

## East Java Government Instagram Content Analysis: Unpacking the Relationship Between Content Types and Public Engagement in 2023

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### *ABSTRACT*

This study analyzes the online interactions of government Instagram accounts in East Java, Indonesia, focusing on the effectiveness of different content types on this social media platform. Digital platforms, particularly social media, have become crucial for government performance measurement and public interaction. Governments in Indonesia use social media, specifically Instagram, to disseminate information, socialize organizational performance, and channel public aspirations. The research involved collecting data from 37 government Instagram accounts in East Java for the year 2023 using the Virol application. The study reviews the literature on digital platforms and social media in governance, highlighting the preference for visual content among followers and the importance of information quality in building citizen trust. The study also notes the positive impact of social media utilization on public satisfaction with government institutions. Data reveal that album posts are the most frequent (average of 1613.78 posts), followed by images (1121.57), videos (241.03), and IGTV (147.68). In terms of engagement, album posts received the highest average likes (219.6), while IGTV received the most comments (4.6 on average). The findings suggest that followers prefer album posts and that IGTV content generates more in-depth discussions. The study recommends that government social media strategies prioritize album posts for broader engagement and use IGTV for more detailed content that encourages public discussion. This research contributes to understanding the dynamics of government-public interaction through Instagram and provides actionable insights for enhancing digital communication strategies.

### INTRODUCTION

The rapid advancement of digital technologies has significantly transformed government-citizen interactions, particularly in performance measurement. In Indonesia, social media platforms have emerged as key mediums for governments to disseminate information, socialize initiatives, and gauge public sentiment (Mergel, 2013; Kusumasari, 2018; Sulistya et al., 2019). These platforms enhance transparency, accessibility, and responsiveness in public administration (Kusumasari, 2018; Syamsiar, 2023), allowing government bodies to effectively communicate activities, policies, and performance indicators to the public, fostering a more informed and engaged populace (Rachman et al., 2021; Mergel, 2013).

Digital platforms, particularly social media, are effective in measuring government performance. In Indonesia, several governments use social media to provide information and socialize the performance of local government

organizations, as well as to channel public aspirations. Interaction between governments and citizens via social media is increasingly important, influencing how citizens interact with the government (Haro-de-Rosario, 2018). Followers of government accounts in Indonesia prefer visual content such as photos or videos over text (Santoso, 2020). Citizens' trust in government social media accounts is influenced by the quality of information presented (Khan, 2020), with accurate and relevant information increasing trust. Social media usage also impacts public satisfaction with government institutions (Poluan, 2022).

Instagram stands out as the top platform for government social media use because it effectively socializes programs, builds closeness between institutions and the community, and allows for direct communication with users. The Padangsidempuan City Government Communication and Information Service successfully utilizes Instagram as a medium for public communication and information dissemination but requires public feedback for improvement (Lubis & Monang, 2023). Additionally, the Ministry of Education and Culture of the Republic of Indonesia effectively uses Instagram to promote the Merdeka Belajar Kampus Merdeka (MBKM) program and build community engagement (Susilo et al., 2022).

Consistent use of social media platforms like Twitter and Facebook has been proven to increase engagement and communication flow. However, significant changes in interactions, followers, and message structure were observed only after the COVID-19 pandemic radically altered user interactions and engagement (Sandoval & Valle-Cruz, 2021). Public managers must navigate the complexities of social media analytics, considering social and behavioral factors influencing online interactions (Mergel, 2013).

This study aims to analyze the effectiveness of different content types on government Instagram accounts in East Java, Indonesia. The research focuses on how varying content forms—such as images, videos, album posts, and IGTV—impact user engagement and public sentiment. By understanding these dynamics, the study seeks to provide actionable insights for enhancing digital communication strategies within the public sector.

## Literature Review

The advent of digital platforms, especially social media, has revolutionized government-citizen interactions, offering new avenues for performance measurement and public engagement. However, the efficacy of different content types on these platforms remains a subject of extensive debate. In the context of Indonesian government agencies, Instagram has emerged as a pivotal tool for communication and public engagement. This literature review delves into the complexities and contradictions inherent in the effectiveness of different content types on Instagram, juxtaposing theoretical insights with empirical findings.

