

Visual Representation and Narrative Strategies of Government Social Media Content for Public Water Resources Management Education

Original Article

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Abstract

The optimization of public communication by government agencies on social media is crucial for delivering complex technical information regarding water resources management (WRM). This study aims to analyze the visual representation and narrative strategies in educational content produced by the Cimanuk - Cisanggarung River Basin Organization (BBWS) on Instagram. Using a qualitative content analysis approach, the research examines various content themes, including dam conservation, irrigation systems, and public water literacy. The analytical framework integrates Stuart Hall's Representation theory, Walter Fisher's Narrative Paradigm and Lovejoy & Saxton's Information-Community-Action model. Findings indicate that visual representation is strategically dominated by institutional blue branding, professional photography of infrastructure and concise infographics that enhance organizational credibility. Narrative strategies utilize a blend of educational, dialogic, and persuasive styles, achieving high levels of coherence and fidelity. This integration effectively transforms technical data into accessible public knowledge, fostering greater accountability and engagement. The research concludes that humanizing technical narratives through visual consistency is key to effective government digital communication. This study contributes to the literature on public sector communication by providing and empirical analysis of visual-narrative integration on environmental resource education.

Keywords: Digital Communication, Government Social Media, Public Literacy, Visual Semiotics, Water Management.

1. Introduction

The digital transformation of the 21st century has fundamentally altered how government institutions interact with the public, with social media platforms emerging as primary tools for transparency and public education. Among these platforms, Instagram has established a dominant position globally and nationally. As of October 2025, it reached 1.91 billion users, equivalent to 23.1% of the global population (We are Social, 2025). In Indonesia specifically, approximately 108.05 million users were recorded as of April 2025, placing the country fourth worldwide in total Instagram users. This scale signals that Instagram is one of the most widely adopted social media platforms across various segments of Indonesian society, making it a strategically important medium for government agencies operating in the digital age (Mergel, 2012).

Instagram's core strength lies in its emphasis on visual presentation and storytelling, through photos, infographics, Reels, carousels, and captions, which enables the simplification of complex educational messages. As Messaris (1998) noted, visual representations can increase public interest in educational messages by presenting narratives in a simple and



direct manner, functioning as cognitive shortcuts that facilitate faster information processing. Complementing this, narratives provide the context and emotional resonance necessary for information to be remembered and acted upon (Morgan, 2022). Elements such as photographic quality, video composition, infographic design, colour palettes, and typography are all highly influential in determining whether content successfully captures and sustains public attention (Iwan et al., 2024). Consequently, content built around engaging visual representations and structured narratives has proven more effective in fostering both understanding and emotional connection compared to purely documentary approaches.

However, the large number of Instagram users in Indonesia does not automatically guarantee a high level of public understanding, particularly regarding technical domains such as water resource management (SDA). This domain is characterized by high complexity, involving engineering specifications, ecological data, and legal frameworks – all of which present significant challenges when translated into content accessible to a non-expert audience. For institutions like the Cimanuk–Cisanggarung River Basin Authority (BBWS Cimanuk–Cisanggarung), which oversees river conservation, dam management, irrigation systems, and related infrastructure, the challenge is transforming technical complexity into digestible digital content. A lack of public understanding regarding infrastructure such as the Jatigede Dam or irrigation maintenance often leads to misinformation or insufficient community support for conservation efforts.

Compounding this challenge is a broader pattern observed across government agency social media accounts, which tend to prioritize the documentation of institutional activities, such as meetings, working visits, and ceremonial events, over substantive educational content (Ardha, 2014). As Afiyanti et al. (2025) argue, engaging and relevant content on social media is inseparable from strong design and significantly influences the success of public communication. Visual communication quality thus becomes a crucial determining factor in whether educational messages are effectively received. In this context, the @pu_sda_cimancis Instagram account serves as the primary digital medium for disseminating information about natural resource management activities in the Cimanuk–Cisanggarung river basin. Nevertheless, in terms of engagement, this account shows a relatively lower engagement rate compared to similar accounts, indicating that its visual presentation and narrative strategies have not yet been fully optimised to capture public attention on technical natural resource issues.

