Instagram Engagement Analysis

Introduction

This report offers insights into the performance of various post types on Data Analyst Duo's Instagram account (@dataanalystduo), which boasts approximately 119,000 followers.

Objective

The project focuses on the following objectives:

1. Analyze Instagram engagement for Data Analyst Duo to identify content that resonates with the audience and factors affecting engagement across post types.
2. Derive data-driven recommendations to optimize their content strategy, aiming to maximize audience engagement and follower growth.
3. Develop an Excel dashboard to visualize key engagement metrics for informed decision-making.

Data Cleaning and Preparation

To prepare the data for analysis, several cleaning and transformation steps were performed:

1) **Removing Time from Date Column**: To facilitate more accurate aggregation and analysis, by standardizing the date format across all tables.
   a) In the reach table, the time component was extracted from the Date column using the Text to Columns wizard, and then the time column was deleted.
   b) In both the profile_visits and new_followers tables, the time component was removed from the Date column using the Replace tool.
2) **Standardizing Account ID Data:** To ensure data consistency and accuracy, the data type for the account ID in the content table was changed from General to Number. Data associated with two specific account usernames

(datatodestiny and kalpesh.jpg) was removed to retain only the relevant account ID.

3) **Separating Location Data:** In the top_city table, the top cities column, which contains city, state, and country names, was separated into different columns using the Text to Columns tool for enhancing the granularity of location analysis.

Analysis and Insights

1. Reach Analysis

Monthly Instagram Reach
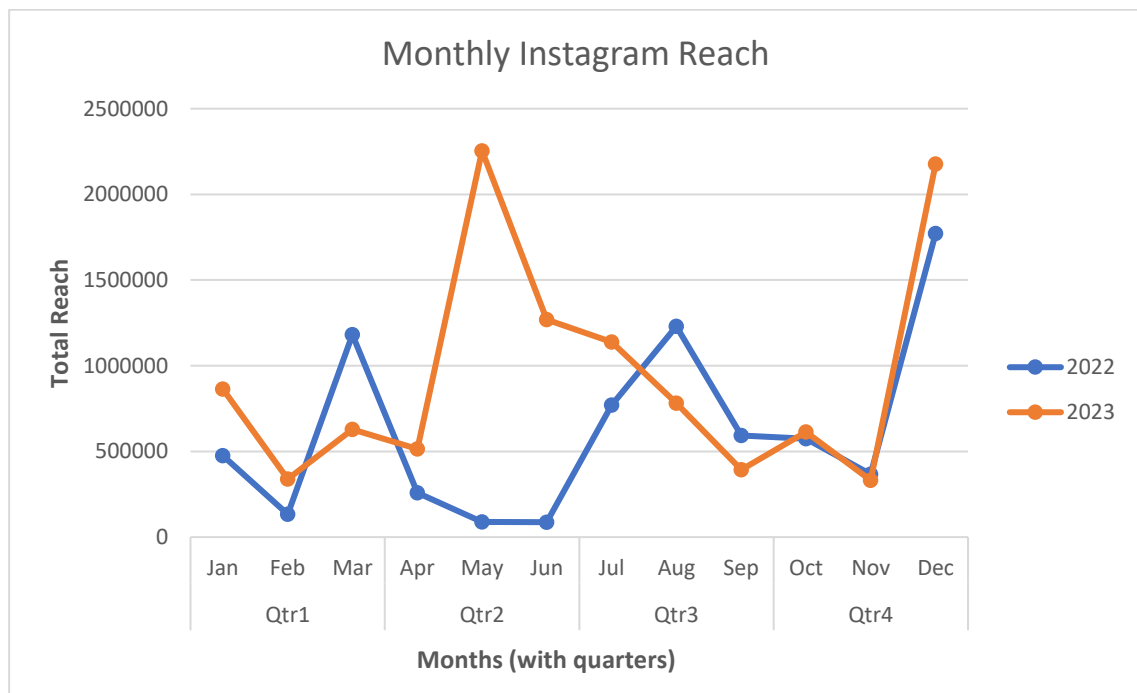
- The data indicates a cyclical pattern with an overall upward trend, suggesting that the account is reaching a growing number of people over time despite some fluctuations.
- Both 2022 and 2023 show a noticeable decline in reach during February and April. This may be attributed to lower engagement with social media during these periods.
- In March, the account reached more people in 2022 compared to 2023.
- In 2022, the reach was lowest during May and June, whereas in May 2023, the reach was significantly higher, representing one of the year's peak levels.
- The account experienced lower reach from September to November in both years. This may indicate challenges in engaging the audience, possibly due to reduced content posting during this period.
- There was a prolonged period of declining reach from May 2023 to November 2023, spanning nearly 6 months, which was followed by an increasing trend in December and then a sudden decrease again.
- December saw the highest reach in both years, with the 2023 peak in May being the highest overall, followed by December.