The utility of Instagram for government communication is often attributed to its visual-centric nature, which purportedly enhances message delivery compared to traditional text-based platforms. Studies have highlighted Instagram's effectiveness in promoting transparency and fostering closer relationships between governments and the public (Lubis & Monang, 2023; Susilo et al., 2022). This perspective aligns with Angendari's (2022) assertion that visual media on Instagram offers a more engaging and impactful communication channel than textual media, particularly in crisis communication and political messaging. The platform's ability to convey messages through images and videos without the constraints of traditional media gatekeepers is seen as a significant advantage.

However, this view is not without its contradictions. While visual content is credited with increasing engagement and relatability, the effectiveness of such content is contingent upon its strategic deployment. Peng (2020) argues that not all visual strategies are equally effective; for instance, images depicting politicians in private or emotional settings may enhance engagement, but they can also risk perceived insincerity or manipulation if not handled carefully. This raises questions about the authenticity and ethical considerations of using emotional imagery in government communications.

Customer engagement, as a multi-dimensional concept encompassing cognitive, emotional, behavioral, and social dimensions, provides a valuable framework for understanding public engagement on social media (Islam & Rahman, 2016). The theory suggests that engagement is not merely about interaction but also involves deeper cognitive and emotional connections between organizations and their audiences. This theoretical lens has been applied to social media strategies, proposing that effective engagement requires not only frequent and high-quality content but also a strategic approach to managing interactions (Khasawneh & Abu-Shanab, 2013).

Yet, the application of customer engagement theory to government social media accounts reveals contradictions. While the theory emphasizes the importance of building emotional and cognitive bonds with the audience, the effectiveness of such strategies in the public sector is subject to different dynamics compared to commercial contexts. For instance, while customer engagement research predominantly comes from developed countries (Islam & Rahman, 2016), its applicability to diverse cultural and political contexts like Indonesia remains debated. The varying expectations and interactions of citizens with government accounts may challenge the straightforward application of commercial engagement models.

Analyzing different content types on Instagram—such as images, videos, album posts, and IGTV—reveals a complex landscape of public engagement. Empirical data from Indonesian government Instagram accounts suggest that album posts receive the highest number of interactions, including likes and comments,

while IGTV posts, though less frequent, generate deeper discussions (Santoso, 2020; Poluan, 2022). This finding supports the notion that diverse content types cater to different engagement patterns, with visual content generally favoring broader appeal and video content fostering in-depth dialogue.

Nevertheless, the assumption that certain content types universally enhance engagement is contradicted by the variability in audience responses. For example, while album posts are often favored for their high interaction rates, they may not always align with the goals of fostering meaningful public discourse or addressing complex issues. The effectiveness of content types can thus be context-dependent, influenced by factors such as the nature of the information being communicated and the specific needs and preferences of the audience.

The literature on the effectiveness of different content types on government Instagram accounts reveals a nuanced interplay between visual media advantages, customer engagement theory, and empirical findings. While Instagram's visual nature offers significant benefits for government communication, including increased engagement and relatability, the strategic use of content must account for potential contradictions and ethical considerations. Customer engagement theory provides a valuable framework for understanding public interactions, yet its application to government contexts presents challenges due to cultural and contextual differences. As social media continues to evolve, a deeper understanding of these complexities and contradictions will be essential for optimizing government communication strategies and enhancing public engagement.

## Method

Content analysis played a significant role in our study. This method, which involves systematically examining text or visual content to identify specific themes and concepts, was used to gain insights into engagement patterns and content effectiveness. According to Zavyalova (2022), content analysis helps in understanding messages, audience perceptions, and cultural contexts, providing qualitative depth to our quantitative findings.

In this study, we utilized Virol, a comprehensive Instagram management tool, to collect and analyze data from government Instagram accounts across East Java, Indonesia. Virol's extensive features were instrumental in our data collection process, including its capabilities for scheduling and reposting content, conducting in-depth content research, and analyzing hashtag performance.

Virol allowed us to efficiently manage and track posts across multiple accounts, providing us with a broad dataset that included various content types such as images, videos, album posts, and IGTV. This tool facilitated the identification of popular and viral content and enabled us to monitor competitor performance and engagement metrics effectively.

