Company Profile Social Media Analysis report

Executive Summary

This analysis was conducted to unlock actionable insights from Stanbic IBTC Nigeria social media data. This analysis aimed to decode the treasure trove of information to redefine the future of digital marketing. This report outlines the comprehensive analysis, actionable recommendations, and engaging visualizations generated during the hackathon.

Introduction

This report presents a detailed analysis of social media engagement across various platforms. The study focuses on key metrics such as Impressions, Likes, Comments, Shares, Engagements, and Engagement Rate (per Impression) to derive insights into the effectiveness of content strategies.

Methodology

- Data Collection:
  - Data was collected from Play House Communication, a leading marketing agency in Nigeria, spanning ten years (2014-2023). The dataset includes over 29,000 posts from Facebook, Instagram, LinkedIn, and Twitter.

- Data Preprocessing:
  - Missing values were handled using SimpleImputer, filled with zeros or removed depending on relevance. Categorical variables were one-hot encoded for machine learning analysis. Data types were converted, addressing issues like dates and categorical data. Outliers and anomalies were identified and addressed.

- Key Questions Defined:
  - Explored critical questions such as post engagement types, platform performance, peak engagement times, and temporal trends. Framed queries to extract actionable insights.

- Feature Engineering:
  - Created new metrics based on EDA, enhancing informativeness. Introduced metrics like average engagement rate per impression to offer a balanced representation of overall effectiveness.

- Deep Dive Analysis:
  - Applied statistical methods to understand underlying patterns. Unearthed deeper insights for targeted understanding.

- Insight Generation:
  - Derived actionable insights from the analysis. Translated insights into practical recommendations.

- Visualisation:
  - Employed graphs, charts, and visualizations for clear communication. Ensured accessibility for non-technical stakeholders. Provided a shareable link to visualizations for broader accessibility.

- Report Compilation:
  - Organized findings, insights, and recommendations into a structured report. Prioritized clarity and simplicity in conveying complex data insights.

Key Findings

Overall Engagement Patterns

Photos are the most engaging content type, followed by videos, text-based posts, carousels, and links.

There was a notable surge in engagement across all the media platforms for the year 2020 during the peak of the covid 19 pandemic. This is however succeeded by a decline in 2022 as more restrictions where eased.

The engagement rates predominantly fall within the range of 1.0% to 7.5%, which is widely recognized as a favorable and healthy rate for social media interactions.

Overall, there is a positive correlation between engagement rates and impressions on these social media platforms, meaning that higher impressions often lead to higher engagement rates. However, the strength of this correlation varies among the platforms, with some showing stronger correlations than others.

Analyzing Impressions over time periods

The data indicates that in the earlier years, particularly before 2020, there was a consistent trend of higher impressions during the 3rd and 4th quarters. However, starting in 2020, a noticeable shift occurred, likely due to the COVID-19 pandemic, with a significant increase in online activity. This shift is most evident in the months of March and April, which consistently saw the highest impressions over the years. This suggests that the pandemic had a substantial impact on online behavior, leading to increased impressions during these months.

To gain a better understanding of the data and its implications, a more comprehensive analysis of the pre-COVID and post-COVID performance would be beneficial. Such an analysis could help determine whether the trends in impressions are likely to return to their pre-pandemic patterns or if they have been permanently altered.

Additionally, the data reveals that midweek days, specifically Wednesday, Thursday, and Friday, consistently have the highest number of impressions compared to other weekdays. This trend appears to be less affected by the pandemic compared to other aspects of the data. It suggests that the midweek period remains a crucial time for online activity, even during extraordinary events such as the pandemic. Further analysis and investigation into this midweek trend could provide valuable insights into user behavior and preferences.

Analyzing Engagements and time

Posts made at 10 am consistently received the highest impressions, closely followed by posts made at 5 pm and noon (12 pm). During the nighttime, 9 pm stood out as the most favorable hour for impressions. Conversely, posts shared between 11 pm and 6 am consistently yielded the lowest impressions. This pattern suggests that posting during specific daytime hours is more likely to generate higher impressions compared to late-night and early morning posting.

The engagement metrics closely align with the trends observed in impressions, with some minor variations, particularly during the afternoon hours.