This research gap is reflected in the academic landscape as well, where studies on government social media communication remain largely focused on engagement effectiveness, institutional image, and general digital communication strategies. Few studies have specifically examined visual representation and narrative analysis within government Instagram accounts operating in the natural resources sector. Yet, as Larson and Edsall (2010) argues, visual representation is highly influential in shaping public perception of environmental conditions and water management policies. Similarly, narrative functions as a strategic tool for transforming complex technical issues into accessible educational information (Morgan, 2022). By analyzing the @pu_sda_cimancis account, this research addresses that gap and provides insight into the strategic use of digital aesthetics and storytelling in public sector communication, with the aim of advancing public literacy on water resource management.

2. Literature Review

2.1. The Theory of Visual Representation

The theory of visual representation was proposed by Hall (1997) as part of the field of Cultural Studies. This theory posits that meaning is not directly inherent in objects, but is instead constructed through the process of representation within the media. Visual elements such as images, symbols, and signs function as a medium for conveying meaning to the audience. This approach emerged as a critique of the view that regards the media merely as a mirror of reality. Hall emphasises that the media are, in fact, active in shaping and constructing social reality through systems of signs and visual language.

The main focus of this theory is how meaning is produced and exchanged through visual representation. Central to this process are the concepts of encoding and decoding: the message creator encodes meaning within the media, while the audience decodes that meaning according to their own social and cultural perspectives. This demonstrates that a single visual can hold different meanings for different individuals, and that the audience does not merely receive meaning passively but actively interprets messages based on their backgrounds and experiences. Furthermore, Hall emphasises that visual representations are closely linked to ideology and power. The meanings produced through media are never neutral, they are shaped by social, cultural, and political contexts, which in turn influence how audiences interpret and respond to visual messages.

In the context of government social media communication, this theory carries significant analytical weight. Every image published by an agency, whether of a dam, an irrigation canal, or an institutional meeting, functions as a coded message intended to convey specific institutional values such as transparency, competence, or public care. This study therefore examines how the BBWS Cimanuk–Cisanggarung encodes messages of water safety and conservation through its Instagram content, and how these visual codes are constructed to shape a "preferred reading" among followers. The representation process is dynamic and continually evolving in line with developments in social and cultural context, making it especially relevant for analysing the production of meaning within digital government communication.

2.2. The Narrative Paradigm Theory

The narrative paradigm theory was proposed by Fisher (1985) as an approach to communication that positions humans as fundamentally storytelling beings, *homo narrans*. This theory views individuals as making sense of the world through the narratives they encounter and convey. It emerged as a critique of the rational paradigm, which assesses communication solely on the basis of logic and formal argument. Fisher's primary contribution is the explanation of how humans evaluate messages based on two core criteria: narrative coherence, referring to the internal consistency and cohesion of a story, and narrative fidelity, referring to the degree to which a story aligns with reality and resonates with the audience's lived experiences and values.

This theory asserts that communication is fundamentally narrative in form, used to convey meaning and influence the audience. Individuals tend to accept messages that possess a clear and credible storyline. If a story demonstrates high coherence and fidelity, the audience will find it easier to accept and believe. Conversely, if a story is perceived as inconsistent or irrelevant to their experience, the audience is likely to reject the message. Crucially, the acceptance of a message does not depend solely on logic but also on the persuasive power of the story being told; a principle that distinguishes the narrative paradigm from rationalist models of communication.

In digital spaces, a narrative is not confined to long-form text; it is constructed through the combination of captions, visual storytelling, comment interactions, and sequential content formats. Applied to this study, the narrative paradigm provides a framework for evaluating how the BBWS Cimanuk - Cisanggarung transforms complex technical water resource data into relatable public stories. The effectiveness of each post can be assessed by asking whether the narrative hangs together coherently and whether it aligns with what the audience understands to be true about their local environment and water systems. This process is ongoing, continuously shaping the way followers understand and respond to water resource management as a public issue.

2.3. The Theory of Social Media Content Strategy

The theory of social media content strategy was proposed by Lovejoy and Saxton (2012) in a foundational study on digital communication. This theory explains how organisations utilise social media as a strategic communication tool to build relationships with their audience, emerging from a broader shift in communication patterns, from one-way broadcasting to interactive, audience-responsive engagement. The central focus of this theory is identifying the types of content organisations use to achieve specific communication objectives, based on the assumption that every piece of published content serves a distinct function in fostering audience engagement.

