# Mini Project Report

**Title:** Social Media Posts Engagement Dataset

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**Executive summary & dataset overview**

**Executive summary**

This report summarizes engagement and sentiment patterns across three platforms (Facebook, Instagram, Twitter). Key takeaway highlights:

* **Instagram** drives the highest likes volume overall (visual content performs strongly there).
* **Facebook** has solid shares and steady comments — indicating deeper engagement per post for certain content types.
* **Twitter** shows the lowest aggregate engagement but can still deliver meaningful conversational interactions.
* **Videos and carousels** are top performers in likes and shares, while simple text and poll posts generally underperform.
* Sentiments are predominantly neutral/positive with low negative counts — though the distribution varies by platform.

This analysis uses the dashboard metrics (total likes, comments, shares) and chart visualizations to infer platform and content performance and to recommend tactical improvements.

**Dataset & assumptions**

* The dataset includes individual post records with the columns shown above.
* Totals used from dashboard: Likes = 238,181; Comments = 20,266; Shares = 41,565.
* Platform-level charts and sentiment counts from the dashboard were used to infer relative performance (exact per-post numbers were not provided, so platform proportions are taken from the charts).
* Findings are actionable at strategy and content-planning levels; specific A/B testing is recommended before large-scale changes.

**Platform-wise engagement (deep dive)**

**Observed platform trends**

**Instagram**

* Highest total likes (visual-first platform). The bar chart shows Instagram far surpassing Facebook and Twitter in likes.
* Comments and shares are moderate but lower in proportion to likes — indicating passive consumption (likes) dominate.

**Facebook**

* Balanced engagement profile: solid likes, relatively higher shares vs Instagram and Twitter, and steady comments. This suggests Facebook audiences are more likely to redistribute content (shares) and engage in discussion.

**Twitter**

* Lowest overall likes and shares. Comments (or replies) are fewer in absolute numbers but can be disproportionately meaningful for conversational campaigns or real-time events.

**Interpretation**

* Instagram’s strength: reach and quick positive reactions for high-quality visual and video content.
* Facebook’s strength: virality (shares) and deeper conversations — good for content designed to generate discussion or click-throughs.
* Twitter’s strength: short-form conversation, real-time engagement; best used for announcements, customer service, and timely commentary.

**Suggested platform KPIs (examples)**

* Instagram: average likes per post, engagement rate (likes + comments + shares / impressions), video view-to-like ratio.
* Facebook: shares per post, comments per post, click-through rate on shared links.
* Twitter: replies per tweet, retweets, impressions-to-engagement ratio.

**Sentiment analysis**

**Sentiment distribution (dashboard view)**

* The dashboard shows sentiment categories (positive, neutral, negative) tracked across platforms.
* From the line chart and pie chart, sentiment counts are fairly balanced — with neutral and positive responses making up the majority and very few negatives.

**Platform-wise sentiment notes**

* **Instagram:** Higher positive sentiment (visually driven content often produces positive reactions). Neutral responses exist where posts are informational rather than emotional.
* **Facebook:** Mix of positive and neutral; some negative responses where content might be controversial or provoke debate.
* **Twitter:** Has spikes in positive sentiment for viral/animated content but may show more polarised reactions during real-time events.

**Implications**

* Overall positive/neutral sentiment is a strength — good baseline for amplification.
* Negative sentiment levels appear low but should be monitored; a small negative fraction can amplify quickly if not managed.

**Suggested sentiment KPIs**

* Positive sentiment ratio = positive / total sentiment responses.
* Negative escalation rate = % of negative sentiment that results in additional comments/mentions within 48 hours.
* Sentiment-weighted engagement = (likes \* 0.5) + (comments \* 1.0) + (shares \* 1.5) adjusted by sentiment score.

**Engagement by post type**

**Observations (from the “Engagement by Post type” chart)**

* **Video and carousel posts** show the highest likes and often the highest shares.
* **Images** perform well but below video/carousel likes.
* **Text and poll** posts are lower in likes and shares; polls sometimes get comments/interaction but not high likes.
* Comments follow a similar pattern but are much smaller in volume compared to likes.

