The background of the slide is a piece of aged, yellowish paper with a rough, torn edge. It is decorated with several red flowers. On the left side, there are three large, detailed red flowers with yellow centers and green leaves. On the right side, there are several smaller red flowers on thin green stems. The overall aesthetic is vintage and artistic.

Instagram Influencer Analysis

Presented by Rita Nayak

Introduction

- In today's digital world, social media plays a vital role in brand growth and audience engagement. Among all platforms, Instagram stands out as a key channel for businesses to connect with their customers through visual storytelling.
- This project analyzes an Instagram account's performance using SQL and Power BI, focusing on content reach, impressions, engagement, and follower growth.
- The analysis aims to uncover which content types perform best, when engagement is highest, and what drives audience growth. The data-driven insights help optimize posting strategies and improve overall digital marketing effectiveness.



Project Goals

The primary goal of this project is to perform an in-depth analysis of Instagram performance data to understand content effectiveness and audience behavior.

Through this analysis, we aim to derive meaningful insights that can help businesses, brands, and influencers improve their social media strategies.

The specific objectives are:

- Understand engagement trends across different post categories and time periods.
- Identify which content types (such as images, reels, and carousels) generate the highest user interaction.
- Analyze engagement factors including likes, comments, shares, and saves to uncover what drives audience engagement.
- Detect patterns in follower growth and content popularity to measure overall performance over time.
- Provide actionable, data-driven recommendations to enhance audience reach, engagement rate, and overall brand visibility.

Problems Statement

- The marketing team wants to analyze their Instagram account performance to understand which content types and categories drive higher engagement and follower growth.
- Although raw data is available in the database, there has been no structured analysis to extract actionable insights.
- To solve this, 10 ad-hoc business questions were provided, focusing on engagement, reach, impressions, and follower trends. Each question aims to reveal key performance patterns and help in data-driven decision-making.
- The goal is to use SQL to answer these 10 ad-hoc queries and visualize the results in Power BI, providing a clear view of content effectiveness, audience behavior, and improvement opportunities.

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

```
select count(distinct post_type) as Post_type  
from fact_content;
```

	Post_type
▶	4

	post_type
▶	IG Image
	IG Reel
	IG Carousel
	IG Video

- The dataset contains 4 distinct types of Instagram posts — Image, Reel, Carousel, and Video.