Lovejoy and Saxton (2012) classify social media content into three main categories: information, community, and action, commonly referred to as the ICA framework. Information content aims to convey knowledge or messages to the audience in a one-directional manner. Community content is used to build interaction and emotional connections through dialogue and shared identity. Action content, meanwhile, encourages the audience to take specific behaviours, such as participating in conservation efforts, sharing information, or supporting public initiatives. Each category serves a distinct role within a digital communication strategy, and the effectiveness of that strategy depends on an organisation's ability to tailor messages to the needs and characteristics of its audience.

Applied to this study, the ICA framework provides a structural lens through which to evaluate the purpose and composition of content published by the BBWS Cimanuk–Cisanggarung on Instagram. A well-balanced digital strategy requires the integration of all three content functions, moving beyond simple institutional broadcasting toward meaningful and sustained public engagement. If the content presented is relevant and appropriately varied across these three categories, audiences are more likely to interact actively. Conversely, an overreliance on any single content type, particularly information-only posts, risks reducing engagement and limiting the account's capacity to build genuine public understanding of water resource management issues.

2.4. Instagram

Instagram is a visual-based social media platform launched in 2010 by Kevin Systrom and Mike Krieger. The platform allows users to share photos, videos, and various forms of creative content that can be widely accessed by diverse audiences. Instagram has since evolved into a significant digital communication medium that prioritises visual appeal and interactivity. Its primary function is to serve as a space for sharing information, self-expression, and building social connections in the digital environment, with each user bringing different objectives and preferences to their engagement with the platform's features.

Instagram offers a range of features, including feeds, stories, reels, and direct messages, that support two-way interaction between users and organisations. Each feature serves a distinct communicative purpose, ranging from documenting activities and providing

entertainment to enabling promotion and public education. Users can select the type of content they wish to consume or produce according to their needs and interests, demonstrating that activity on Instagram is neither arbitrary nor passive, but shaped by personal preferences, algorithmic curation, and social context.

The foundation of effective Instagram use lies in the relationship between visual content quality, interaction design, and audience engagement. Content that is engaging and relevant tends to generate active responses in the form of likes, comments, and shares, while content that does not meet audience expectations leads to declining engagement levels. For government agencies in particular, this dynamic means that understanding audience characteristics is not optional but essential to the effective management of published content. This process is ongoing and continuously shapes evolving patterns of digital communication within the platform.

3. Methods

3.1. Research Design

This study employs a qualitative research design centered on descriptive content analysis. The qualitative approach was selected to enable an in-depth examination of the visual representation and narrative strategies used in educational content on water resource management, with particular attention to how meaning is constructed, communicated, and received through digital media.

3.2. Research Object and Subject

The research object is the Instagram account @pu_sda_cimancis, belonging to the Cimanuk–Cisanggarung River Basin Authority (BBWS Cimanuk–Cisanggarung), which functions as the agency's primary public communication medium on social media. The research subjects are posts published on this account that address educational themes related to water resource management, including dam management, irrigation systems, river conservation, and water resource risk literacy. The primary data corpus consists of 150 selected posts spanning from September to November 2025, chosen based on their relevance to these educational themes.

3.3. Data Collection

Research data were collected through systematic documentation and observation of each selected post. This process focused on two primary dimensions: the graphic design elements constituting the visual content of each post, and the caption-based narrative techniques employed to convey institutional messages to the public. Both dimensions were recorded and compiled as the basis for subsequent analytical stages.

3.4. Analytical Framework and Procedures

The analysis was conducted using three established theoretical frameworks applied in four sequential phases. The theoretical instruments are: Stuart Hall's (1997) Theory of Visual Representation, used to examine how visual elements such as images, symbols, colour, and typography encode institutional meaning; Fisher's (1985) Narrative Paradigm Theory, applied to evaluate narrative quality in captions through the criteria of coherence and fidelity; and the Social Media Content Strategy model by Lovejoy and Saxton (2012), used to classify each post according to its communicative function; information, community, or action.