Once the data was collected, we employed advanced visualization techniques to make sense of the vast amount of information gathered. The visualizations

included bar charts, histograms, pie charts, and line graphs, which helped illustrate the frequency and engagement metrics associated with different content types. These visual tools were essential in revealing patterns and trends in how different types of content performed in terms of audience interaction.

The analysis focused on comparing engagement metrics such as likes, comments, and shares across various content types. We also evaluated how different content strategies influenced public interaction and feedback, considering the quality and relevance of the information presented. This was complemented by an examination of hashtag effectiveness and performance comparison with similar government accounts to understand competitive positioning.

Our approach was informed by established theoretical frameworks. Web crawler methodology, as outlined by Nemeslaki and Pocsarovszky (2012) and Guo (2021), provided the foundation for systematically gathering and managing online content. This methodology supports exploration, classification, and time series analysis, which were crucial for building our dataset and analyzing online interactions.

By integrating these methods, we were able to conduct a comprehensive evaluation of Instagram content effectiveness. The use of Virol for data collection, coupled with advanced visualization techniques and theoretical frameworks, enabled us to gain valuable insights into optimizing government communication strategies on social media.

*Table 1 : List Of East Java Government Instagram Accounts*

No	Name	Account	No	Name	Account
1	Pemerintah Kota Batu	pemkotbatu_official	20	Pemerintah Kota Batu	lumajang_kab
2	Pemerintah Kota Blitar	pemkotblitar	21	Pemerintah Kota Blitar	pemkotblitar
3	Pemerintah Kota Kediri	pemkotkediri	22	Pemerintah Kota Kediri	malangkab
4	Pemerintah Kota Madiun	pemkotmadiun_	23	Pemerintah Kota Madiun	kominfokab_mojokerto
5	Pemerintah Kota Malang	pemkotmalang	24	Pemerintah Kota Malang	dinaskominfo_nganjuk
6	Pemerintah Kota Mojokerto	humaskotamojokerto	25	Pemerintah Kota Mojokerto	ngawikab
7	Pemerintah Kota Pasuruan	pemkotpasuruan	26	Pemerintah Kota Pasuruan	pemkabpacitan

8	Pemerintah Kota Probolinggo	probolinggoimpressive	27	Pemerintah Kota Probolinggo	pemkabpamekasan
9	Pemerintah Kota Surabaya	sapawargasby	28	Pemerintah Kota Surabaya	pemkabpasuruan
10	Pemerintah Kab. Bangkalan	kominfobkl	29	Pemerintah Kab. Bangkalan	ponorogokab
11	Pemerintah Kab. Banyuwangi	banyuwangi_kab	30	Pemerintah Kab. Banyuwangi	humas_kab_prob
12	Pemerintah Kab. Blitar	pemkab_blitir	31	Pemerintah Kab. Blitar	kabupaten.sampang
13	Pemerintah Kab. Bojonegoro	pemkabbojonegoro	32	Pemerintah Kab. Bojonegoro	pemkabsidoarjo
14	Pemerintah Kab. Bondowoso	bondowoso.kab	33	Pemerintah Kab. Bondowoso	situbondokab
15	Pemerintah Kab. Gresik	pemkabgresik	34	Pemerintah Kab. Gresik	kominfosumenep
16	Pemerintah Kab. Jember	pemkabjember	35	Pemerintah Kab. Jember	kominfortrenggalek
17	Pemerintah Kab. Jombang	jombang_kab	36	Pemerintah Kab. Jombang	kabupatentuban
18	Pemerintah Kab. Kediri	pemkab.kediri	37	Pemerintah Kab. Kediri	dinaskominfo_tulungagung
19	Pemerintah Kab. Lamongan	lamongankab			

## Finding & Discussion

This section presents the results of the data analysis from 37 Regional Government Instagram accounts in East Java for the year 2023. The aim was to evaluate the effectiveness of various content types—Image, Video, Album, and IGTV—in enhancing public engagement on Instagram. Data were collected using the Virol application, which facilitated a comprehensive examination of posting frequencies and interaction levels.