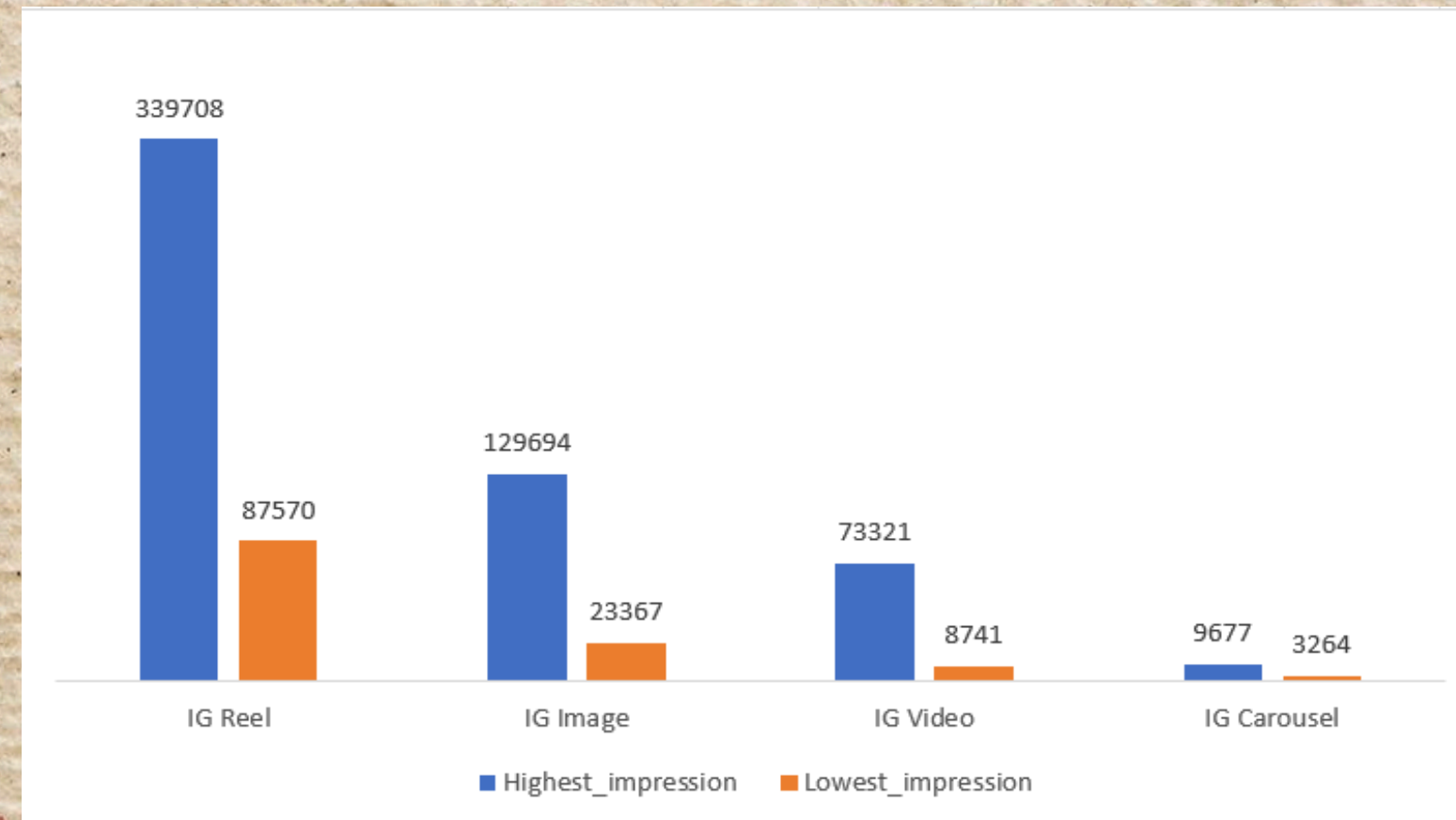
This shows that the brand is using a diverse content strategy, leveraging multiple post formats to engage its audience.

Each post type likely serves a different marketing purpose:

- Reels for reach and virality
- Carousels for storytelling and information sharing
- Images for product visuals and announcements
- Videos for detailed demonstrations

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

	post_type	Highest_impression	Lowest_impression
▶	IG Image	129694	23367
	IG Reel	339708	87570
	IG Carousel	9677	3264
	IG Video	73321	8741



- Reels dominate in impressions with a peak of 339K, showing that short-form video content performs best for visibility.
- Images rank second with 129K impressions, indicating stable engagement but less virality compared to Reels.
- Videos and Carousels have relatively lower impressions, suggesting they may need better promotion or optimized posting time.
- The large gap between the highest and lowest impressions highlights inconsistent audience engagement, possibly depending on content quality or timing.

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.

