Tech Instagram Influencer Analysis

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Agenda

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Project Description

During our internship at **AtliQ Technologies** Pvt. Ltd., we had the exciting opportunity to analyze the Instagram activity of a Tech Instagram Influencer. The project involved working with three database tables containing activity data to uncover insights and answer key analytical questions.We were provided with a SQL database file, which we loaded into MySQL Workbench for analysis. Along with this, a document **(sql_questions.pdf)** outlined specific questions that needed to be addressed. Our task was to write SQL queries to extract relevant data while ensuring accuracy and alignment with the given requirements. In addition to querying the database, we also prepared a report detailing our approach, findings, and key insights. This report helped stakeholders better understand data patterns and trends, making the analysis more actionable and impactful.

Analytical queries requested by the client

CODE BASICS

Instagram Analysis: SQL

1. How many unique post types are found in the 'fact_content' table?

2. What are the highest and lowest recorded impressions for each post type?

3. Filter all the posts that were published on a weekend in the month of March and April and export them to a separate csv file.

4. Create a report to get the statistics for the account. The final output includes the following fields:
    - month_name
    - total_profile_visits
    - total_new_followers

5. Write a CTE that calculates the total number of 'likes' for each 'post_category' during the month of 'July' and subsequently, arrange the 'post_category' values in descending order according to their total likes.

6. Create a report that displays the unique post_category names alongside their respective counts for each month. The output should have three columns:
    - month_name
    - post_category_names
    - post_category_count

   Example:
    - 'April', 'Earphone,Laptop,Mobile,Other Gadgets,Smartwatch', '5'
    - 'February', 'Earphone,Laptop,Mobile,Smartwatch', '4'

CODE BASICS

7. What is the percentage breakdown of total reach by post type? The final output includes the following fields:
    - post_type
    - total_reach
    - reach_percentage

8. Create a report that includes the quarter, total comments, and total saves recorded for each post category. Assign the following quarter groupings:

   (January, February, March) → "Q1"
   (April, May, June) → "Q2"
   (July, August, September) → "Q3"

   The final output columns should consist of:
    - post_category
    - quarter
    - total_comments
    - total_saves

9. List the top three dates in each month with the highest number of new followers. The final output should include the following columns:
    - month
    - date
    - new_followers

10. Create a stored procedure that takes the 'Week_no' as input and generates a report displaying the total shares for each 'Post_type'. The output of the procedure should consist of two columns:
    - post_type
    - total_shares

Note:

codebasics.io

AD-HOC Requests

AD-HOC Request 1

1) How many unique post types are found in the 'fact_content' table?

```sql
SELECT
    COUNT(DISTINCT post_type) AS Unique_Post_Type_Count
FROM
    fact_content;
```

OUTPUT

Unique_Post_Type_Count
4

AD-HOC Request 2

2) What are the highest and lowest recorded impressions for each post type?

```sql
SELECT
    post_type,
    MAX(impressions) AS highest_Impression,
    MIN(impressions) AS lowest_Impression
FROM
    fact_content
GROUP BY
    post_type;
```

OUTPUT

post_type	highest_Impression	lowest_Impression
IG Image	129694	23367
IG Reel	339708	87570
IG Carousel	9677	3264
IG Video	73321	8741

AD-HOC Request 3

3) Filter all the posts that were published on a weekend in the month of March and April.

```sql
SELECT
    dd.*,
    fa.profile_visits,
    fa.new_followers,
    fc.impressions,
    fc.reach,
    fc.shares,
    fc.follows,
    fc.likes,
    fc.comments,
    fc.saves
FROM
    dim_dates dd
JOIN
    fact_account fa ON dd.date = fa.date
JOIN
    fact_content fc ON fa.date = fc.date
WHERE
    dd.weekday_or_weekend = 'Weekend'
    AND dd.month_name IN ('March', 'April');
```