### Frequency of Posting

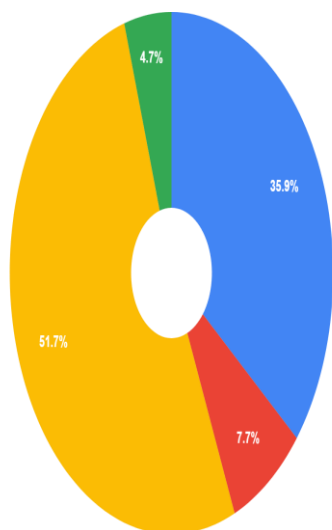


Figure 1 : Frequency of post by type

Figure 1 reveals that Album posts are the most frequently shared content type, constituting 51.7% of the total posts with an average of 1613.78 posts. This is followed by Images, which make up 35.9% of the posts with an average of 1121.57 posts. Video content and IGTV have lower posting frequencies, at 7.7% and 4.7% respectively, with averages of 241.03 and 147.68 posts.

### Engagement Metrics

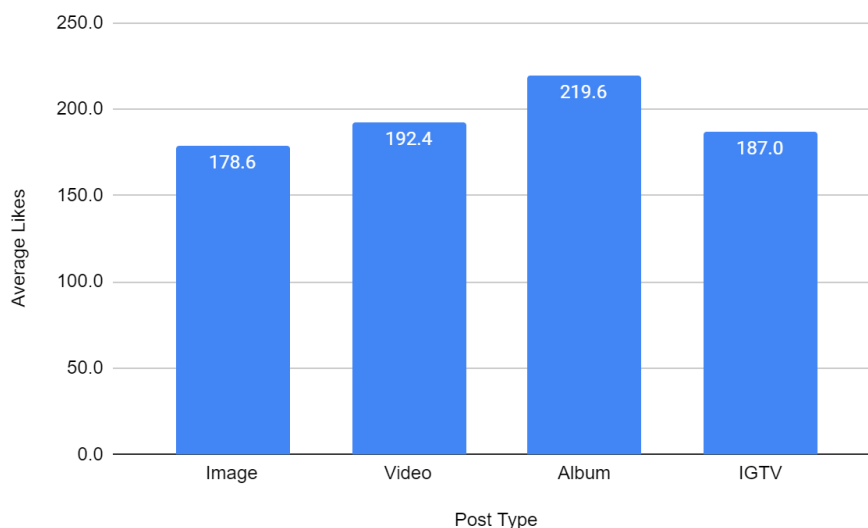


Figure 2 : Average Likes by Post Type

The analysis of engagement metrics shows that Album content garners the highest average number of likes, averaging 219.6 likes per post. This is supported by similar findings in previous research, which emphasize that visual content, particularly well-

curated albums, can significantly enhance audience engagement (Santoso, 2020). Video content follows with an average of 192.4 likes, indicating its effectiveness in attracting likes but not to the extent of Album posts. IGTV content averages 187.0 likes, reflecting its relatively strong performance, though it lags behind Albums and Videos. Despite the high posting frequency of Images, they receive the lowest average number of likes (178.6), which may indicate that while they are frequently used, they might not be as engaging or impactful as other content types.