The impression patterns for each individual network largely align with the general pattern established earlier, with some nuanced variations in specific cases.

Post clicks over time

The data indicates a gradual increase in the number of post clicks over the years, with a noticeable acceleration in the growth rate between 2019 and 2020, which coincides with the peak of the COVID-19 pandemic. However, this rapid increase is followed by an equally swift decline. In 2022, there appears to be a modest recovery in the number of post clicks but its being offset in 2023

Hashtags

The findings suggest that the presence of hashtags can influence engagement metrics differently across social media platforms. It is essential to consider platform-specific strategies when incorporating hashtags into content for optimal engagement.

Based on the bar charts plotted, it is evident that posts with hashtags significantly outperform those without hashtags. Specifically, posts with hashtags mostly receive more than 50% additional interactions compared to posts without hashtags. This finding highlights the positive impact of using hashtags to enhance the reach and visibility of content.

Links

The outcomes suggest that the presence of links has a varied impact on engagement metrics across social media platforms. Adjusting strategies based on the specific platform is crucial for optimizing engagement when incorporating links into content.

Platform-Specific Insights

Facebook

Likes: The platform exhibits a consistent growth in likes starting in 2017. A notable surge in 2020 indicates substantial engagement, but this peak is succeeded by a rapid decline in 2021. While there is a mild in 2022, a subsequent dip is observed in 2023.

Comments: Comments for the different networks appear to exhibit similar trends as the "Likes" data, albeit with lower engagement numbers.

Shares: Facebook exhibited rapid growth between 2017 and 2018, followed by a sustained decline.

Love reactions for Facebook appear to exhibit similar trends as the Facebook likes" data, albeit with lower engagement numbers.

Wow reactions showed growth in 2017, followed by a dip in 2018. There was a recovery between 2019 and 2020, but a decline in 2021 was followed by a rapid increase that declined just as swiftly.

Angry reactions demonstrate a slow and gradual growth trend from 2017 until they experience a significant boost in 2020. Subsequently, there is a decline in 2021, but a sharp increase is observed in 2022. However, the data does indicate a downward trend in 2023.

Twitter

Likes: Twitter also demonstrates a steady increase in likes from 2017, with a slight uptick between 2019 and 2020. However, this upswing is swiftly followed by a steep decline in 2021. Notably, there is a gradual resurgence in likes starting from 2022.

Comments for the different networks appear to exhibit similar trends as the "Likes" data, albeit with lower engagement numbers.

Shares: Twitter experienced significant growth from 2016 until 2819, followed by a temporary decline. A brief recovery occurring n 2022, but it was short-lived, and shares decreased again. The decline then continued at a slower pace.

Instagram:

Likes: Instagram's data reflects a significant growth rate commencing in 2019, culminating in a peak during 2021. Yet, analogous to other platforms, there's a dip in likes in 2021. While there's a lessening of this decline from 2022 to 2023, it regresses once more in 2023.Instagram

Comments for the different networks appear to exhibit similar trends as the "Likes" data, albeit with lower engagement numbers.

Linkedin:

Likes: LinkedIn's data portrays an increase in likes from 2019 to 2020, accompanied by a minor dip swiftly followed by a recovery. However, in 2023, the data reveals an escalated rate of decline.

Shares: LinkedIn displayed a fluctuating trend with periods of steady declines and minor recoveries between 2019 and 2020 after 2023, the data suggests a prolonged decline.

Engagement rates

Facebook:

Facebook's High Impressions and Balanced Engagement Rates: Facebook boasts the highest number of impressions and a well-balanced composition of engagement rates, primarily falling between 1% and 7%. This engagement rate distribution may contribute to its broad appeal.

Twitter:

Twitter's Strong Engagement for Low Impressions: Twitter's engagement rates are notably strong for posts with impressions under 10,000, and the rates predominantly range from 1% to 7%. This suggests that Twitter excels in engaging smaller but highly interactive audiences.

Instagram:

Instagram's Predominantly High Engagement Rates: Instagram shows a consistent pattern of high engagement rates, with the majority exceeding 1%. This suggests that Instagram users are generally more engaged with the content they encounter.

