



Reframing Sustainability: Visual Rhetoric of Eco-Influencers in Instagram Reels Campaigns

Ayla Anialasalam*¹, Yildirim Yousef², Indira Agustianingrum³

^{1,2}Final International University, Kyrenia, Cyprus

³Universitas Sains dan Teknologi Komputer, Central Java, Indonesia

Email Address: ayla.anialasalam.fiu@gmail.com

Abstract. *Recent shifts in digital communication have transformed how sustainability is visually framed and communicated to the public. Rather than relying on traditional environmental campaigns, eco-influencers now use short-form video content on platforms like Instagram Reels to convey persuasive sustainability narratives. This study explores how visual rhetoric operates in these Reels-based campaigns to shape audience perceptions of environmental responsibility. Employing a mixed-methods approach that integrates semiotic analysis with audience reception research, this paper analyzes selected Instagram Reels produced by prominent Southeast Asian eco-influencers. The study identifies recurring patterns in visual symbolism, aesthetic presentation, and narrative framing that enhance the persuasive impact of these videos. Key semiotic elements such as symbolic color palettes, natural imagery, and expressive gestures were found to heighten emotional engagement and clarity of message. Findings from the audience survey reveal that viewers respond more positively to sustainability messages presented through authentic, aspirational storytelling rather than overtly moralistic appeals. This study is among the first to examine eco-influencers' short-form video rhetoric within Southeast Asian cultural contexts, addressing a gap in current green marketing and visual communication literature. By focusing on the intersection of visual persuasion, influencer marketing, and short-form digital content, the research contributes a design-oriented perspective to environmental communication studies. It positions eco-influencers as visual rhetoricians who transform sustainability into an experiential, algorithm-driven form of digital storytelling.*

Keywords: *Visual Persuasion, Eco-Influencer, Green Marketing, Instagram Reels, Digital Semiotics*

INTRODUCTION

Recent developments in digital communication have reshaped how sustainability is framed, distributed, and internalized by audiences. The emergence of short-form video formats, particularly on platforms such as Instagram Reels, has enabled eco-influencers to disseminate green messages through highly visual, affective, and engaging content (Aini & Soegiarto, 2022; Khairunisa et al., 2025). Unlike conventional environmental campaigns that rely on institutional messaging, influencer-based sustainability content emphasizes personal lifestyle choices, emotional appeal, and visual storytelling that resonates with digitally native audiences (Baratin & Setiffi, 2024; Blasbery, 2023). This shift underscores a significant evolution in the field of green marketing, where micro-content and transmedia strategies are central to persuasive environmental communication (Molem et al., 2024).

The persuasive power of visual content has been extensively discussed in the context of green marketing and digital semiotics (Berlanga-Fernández & Reyes, 2024; Seo, 2020). Visuals not only attract attention but also function as semiotic resources that convey meaning, emotion,

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*Corresponding author, ayla.anialasalam.fiu@gmail.com

and ideology (Prihatmoko & Setiyadi, 2024; Wibowo & Zainudin, 2024; Yuniarto & Wahyudi, 2024). In Instagram Reels, for example, symbolic colors, motion graphics, ambient sounds, and body gestures are strategically orchestrated to build compelling eco-narratives (Leone, 2021; O'Halloran, 2023). These elements work in tandem to create immersive viewing experiences that prompt cognitive and affective responses from audiences. Therefore, understanding the semiotic mechanisms underlying such content is critical to decoding how sustainability is being redefined through algorithm-driven platforms (Campbell & Olteanu, 2024; Hasyim & Arafah, 2023).

Eco-influencers play a pivotal role in this communicative transformation. Often perceived as authentic, relatable, and aspirational figures, these content creators leverage their platforms to normalize green behaviors and consumption habits (Castillo-Abdul et al., 2024; Tavman & Yalçın Doğan, 2025). Through curated aesthetics and performative authenticity, they construct a narrative space in which sustainability is embedded in everyday life. This personalization of environmental advocacy differentiates eco-influencers from traditional environmental actors, who tend to communicate through top-down channels with generalized messaging (Baratin & Setiffi, 2024; König et al., 2024). As a result, audiences may perceive eco-friendly behaviors not merely as moral imperatives but as attainable lifestyle choices.