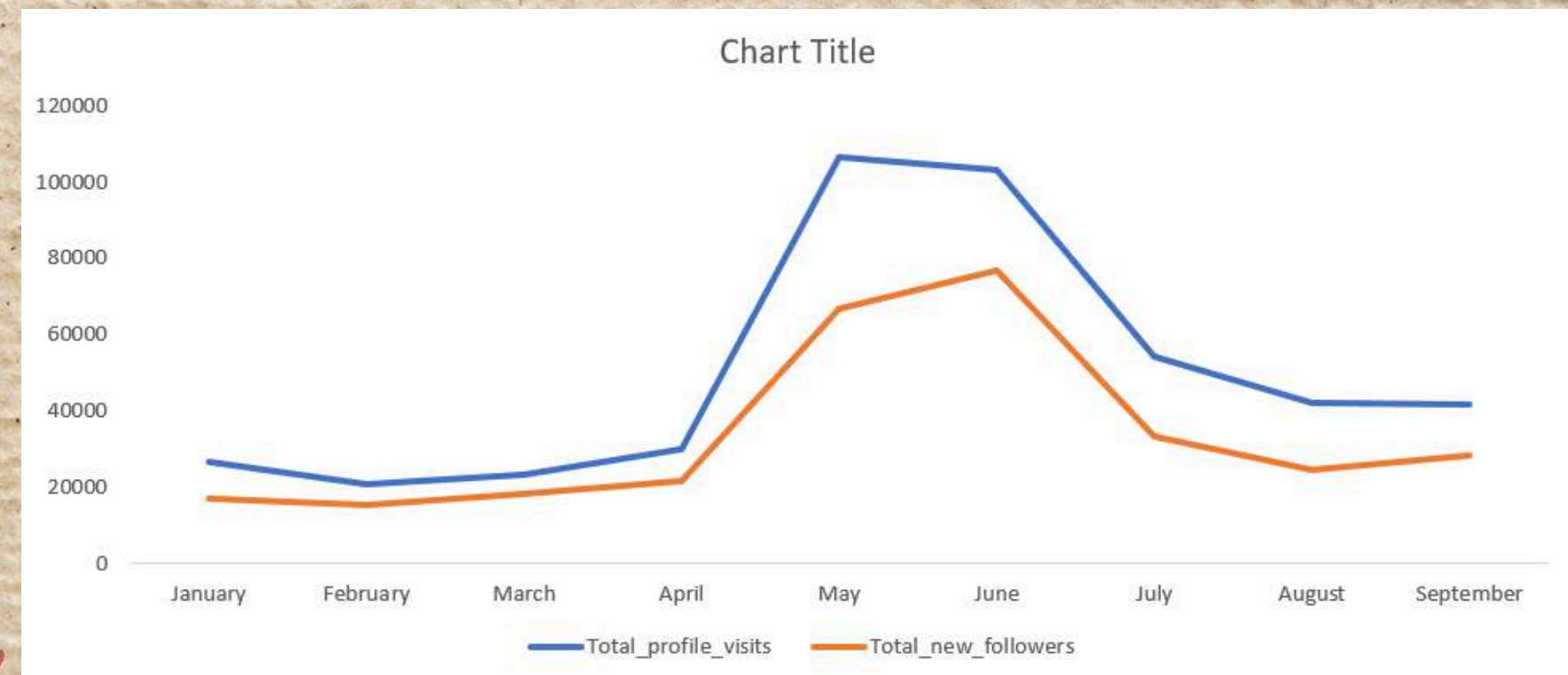
	date	post_category	post_type	video_duration	carousel_item_count	impressions	reach	shares	follows	likes	comments	saves
▶	2023-03-04	Earphone	IG Video	291	0	12265	3668	69	92	327	7	18
	2023-03-05	Smartwatch	IG Image	0	0	62770	18001	273	360	1194	28	76
	2023-03-11	Mobile	IG Carousel	0	3	5899	1093	45	12	53	0	6
	2023-03-12	Laptop	IG Image	0	0	79416	23474	327	259	1235	69	204
	2023-03-18	Mobile	IG Carousel	0	3	9157	2254	67	58	55	6	15
	2023-03-19	Smartwatch	IG Carousel	0	3	4146	1079	42	17	43	1	6
	2023-03-25	Earphone	IG Reel	22	0	132284	66721	1093	1482	3622	83	695
	2023-03-26	Mobile	IG Image	0	0	63425	26113	435	336	1994	68	179
	2023-04-01	Mobile	IG Carousel	0	3	4549	1052	27	18	35	1	6
	2023-04-02	Earphone	IG Video	163	0	54672	16126	172	182	938	22	81
	2023-04-08	Other Gadgets	IG Video	258	0	37955	12663	204	164	753	31	63
	2023-04-09	Mobile	IG Image	0	0	52278	14438	271	167	1393	36	44
	2023-04-15	Laptop	IG Reel	30	0	123270	39850	296	1486	3926	101	1139
	2023-04-16	Other Gadgets	IG Reel	29	0	115701	66829	937	929	5749	94	658
	2023-04-22	Laptop	IG Video	172	0	33604	14682	255	349	1038	22	73
	2023-04-23	Earphone	IG Video	229	0	36973	13629	224	244	929	30	68
	2023-04-29	Earphone	IG Video	206	0	43526	11799	134	138	646	12	59
	2023-04-30	Mobile	IG Reel	59	0	185017	63990	1010	2238	6039	94	330

