

Brand Popularity based on Facebook Data

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Overview:

- What question is our data answering?
 - ***What should be the preferred mode [Pictures, Videos, Links and Status] of the advertisement to gain popularity in Facebook for a Brand?***
 - ***Paid or Free advertisement, which results in more popularity in Facebook?***
- What is our group's hypothesis?
 - ***Picture Posts results in more popularity compared to Links, Videos, or Statues.***
 - ***Paid advertisements yields higher reach compared to Free advertisement.***
- What is our process for evaluating the data?
 - Utilizing the Facebook metrics dataset collected based on Facebook posts.
 - Importing the dataset using Pandas in Python, to convert them into data frames.
 - Applying statistical methods to find central tendency on those data frames to build a common ground for data analysis.
 - Visualizing the data using seaborn & matplotlib libraries in Python to address the objective of this study.

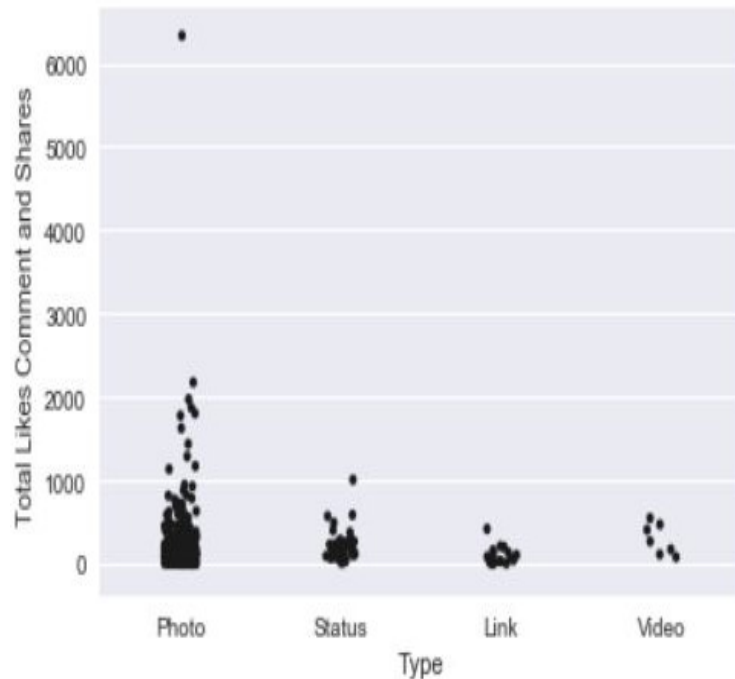
Picture Posts results in more popularity compared to Links, Videos, or Statues

- The total number of interactions is being used to identify the popular mode of advertisement Pictures, Videos, Images and Links.
- Considering the Mean of total number of Comments, Likes and Shares the quantity of likes plays a major role in determining the popularity among the modes of advertisement chosen. This is mainly because the effort involved in liking a post is very less compared to that of comments/shares.

```
d = {'Type': ["like", "comment", "share"], \
     'Mean': [facebook_data["like"].mean(), \
               facebook_data["comment"].mean(), \
               facebook_data["share"].mean()]}
```

- The adjacent Strip plot graph clearly indicates Photos/Pictures results in more number of interactions per Facebook Post.

```
ax = sns.stripplot(x="Type", y="Total Likes Comment and Shares", \
                   data=facebook_data, jitter=True, color=".1", size = 4 )
```



