

Instagram User Analytics

Project Description:

In order to get business insights for the marketing, product, and development teams, we track how consumers connect with and interact with our digital product i.e., Instagram.

Teams from throughout the company utilise this information to develop new marketing campaigns, choose which features to include in apps, gauge the performance of the apps by looking at user interaction, and generally improve the user experience while assisting in business expansion.

Approach:

Our objective is to learn more about our customers in order to continue interaction with them and give them the best experience possible on our platform. We should be grateful to those who have spent the greatest time with us. We're planning to run a contest with a prize for the user whose photo obtains the most likes as part of our ongoing efforts to improve the user experience on our platform.

To help our partners reach more audience for their product we are suggesting them to use popular hashtags. In order to determine which hashtag is more popular, we need to know which people are most likely to have used on their photographs. Before launching the campaign, we must ascertain which day of the week receives the highest registrations in order to guarantee that no person is left out.

As our investors are interested in how effectively our platform is performing, we also provide them with information like the normal user's Instagram posting frequency and details about any bots that may have been used to fake every single image on the platform. Understanding this enables us to report these users and assist in enhancing performance in the future.

Tech-Stack Used:

For this project we are using **MySQL Workbench 8.0 CE** which is an open-source, cross-platform relational database tool that enhances functionality, data modelling, SQL creation and numerous tools for configuration.

Insights:

1. Rewarding most loyal users
 - Instagram serves as a social networking site for exchanging videos and photos. On this platform, new users sign up on a daily basis, but we really want to identify those devoted users who have been using it for a while.
 - This information will enable marketing departments engage with all these customers in such a manner that leaves them feeling valued.
 - We are using following SQL query to list top 5 customers who have been using platform for longest time.

```
5 oldest users*/  
SELECT username, created_at FROM users ORDER BY created_at ASC LIMIT 5;
```

2. Remind inactive users to starts posting

- Every day, new users register and utilise the platform, but there are some who have yet to publish a single photo to their feed.
- We are identifying those users and sending them reminder emails to create their first post so that they can engage with new people.
- We are using following SQL query to find users who have not posted an single photo on Instagram.

```
/* Inactive users*/
SELECT username from users where id NOT IN (SELECT user_id from photos);
```

3. Declaring Contest Winner:

- We are doing a contest where we track which user photo received the most likes in an effort to make the platform more engaging for users.
- And the marketing team will be informed of who had the most likes on their post and receive a prize.
- Using following query, we will get a winner for this contest,

```
/* users who got most likes */
SELECT username, photos.id, COUNT(*) AS Total_likes from photos
INNER JOIN likes ON
likes.photo_id = photos.id
INNER JOIN users ON
users.id = photos.user_id
GROUP BY photos.id
ORDER BY Total_likes DESC
LIMIT 1;
```

4. Hashtag Researching

- Instagram is a powerful platform for brands to advertise their product. With the right hashtag, brands can reach their target audience and increase their visibility.
- But how do they know which hashtag will be most used by users? To answer this question, our brand partner needs to understand the importance of using the right hashtags and how to find them.
- We are using following query to find most used hashtags,

```
/* Top 5 commonly used hashtags */
SELECT tag_name, COUNT(tag_name) AS tag_count
FROM tags
INNER JOIN photo_tags on
tags.id = photo_tags.tag_id
GROUP BY tags.id
ORDER BY tag_count DESC
LIMIT 5;
```

5. Launch AD Campaign

- We continuously explore new approaches to interact with all users and provide them with fresh platform experiences.