### Comment Engagement

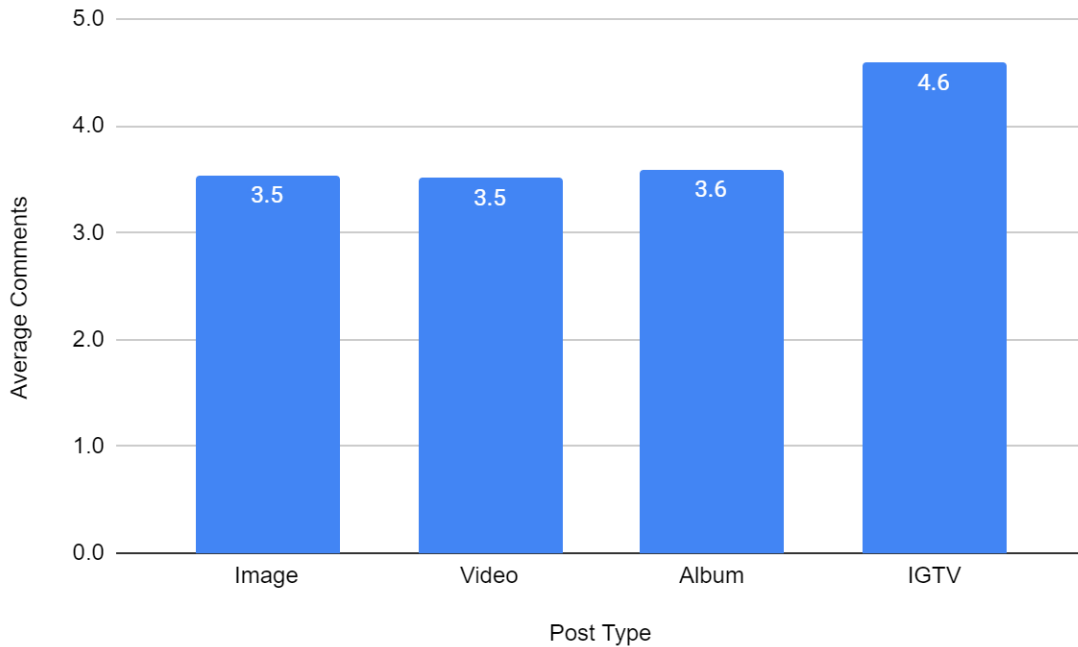


Figure 2 : Average Comment by Post Type

Figure 3 demonstrates that IGTV content receives the highest average number of comments, at 4.6 per post. This aligns with previous studies that suggest longer and more detailed content formats, like IGTV, often stimulate more in-depth interactions and discussions (Angendari, 2022). Album content follows with an average of 3.6 comments, which is slightly higher than both Image and Video content, each averaging 3.5 comments. The higher comment rates for IGTV and Albums suggest that these formats encourage more meaningful engagement and feedback from followers.

### Discussion

The findings reveal a complex relationship between content type and engagement. Albums, despite their high posting frequency, excel in attracting likes, which aligns with research indicating that comprehensive, visually appealing content often receives higher engagement (Lubis & Monang, 2023). The lower average likes



for Image posts could be attributed to their less engaging nature compared to more interactive formats like Albums and Videos.

IGTV's superior performance in generating comments suggests its effectiveness in fostering deeper engagement and dialogue, supporting the idea that more extensive content formats can facilitate better interactions (Susilo et al., 2022). This contrasts with the findings for Images and Videos, which, while engaging in terms of likes, do not necessarily promote extensive discussion.

The analysis indicates that while frequent posting of certain content types like Images might keep the audience engaged to some extent, it is the strategic use of Albums and IGTV that drives higher levels of engagement. These insights underline the importance of not just the quantity but also the quality and format of content in maximizing public interaction on social media platforms.

The results suggest that government Instagram accounts in East Java would benefit from prioritizing Albums for overall engagement and leveraging IGTV to stimulate in-depth interactions and feedback. These findings contribute to a better understanding of effective content strategies for government communication on social media, aligning with the broader trends observed in the literature on digital engagement and social media effectiveness (Guo, 2021; Zavyalova, 2022).

The analysis reveals that Album posts are the most effective content type in terms of engagement on Instagram for government accounts in East Java. Albums not only have the highest posting frequency, accounting for 51.7% of all posts, but also achieve the highest average number of likes (219.6 per post). This finding underscores the effectiveness of Albums in capturing audience attention and fostering engagement. The visual richness and contextual depth provided by Albums likely contribute to their popularity, as they allow for a more comprehensive storytelling approach compared to individual images or videos.

Furthermore, IGTV content stands out for its high level of comment engagement, averaging 4.6 comments per post. This format's strength lies in its ability to present more detailed and extended content, which tends to stimulate deeper interactions and discussions among viewers. The positive reception of IGTV content aligns with the notion that longer, more immersive formats can drive more substantial audience engagement (Angendari, 2022). The higher comment rate for IGTV suggests that when government accounts provide in-depth content, it encourages followers to engage more critically and express their views.

On the other hand, Image posts—despite being the most frequently used content type—perform poorly in terms of engagement, with an average of only 178.6 likes per post. This discrepancy suggests that while Images are widely used, they may lack the visual appeal or contextual depth needed to capture significant attention. The low engagement rate of Images compared to Albums might be attributed to their relatively straightforward nature, which may not be as compelling or engaging as the richer content formats.

