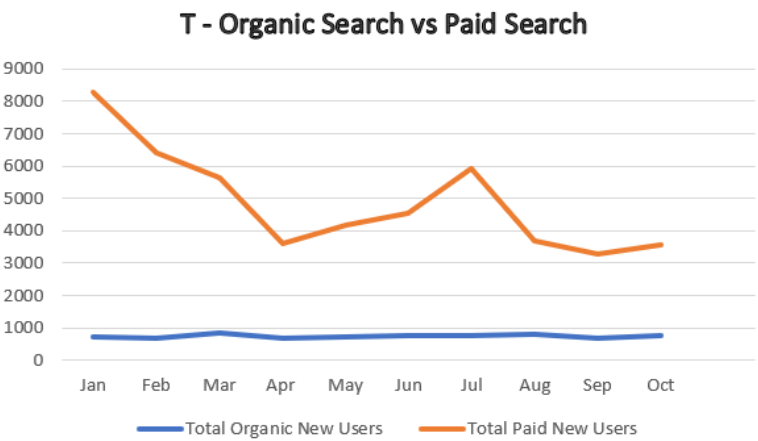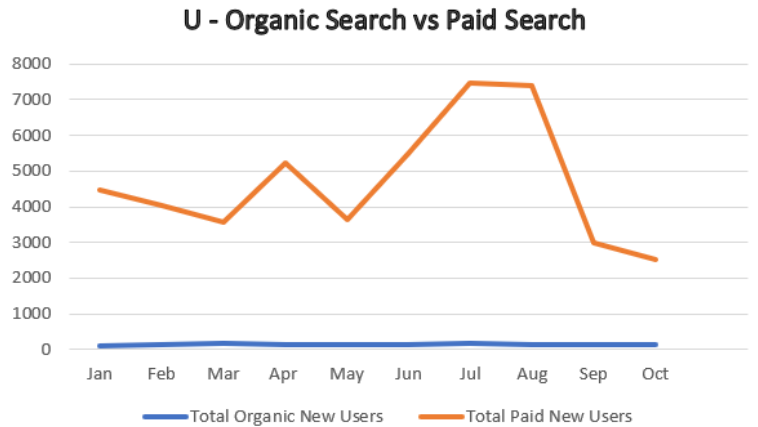

Figure 1: Brand K

Figure 2: Brand T

Figure 3: Brand U

Exhibit D: Paid Channel Spendings - Google vs Bing

Figure 1: Brand K

Figure 2: Brand T

Figure 3: Brand U