Linkedin:

LinkedIn's Strong Engagement Rates: Despite having fewer impressions, LinkedIn stands out with a higher concentration of engagement rates above 5%, indicating a more engaged audience on the platform.

Analyzing post clicks for individual networks

The Instagram data at hand, unfortunately, does not provide insights into post clicks, making it challenging to analyze patterns for this network. However, we can draw meaningful observations for the other three networks:

Facebook:

- Facebook consistently leads with the highest number of post clicks.
- There was a gradual increase in post clicks over the years, with a notable surge between 2018 and 2020.
- This surge was primarily during the peak of the COVID-19 pandemic, where online activity saw a significant uptick.
- However, there was a sharp decline 2020 as the pandemic subsided.
- The data suggests a gradual recovery in post clicks from 2021 onwards.

Twitter:

- Twitter's post click trends align with those of Facebook, but with some variations.
- Similar to Facebook, there was a gradual increase in post clicks over the years, driven by pandemic-related online activity.
- However, unlike Facebook, Twitter has not shown a clear recovery in post clicks after the 2020 decline. The rate of decline appears slower.

LinkedIn:

- LinkedIn's data is distinct, with records available from 2018.
- Interestingly, while other networks experienced a surge in post clicks during the pandemic, LinkedIn saw a decrease.
- Post-pandemic, LinkedIn's post clicks started increasing at a better rate than during the pandemic.
- However, from 2022 onwards, there is a steady decline in post clicks as the data approaches 2023.

These observations highlight how different social networks responded to the dynamic environment influenced by the COVID-19 pandemic and the subsequent shifts in user engagement and online activity. The recovery or decline in post clicks reflects the evolving user behavior on these platforms.

Further analysis on post clicks

Twitter Post media clicks demonstrated steady growth over the years, with a significant boost during the peak of the COVID-19 pandemic in 2020 followed by a decline in 2021 that while slowing down in 2022, continues.

Twitter's post hashtag clicks experienced gradual growth until 2018, followed by a dip, but a strong recovery in 2020. A decline followed in 2021 but from 2022, a strong recovery seems to be taking place.

Twitter Post Detail Expand clicks demonstrated steady growth over the years, with a significant boost during the peak of the COVID-19 pandemic in 2020 followed by a decline in 2021 that while slows down in 2022 and generally plateaus.

Twitter Profile clicks demonstrated steady growth over the years, with a significant boost during the peak of the COVID-19 pandemic in 2020, followed by a decline in 2022. There is an uptake in 2022 but that appears to be reversing in 2023

Facebook is the only network with photo view click data, showing steady growth until 2020. Subsequently, there was a significant decline; however, the data suggests a gradual recovery might be underway."

Other post link clicks on Facebook saw a substantial increase between 2019 and 2020, followed by a decline in 2021 to levels similar to those before the increase.The data suggests a gradual recovery might be underway. Twitter's other post link clicks increase gradually from 2017 with aa significant boost between 2019 and 2020. This is followed by a decline in 2021 that seems to be slowing down.

I will exclude unique post clicks data from the plots since it pertains exclusively to Twitter and the trends have already been discussed in the preceding analysis.

Hashtag analysis for individual networks

Mann-Whitney U tests were conducted to assess the impact of hashtags on various engagement metrics across different social media platforms. The results indicate significant differences in several metrics, with varying patterns across platforms:

Facebook:

All metrics, including Impressions, Likes, Comments, Shares, Engagements, and Engagement Rate (per Impression), demonstrate significant differences.

Twitter:

Impressions, Shares, and Engagement Rate (per Impression) show significant differences.

Likes, Comments, and Engagements do not exhibit significant variations.

Instagram:

Impressions, Likes, Comments, and Engagements exhibit significant differences.

Shares and Engagement Rate (per Impression) do not show significant variations.

LinkedIn:

Impressions, Likes, Comments, Shares, and Engagements display significant differences.

Engagement Rate (per Impression) does not demonstrate a significant variation.

Analyzing links for individual network

The Mann-Whitney U tests were employed to investigate the impact of the presence of links on various engagement metrics across different social media platforms. The results, summarized below, provide insights into the significance of differences observed:

Facebook:

All metrics, including Impressions, Likes, Comments, Shares, Engagements, and Engagement Rate (per Impression), exhibited significant differences between posts with and without links.