Video content, though more engaging than Images, still falls short when compared to Albums and IGTV. With an average of 192.4 likes and a similar level of comment engagement to Images, Video posts seem to occupy a middle ground in terms of effectiveness. This suggests that while Videos are more engaging than Images, they do not reach the same level of interaction as Albums or IGTV. The less compelling performance of Video content might reflect a need for better integration of video elements that resonate more with the audience.

The contrast between the top-performing and underperforming content types highlights the importance of aligning content strategies with audience preferences and engagement patterns. Albums' dominance in both posting frequency and likes suggests that government Instagram accounts benefit from investing in comprehensive and visually appealing content. This format allows for a richer presentation of information, which resonates more effectively with followers and drives higher engagement.

In contrast, the underperformance of Image posts indicates a potential area for improvement. Governments may need to rethink their approach to using Images, perhaps by incorporating more dynamic elements or combining them with other content types to enhance their appeal.

Video content, while more engaging than Images, does not yet match the effectiveness of Albums and IGTV. This suggests that optimizing video content to better capture audience interest—perhaps through more interactive or high-quality production—could enhance its performance.

Overall, the findings emphasize the need for government social media strategies to focus on content types that drive the most engagement. By prioritizing Albums for broad engagement and leveraging IGTV for detailed interactions, government accounts can better meet their communication goals and foster a more interactive relationship with their audience. These insights provide a nuanced understanding of content effectiveness and offer actionable recommendations for optimizing social media strategies in the public sector.

## **Conclusion**

The analysis of Instagram content across 37 Regional Government accounts in East Java for the year 2023 reveals intricate dynamics in the effectiveness of various content types for fostering public engagement. This examination underscores the multifaceted nature of social media interaction and offers nuanced insights into optimizing government communication strategies.

Albums emerged as the dominant content type, with an average posting frequency of 1613.78 posts. This format not only commands the highest volume of postings but also achieves an impressive average of 219.6 likes per post. The predominance of Albums reflects their capacity to engage users through rich, multifaceted visual narratives. This aligns with Angendari's (2022) assertion that complex, visually engaging content tends to captivate audiences more effectively

than simpler formats. Albums facilitate a more immersive experience, which likely contributes to their elevated levels of engagement. The high volume of Album posts suggests a strategic emphasis on this format, reinforcing its role in sustaining user interest and interaction.

Conversely, IGTV content, while less frequently utilized, demonstrates a superior capacity to elicit user comments, averaging 4.6 per post. This format's ability to generate substantial discussion highlights its effectiveness in fostering deeper, more substantive interactions. Guo (2021) supports this observation, noting that longer, more detailed content formats often drive increased user engagement. The high comment rate associated with IGTV indicates its success in facilitating dialogue, suggesting that government accounts could benefit from utilizing IGTV for content aimed at provoking thoughtful responses and discussions.

Image content, despite its high posting frequency of 1121.57 posts, performs relatively poorly in generating comments, with an average of 3.5 per post. This finding raises questions about the effectiveness of Images as a standalone content type. While Images achieve a notable number of likes (178.6 on average), their limited impact on user comments suggests a potential mismatch between visual appeal and interactive engagement. Santoso (2020) implies that while visual content is crucial, the simplistic nature of Images may not sufficiently stimulate deeper engagement, thereby necessitating a more strategic approach to their use.

Video content, while less prevalent than Images, displays higher engagement levels, with an average of 192.4 likes per post. Although Videos outperform Images in terms of likes, they do not reach the levels achieved by Albums or IGTV. This intermediate performance suggests that while Videos provide a more engaging format than Images, they fall short of the comprehensive engagement driven by Albums and the discussion-oriented nature of IGTV. Khan (2020) and Zavyalova (2022) both emphasize that the effectiveness of video content is contingent upon its ability to balance visual appeal with interactive potential, a balance that Videos may not fully achieve in this context.