- A total of 16 posts were published on weekends in March and April, covering different categories such as Mobile, Laptop, Smartwatch, and Earphone.
- Reels and Videos dominated weekend posting, indicating that short-form content is prioritized during high-engagement days.
- Posts published on weekends received significant reach and engagement, with some Reels achieving impressions above 180K, suggesting that weekends are effective for audience interaction.
- This trend shows that the weekend posting strategy works well for maximizing visibility and follower activity, especially when using Reels and high-quality videos.

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**

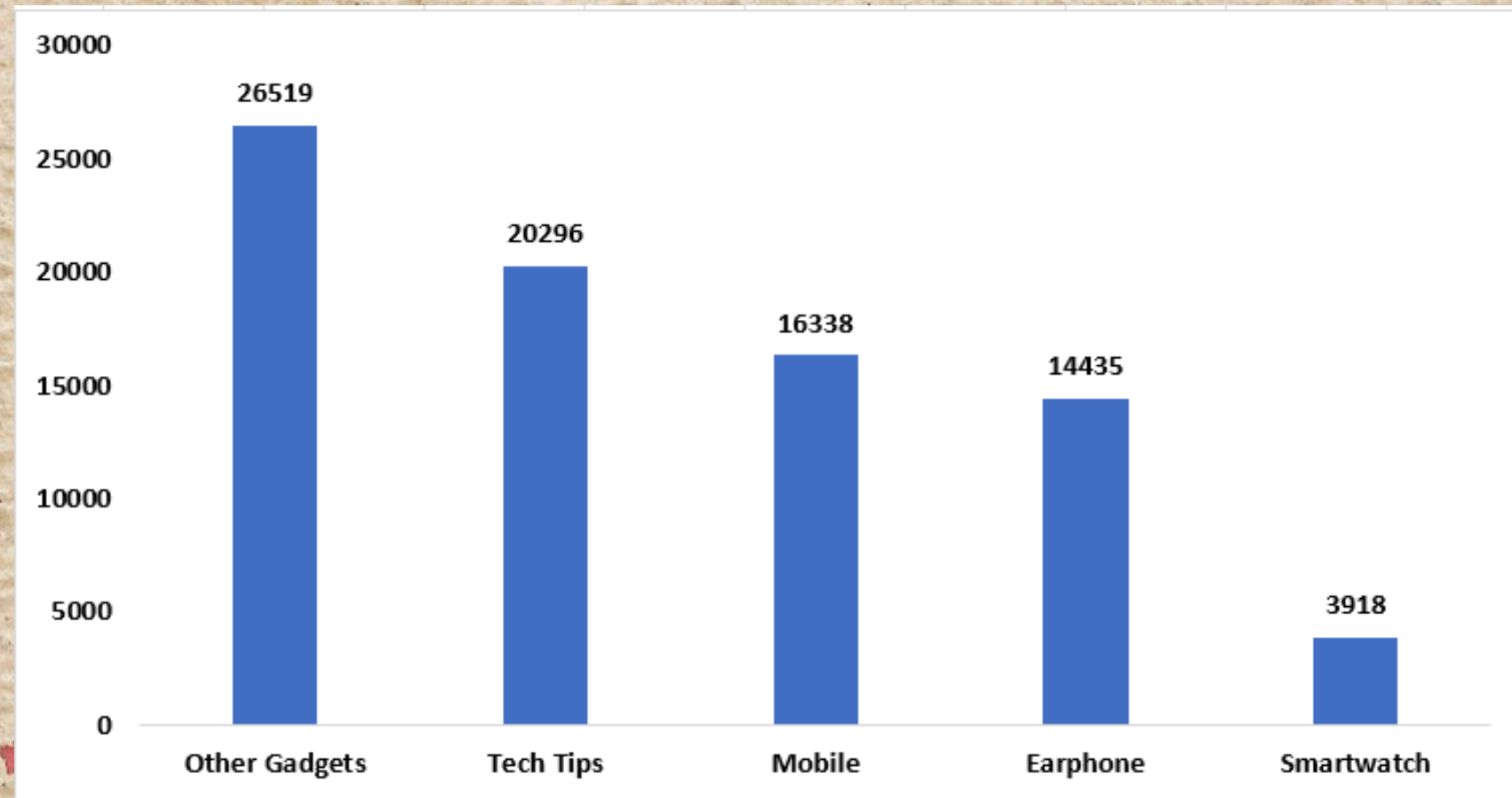
	month_name	Total_profile_visits	Total_new_followers
▶	January	26512	17053
	February	20628	15254
	March	23132	18285
	April	29852	21799
	May	106571	66984
	June	103350	76942
	July	54352	33302
	August	42094	24371
	September	41522	28523



