**1. What is the typical engagement rate we can expect? What's the likelihood that we can achieve a 15% engagement rate?**

- For the typical engagement rate, I plan to use overall engagement rate as the baseline, so I use total engagements divided by total impressions to calculate the typical engagement rate, which is **8.6%**
- For the likelihood to achieve a 15% engagement rate, I plan to find the proportion of observations with a engagement rate equal to or larger than 15%, which is **6.39%** (222 out of 3475)

2. Does day of the week and time of posting affect engagement rates?

- For the day of the week effect, I plan to examine changes of engagement rate throughout the week (day 0-6 represents Monday to Sunday). The data reveals that **Sunday and Tuesday are the most engaging days**, with the highest engagement rates of 10.60% and 10.16% respectively.
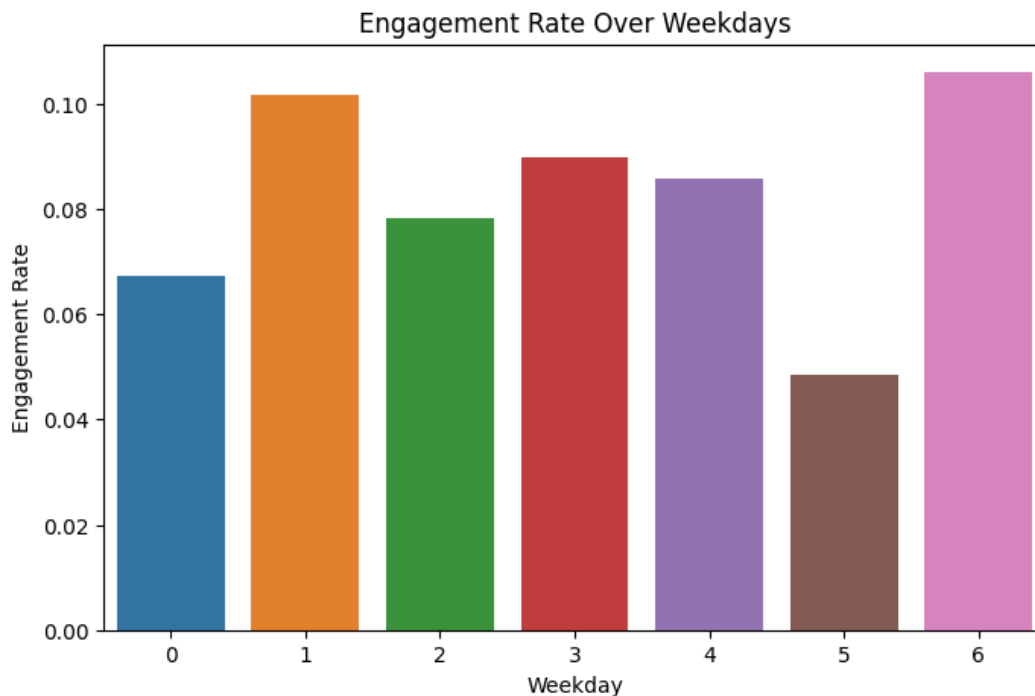

- For the time of posting effect, I plan to decompose the time of each day in 5 segments: 1. Early Morning (5AM ~ 8AM), 2. Morning (9AM ~ 11AM), 3. Noon (12PM ~ 1PM), 4. Afternoon (2PM ~ 6PM), 5. Night (7PM ~ 4AM). The result shows the early morning period has the **highest engagement rate (12.4%)** among all 5 time periods, while the night period has the lowest engagement rate (6.8%) among all 5 time periods. The suggestion here is to prioritize more on campaign notification or marking in the **early morning period** to increase total engagements.