2. Profile visits Analysis

Monthly Instagram Profile Visit

Total Followers Visit

Months (with quarters)
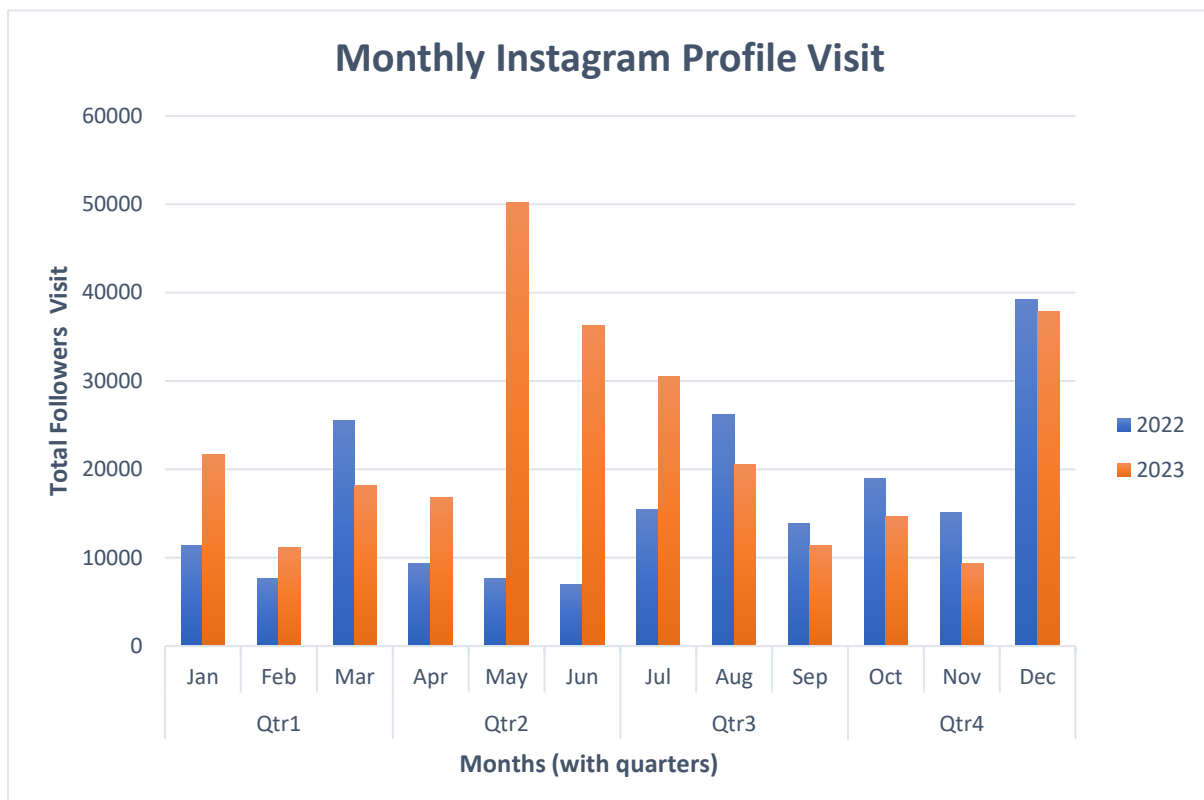
- In 2023, profile visits peaked in May, with a significant spike observed.
- In 2022, profile visits peaked in December, with May being one of the lowest months for profile visits.
- Throughout the year, 2023 generally shows higher or similar profile visit numbers compared to 2022, particularly notable in Q2 and Q3.

Correlation between Reach and Profile Visits:

- There is a noticeable Positive Correlation between Instagram reach and profile visits, quantified at 0.89. This strong correlation indicates that as reach increases, the number of profile visits also tends to increase, and similarly, a decrease in reach corresponds with a decrease in profile visits.
- Higher visibility directly influences the frequency with which users visit the profile. This suggests that strategies aimed at increasing reach can also effectively boost profile visits.