- Both profile visits and new followers show a clear growth trend from March to June, indicating a strong engagement phase in the second quarter.
- May recorded the highest profile visits (106K) and a significant spike in new followers (66K) — suggesting that campaigns or content during this period were highly effective.
- After June, engagement declined gradually, implying the need to analyze post frequency or campaign activity during later months.
- Overall, the data highlights Q2 (April-June) as the peak growth period, ideal for running major marketing promotions or influencer collaborations.

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.

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



- In July, the 'Other Gadgets' category received the highest engagement with 26K likes, followed by Tech Tips and Mobile posts.
- Smartwatch content showed the least engagement, suggesting that it resonates less with the audience during this period.
- The data indicates that users are more interested in gadget and technology-related content, making these categories ideal for boosting visibility and interaction.
- Brands can focus more on product demos and tech-based posts to maximize audience engagement in upcoming months.

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**

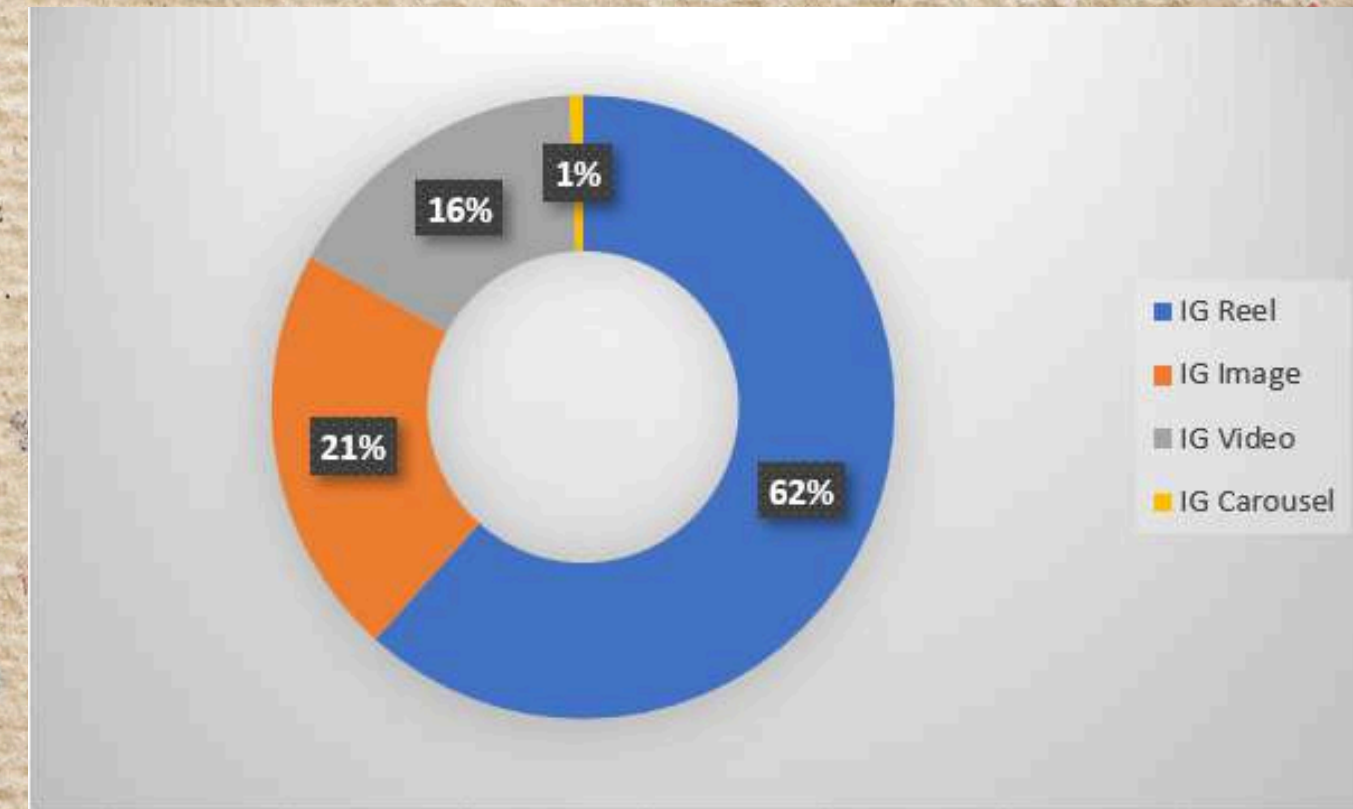
	month_name	post_category_names	post_category_count
►	January	Earphone, Mobile, Smartwatch	3
	February	Earphone, Laptop, Mobile, Smartwatch	4
	March	Earphone, Laptop, Mobile, Smartwatch	4
	April	Earphone, Laptop, Mobile, Other Gadgets, Smart...	5
	May	Earphone, Laptop, Mobile, Other Gadgets, Smart...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

- The account consistently posted across multiple categories each month, maintaining a balanced content strategy.
- The highest diversity was recorded in May, with 6 unique categories, showing strong content variety during that period.
- January had the least variety with only 3 categories, suggesting a limited content focus early in the year.
- Overall, the brand diversified its content over time, which is a positive trend for audience reach and engagement consistency.