Twitter:

Significant differences were found in Impressions, Likes, Comments, Shares, Engagements, and Engagement Rate (per Impression) when comparing posts with and without links.

Instagram:

Significant differences were observed in Impressions, Likes, Engagements, and Engagement Rate (per Impression) for posts with and without links. However, no significant variations were found in Comments and Shares

LinkedIn:

Impressions, Likes, Comments, Shares, and Engagements showed significant differences, while Engagement Rate (per Impression) did not exhibit a significant variation for posts with and without links.

Sentiment analysis

Summary of Summary Statistics for Social Media Post Outcomes by Network:

Impressions:

Facebook posts have the highest average impressions (mean: 6,766) among all networks, with a wide distribution (std: 7,422).

Instagram and Twitter follow with average impressions of 2,376 and 3,214, respectively.

LinkedIn posts have the lowest average impressions (mean: 1,084).

Likes:

Facebook and Instagram posts have a similar average number of likes, with Facebook having a slightly higher mean (68.4) compared to Instagram (66.1).

LinkedIn posts have a significantly lower average likes count (mean: 15.6).

Twitter posts have an average likes count between Facebook and LinkedIn (mean: 18.6).

Comments:

Facebook posts receive the highest average comments (mean: 26.2), followed by Instagram (mean: 12.2), and Twitter (mean: 8.4).

LinkedIn posts have the lowest average comments count (mean: 2.2), indicating fewer interactions through comments.

Engagement Rate (per Impression):

LinkedIn posts have the highest average engagement rate (mean: 3.73), with a wide range of engagement rates.

Instagram and Facebook posts have similar average engagement rates (mean: 3.37 and 3.25, respectively).

Twitter posts have a slightly lower average engagement rate (mean: 2.90).

These summary statistics provide valuable insights into the performance of social media posts across different networks. Facebook appears to have the highest average impressions and likes, while LinkedIn has the highest engagement rate. Instagram and Twitter fall in between, with Instagram showing strong engagement in terms of likes and comments. These statistics can guide content strategies and decision-making for each social media network.

Drivers of engagement on posts

The most important features for post engagement in their order of importance are number of characters in a post, number of words in a post, number of hashtags, number of emojis and the presence of links

Hashtag analysis feature importance analysis

In summary, the analysis of hashtag campaign performance provides actionable insights for optimizing content strategies, enhancing audience engagement, and ultimately achieving marketing objectives.

While a higher engagement rate may be correlated with the presence of certain hashtags, it's important to note that correlation does not imply causation. The observed association could be a result of these hashtags being linked to content that inherently attracts more engagement. To delve deeper into this relationship, we conducted a feature importance analysis. This analysis aims to assess the contribution of different hashtags to various performance metrics for each network. By evaluating the importance of individual features, such as hashtags, we can gain insights into their impact on engagement metrics. However, it's crucial to recognize that while this analysis can highlight associations, establishing a direct causal relationship is a more intricate task. Other factors, such as content quality, timing, and audience preferences, also play roles in determining engagement levels. Therefore, the feature importance analysis will provide valuable insights, but interpretation should be done cautiously, considering the broader context of social media engagement dynamics.

Results from the feature analysis

Facebook:

Impressions:

Top hashtags: 3minaccountchallenge, staysafe, itcanbe

Likes:

Top hashtags: yls2023, itcanbe, worldautismday

Comments:

Top hashtags: 3minaccountchallenge, powerupmonday, mydreamscanbe

Shares:

Top hashtags: itcanbe, smwlagos, wealthwednesday

Engagements:

Top hashtags: 3minaccountchallenge, powerupmonday, yls2023

Engagement Rate (per Impression):

Top hashtags: yls2023, itcanbe, worldautismday

Instagram:

Impressions:

Top hashtags: itcanbe, investment, bluetalks

Likes:

Top hashtags: yls2023, itcanbe, bluetalks

Comments:

Top hashtags: riddles, financialtip, itcanbe

Shares:

No significant importance for any hashtag.