3. New Followers Analysis

MONTHLY NEW FOLLOWERS
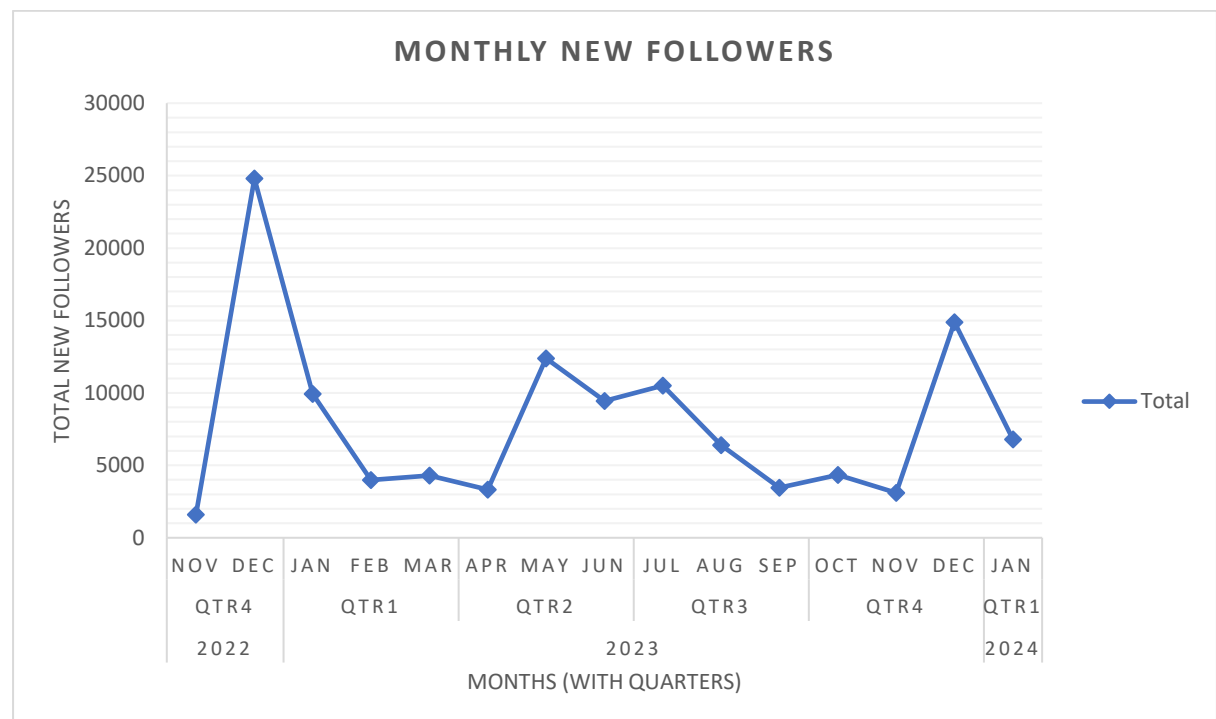
- In January of both 2023 and 2024, the account experienced a stagnation in follower growth, failing to attract a significant number of new followers.
- Observing the period from February to April 2023, there was a noticeable decline in the acquisition of new followers.
- The months from May to July 2023 were favorable for gaining new followers; however, this was followed by four months of decline in follower growth.
- Comparing the final two months of 2022 and 2023, November saw limited growth in followers for both years. In contrast, December witnessed a substantial increase in new followers during both years, although the growth in 2022 was approximately double that of 2023.
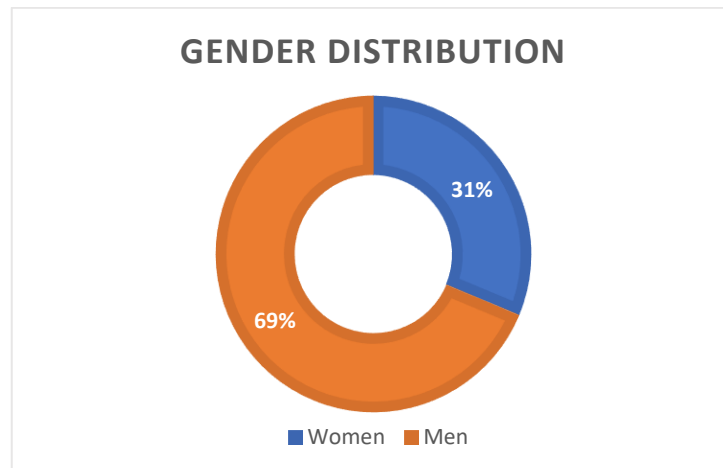
Correlation with Reach and Profile Visits:

On Instagram, the acquisition of new followers is likely influenced by two primary factors: reach and profile visits. A higher reach increases the likelihood of users encountering your content, which can lead to more profile visits. In turn, an increase in profile visits presents an opportunity to convert viewers into followers, indicating a correlation between these variables.
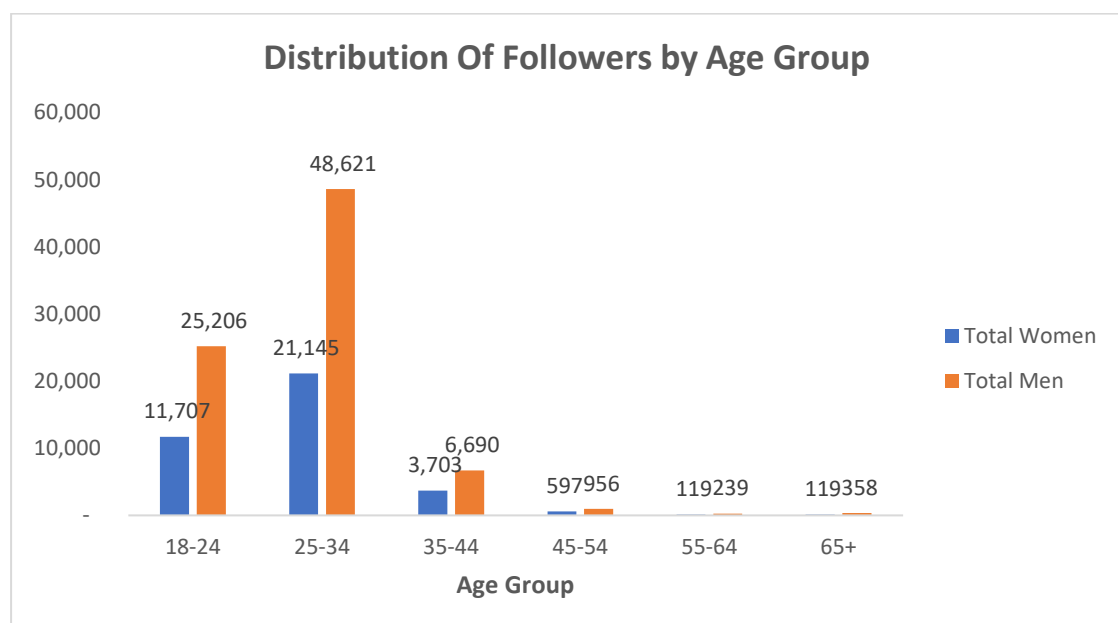
- **Correlation with Profile Visits**: The analysis reveals a positive correlation of 0.78 between new followers and profile visits.
- **Correlation with Reach**: The correlation between new followers and reach is 0.82, suggesting a stronger positive relationship. This implies that reach has a slightly greater impact on gaining new followers compared to profile visits.