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**

	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

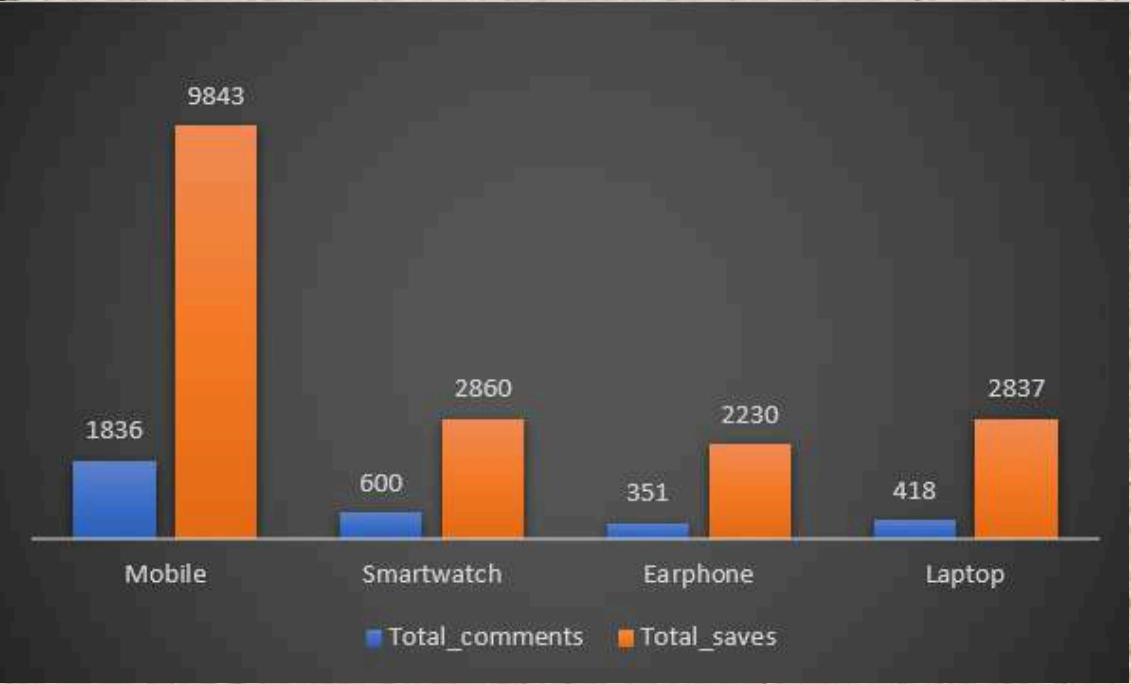


- Reels dominate the platform reach, contributing to over 61% of the total audience exposure, making them the most powerful content type for visibility.
- Images and Videos account for around 37% combined, indicating moderate performance compared to Reels.