- Our marketing team is preparing to launch a new ad campaign, but they are unsure about the best day to do so in order to reach the greatest number of users
- We are using following query to know which day of the week will be good to launch campaign.

```
/* Day of the week user registered most */
SELECT DAYNAME(created_at) AS weekday, COUNT(*) AS total
FROM users GROUP BY weekday ORDER BY total DESC;
```

6. User Engagement

- Instagram has become a popular platform for users to share their stories, thoughts, and experiences with the world.
- Despite its success, there is a question as to whether users are still as active on the platform and making posts as they once were.
- We want to know how many times an average user posts on Instagram and explore if users are still making posts or if they are posting less than in the past.
- Additionally, it will provide insight into how users are engaging with the platform and what can be done to encourage more activity on Instagram.

```
/* Investors Metrics
average users posts */
SELECT DISTINCT(user_id) AS id_user, ROUND(COUNT(id)/ COUNT(DISTINCT user_id)) AS avg_posts FROM photos GROUP BY id_user order by avg_posts DESC limit 10;
SELECT ROUND((SELECT COUNT(*) FROM photos)/(SELECT COUNT(*) FROM users),2) AS user_post;
```

7. Bots & fake accounts

- Instagram is constantly open to new users who want to contribute to society and encourage one another.
- Yet, there are other accounts that we believe are bots or phoney profiles and have liked every Instagram post.
- In order to prevent any legitimate users from experiencing issues as a result of these accounts, we want to report these accounts.

```
/* bots who have liked every single photo*/
SELECT DISTINCT(id), username FROM users
INNER JOIN likes
ON users.id = likes.user_id
GROUP BY user_id
HAVING COUNT(*) = (SELECT COUNT(*) FROM PHOTOS);
```

Results:

1. Rewarding Most Loyal Users

- These 5 customers have been using platform for longest time.
- Sending these users warm emails can help them feel appreciated, and we should also consider rewarding them with some treats.

username	created_at
Darby_Herzog	2016-05-06 00:14:21
Emilio_Bernier52	2016-05-06 13:04:30
Elenor88	2016-05-08 01:30:41
Nicole71	2016-05-09 17:30:22
Jordyn.Jacobson2	2016-05-14 07:56:26

2. Remind inactive users to starts posting

- Emails should be sent to those users on the list who haven't posted in a while urging them to do so more frequently.

username	
Aniya_Hackett	
Bartholome.Bernhard	
Bethany20	Kasandra_Homenick
Darby_Herzog	Leslie67
David.Osinski47	Linnea59
Duane60	Maxwell.Halvorson
Esmeralda.Mraz57	Mckenna17
Esther.Zulauf61	Mike.Auer39
Franco_Keebler64	Morgan.Kassulke
Hulda.Macejkovic	Nia_Haag
Jadyn81	Ollie_Ledner37
Janelle.Nikolaus81	Pearl7
Jessyca_West	Rocio33
Julien_Schmidt	Tierra.Trantow

3. Declaring Contest Winner

- putting on a contest to see which user's photo received the most likes, and sending them our best wishes and other encouragements to upload more.

username	id	Total_likes
Zack_Kemmer93	145	48

4. Hashtag Researching

- deciding which hashtags to include in the post to reach the broadest audience.
- These are five hashtags which are popular on Instagram and will help our partners to reach more audience.

tag_name	tag_count
smile	59
beach	42
party	39
fun	38
concert	24

5. Launch AD Campaign

- The team is working to identify the best day for ad debuts. What day of the week experiences the most traffic?
- As it shows we should suggest to launch campaigns on Thursday or Sunday as most users registered on these days.

weekday	total
Thursday	16
Sunday	16
Friday	15
Tuesday	14
Monday	14
Wednesday	13
Saturday	12

6. User Engagement

- We have taken 10 average customers, to know how often they post.
- An average user posts minimum 5 posts and maximum 12 posts on their feed.

id_user	avg_posts
23	12
88	11
59	10
86	9
29	8
58	8
77	6
47	5
43	5
33	5

- The figure below reflects the overall number of Instagram photos divided by the total number of users.

user_post
2.57

7. Bots & fake accounts

- These accounts could be phoney or bot accounts, in which case we should take proper action to prevent them from spamming other users by reporting them or taking other action.

id	username
5	Aniya_Hackett
14	Jadyn81
21	Rocio33
24	Maxwell.Halvorson
36	Ollie_Ledner37
41	Mckenna17
54	Duane60
57	Julien_Schmidt
66	Mike.Auer39
71	Nia_Haag
75	Leslie67
76	Janelle.Nikolaus81
91	Bethany20