

Business Problem Statement: Instagram Content Strategy & Growth

The Context

A growing digital media agency is managing multiple high-profile Instagram accounts across diverse niches such as **Technology, Fitness, Beauty, and Fashion**. As the platform's algorithm evolves, the agency is facing a significant challenge: stagnant follower growth and highly unpredictable engagement rates despite a high volume of content production.

The Problem

While the agency produces a vast library of content including **Reels, Photos, and Carousels**, a large portion of posts fail to convert "impressions" into meaningful community growth or "saves". The content team has observed that performance is not random but seems linked to specific technical attributes such as **caption length, hashtag density**, and the **primary traffic source** (e.g., Home Feed vs. Explore).

The team needs to identify which creative and technical factors (e.g., optimal caption length or media type) lead to the highest **engagement rate** and **follower growth**. Without these insights, the agency risks wasting resources on low-impact content that fails to capture the audience's interest in an increasingly competitive feed.

Key Objectives

1. **Identify Growth Drivers:** Determine which engagement metrics (e.g., **shares** vs. **saves**) most significantly correlate with **followers gained** per post.
2. **Segment Performance by Content Type:** Identify which **content categories** (e.g., Technology vs. Comedy) and **media types** (e.g., Reels vs. Photos) exhibit the highest average reach and engagement to prioritize production efforts.
3. **Optimize Reach Strategy:** Answer the overarching question: "How can we leverage variables like **hashtags_count** and **traffic_source** to predict and maximize the **engagement_rate** for future posts?"

Success Metrics

The analysis will be considered successful if it can:

- **Identify Underperforming Segments:** Accurately pinpoint categories or media types with below-average engagement.

- **Achieve Predictive Accuracy:** Develop a model that classifies high-engagement posts with at least **70% accuracy**.
 - **Provide Actionable Guidelines:** Deliver specific recommendations for **caption length** and **hashtag count** tailored to each content category.
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Project Deliverables

1. **Data Preparation (Python):** Clean the Instagram_Analytics.csv dataset, handling any outliers in **likes** or **reach**, and engineering a new feature: "**Engagement-to-Reach Ratio**".
2. **Data Analysis (SQL):** Execute queries to compare average engagement across different **traffic sources** and determine the impact of post-timing on **impressions**.
3. **Visualization (Power BI/Tableau):** Create an interactive dashboard mapping **engagement_rate** against **caption_length** and **media_type** to help creators visualize "sweet spots" for content.
4. **Executive Report:** Summarize what makes a "viral" post and provide a playbook for showrunners to optimize **shares** and **saves**.
5. **GitHub Repository:** Document all scripts and the final analysis for future strategy iterations.