4. Demographics

The data presented includes a demographic breakdown of an Instagram account's followers based on gender and age groups.

GENDER DISTRIBUTION

31%

69%

■ Women   ■ Men

- The percentage of Men is higher at 69% compared to women at 31%.

Distribution Of Followers by Age Group

■ Total Women
■ Total Men

Age Group	Total Women	Total Men
18-24	11,707	25,206
25-34	21,145	48,621
35-44	3,703	6,690
45-54	597	956
55-64	119	239
65+	119	358

- The largest group of followers is men in the 25-34 age range, with a total of 48,621, indicating that the content is particularly appealing to young professional men than women.

- Followers aged 45 and above are significantly fewer across both genders, with the lowest number of women followers in the 55-64 age group at 119, and the lowest number of men followers in the 45-54 age group at 597.

- This distribution underscores a strong skew toward younger male followers, particularly those in the early stages of their career, while engagement among older demographics is minimal.

5. Content Performance Analysis

a) Impressions and Reach

Post Type	Total Impressions	Average of Impressions	Total Reach	Average of Reach
IG reel	76,33,031	60,580	67,73,447	53,758
IG carousel	9,95,392	36,866	7,35,453	27,239
IG image	4,79,472	28,204	4,33,393	25,494
Grand Total	**91,07,895**	**53,576**	**79,42,293**	**46,719**

Filters applied: Retention Check = TRUE

- IG Reels significantly outperform other content types in both total and average of impressions and reach, indicating a strong ability to capture audience attention.
- IG Carousels and IG Images have considerably lower impressions and reach, with carousels slightly leading in performance over images.
- The trend persistently shows IG Reels as the most effective content type for reaching and impacting followers.

b) Retention and Engagement Rates

Post Type	Average Retention Rate	Average Engagement Rate
IG carousel	0.0%	2.2%
IG image	0.0%	1.2%
IG reel	53.5%	2.0%

Filters applied: Retention Check = TRUE

- IG Reels have an impressive average retention rate of 53.5%, making them effective for holding the audience's attention.
- Despite the high retention rate of reels, IG Carousels have the highest average engagement rate of 2.2%, which could be attributed to the interactive nature of swiping through multiple images or videos.

c) Engagement Metrics

Post Type	Average of Shares	Average of Likes	Average of Comments	Average of Saves
IG carousel	239	1,278	67	1,575
IG image	68	940	21	527
IG reel	703	1,969	38	2,263
Grand Total	**566**	**1,757**	**41**	**1,980**

Filters applied: Retention Check = TRUE

- IG Reels lead in average shares, likes, and saves, but IG Carousels receive the most comments on average. This indicates that while reels are widely shared and appreciated, carousels might invoke more discussions or inquiries among followers.

d) Follows per Post Type

Post Type	Number of Posts	Total Follows	Follows per Post Type
IG carousel	27	595	22
IG image	17	547	32
IG reel	126	38128	303
Grand Total	**170**	**39270**	**231**

Filters applied: Retention Check = TRUE

- IG Reels are the most effective content type for gaining new followers, with each reel contributing an average of 303 new followers to the account.
- While the number of IG Images is less than other types of content, they show high efficiency in follower conversion, yielding 32 followers per post.

e) IG Reels by Duration

| Duration	Number of Posts	Average of Impressions	Average of Reach	Average of Likes	Average of Shares	Average of Comments	Average of Saves	Average of Follows
Duration <= 10 secs	29	84,313	77,968	2,289	872	64	3,127	377
Duration between 10 to 30 secs	21	44,248	38,917	1,431	387	29	1,422	189
Duration more than 30 secs	76	56,036	48,620	1,996	726	31	2,165	306
Grand Total	**126**	**60,580**	**53,758**	**1,969**	**703**	**38**	**2,263**	**303**