Engagements:

Top hashtags: yls2023, itcanbe, riddles

Engagement Rate (per Impression):

Top hashtags: yls2023, itcanbe, trustedbroker

LinkedIn:

Impressions:

Top hashtags: afticachinaexpotrade, itcanbe, plusrewardloyaltypromo

Likes:

Top hashtags: afticachinaexpotrade, itcanbe, trade

Comments:

Top hashtags: internationaldayofboychild, movingforward, digitalskills4life

Shares:

Top hashtags: itcanbe, wealthwednesday, movingforward

Engagements:

Top hashtags: goforextraordinaryfuture, mutualfunds, nigeriaat62

Engagement Rate (per Impression):

Top hashtags: internationaldayofcharity, topread, hifl2018

Twitter:

Impressions:

Top hashtags: childrensday2019, genderequality, itcanbe

Likes:

Top hashtags: together4alimb, movingforward, worldcancerday2021

Comments:

Top hashtags: childrensday2019, bestbrokeragehousenigeria, smwlagos

Shares:

Top hashtags: movingforward, together4alimb, nsecorporatechallenge

Engagements:

Top hashtags: bls2015, bestbrokeragehousenigeria, nsecorporatechallenge

Engagement Rate (per Impression):

Top hashtags: africaday, beatplasticpollution, mothersday

Note: The term "Top hashtags" refers to the hashtags with the highest feature importance for each outcome variable on the respective platform. may vary. It is essential to continuously analyze and adapt your strategy based on real-time data and feedback.

Recommendations

Content Strategy Optimization

- Overall Engagement Patterns
- Prioritize creating more visual content, especially photos and videos, to enhance user engagement.
- Capitalize on the positive correlation between engagement rates and impressions by focusing on strategies that increase impressions.

- **Timing Strategies**
- Midweek Peak Engagement: Consistently, Wednesday, Thursday, and Friday show the highest number of impressions across platforms. Consider these midweek days as prime posting times for general content.
- Daytime Posting: Aim to post during specific daytime hours, such as 10 am, noon (12 pm), and 5 pm, as these times consistently yield higher impressions. Avoid posting between 11 pm and 6 am, as these hours generally result in lower impressions.

Platform-Specific Recommendations

Facebook

- Peak Engagement Hours: Leverage the data showing peak engagement times at 10 am for the highest impressions on Facebook.

Twitter

- Daytime Emphasis: Align with the general trend of daytime posting, with a focus on midweek days for higher impressions.

Instagram

- Optimal Posting Hours: Given the consistent high engagement rates on Instagram, consider posting during the general daytime hours (10 am, noon, and 5 pm) for optimal visibility.

LinkedIn

- Midweek Emphasis* As midweek days consistently have higher impressions, prioritize posting on LinkedIn during Wednesday, Thursday, and Friday.
- Daytime Posting: Similar to other platforms, focus on posting during daytime hours for increased visibility.

Continuous Monitoring and Adaptation

- Real-Time Analysis: Regularly monitor platform-specific insights and adapt posting times based on real-time data.
- A/B Testing: Experiment with alternative posting times to identify potential shifts in audience engagement.
- Audience Behavior: Understand the specific behaviors of your target audience on each platform, as preferences may vary.

Remember, these recommendations provide a starting point. Fine-tune strategies based on ongoing analysis and adjust to changes in user behavior and platform algorithms. The goal is to maximize visibility and engagement by posting at times when the audience is most active and receptive.

Hashtag Utilization

- Integrate hashtags strategically across all platforms, as posts with hashtags outperform those without.
- Implement platform-specific hashtag strategies, considering the impact of hashtags on each network's engagement metrics.

Link Usage

- Tailor link incorporation based on the specific platform, recognizing that the impact of links varies across social media networks.

Platform-Specific Recommendations

Facebook

- Recognize the decline in engagement trends and consider adjusting content strategies for sustained growth.
- Explore the resurgence of love reactions and tailor content to leverage this reaction type.

Twitter

- Address the decline in post clicks and shares by experimenting with content types that historically performed well.
- Capitalize on the positive correlation between impressions and engagement rates for smaller audiences.

Instagram

- Mitigate the decline in likes and explore strategies to maintain or recover engagement levels.
- Continue emphasizing visually appealing content given Instagram's consistently high engagement rates.