	Type	Mean
0	like	177.945892
1	comment	7.482000
2	share	27.266129

Paid advertisements yields higher reach compared to Free advertisement

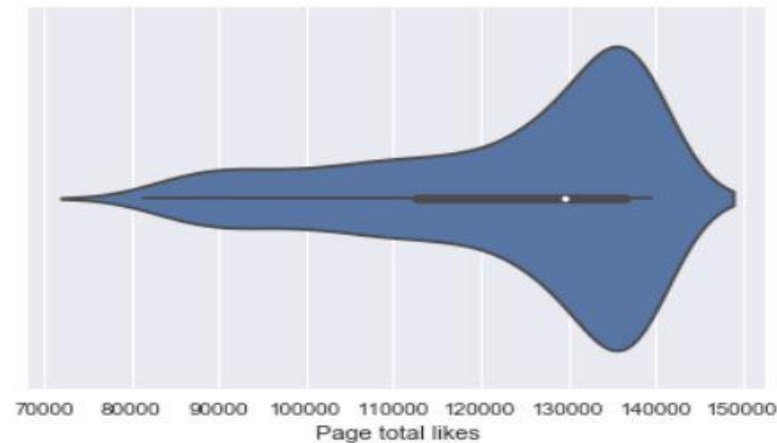
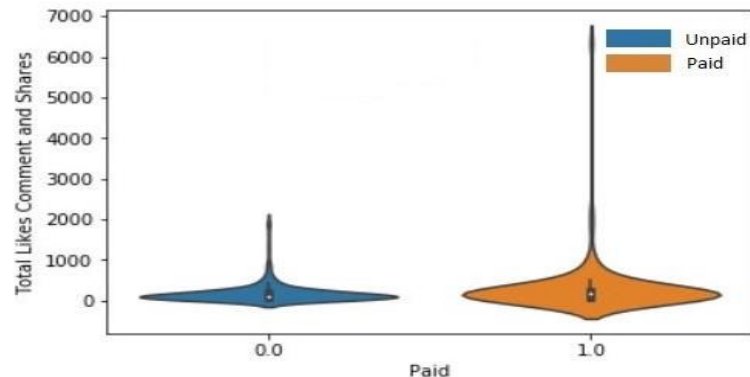
- In the first Violin graph the mean number of Total Likes Comments and Share of Paid and Unpaid advertisements are compared to understand the impact on the posts.

```
ax = sns.violinplot(x="Paid", y="Total Likes Comment and Shares",\n                    data=facebook_data, scale="width")
```

- It is evident that the Paid advertisements crossed over 6000 average Facebook interactions whereas Unpaid advertisement's average is only slightly above 2000 interactions.
- In the second Violin graph the paid advertisement is visualized based on the total number of interactions the Brands received.

```
sns.violinplot(x= "Page total likes", data=facebook_data, scale='area')
```

- The top Brands reaps more than 130000 total number of interactions on Facebook through Paid advertisement.