- Carousels have minimal impact (<1%), showing that they are least effective in extending reach.
- The insight clearly shows that short-form video content (Reels) is the most effective medium to attract and retain audience attention on Instagram.

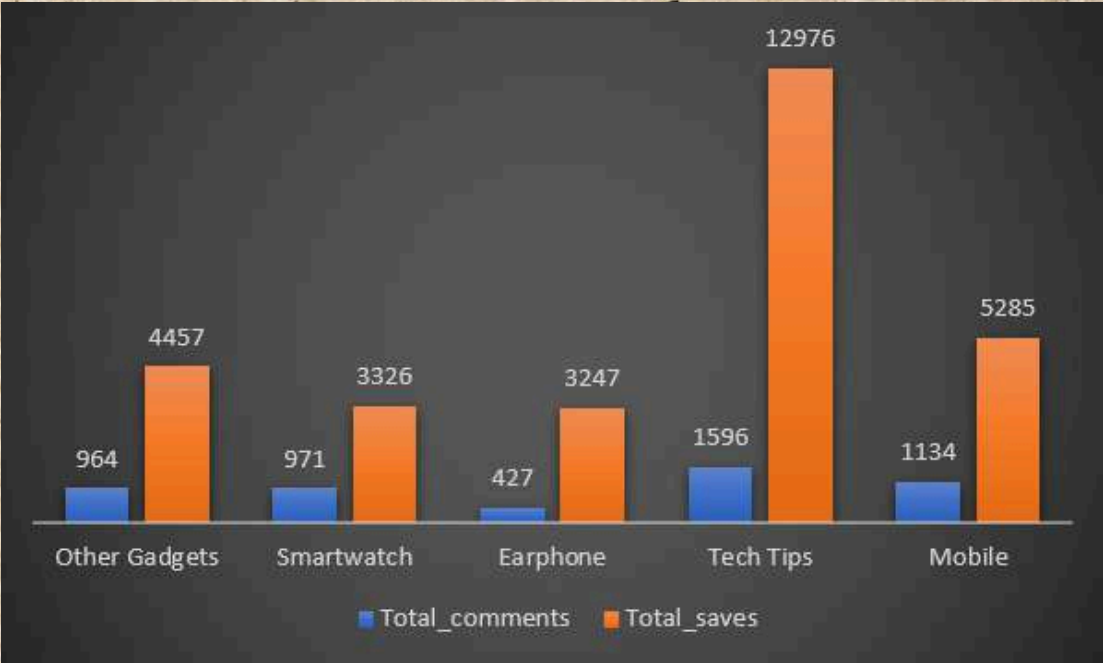
8.Create a report that includes the quarter, total comments, and total saves recorded for each post category.