Filters applied:

- Retention Check = TRUE
- Post Type = IG Reel
- Description = All

- Reels with a duration of 10 seconds or less have the highest average impressions and reach, which suggests that shorter content may be more engaging and shareable.
- Although there are more reels with a duration of over 30 seconds, the shorter reels (<10 seconds) are more efficient in garnering likes, shares, comments, saves, and follows.

f) Post Frequency by Month

| Number Of Posts			
Months	**2022**	**2023**	**2024**
Jan		16	2
Feb		2	
Mar		19	
Apr		13	
May		26	
Jun		18	
Jul		10	
Aug		11	
Sep		7	
Oct		21	
Nov		13	
Dec	30	8	
Grand Total	**30**	**164**	**2**

- The number of posts varies across months, with fewer posts in February, September, and December.
- There is a noticeable increase in posts during December 2022, which was not repeated in 2023.

g) Impression and Reach on Weekdays

Distribution on Weekdays of Impression and Reach
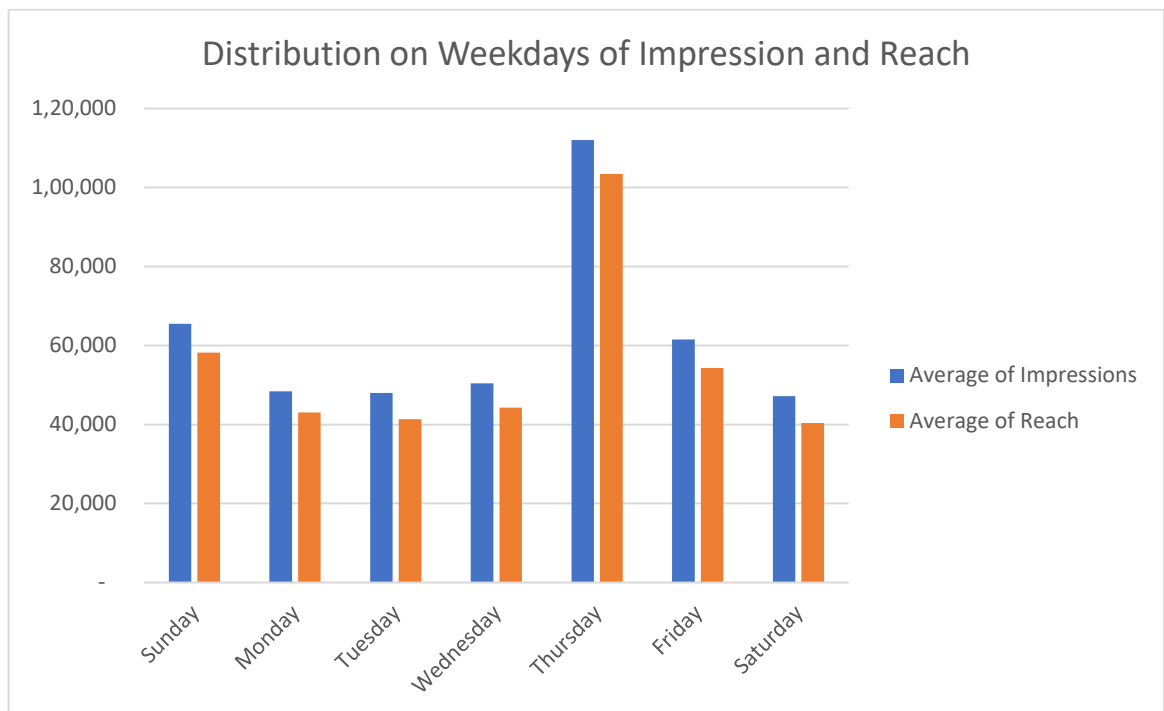
- Most weekdays show a similar average number of impressions and reach, indicating steady engagement throughout the week.
- The highest average of impressions and reach occurs on Thursdays, suggesting this is the optimal day for posting content to maximize visibility and engagement.
- The lowest average of impressions and reach is on Saturdays, indicating that this is the least effective day for posting content.