Engagement Rate Over Day Time
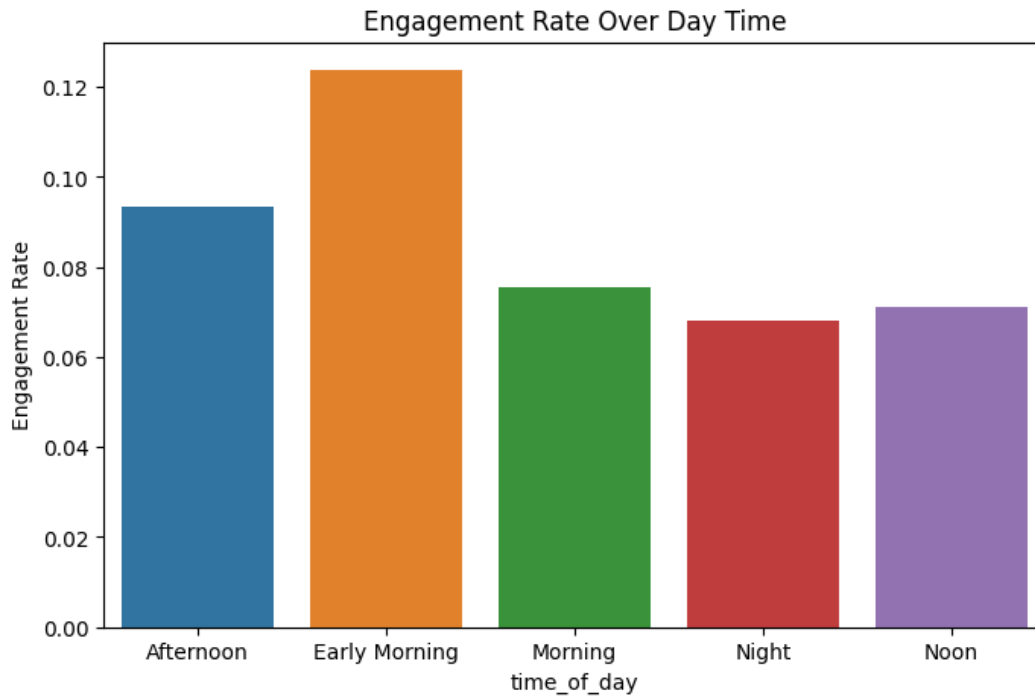
3. How are our game titles doing in terms of social performance? Is there a specific game we should focus more on or less?

- For the game effect, while the **General** category performs best in terms of engagement rates **(9.07%)**, among the specific game titles, **DOTA2** achieves the highest engagement rates **(6.67%)**.


Engagement Rate of Game Titles
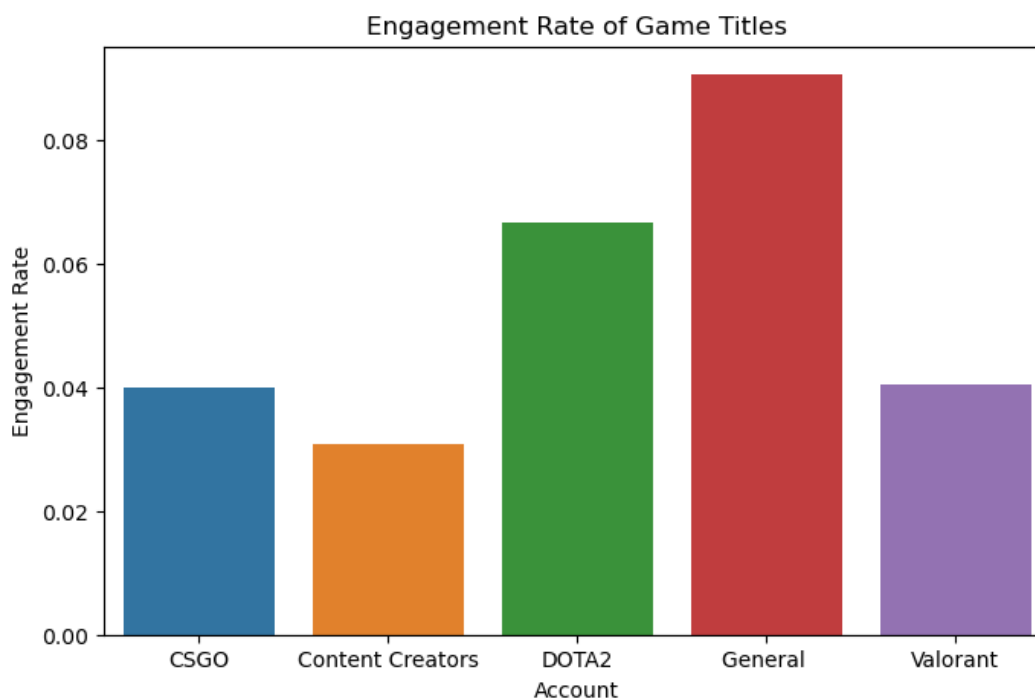
4. What media type performs the best?