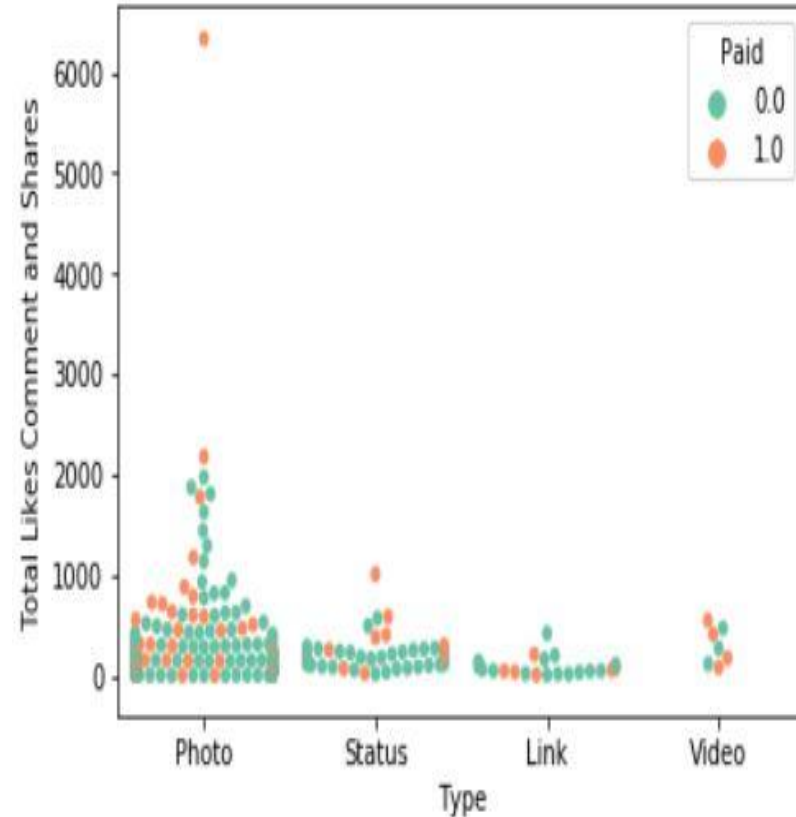


Summary

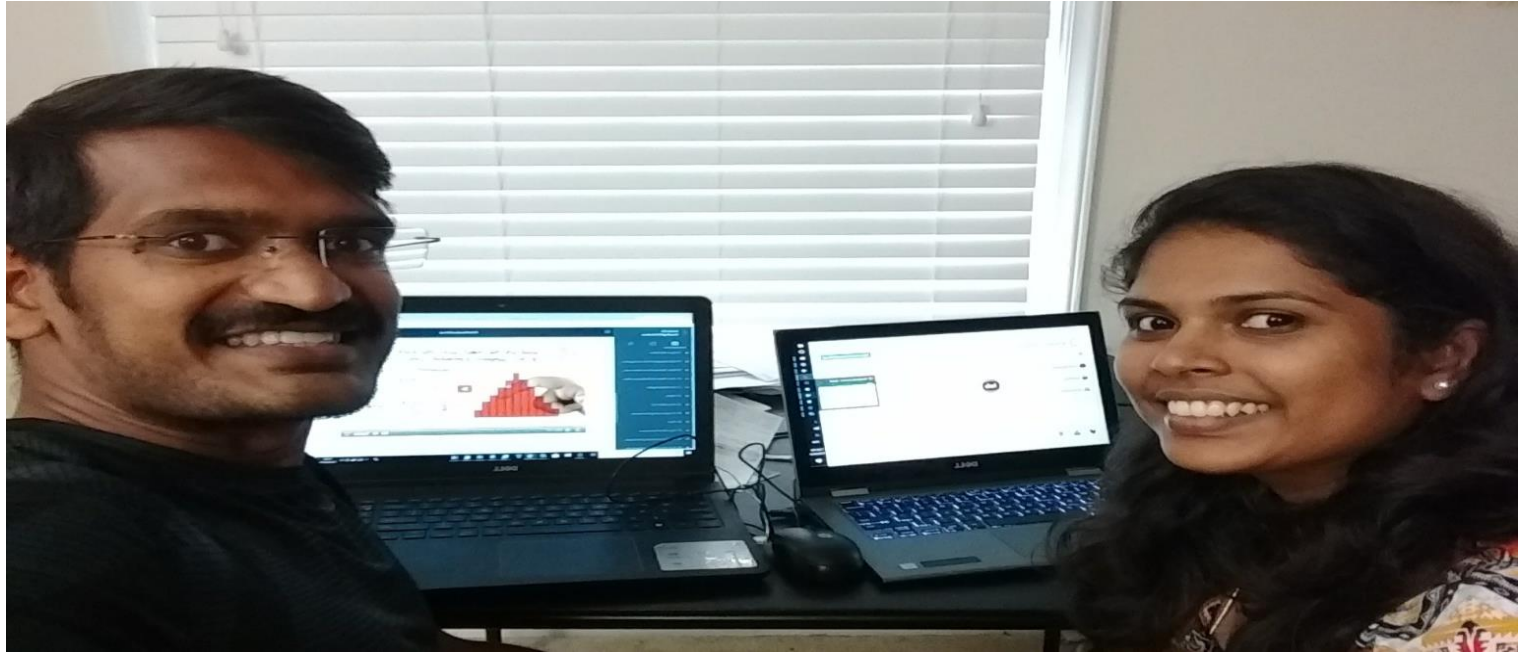
- This Swarmplot brings together the types of Facebook's post (Photos, Status, Links and Videos) along with the factor of monetary expenditure (Paid or Unpaid) towards an advertisement for a Brand against the average number of Total Likes, Comments and Shares.

```
ax = sns.swarmplot(x="Type", y="Total Likes Comment and Shares",\n                  hue="Paid", data=facebook_data, palette="Set2")
```

- Even though the number of Paid advertisements is less in number compared to that of Unpaid, the number of interactions the Paid advertisement yields seem to lie well above the average Unpaid ads across the type of Facebook posts.
- Going by the number of interactions, picture advertisements that were paid, contributes the maximum towards a Brands popularity in Facebook.



Group Photo



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References:

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