h) Engagement Metrics on Weekdays
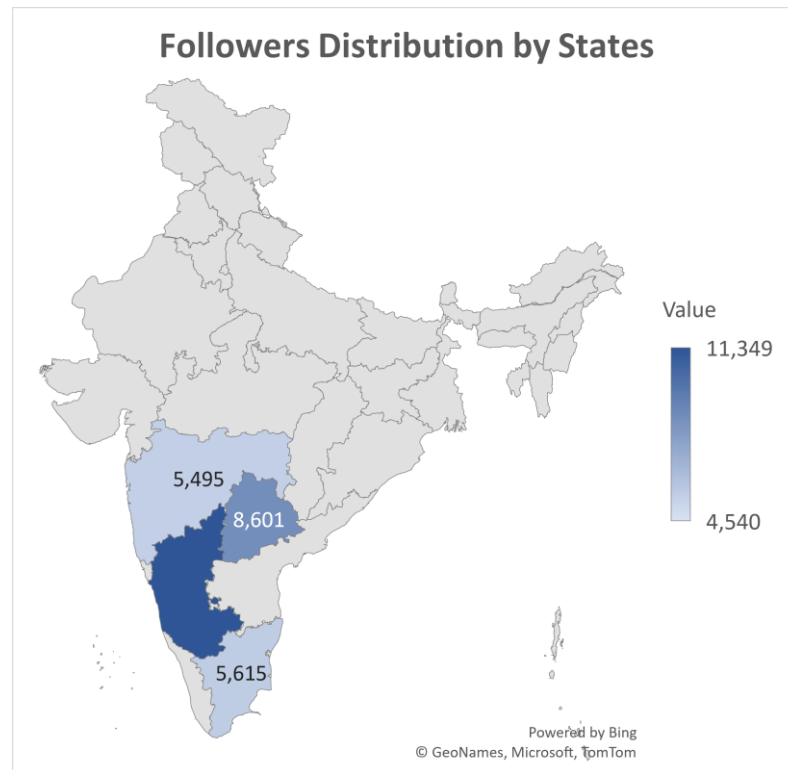

Distribution of Values on Weekdays
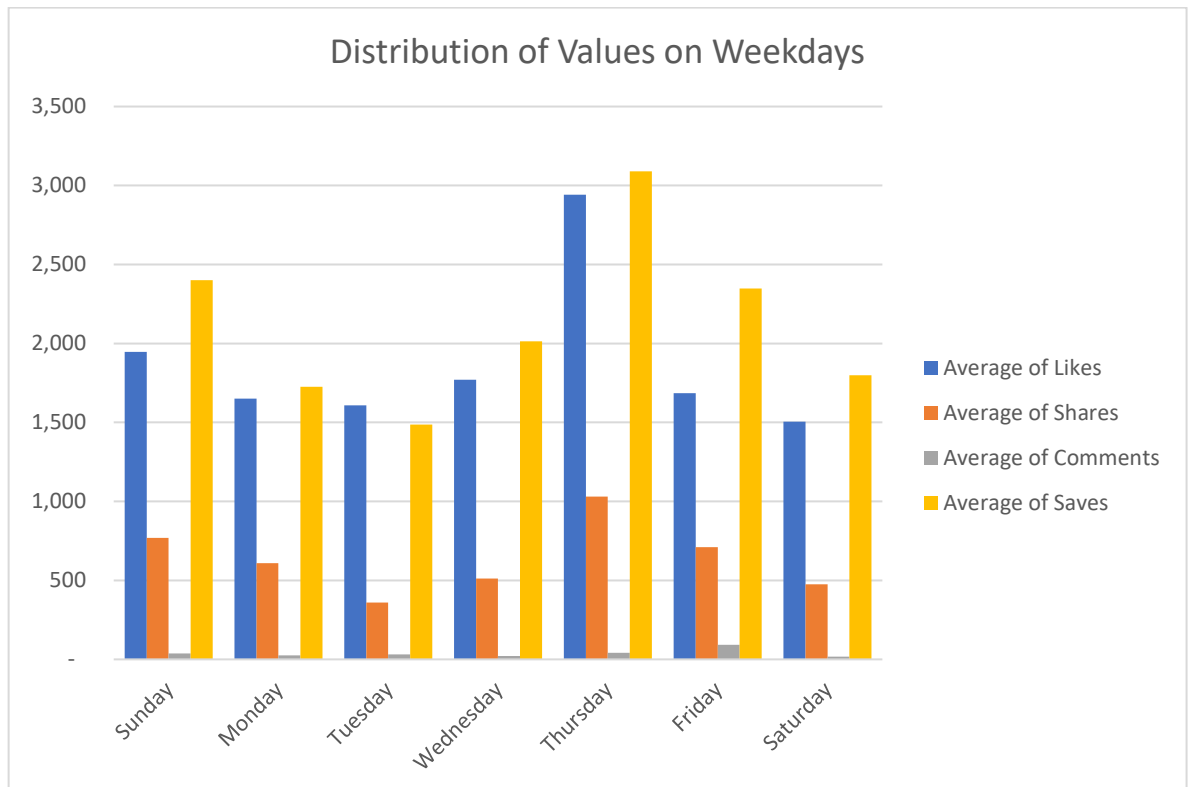
- Across all metrics (likes, shares, comments, saves), Thursday consistently shows the highest engagement, making it the optimal day for posting content.
- Saturday has the lowest engagement in terms of likes and comments, indicating it may be less effective for posting.
- Tuesday shows the lowest average shares and saves, indicating a dip in engagement on this day.
- Sunday, Monday, Wednesday, and Friday show moderate engagement, providing consistent performance for content posts.