- For the media type effect, **Album** type has the highest engagement rate (40%). However, its total number of impressions and engagements are significantly lower than other categories (20 and 8), which implies potential limitations of this media type.
- **Photo** type performs best regarding both engagement rate **(9.1%)** and total engagement numbers **(~216k) .**

Engagement Rate of Media Types
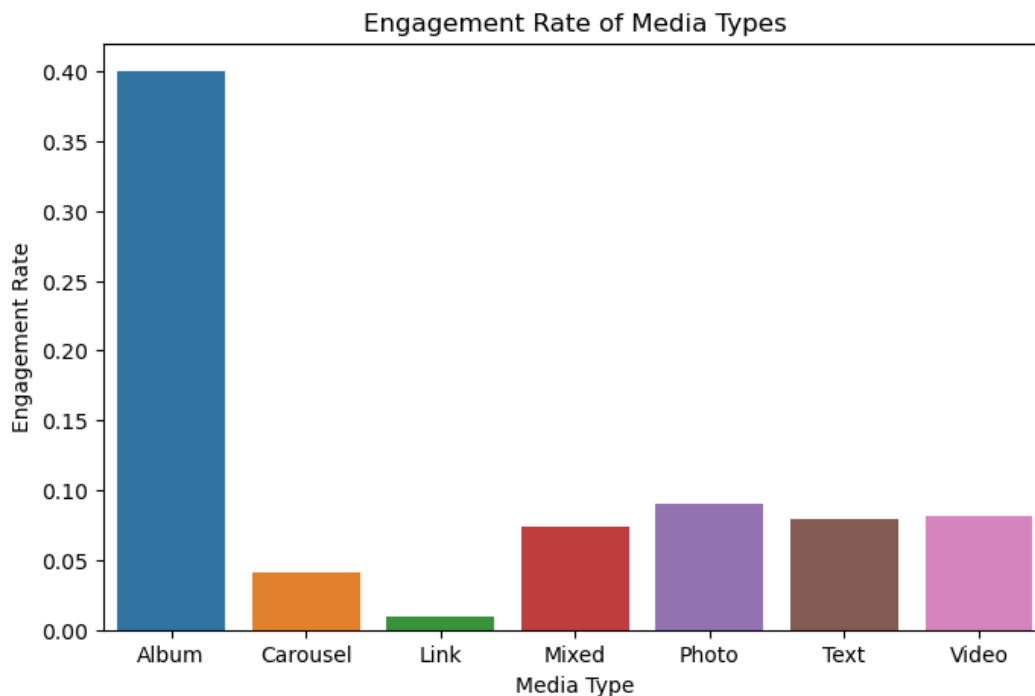
5. What is our best performing campaign?