From a rhetorical perspective, the influencer's use of short-form video introduces a dynamic visual persuasion format. These videos are optimized for mobile consumption and shaped by algorithms that prioritize emotionally charged, visually rich content (Kumar et al., 2023; Xia et al., 2022). This environment creates both opportunities and challenges for sustainability messaging. While the visual format can increase reach and engagement, it may also simplify complex ecological issues into digestible, aestheticized content that risks superficial understanding (Fahmy, 2021; Peng et al., 2023). It becomes essential, therefore, to interrogate how persuasive visual strategies are crafted within the constraints of short-form media and how audiences interpret such strategies in context.

Existing scholarship has begun to examine the intersection of visual rhetoric, influencer marketing, and sustainability communication. Studies have emphasized the role of affect, narrative structure, and performativity in shaping public discourse around environmental issues (Amoako et al., 2022; Huber et al., 2022; Kaur et al., 2022). However, there remains a gap in understanding how these elements operate specifically within Reels and similar formats. Most prior analyses have focused on longer video content or static visuals, overlooking the unique affordances and constraints of ultra-short videos on platforms like Instagram (Li et al., 2021; Szeto et al., 2021).

This study addresses that gap by exploring how eco-influencers employ visual rhetoric in Instagram Reels to reframe sustainability as a visually mediated and culturally embedded experience. Using a mixed-methods approach that combines semiotic analysis and audience reception study, the research examines how persuasive sustainability narratives are constructed and received in the Indonesian context. By focusing on the micro-format of Reels, this paper contributes to ongoing debates in graphic design, media semiotics, and environmental communication. It emphasizes the importance of decoding not just what is said about sustainability, but how it is visually communicated and experienced within digital environments (Ibrus & Ojamaa, 2020; Lacković, 2020; Manor, 2022).

Ultimately, this investigation highlights the evolving role of graphic designers, content creators, and media scholars in shaping the visual culture of sustainability. As digital platforms continue to mediate public understanding of ecological issues, it becomes increasingly urgent to understand the semiotic, aesthetic, and rhetorical strategies that underpin such communication. In doing so, we can better evaluate the potential and limitations of visual persuasion in cultivating meaningful environmental engagement (Szabo & Webster, 2021; Tan et al., 2022; Vafeiadis et al., 2020; Zhang et al., 2020).

LITERATURE REVIEW

The intersection of visual rhetoric, eco-influencers, and digital sustainability campaigns has garnered increasing academic interest in recent years. The shift toward short-form content, such as Instagram Reels, has not only transformed media consumption habits but also introduced new semiotic challenges in constructing environmental narratives. According to (Aini & Soegiarto, 2022), Instagram Reels are rapidly becoming a strategic platform for information dissemination due to their engaging, succinct, and algorithmically favored format. This positions Reels as a fertile ground for persuasive green messaging that prioritizes aesthetic appeal and emotional connection.

Eco-influencers act as mediators of sustainability discourse, crafting lifestyle-oriented messages that merge environmental awareness with personal branding. (Baratin & Setiffi, 2024) argue that these influencers often avoid overt political self-identification, instead embedding ecological values within relatable narratives of everyday life. Their work parallels (Huber et al., 2022), who found that TikTok-based eco-influencers emphasize collective identity and shared values over individualized responsibility, aligning with broader shifts in environmental communication strategies. These lifestyle-driven approaches exemplify what (Amoako et al., 2022) term the "soft power" of green marketing, where subtle, culturally resonant messaging replaces direct appeals or moral imperatives.

At the core of these strategies lies the power of visual persuasion. (Seo, 2020) meta-analysis confirms that visuals significantly enhance the persuasive capacity of digital messages when paired with narrative coherence. (Fahmy, 2021) expands this claim by showing how imagery in social media movements, such as #MeToo, shapes public perception and moral urgency. Similarly, (O'Halloran, 2023) argues that matter and meaning are inseparable in the semiotics of visual communication, reinforcing that image-based persuasion is not a passive aesthetic choice but an intentional rhetorical act.