6. Geographic Analysis

a) Top Cities Engagement

Top cities	State	Total Followers	Percentage
Bangalore	Karnataka	11,349	10%
Hyderabad	Telangana	8,601	7%
Chennai	Tamil Nadu	5,615	5%
Mumbai	Maharashtra	5,495	5%
Pune	Maharashtra	4,540	4%
Others		83,862	70%
Total		1,19,462	

- The account has the largest follower base from cities categorized as "Others," accounting for 70% of the total follower distribution. Unfortunately, the data does not specify these cities by name, indicating a diverse geographical reach.
- Bangalore represents the city with the next largest follower base at 10%, followed by Hyderabad at 7%.
- Chennai and Mumbai each contribute to 5% of the total followers.
- Pune has the smallest representation among the specified cities, making up 4% of the total followers.
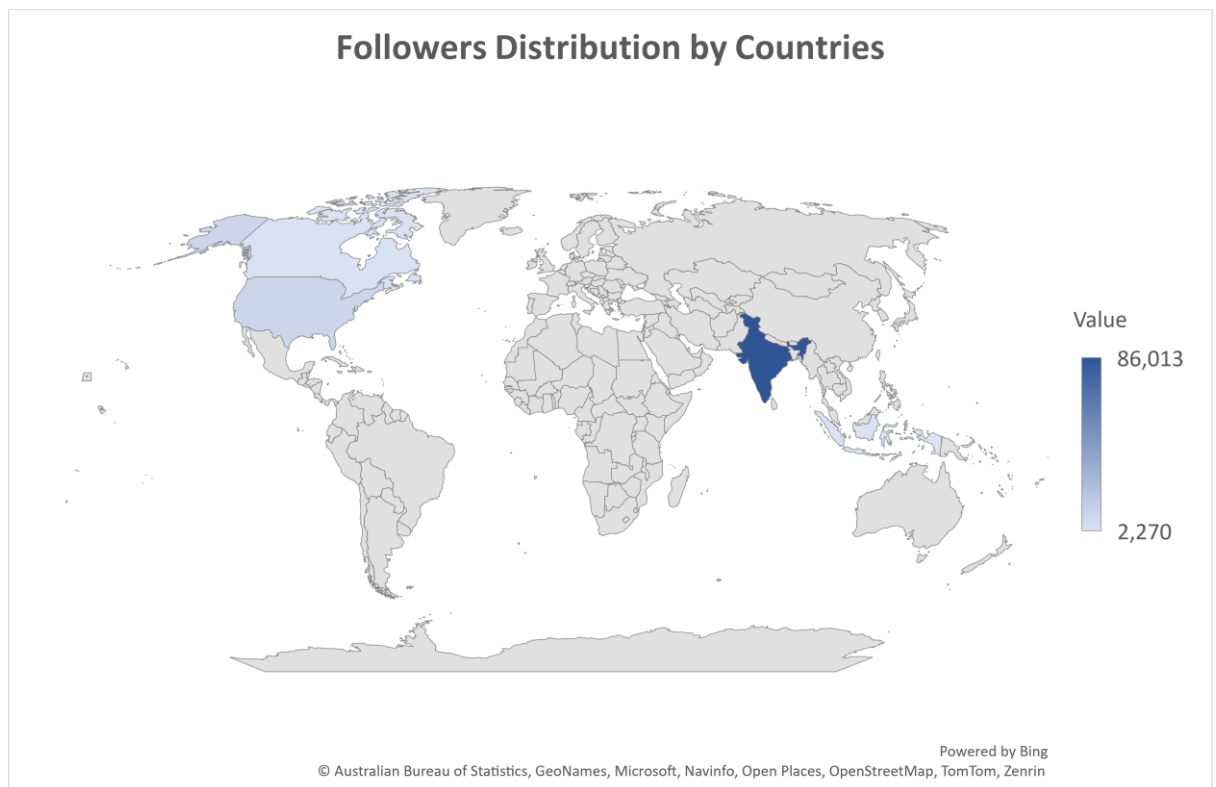
Followers Distribution by States

Value

11,349

4,540

5,495

8,601

5,615

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b) **Top Countries Engagement**

| Top countries	Total Followers	Percentage
India	86,013	72%
United States	9,676	8%
United Kingdom	3,225	3%
Canada	3,106	3%
Indonesia	2,270	2%
Others	15,172	13%
Total	1,19,462	

- The account boasts its largest follower base from India, accounting for 72% of the total followers. This significant presence is likely due to the account creators' origins in India, which resonates with the local audience.
- The United States emerges as the country with the second-highest number of followers, representing 8% of the total.
- The United Kingdom and Canada both contribute an equal share of followers, each comprising 3% of the total follower base.

- Indonesia accounts for 2% of the followers, showcasing some level of international engagement.
- The remaining 13% of followers are distributed across various unnamed countries, highlighting the account's international reach and appeal.

