FACEBOOK ENGAGEMENT ANALYSIS REPORT

# **Case Study**

Optimizing Social Media Engagement Through Posting Time Analysis

# **Overview and Objective**

In the always changing world of social media, timing is crucial. Given that a Facebook post only lasts for a few hours on average, posting at the proper moment is crucial to increasing audience interaction. In order to improve user interaction as indicated by likes and comments, this research looks into the best times to post on Facebook. By examining audience responses and posting trends over time, the emphasis is on comprehending posting behavior across different Facebook Page categories, particularly Traffic Police Departments and E-commerce Brands.

The two tables in the dataset, PostSummary and Comments, are connected by the pid attribute. CreatedTime, category, likesCount, and a structured comment format with integrated timestamps are among the fields in the data.

Posts are bucketed into 15-minute intervals, denoted as tk, across 24 hours (totaling 96 buckets per day). Our goal is to identify patterns of engagement, detect peak activity periods, and isolate underutilized slots across categories.

# **Traffic Police Page Analysis**

Three pages were included in the traffic category: Bengaluru, Hyderabad, and Kolkata Traffic Police.

* The most active postings were made by the Bengaluru Traffic Police. With a peak count of 97 postings, the highest engagement took place between 03:00 and 03:15 AM (bucket 13). Surprisingly, 30 time slots had no posts, suggesting that sometimes were underutilized, especially at night and in the evening. Furthermore, six time slots had post counts of more than fifty, primarily in the early morning and midday hours, indicating that these would be key periods for warnings or updates.
* The distribution displayed by Hyderabad Traffic Police was more evenly distributed, peaking between 9:30 and 09:45 in the morning. Ten time-slots had a zero-count, but none of them had more than fifty posts, suggesting moderate but steady involvement all day long. This trend points to a plan that fits in with commuter schedules.
* However, the Kolkata Traffic Police were slow to respond. 49 out of 96 time slots had no activity, while the average number of posts per slot was just 4.66. The platform may be underutilized, as seen by the low activity and low peak count of 33 (01:45 PM to 2:00 PM). These gaps give the Kolkata page the chance to improve its social media approach.

# **E-commerce Page Analysis**

In terms of regularity and posting volume, Snapdeal led all e-commerce firms, while Amazon India posted the least.

* With a peak of 68 posts between 04:30 and 04:45 AM, Snapdeal averaged 31.4 posts per time slot. With 20 slots surpassing 50 posts, the brand effectively utilized the early morning and midday time windows. Five late-night positions, on the other hand, had no posts—possibly a calculated move to prevent idle time.
* With a high average count of 26.39, Myntra demonstrated excellent consistency. With 145 posts, its engagement peaked between 06:30 and 06:45 AM. Myntra, in contrast to others, did not have any zero-count periods, suggesting that posting was spread out throughout the day. More than fifty postings were made in eleven different time slots, most of which were in the morning and early afternoon to correspond with users' pre- and during-work surfing tendencies.
* Flipkart adopted a more subdued strategy. It maintained an average of 7.15 postings per slot, with a maximum count of 25 and 13 zero-count slots. This suggests a cautious but well-balanced approach, which might be improved by pinpointing times of high involvement.
* Surprisingly, Amazon India was not very active. The average was only 3.82, with 18 time slots having no activity and none topping 14 posts. This poor engagement could be an indication of different marketing goals or a lack of attention to time optimization. Notably, no time slot had more than ten posts, indicating unrealized potential for taking advantage of user-active hours.

# **Average likes per category**

This is an interesting analysis where we calculate the average number of likes per post for each category. This statistic shows glaring differences between industries:

* The categories with the most average likes are clothing, retail, and websites. These industries probably spend a lot of money on ads, influencer partnerships, and graphic material to increase user engagement.
* With moderate like numbers, which indicate steady but less viral involvement, politicians and news/media also maintain a sizable presence.
* Since these platforms are more information-driven, healthcare and government institutions exhibit low average likes, which may indicate reduced public interaction or perhaps fewer posts intended for fun or commerce.
* This supports the previous finding that categories containing material that is consumer-focused, visually appealing, or emotionally compelling have higher raw interaction metrics.

# **Key Insights and Recommendations**

* Time is of the essence:
  + Better visibility and interaction are attained by pages such as Myntra and Snapdeal that post in the morning (06:30 AM to 09:00 AM) and mid-day (12:00 PM to 01:30 PM).
  + Before work, during breaks, and after morning routines are times when mobile device users are most active.
* Opportunities lost:
  + Websites such as Amazon India and Kolkata Traffic Police are not making the most of their platforms.
  + They run the risk of becoming irrelevant in real-time discussions if a significant portion of time slots remain unposted.
* Inefficiencies are highlighted by zero-count slots:
  + By examining these slots, one can uncover undiscovered possibilities.
  + Even while not all of them should be filled, knowing why they aren't used can help guide future tactics, such as avoiding low-engagement hours or looking for unexplored engagement windows.
* Consistency drives visibility:
  + Pages with more even post distributions like Myntra maintain sustained visibility across the day, which is crucial in platforms with time-sensitive algorithms.

# **Conclusion**

This investigation shows how social media efficacy can be directly impacted by temporal insights. Facebook Page admins may greatly increase post reach and audience involvement by analysing engagement trends and determining the best times to post. Post timing techniques will be further improved in further research by expanding this framework to incorporate reaction types, comment sentiment, and follower activity trends. These findings provide a useful road map for increasing visibility, relevance, and community impact on social media platforms for both public agencies and brands.