LinkedIn

- Adapt content strategies to counteract the declining trend in likes and shares.
- Leverage the platform's strong engagement rates by catering to the more engaged audience.

Link Strategies

- Tailor link incorporation based on the specific platform, recognizing that the impact of links varies across social media networks.
- Experiment with content types and posting times to optimize link performance.

Sentiment Analysis Insights

- Focus on creating content with varying lengths (number of characters and words) to cater to diverse audience preferences.
- Emphasize the use of emojis, as they contribute to post engagement.
- Evaluate the impact of links, hashtags, and the presence of emojis on sentiment scores for deeper insights.

Continuous Monitoring and Adaptation

- Establish a dynamic strategy that adapts to changing trends and user behaviors.
- Regularly analyze real-time data and feedback to refine content strategies.
- Stay informed about the latest social media trends and algorithms to stay ahead in the digital marketing landscape.

Post-Click Strategies

Facebook

- Capitalize on the recovery in post clicks by maintaining or enhancing content strategies that drove the surge.

Twitter

- Address the ongoing decline in post clicks by experimenting with content types and posting times.

LinkedIn

- Monitor and adapt strategies to navigate the steady decline in post clicks.
- Explore strategies that engage the audience without relying heavily on post clicks.

Conclusion

The analysis of Stanbic IBTC Nigeria's social media data has unveiled valuable insights that can significantly impact digital marketing strategies. As we delve into the key findings, several trends and patterns emerge across content types, engagement metrics, posting times, and platform-specific behaviors.

Content Strategy Insights

Engagement by Content Type:

- Visual Dominance: Photos are the most engaging content type, followed by videos, text-based posts, carousels, and links. Prioritize visually compelling content for higher user interactions.

Impact of Hashtags and Links:

- Hashtags Boost Engagement: Posts with hashtags significantly outperform those without. Strategically use hashtags to enhance reach and visibility.
- Varied Impact of Links: The presence of links impacts engagement differently across platforms. Tailor strategies for each platform to optimize engagement metrics.

Temporal Trends and Posting Strategies

Impressions Over Time:

- COVID-19 Impact: The COVID-19 pandemic caused a surge in online activity, affecting impressions and engagement across platforms. Consider the evolving landscape for future content planning.
- Midweek Consistency: Wednesday, Thursday, and Friday consistently exhibit the highest impressions. Leverage midweek posting for maximum visibility.

Optimal Posting Times:

- Daytime Dominance: Daytime hours, especially at 10 am and noon, consistently generate higher impressions. Align posting schedules with these peak hours for increased visibility.

Platform-Specific Recommendations

Facebook Insights:

- Content Dynamics: Like, Comments, and Shares exhibit varied trends, requiring nuanced content strategies. Consider the audience's response to different types of interactions.
- Optimal Engagement Rate: Facebook maintains a well-balanced engagement rate distribution, contributing to its broad appeal.

Twitter Strategies:

- Engaging Smaller Audiences: Twitter excels in engaging smaller but highly interactive audiences. Tailor content for impactful engagement with a more focused audience.

Instagram's Visual Impact:

- Consistent Engagement: Instagram consistently shows high engagement rates. Prioritize visually appealing content and explore trends that resonate with Instagram's user base.

LinkedIn's Unique Traits:

-   Higher Engagement Rates: Despite fewer impressions, LinkedIn stands out with a higher concentration of engagement rates above 5%. Recognize the more engaged audience on the platform.

Continuous Improvement and Adaptation

Real-Time Analysis:

-   Adaptation: Continuously monitor and adapt strategies based on real-time data. Platforms and user behaviors evolve, necessitating dynamic adjustments.

A/B Testing and Audience Understanding:

-   Experimentation: Conduct A/B testing to identify optimal posting times and content strategies. Understand the unique behaviors and preferences of your target audience on each platform.

The recommendations outlined in this report aim to guide the formulation of content strategies, optimize engagement metrics, and enhance overall digital marketing effectiveness. The dynamic nature of the digital landscape requires continual monitoring, adaptability, and a keen understanding of audience dynamics for sustained success.

Compiled by

Samuel Mawejje

Email: *mpatricksamuels3@gmail.com*   *Linkedin*   *Git hub repository*