Followers Distribution by Countries

Value

86,013

2,270

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Dashboard Description and Functionality

For the dashboard, the date range will remain consistent across all the tables. Since our data in the content table spans from December 1, 2022, to January 31, 2024, we will apply this timeframe to all other data tables.
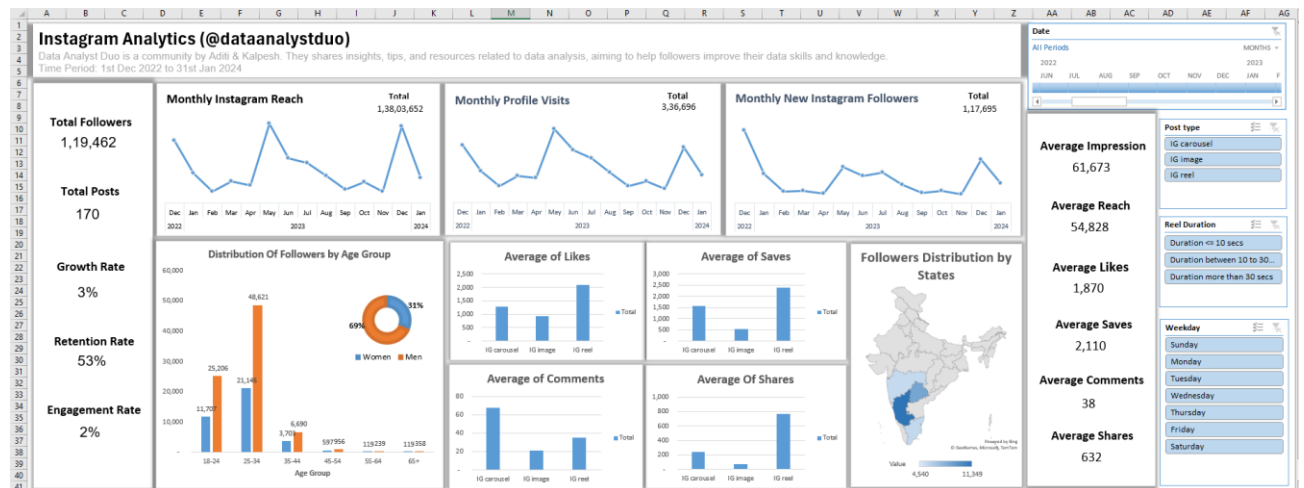
Dashboard Features

1) **Date Timeline:** The Date timeline allows users to adjust the viewing period by years, quarters, or months for charts displaying Monthly Instagram reach, profile visits, and new Instagram followers. The Growth rate will adjust accordingly to reflect the selected period.

2) **Slicers:** Selecting an option from the Post Type slicer will dynamically update the data for Average Impressions, reach, likes, saves, comments, shares, and retention rate. Similar functionality is available for the Reel Duration and Weekday slicers.

3) **Follower Distribution by Age Group:** The pie chart illustrates the distribution of followers among different age groups and gender for the account.

4) **Followers Distribution by States:** The map visualizes the geographic distribution of followers across various states.

Recommendations

- **Evaluate Successful Techniques:** Examine the strategies used in May 2023 and December of both 2022 and 2023, as these months showed high reach. Identifying successful content techniques and replicating them can help improve reach in other months.

- **Investigate Low-Engagement Content:** Investigate the type of content posted during the periods of low reach (February, April, September to November) to identify any patterns or types of posts that may not be resonating well with the audience. Adjusting the content strategy during these months could help mitigate these declines.

- **Leverage End-of-Year Strategies:** The increased profile visits in December for both years suggest effective end-of-year strategies, which could be further leveraged for future planning.

- **Prioritize Content Reach:** The stronger correlation with reach implies that broad visibility of content may have a slightly greater impact on acquiring new followers than the number of profile visits alone. Therefore, efforts to enhance content reach should be prioritized to maximize follower growth.

- **Target the 25-34 Age Group:** Content could be further tailored to appeal to the 25-34 age group, leveraging their strong engagement.

- **Utilize IG Reels for Growth:** IG Reels are the most effective content type for increasing follower and reach count due to their significant impact on follower growth.

- **Prioritize IG Carousel Posts for Engagement:** For engagement with their followers, IG Carousel posts are more relatable and should be prioritized despite the higher count of IG Reel posts.

- **Optimize Reel Durations:** For higher follower acquisition through Reels, create IG Reels that are either less than 10 seconds or more than 30 seconds long, as these durations have proven to be more effective.

- **Adjust Posting Schedule:** Posting on Thursdays and Sundays is recommended for optimal reach and engagement. Adjust the posting schedule to take advantage of these peak days.

- **Improve Engagement Rate:** The engagement rate is currently at 2%. Explore interactive content, contests, or personalized posts to improve this metric.

- **Monitor and Adjust Content Strategy:** Monitoring the performance of posts over time and adjusting the content strategy based on the data can help maintain high engagement rates.
- **Focus on Key Cities:** Focused content or campaigns aimed at these key cities (Bangalore, Hyderabad, Chennai, and Mumbai) could enhance engagement further, while efforts to identify and engage the "Others" category could uncover additional growth opportunities.
- **Analyze International Appeal:** While the significant number of followers from the United States suggests that the account's content has international appeal, further analysis could determine specific factors contributing to this global reach.