**Content-type implications**

* **Video** is the single most effective content type for likes and shares — invest in short-form, caption-first, high-production-value snippets.
* **Carousel** performs well for multi-product showcases, tutorials or step-by-step content.
* **Image** content remains valuable for quick visual updates but should be optimized (captions, call-to-action).
* **Text/poll** content is good for driving conversation (comments) when paired with provocative or useful prompts — use judiciously.

**Tactical recommendations for content types**

* Prioritize video and carousel content for awareness and shareability.
* Use images for high-frequency posting (brand consistency, low-cost reach).
* Reserve text/poll posts for community engagement, AMAs, and feedback drives; pair with targeted audiences on Facebook/Twitter.

**Engagement by day of week & posting cadence**

**Observations**

* The dashboard shows post\_day filters and indicates activity across all weekdays.
* While exact day-by-day numbers aren’t listed in text, typical patterns (and the dashboard filter presence) imply:
  + Weekend peaks: some platforms (Instagram) perform better on weekends for likes (people browsing leisure content).
  + Mid-week (Tuesday–Thursday): often higher business-related engagement (Linked content, deep discussions on Facebook).
  + Friday/Saturday: good for video and entertainment posts.

**Recommendations for posting schedule**

* **Instagram:** Higher-impact posts (videos/carousels) on weekend or evenings when users scroll for leisure.
* **Facebook:** Post conversation starters and shareable content mid-week and early evening; schedule link-heavy posts during high-traffic hours.
* **Twitter:** Real-time / reactive posting as events occur; maintain multiple small daily posts for presence.

**Cadence guidance**

* At least 3–4 posts/week per platform, with 1–2 high-effort video/carousel posts on platforms where they perform best.
* Use A/B split-testing across days and times (measure engagement rate per impression) to identify exact peak hours.

**Conclusions, recommendations & action plan**

**Summary of findings**

* **Total engagement** is concentrated in likes (238,181), with comments and shares considerably lower. This indicates high passive consumption but room to increase active engagement.
* **Instagram** is the primary driver of likes. **Facebook** drives shares and conversations. **Twitter** contributes lower volume but strategic value for announcements and customer engagement.
* **Video & carousel** formats generate the best engagement per post. **Text/poll** posts are less effective for likes but useful for comments and conversations.
* Sentiment is mostly neutral/positive — a favorable baseline for scaling campaigns.

**Strategic recommendations (short-term)**

1. **Invest more in video and carousel production** for Instagram and Facebook (focus on short-form clips ≤60s).
2. **Create shareable, discussion-driven content** on Facebook (opinion pieces, listicles, community questions).
3. **Use Twitter for time-sensitive posts** and customer interaction (support threads, quick updates).
4. **Run A/B tests by day/time** to optimize cadence; measure engagement rate rather than absolute counts.
5. **Monitor sentiment daily** for negative spikes; establish a rapid response protocol for negative comments.

**Tactical 3-month action plan**

* Month 1: Run baseline tests — 10 video posts, 10 carousels, 10 images across platforms. Track per-post KPIs.
* Month 2: Amplify top-performing creative types (double production for videos/carousels). Start promoted posts on top-performing content.
* Month 3: Optimize posting schedule based on data; shift budget to best ROI platform-specific content.

**KPIs to track weekly**

* Engagement rate = (likes + comments + shares) / impressions.
* Average likes/comments/shares per post by platform and post\_type.
* Positive sentiment ratio and negative escalation rate.
* Conversion or click-through rate (if posts link to content).

**Limitations & further analysis**

* The dashboard provides aggregate values; this report infers distribution from charts. For more precise recommendations, access to the raw dataset (post-level records with time stamps, impressions, reach, and sentiment\_score numerical values) is necessary.
* Next steps after raw data access: regression analysis to quantify impact of post\_type/day/platform on engagement; multivariate testing.