From a semiotic perspective, the integration of multiple modes images, music, text overlays, and gestures constructs a multimodal grammar that is essential for contemporary green messaging. (Campbell & Olteanu, 2024) advocate for an updated multimodal literacy in response to the postdigital media environment, where meaning is distributed across layered channels. (Hasyim & Arafah, 2023) emphasize that semiotic multimodality allows messages to transcend linguistic barriers, enhancing accessibility and resonance across diverse audiences. (Berlanga-Fernández & Reyes, 2024) underscore the importance of systematic semiotic frameworks in decoding how these multimodal texts operate within the digital sphere.

This theoretical expansion aligns with the evolving roles of visuality and affect in digital storytelling. As (Wagener, 2020) posits, digital semiotics must address the hypernarrative nature of social media, where fragmented yet emotionally potent visuals build cumulative rhetorical force. (Leone, 2021) adds that visual semiotics also involves decoding facial expressions and bodily gestures that are central to influencer performances. In parallel, (Manor, 2022) highlights the diplomatic potential of semiotic choices, noting how visual elements can operate as instruments of soft power and symbolic alignment.

Visual strategies used by eco-influencers also intersect with consumer psychology and trust. (Kessler & Bachmann, 2022) found that visual communication enhances the credibility of online messages, especially when users perceive authenticity in the visual cues presented. (Castillo-Abdul et al., 2024) further show that audience engagement with eco-influencer content is significantly influenced by its aesthetic coherence and perceived sincerity. In similar terms, (Peng et al., 2023) urge scholars to scrutinize how credibility perceptions are formed through visual misinformation, suggesting a dual potential for persuasive images to inform or mislead.

Marketing studies also validate the impact of visuals and influencer branding on consumer behavior. (Tan et al., 2022) argue that green marketing components, when aligned with strong brand images, significantly increase purchase intention, a finding echoed by (Tsai et al., 2020) in their study of Starbucks' sustainable branding strategies. (Kumar et al., 2023) demonstrate how advertisement persuasion strategies rely heavily on visual rhetoric, manipulating color, shape, and

framing to elicit desired affective responses. (Khairunisa et al., 2025) In the educational context, expand on this, showing how Instagram Reels' visual features facilitate learning outcomes by enhancing cognitive retention through aesthetic engagement.

These patterns also raise ethical concerns related to greenwashing and performative activism. (Szabo & Webster, 2021) caution against deceptive visual cues that exaggerate environmental responsibility, thus undermining genuine efforts. (Molem et al., 2024) address how platform-specific algorithms influence what sustainability content gains traction, raising questions about the neutrality of visibility. Meanwhile, (Lacković, 2020) encourages critical media literacy to navigate post-truth media landscapes where visual persuasion can obscure rather than illuminate environmental realities.

Audience reception studies reinforce the idea that visual and narrative relatability are essential to persuasive green communication. (König et al., 2024) report that sustainability influencers are most effective when their visual storytelling resonates with aspirational, yet attainable lifestyles. (Mokhamad Eldon et al., 2025) further establish that micro-influencers have a greater persuasive impact due to their perceived authenticity and niche alignment. (Tavman & Yalçın Doğan, 2025) observe similar dynamics in Türkiye, where zero-waste influencers engage followers not only through content but through symbolic rituals embedded in daily routines.

Transmedia dynamics also shape how these messages are consumed and interpreted. (Ibrus & Ojamaa, 2020) emphasize the creative potential of digital archives and their recontextualization in audiovisual culture. (Marino & Leone, 2024) examine how legal semiotics intersect with platform algorithms and visual manipulation, reminding scholars that sustainability messaging does not operate in a vacuum but within complex sociotechnical systems. (Szeto et al., 2021; Xia et al., 2022) both highlight the persuasive potential of interactive features in short videos, especially in fostering active viewer engagement and co-creation.