The four analytical phases proceeded as follows. The first phase involved the initial coding of visual elements, including colour palette, typography, image composition, and

subject matter. The second phase consisted of narrative analysis of captions to identify tone, structural coherence, and adherence to Fisher's paradigm criteria. The third phase applied the ICA framework to assign a functional classification to each post based on its primary communicative purpose. The fourth and final phase involved an integrative synthesis, examining how visual and narrative elements work in tandem to construct educational meaning and to determine the extent to which their integration strengthens audience understanding and builds an image of a responsive and informative government institution.

4. Results and Discussion

4.1. Research Results

4.1.1. Visual Representation Analysis

The analysis of the 150 selected posts from @pu_sda_cimancis reveals a highly structured and consistent approach to visual communication. The dominant use of "Ministry Blue" (#003366), attached in Figure 1, across infographics and branded content establishes a strong and recognisable sense of institutional identity, signalling official authority while maintaining visual coherence across the account. High-resolution photography and clean vector graphics are applied consistently throughout the content, reinforcing the perception that the information presented is official, verified, and trustworthy.

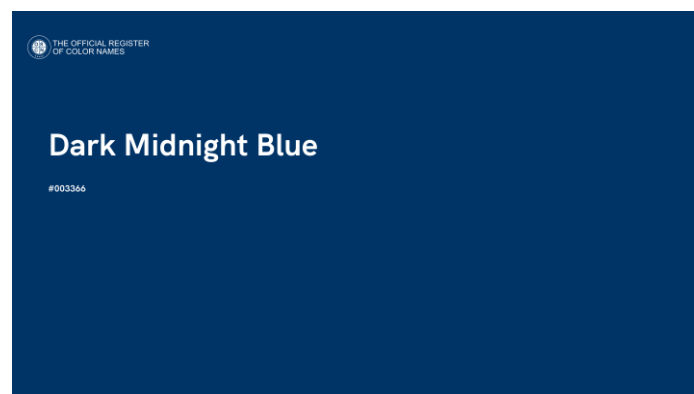


Figure 1. #003366, known as Prussian Blue, Dark Midnight Blue, or Ateneo Blue as well

Source: The Official Register of Color Names (2021)

Visual subjects across the sampled posts are categorised into three primary types: infrastructure-focused content depicting dams, weirs, and irrigation systems; environmental content featuring rivers, forests, and natural water bodies; and human-interest content portraying field officers at work and community engagement activities. This variation ensures that the account maintains a professional character while remaining visually approachable to a general audience. Notably, infographic series explaining the technical functions of the Jatigede Dam employ simplified cross-section diagrams that effectively transform complex engineering data into accessible visual education.

4.1.2. Narrative Analysis

Narrative patterns across the sampled captions are characterised by what may be described as a "tutor-friend" tone, a communicative approach that balances informational authority with relational warmth. Captions consistently follow a structured progression, opening with a relatable hook grounded in everyday relevance (such as the importance of clean

water for daily household needs) before transitioning into technical explanation. This structure directly supports Fisher's (1985) criterion of narrative coherence, as the story moves logically from the familiar to the complex without disrupting the reader's comprehension.

Narrative fidelity is achieved through the deliberate inclusion of real-world impacts that resonate with the lived experiences of the target audience. Examples include posts illustrating how proper irrigation maintenance prevents crop failure for local farmers, or how river conservation efforts directly affect downstream water quality for residential communities. By positioning the citizen, rather than the institution, at the centre of the narrative, the account effectively bridges the gap between technical government communication and public understanding.

4.1.3. Content Functional Distribution

Applying the ICA framework by Lovejoy and Saxton (2012), the 150 posts were classified according to their primary communicative function. The distribution is presented in Table 1 below.

Table 1. Analysis of Content Functional Distribution

Strategy Level	Primary Elements	Sample Narrative Style	Observed Public Response
Information	Charts, Infographics, Technical Specs	“Did you know the Jatigede Dam supports...”	High Saves, Medium Comments
Community	Behind-the-scenes, Q&A, Staff profiles	“ <i>Sobat Cimancis</i> , what do you think about...”	High Comments, High Likes
Action	Cleanup calls, Water saving tips	“Let’s protect our rivers together by...”	High Shares, Participation in events

The data indicate a predominant reliance on information-type content, which reflects the agency's primary mandate as an educational public institution. Community and action content, while present, constitute a smaller proportion of the overall content strategy.