OUTPUT

date	month_name	weekday_name	weekday_or_weekend	week_no	profile_visits	new_followers	impressions	reach	shares	follows	likes	comments	saves
2023-03-04	March	Saturday	Weekend	W9	171	108	12265	3668	69	92	327	7	18
2023-03-05	March	Sunday	Weekend	W10	840	576	62770	18001	273	360	1194	28	76
2023-03-11	March	Saturday	Weekend	W10	65	18	5899	1093	45	12	53	0	6
2023-03-12	March	Sunday	Weekend	W11	1080	394	79416	23474	327	259	1235	69	204
2023-03-18	March	Saturday	Weekend	W11	134	77	9157	2254	67	58	55	6	15
2023-03-19	March	Sunday	Weekend	W12	51	20	4146	1079	42	17	43	1	6
2023-03-25	March	Saturday	Weekend	W12	2388	2356	132284	66721	1093	1482	3622	83	695
2023-03-26	March	Sunday	Weekend	W13	1521	393	63425	26113	435	336	1994	68	179
2023-04-01	April	Saturday	Weekend	W13	63	18	4549	1052	27	18	35	1	6
2023-04-02	April	Sunday	Weekend	W14	745	240	54672	16126	172	182	938	22	81
2023-04-08	April	Saturday	Weekend	W14	450	235	37955	12663	204	164	753	31	63
2023-04-09	April	Sunday	Weekend	W15	504	179	52278	14438	271	167	1393	36	44
2023-04-15	April	Saturday	Weekend	W15	1868	1694	123270	39850	296	1486	3926	101	1139
2023-04-16	April	Sunday	Weekend	W16	2314	1431	115701	66829	937	929	5749	94	658
2023-04-22	April	Saturday	Weekend	W16	699	422	33604	14682	255	349	1038	22	73
2023-04-23	April	Sunday	Weekend	W17	647	366	36973	13629	224	244	929	30	68
2023-04-29	April	Saturday	Weekend	W17	563	174	43526	11799	134	138	646	12	59
2023-04-30	April	Sunday	Weekend	W18	2995	2753	185017	63990	1010	2238	6039	94	330

AD-HOC Request 4

4) Create a report to get the statistics for the account. The final output includes the following fields:
- month_name
- total_profile_visits
- total_new_followers

```sql
SELECT
    MONTHNAME(date) AS month_name,
    SUM(profile_visits) AS total_profile_visits,
    SUM(new_followers) AS total_new_followers
FROM
    fact_account
GROUP BY
    month_name;
```

OUTPUT

month_name	total_profile_visits	total_new_followers
January	26512	17053
February	20628	15254
March	23132	18285
April	29852	21799
May	106571	66984
June	103350	76942
July	54352	33302
August	42094	24371
September	41522	28523

AD-HOC Request 5

5) Write a CTE that calculates the total number of 'likes’ for each 'post_category' during the month of 'July’ and subsequently, arrange the 'post_category' values in descending order according to their total likes.

```sql
WITH cte AS (
    SELECT
        post_category,
        SUM(likes) AS total_likes
    FROM
        fact_content
    WHERE
        MONTHNAME(date) = 'July'
    GROUP BY
        post_category
)
SELECT
    *
FROM
    cte
ORDER BY
    total_likes DESC;
```

OUTPUT

post_category	total_likes
Other Gadgets	26519
Tech Tips	20296
Mobile	16338
Earphone	14435
Smartwatch	3918

AD-HOC Request 6

6) Create a report that displays the unique post_category names alongside their respective counts for each month. The output should have three columns: • month_name, • post_category_names, • post_category_count
Example:
- 'April', 'Earphone,Laptop,Mobile,Other Gadgets,Smartwatch', '5’
- 'February', 'Earphone,Laptop,Mobile,Smartwatch', '4'

```sql
SELECT
    MONTHNAME(date) AS month_name,
    GROUP_CONCAT(DISTINCT post_category SEPARATOR ', ') AS post_category_names,
    COUNT(DISTINCT post_category) AS post_category_count
FROM
    fact_content
GROUP BY
    MONTH(date), MONTHNAME(date)
ORDER BY
    MONTH(date);
```

OUTPUT

month_name	post_category_names	post_category_count
January	Earphone, Mobile, Smartwatch	3
February	Earphone, Laptop, Mobile, Smartwatch	4
March	Earphone, Laptop, Mobile, Smartwatch	4
April	Earphone, Laptop, Mobile, Other Gadgets, Smartwatch	5
May	Earphone, Laptop, Mobile, Other Gadgets, Smartwatch, Tec...	6
June	Mobile, Other Gadgets, Smartwatch, Tech Tips	4
July	Earphone, Mobile, Other Gadgets, Smartwatch, Tech Tips	5
August	Earphone, Mobile, Other Gadgets, Smartwatch, Tech Tips	5
September	Mobile, Other Gadgets, Smartwatch, Tech Tips	4

AD-HOC Request 7

7) What is the percentage breakdown of total reach by post type? The finaloutput includes the following fields:

- post_type
- total_reach
- reach_percentage

```sql
SELECT
    post_type,
    SUM(reach) AS total_reach,
    ROUND((SUM(reach) / total_overall_reach) * 100, 2) AS reach_percentage
FROM
    (SELECT *, (SELECT SUM(reach) FROM fact_content) AS total_overall_reach FROM fact_content) fc
GROUP BY
    post_type, total_overall_reach
ORDER BY
    reach_percentage DESC;
```

OUTPUT

post_type	total_reach	reach_percentage
IG Reel	5379091	61.63
IG Image	1866381	21.38
IG Video	1422300	16.30
IG Carousel	60465	0.69