In sum, the findings highlight the need for a sophisticated content strategy that leverages the strengths of different formats. Albums should be utilized to drive broad engagement through visually compelling presentations, while IGTV should be strategically employed to foster deeper interaction and discussion. The less effective performance of Images and the intermediate success of Videos indicate areas for strategic refinement, suggesting that government accounts should consider integrating these formats in ways that enhance both visual appeal and interactive depth. This multifaceted approach will enable local governments to optimize their social media strategies, balancing engagement breadth with interactive quality to better serve and connect with their audiences.

### **Theoretical Recommendations**

1. **Expand the Application of Engagement Theories:** The findings underscore the importance of incorporating theoretical frameworks such as Customer Engagement Theory and the Service-Dominant Logic into the analysis of social media content. The integration of cognitive, emotional, behavioral, and social dimensions of engagement can provide a more nuanced understanding of how different content types impact user interaction. Future research should explore how these dimensions influence engagement specifically in the context of government social media accounts (Islam & Rahman, 2016).
2. **Refine Content Analysis Methodologies:** Content analysis remains a powerful tool for understanding the effectiveness of different content types. However, as Vespestad and Clancy (2020) suggest, there is a need for more rigorous and methodologically precise approaches. Theoretical advancements should focus on developing more refined content analysis methods that better capture the subtleties of engagement across various content types. This includes incorporating mixed-method approaches to enrich the quantitative data with qualitative insights.
3. **Leverage Visual Content Theories:** Given the significant role of visual content in driving engagement, future theoretical frameworks should incorporate insights from visual communication and media studies. Theories addressing the impact of visual aesthetics and narrative structure on user engagement can enhance understanding of why certain content types perform better than others. Angendari's (2022) work on visual media effectiveness can be expanded to explore its application in governmental communication strategies.

### **Practical Recommendations**

1. **Optimize Content Strategy:** Based on the analysis, local government accounts should prioritize Albums and IGTV content. Albums should be utilized for their ability to attract likes and broad engagement, leveraging their comprehensive visual appeal. IGTV should be employed for content that aims to foster in-depth discussion and engagement, as its format encourages more detailed interaction (Guo, 2021). This dual approach ensures that both breadth and depth of engagement are addressed.
2. **Enhance Content Quality and Relevance:** To maximize engagement, government accounts should focus on producing high-quality, relevant content. This includes using engaging visuals and detailed narratives in Albums and IGTV posts to capture and retain follower interest. Ensuring that content is timely and addresses public interests or concerns can further enhance its effectiveness (Susilo et al., 2022).

3. **Incorporate Feedback Mechanisms:** Implementing mechanisms for collecting and analyzing user feedback can provide valuable insights into content effectiveness. By actively soliciting and responding to comments and suggestions, government accounts can adapt their strategies to better meet the needs and preferences of their audience. This approach aligns with Khasawneh and Abu-Shanab's (2013) "Four R" framework, which emphasizes the importance of reviewing, responding, and refining social media strategies.
4. **Evaluate and Adjust Posting Frequencies:** Given the varying effectiveness of different content types, government accounts should periodically evaluate and adjust their posting frequencies. While Albums are highly effective, their overuse could lead to diminishing returns. Balancing posting frequencies of Albums, IGTV, and other content types like Videos and Images can help maintain user interest and engagement (Nemeslaki & Pocsarovszky, 2012).
5. **Invest in Training and Tools:** Governments should invest in tools and training for social media management. Tools like Virol, which aid in scheduling and analyzing content, can streamline operations and enhance strategic decision-making. Providing training for social media teams on the latest best practices and analytical techniques will further improve content effectiveness and engagement (Lubis & Monang, 2023).

By integrating these theoretical insights and practical strategies, local governments can enhance their social media presence, foster more effective communication with the public, and ultimately improve overall engagement and satisfaction.