4.1.4. Integration of Visual and Narrative Elements

The most impactful posts in the sample are those that achieve a functional synergy between visual and narrative elements. Posts pairing environmental photography, such as imagery of a clean river or active irrigation infrastructure, with captions narrating the collective human effort required to maintain them consistently generate stronger communicative impact than either element would produce independently. This integration produces a communicative mode that the researchers term "Humanized Infrastructure Communication": an approach in which the technical and engineering dimensions of water resource management are given a human face through the deliberate combination of visual storytelling and relatable narrative framing.

4.2. Discussion

4.2.1. Visual Professionalism as an Institutional Credibility Marker

The consistent visual identity observed across the @pu_sda_cimancis account aligns with Hall's (1997) encoding framework, wherein deliberate aesthetic choices function as coded signals of institutional legitimacy. In the contemporary digital information landscape, where audiences are increasingly exposed to misinformation and low-quality content, visual professionalism serves as a primary credibility gatekeeper. The use of standardised colour schemes, high-resolution imagery, and simplified technical diagrams collectively

communicate that the content originates from a credible, competent source, a factor particularly important for a government agency whose mandate depends on public trust. This finding reinforces Rose's (2016) argument that visual representation plays a decisive role in shaping public perception of environmental conditions and institutional authority.

4.2.2. Narrative Strategy and the Shift from Authority to Partnership

The "tutor-friend" narrative tone identified in this study represents a significant strategic departure from the formal, one-directional communication style typically associated with government agencies (Ardha, 2014). By anchoring technical content in the daily realities of its audience (water for farming, clean rivers for communities) the account enacts Fisher's (1985) principle of narrative fidelity. The citizen is repositioned from a passive recipient of institutional information to an active stakeholder in a shared story. This shift transforms the institutional voice from that of a "distant authority" to a "partner in progress," a transition with meaningful implications for how public trust in water management institutions is built and sustained over time.

4.2.3. Content Imbalance and Strategic Implications

While the account demonstrates clear strengths in visual and narrative quality, the functional distribution of content reveals a notable imbalance. With 56.7% of posts classified as information-type, the account's strategy leans heavily toward one-way knowledge dissemination, with comparatively limited investment in community-building (28.0%) and action-oriented (15.3%) content. According to Lovejoy and Saxton's (2012) ICA framework, a more balanced distribution across all three categories is associated with deeper audience engagement and more sustained behavioural impact. The current configuration risks positioning the account as a digital bulletin board rather than an interactive public communication platform. Increasing the proportion of community and action content, through calls for public participation in conservation, interactive Q&A features, or shared community storytelling, could significantly enhance the account's overall engagement and educational effectiveness.

4.2.4. Humanized Infrastructure Communication as an Emerging Practice

The concept of "Humanized Infrastructure Communication" identified in this study offers a meaningful contribution to the understanding of digital public sector communication. The synergy between technical visual content and human-centred narrative does not merely make information more palatable, it fundamentally reframes how audiences relate to infrastructure as a social and environmental concern rather than a purely governmental one. This finding is consistent with Morgan's (2022) argument that narratives structured around emotional connection and lived experience are more effective at fostering lasting public understanding than information-only approaches. As government agencies across Indonesia increasingly adopt social media as a primary communication channel, the development of deliberate visual-narrative integration strategies, of the kind partially demonstrated by @pu_sda_cimancis, represents a promising direction for advancing water resource literacy at the public level.

5. Conclusion

This research demonstrates that effective public education in the digital era requires more than just the dissemination of facts; it requires the strategic construction of meaning through visual and narrative integration. The BBWS Cimanuk-Cisanggarung has successfully utilized Instagram to create a brand that is both authoritative and accessible. By maintaining

visual consistency and narrative fidelity, the institution has fostered a higher level of public literacy regarding water resource management.

The theoretical contribution of this study lies in its application of classical representation and narrative theories to a modern, technical public sector context. Practically, it suggests that government agencies should invest in professional graphic design and creative copywriting as core components of their public service mandate. Future research should include quantitative metrics of audience behavior change to further validate the impact of these strategies on physical environmental conservation efforts.

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