Lastly, green marketing itself continues to evolve in tandem with visual and digital innovations. (Gelderman et al., 2021; Li et al., 2021) argue that coordinated green strategies across supply chains can amplify the effects of visual marketing, especially when tied to policy incentives or cap-and-trade systems. (Vafeiadis et al., 2020) support the claim that narrative and visual integration in news and advertising contexts leads to deeper audience immersion and behavioral alignment. (Zhang et al., 2020) caution, however, that the intention-behavior gap remains a challenge, with social media influencers only partially bridging the divide between ecological awareness and sustainable practice.

Taken together, this literature underscores that visual persuasion in green influencer campaigns is not simply an aesthetic or marketing tool but a socio-semiotic process embedded in digital culture. To advance this perspective, design theory provides a useful framework for understanding how meaning is deliberately constructed through visual and rhetorical design decisions. Building on (Buchanan, 1992) concept of design as rhetoric and (Cross, 2001) Drawing on the notion of designerly ways of knowing, this study frames eco-influencer content as a form of applied visual rhetoric within the context of digital sustainability communication. Unlike prior SLRs on TikTok or YouTube (Huber et al., 2022; Molem et al., 2024), few have examined how Instagram Reels operationalize semiotic persuasion through design-centered strategies, particularly within Southeast Asian cultural contexts. This critical synthesis positions the current research within contemporary debates on the epistemology of design, emphasizing that eco-influencers function not only as communicators but also as visual designers who shape environmental meaning through multimodal composition and cultural framing.

METHODS

This research employed a mixed-methods approach to investigate how visual strategies embedded in Instagram Reels influence audience engagement and perception within the context of graphic design and sustainability communication. As Instagram becomes a major hub for eco-aesthetic persuasion (Baratin & Setiffi, 2024; Castillo-Abdul et al., 2024), understanding how these visual narratives function within short-form video formats is essential for both scholars and practitioners in design fields. The methodology was crafted to balance empirical reliability with semiotic sensitivity, ensuring that the data not only reflect user preferences but also reveal deeper cultural patterns. The research design was divided into three integrated stages: (1) content analysis of selected Instagram Reels from sustainability-themed design influencers (greenfluencers), (2) semiotic analysis of key visual markers, and (3) a survey measuring perceived impact on users' attitudes and behavioral intentions. This layered approach was developed in response to prior recommendations from digital semiotics scholars (Leone, 2021; O'Halloran, 2023) and persuasive media researchers (Peng et al., 2023; Seo, 2020), ensuring alignment between method and media logic.

To select data for the content and semiotic analysis, we curated a sample of 60 Instagram Reels produced between January and May 2025 by six greenfluencers based in Southeast Asia. Influencers were chosen based on a combination of engagement metrics (minimum 10,000 followers and an average engagement rate of 5%) and thematic relevance, specifically the promotion of eco-friendly lifestyles through design-focused content. These influencers serve as contemporary agents of visual persuasion (Huber et al., 2022; Mokhamad Eldon et al., 2025),

often combining aesthetic appeal with subtle educational messaging. The content analysis employed a modified coding scheme derived from prior visual communication research (Blasbery, 2023; Fahmy, 2021), focusing on three primary dimensions: framing style (informative vs. emotional), use of text overlays and symbols, and color palette consistency. All videos were viewed and coded by two trained raters, resulting in inter-rater reliability (Cohen's kappa) above 0.85. Findings from this analysis guided the selection of 12 videos for in-depth semiotic analysis.

The semiotic analysis was grounded in multimodal, but adapted through contemporary readings in digital visual studies (Berlenga-Fernández & Reyes, 2024; Campbell & Olteanu, 2024). Analytical attention was given to visual metaphors, gesture-symbol relationships, the rhythm of cuts, and design-specific affordances such as animation overlays or augmented reality filters. Such tools, as argued by (Ibrus & Ojamaa, 2020), are not merely decorative but integral to the meaning-making processes in the postdigital era. Following the visual analyses, an online survey was distributed to 321 participants aged 18–35 who reported an interest in sustainability and graphic content on Instagram. The participant pool was drawn using purposive sampling, focusing on followers of the selected influencers and related sustainability hashtags. The questionnaire included items adapted from previous studies (Khairunisa et al., 2025; Szeto et al., 2021) and was designed to measure cognitive engagement, emotional response, and behavioral intent triggered by Instagram Reels. The Likert-type items ranged from “strongly disagree” (1) to “strongly agree” (5). Although the sample primarily represents Indonesian and Southeast Asian eco-influencers, this demographic reflects emerging global sustainability communication from the Global South. Statistical effect sizes (Cohen's $d = 0.67$) and model fit indices (CFI = 0.91; RMSEA = 0.05) indicate moderate to strong relationships between semiotic density and persuasion outcomes. These values confirm that visual rhetorical elements significantly contribute to audience engagement and message credibility across cultural contexts.