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

Q1



Q2



Q3



- **Engagement (comments and saves) increased consistently from Q1 to Q3, showing steady audience interest growth over time.**
- **In Q3, the Tech Tips category achieved the highest total saves (17.6K) and strong comments (2.2K), proving it's the most engaging content type in later months.**
- **Mobile posts maintained high engagement across all quarters, showing consistent audience relevance.**
- **Q1 had comparatively low engagement across all categories, indicating weaker interaction early in the year.**
- **Overall, Q3 emerges as the strongest quarter for engagement, suggesting this period is ideal for launching new content or marketing campaigns.**

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

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

- Each month shows specific high-performing dates where follower growth peaked, indicating spikes due to active campaigns, viral posts, or influencer collaborations.
- The highest daily follower gains were observed in June (8,804 & 8,802 new followers), showing a strong growth phase mid-year.
- May and March also displayed multiple strong growth dates (above 5K new followers), marking successful campaign periods.
- This pattern suggests that Q2 (April-June) was the most effective for attracting new followers — aligning with earlier engagement trends from Questions 4 and 8.
- Identifying such top-performing dates can help optimize future posting schedules and plan major announcements or promotions around similar timeframes.

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

```
1 • CREATE DEFINER='root'@'localhost' PROCEDURE `Getsharesbyweek` (IN week_no varchar(50))
2 BEGIN
3 select c.post_type,
4       sum(shares) as Total_shares
5 from fact_content c
6 join dim_dates d
7 on d.date = c.date
8 where d.week_no = week_no
9 group by c.post_type
10 order by Total_shares desc;
11 END
```

	post_type	Total_shares
▶	IG Reel	955
	IG Video	569
	IG Image	449
	IG Carousel	11

Call stored procedure gdb0120.Getsharesbyweek

Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

week_no [IN] varchar(50)

Recommendations

● Focus More on Reels for Maximum Reach

Reels contribute over 60% of total reach, proving they are the most powerful format for audience visibility.

Increase the frequency of Reels — ideally 3-4 Reels per week — to sustain reach and boost follower acquisition.

Experiment with trending audio, short storytelling, and engaging hooks to further increase virality.

● Optimize Posting During High-Engagement Periods

Q2 (April-June) showed the highest engagement and follower growth, indicating optimal timing for campaigns.

Maintain consistent posting schedules during these months and analyze weekend performance, which was stronger in March-April.

Use May-June as a key period for influencer collaborations or product launches.

♥ Prioritize Top-Performing Categories

The 'Mobile' and 'Tech Tips' categories received the highest likes and comments.

Continue creating informative or demo-based posts around these categories.

Underperforming categories like 'Smartwatch' and 'Laptop' can be improved by adding storytelling, customer reviews, or use-case visuals.

💬 Boost Content Sharing with Engaging CTA

Reels also lead in total shares, indicating that viewers find them share-worthy.

Use strong calls-to-action such as "Tag a friend" or "Share if you agree" to encourage organic reach.

Create content designed for shareability — tips, before/after visuals, or relatable quotes.



Maintain Consistent Content Variety

Each month featured 4–6 unique post categories, showing healthy content diversity. Keep mixing formats (Reels, Images, Videos) but focus on what drives data-backed performance.

Use analytics monthly to remove low-performing formats (e.g., Carousel posts with <1% reach).



Use Data-Driven Strategy for Campaigns

Leverage insights from top-performing dates (Q9) to plan future posting schedules.

Introduce A/B testing — vary post time, type, and category to measure impact.

Use Power BI slicers (Month, Week, Post Type) to continuously monitor what's working.



Build a Continuous Reporting Loop

The Power BI dashboard provides a single source of truth for tracking growth.

Schedule monthly data refreshes and share reports with the marketing team.

Automate stored procedure (Q10) execution to generate weekly share insights efficiently.



Thank You

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