## References

- Mergel, I. (2013, October 1). A framework for interpreting social media interactions in the public sector. Elsevier BV, 30(4), 327-334. <https://doi.org/10.1016/j.giq.2013.05.015>
- Kusumasari, B. (2018, January 1). Digital democracy and public administration reform in Indonesia. Inderscience Publishers, 10(3), 317-317. <https://doi.org/10.1504/ijeg.2018.095937>
- Sulistya, A Q W., Sulistiyo, B B., Aditya, F., Aritonang, I D., Simangunsong, S A., Shihab, M R., & Warnars, H L H S. (2019, July 1). A Case Study of Indonesian Government Digital Transformation: Improving Public Service Quality through E-government Implementation. <https://doi.org/10.1109/icst47872.2019.9166234>
- Syamsiar, S. (2023, August 3). The Role of Digitalization in Enhancing Public Service Effectiveness in Indonesia. State University of Makassar, 13(1), 465-465. <https://doi.org/10.26858/jiap.v13i1.51026>
- Rachman, F F., Nooraeni, R., & Yuliana, L. (2021, January 1). Public Opinion of Transportation integrated (Jak Lingko), in DKI Jakarta, Indonesia. Elsevier BV, 179, 696-703. <https://doi.org/10.1016/j.procs.2021.01.057>
- Haro-de-Rosario, A., Sáez-Martín, A., & del Carmen Caba-Pérez, M. (2018). Using social media to enhance citizen engagement with local government: Twitter or Facebook?. *New media & society*, 20(1), 29-49.
- Aji, G. G., Widodo, S., Aji, G. N., Aji, G. G., & Prawitasari, D. (2023). Building Trust in The Digital Age: How HRM and Cybersecurity Collaborate for Effective Stakeholder Relations. *Management Analysis Journal*, 12(2), 254-260.
- Angendari, D A D. (2022, June 18). A Picture Speaks a Thousand Words: Crisis Communication and Image Making of Indonesian Public Leaders on Instagram. , 7(1), 152-164. <https://doi.org/10.25008/jkiski.v7i1.594>

- Peng, Y. (2020, October 13). What Makes Politicians' Instagram Posts Popular? Analyzing Social Media Strategies of Candidates and Office Holders with Computer Vision. *SAGE Publishing*, 26(1), 143-166.  
<https://doi.org/10.1177/1940161220964769>
- Khasawneh, R T., & Abu-Shanab, E. (2013, July 1). E-Government and Social Media Sites: The Role and Impact. , 1(1), 10-17.  
<https://doi.org/10.13189/wjcat.2013.010103>
- Santoso, A. D., Rinjany, D., & Bafadhal, O. M. (2020). Social media and local government in indonesia: Adoption, use and stakeholder engagement. *Romanian Journal of Communication and Public Relations*, 22(3), 21-35.
- Aji, G., Sukma, A., & Pramadanti, A. D. (2022). The Collaboration Of TOE Framework And Vocational Faculty Unair' Support Social Media Management Team. *UPY Business and Management Journal (UMBJ)*, 1(2), 19-26.
- Khan, S., Umer, R., Umer, S., & Naqvi, S. (2021). Antecedents of trust in using social media for E-government services: An empirical study in Pakistan. *Technology in Society*, 64, 101400.
- Poluan, M. S., Pasuhuk, L. S., & Mandagi, D. W. (2022). The role of social media marketing in local government institution to enhance public attitude and satisfaction. *Jurnal Ekonomi*, 11(03), 1268-1279.
- Sandoval-Almazan, R., & Valle-Cruz, D. (2021). Social media use in government health agencies: The COVID-19 impact. *Information Polity*, 26(4), 459-475.
- Islam, J., & Rahman, Z. (2016). The transpiring journey of customer engagement research in marketing. *Management Decision*, 54, 2008-2034.  
<https://doi.org/10.1108/MD-01-2016-0028>.

- Guo, H. (2021). Research on Web Data Mining Based on Topic Crawler. *J. Web Eng.*, 20, 1131-1144. <https://doi.org/10.13052/jwe1540-9589.20411>.
- Nemeslaki, A., & Pocsarovszky, K. (2012). Supporting e-business research with web crawler methodology. *Society and Economy*, 34, 13-28. <https://doi.org/10.1556/SOCEC.2011.0007>.
- Zavyalova, A. (2022). content analysis. *The Fairchild Books Dictionary of Fashion*. <https://doi.org/10.4135/9781412961288.n73>.
- Vespestad, M., & Clancy, A. (2020). Exploring the use of content analysis methodology in consumer research. *Journal of Retailing and Consumer Services*, 102427. <https://doi.org/10.1016/j.jretconser.2020.102427>.