- For the best performing campaign, 'N/A' category campaign performs best regarding to engagement rate **(14%)**; however, it's important to consider the the name 'N/A' implies that this category may include a mix of different campaigns due to data tracking issue, so we can not trust this category
- Other than 'N/A' category, **community engagement** campaign perform the best regarding ot both engagement rate **(8.6%)** and total engagement numbers **(~204k)**

Engagement Rate of Campaign Name
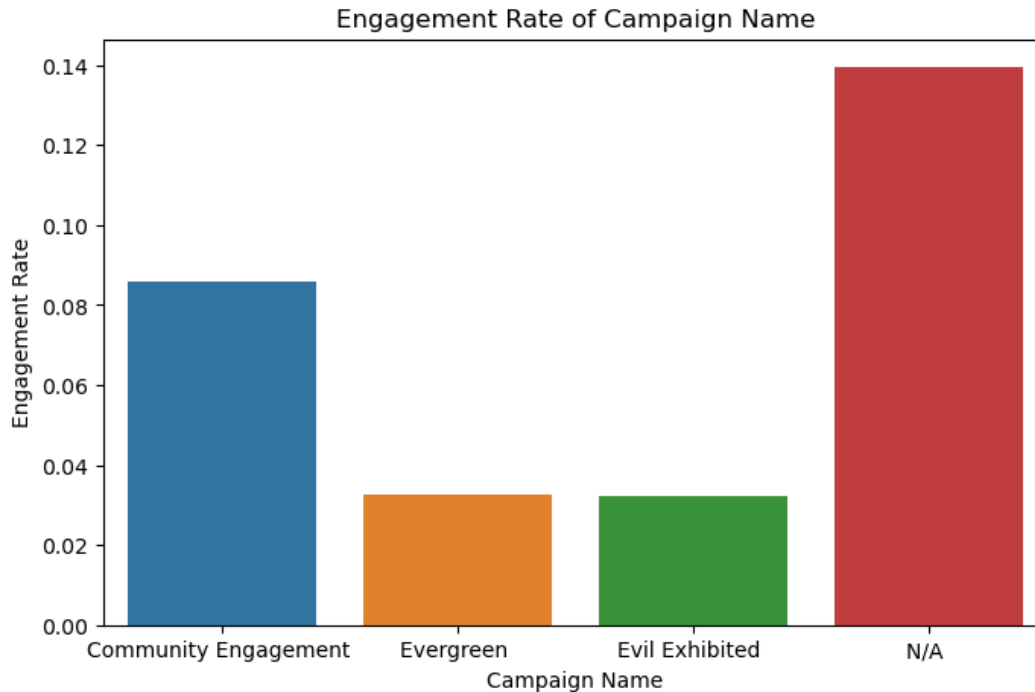
6. Define out a posting strategy for our social channels based on your discoveries.
- Time
  - The **early morning hours (5-9 A.M)** seem to yield the highest engagement rate, followed by afternoon hours (14-19 P.M). It would be ideal to schedule key posts during early morning hours and afternoon hours.
  - **Sunday and Tuesday** are the days with the highest engagement rates.Therefore I would recommend the marketing to prioritize the promotion for those 2 days
- Content
  - "General" category has the best performance in terms of reach and engagement, and among the specific game titles, **DOTA2** performs the best with the second-highest engagement rate.
  - Though "Album" is the media type with highest engagement rates, it is more recommended to use "**Photo**" as the media type in reaching and engaging audiences considering the limitations of "Album".
  - "**Community Engagement**" campaigns show strong performance. While it might be beneficial to investigate what is driving the high engagement rate of the 'N/A' campaign, focusing on community engagement content can enhance performance given its solid impression count and engagement rate.

7. What suggestions would you give to the social media team if they want to expand their presence (e.g. if our CSGO youtube channel is doing well should we expand to TikTok)?

- Market Entry Analysis
  - Before expanding other content or channels to the existing strategy, I would suggest the social media team conduct a competitive analysis on how those new contents perform on other platform; If those content perform bad, maybe there is less headroom or opportunities for us to introduction them into our platform
- User Profiling
  - It is super valuable for the social media team to have a deep and comprehensive understanding of the targeted users. For example, we can conduct a user segmentation using clustering to identify different user cohorts, maybe some users prefer CSGO youtube channel, some users prefer to explore something new; In this case, we can design personalized promotion strategy to improve the relevance of our recommendation