AD-HOC Request 8

8. Create a report that includes the quarter, total comments, and total saves recorded for each post category. The final output columns should consist of: • post_category, • quarter, • total_comments, • total_saves

```sql
SELECT
    post_category,
    CASE
        WHEN MONTH(date) BETWEEN 1 AND 3 THEN 'Q1'
        WHEN MONTH(date) BETWEEN 4 AND 6 THEN 'Q2'
        WHEN MONTH(date) BETWEEN 7 AND 9 THEN 'Q3'
        ELSE 'Q4'
    END AS quarter,
    SUM(comments) AS total_comments,
    SUM(saves) AS total_saves
FROM
    fact_content
GROUP BY
    post_category, quarter
ORDER BY
    quarter, total_comments DESC;
```

OUTPUT

post_category	quarter	total_comments	total_saves
Mobile	Q1	1836	9843
Smartwatch	Q1	600	2860
Laptop	Q1	418	2837
Earphone	Q1	351	2230
Mobile	Q2	2313	17207
Tech Tips	Q2	2201	17649
Other Gadgets	Q2	1622	12041
Smartwatch	Q2	1358	12581
Earphone	Q2	589	3602
Laptop	Q2	452	2248
Tech Tips	Q3	1596	12976
Mobile	Q3	1134	5285
Smartwatch	Q3	971	3326
Other Gadgets	Q3	964	4457
Earphone	Q3	427	3247

AD-HOC Request 9

9) List the top three dates in each month with the highest number of new followers. The final output should include the following columns:

- month
- date
- new_followers

```sql
WITH ranked_followers AS (
    SELECT
        MONTHNAME(date) AS month_name,
        date,
        new_followers,
        RANK() OVER (PARTITION BY MONTH(date) ORDER BY new_followers DESC) AS rank_num
    FROM
        fact_account
)
SELECT
    month_name,
    date,
    new_followers
FROM
    ranked_followers
WHERE
    rank_num ⩽ 3
ORDER BY
    MONTH(date), new_followers DESC;
```

OUTPUT

month_name	date	new_followers
January	2023-01-30	3186
January	2023-01-03	2959
January	2023-01-23	1003
February	2023-02-01	4106
February	2023-02-24	2383
February	2023-02-02	1989
March	2023-03-21	5421
March	2023-03-28	2513
March	2023-03-25	2356
April	2023-04-25	3736
April	2023-04-30	2753
April	2023-04-06	2500
May	2023-05-08	8872
May	2023-05-20	6169
May	2023-05-12	6051
June	2023-06-30	8804
June	2023-06-03	8802
June	2023-06-21	7033
July	2023-07-08	3716
July	2023-07-15	3364
July	2023-07-28	2344
August	2023-08-23	2074
August	2023-08-21	1783
August	2023-08-06	1687

AD-HOC Request 10

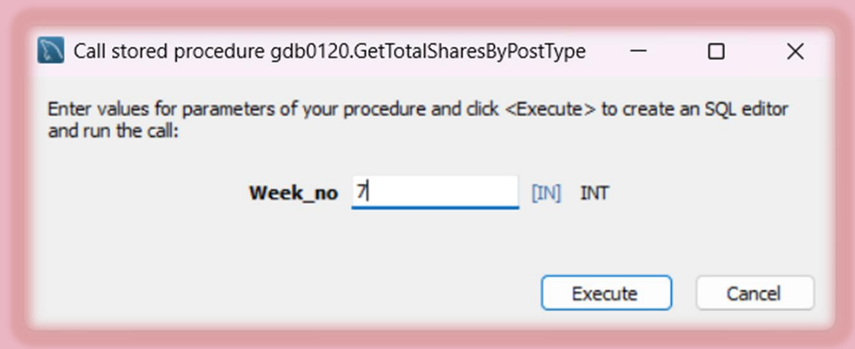
10. Create a stored procedure that takes the 'Week_no' as input and generates a report displaying the total shares for each 'Post_type'. The output of the procedure should consist of two columns:
    - post_type
    - total_shares

```sql
DELIMITER $$

CREATE PROCEDURE GetTotalSharesByPostType(IN week_no INT)
BEGIN
    SELECT
        post_type,
        SUM(shares) AS total_shares
    FROM
        fact_content
    WHERE
        WEEK(date, 1) = week_no
    GROUP BY
        post_type
    ORDER BY
        total_shares DESC;
END $$

DELIMITER ;
```

OUTPUT



post_type	total_shares
IG Video	345
IG Image	162
IG Carousel	53

Conclusion

The analysis of the Tech Instagram Influencer’s activity provided valuable insights into engagement trends, post performance, and follower growth. By executing SQL queries, we extracted key metrics on impressions, reach, and user interactions. The ad-hoc reports helped identify top-performing post types, follower trends, and engagement patterns across different time frames. These findings equip stakeholders with data-driven insights to refine content strategies, improve audience engagement, and optimize overall social media performance.

Thank you!

Feel free to approach me
if you have any questions.