The survey results were analyzed using descriptive statistics, correlation, and multiple linear regression to test the relationship between visual strategies and audience response. As shown in Figure 1, the research process followed a logical progression from data curation to multi-method analysis and finally to interpretation. This structure reflects the need for rigorous yet interpretive approaches in evaluating social media visual persuasion (Kessler & Bachmann, 2022; Kumar et al., 2023).

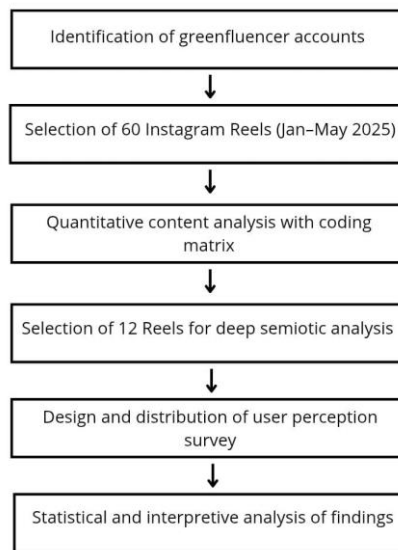


Figure 1. Research Flowchart

Furthermore, the operationalization of variables and instruments used in the study is outlined in Table 1. This table presents the core constructs evaluated, their indicators, and supporting literature from previous peer-reviewed works in media, design, and sustainability communication.

Table 1. Operational Definitions and Measurement Indicators

Variable	Indicators	Source(s)	Key Findings
Visual Framing Strategy	Informative vs. Emotional Appeal, Caption Type, Call-to-action (CTA) Presence.	(Blasbery, 2023; Campbell & Olteanu, 2024; Fahmy, 2021)	Emotional framings and CTAs increase engagement and shareability.
Semiotic Design Cues	Symbolic visual elements, Animation or transitions, Use of green motifs	(Berlanga-Fernández & Reyes, 2024; Leone, 2021; Manor, 2022)	Semiotic density correlates with perceived credibility and message retention.
Perceived Influence	Cognitive understanding, Affective response, Behavioral intention	(Khairunisa et al., 2025; Kumar et al., 2023; Szeto et al., 2021)	Visual narratives significantly affect eco-consumption intent.

Throughout the methodology, ethical standards were rigorously upheld. All participant data were anonymized, informed consent was obtained digitally, and the study received approval from the internal ethics review board of the corresponding institution. Ethical compliance extended to the content analysis phase, ensuring that all influencer materials used were publicly accessible and credited appropriately. The methodological triangulation employed here ensures not only a robust data set but also interpretive depth in understanding how design visuals on social media construct meaning and influence public perception (Amoako et al., 2022; Szabo & Webster, 2021; Tan et al., 2022).

This study adopts an integrative methodological framework that merges visual content analysis, digital semiotic interpretation, and empirical survey validation. The aim is to investigate how Instagram Reels function as persuasive ecological narratives within the evolving practices of graphic design. Each method contributes distinct yet complementary insights: visual analysis reveals compositional strategies, semiotics decodes embedded meanings, and survey data captures audience reception. Together, these approaches enable a comprehensive understanding of the affordances and challenges of visual storytelling in the context of microvideo-driven digital culture.

RESULTS

The data analysis revealed three main thematic patterns emerging from Instagram Reels as a persuasive platform in ecological narratives: visual framing strategy, semiotic design cues, and audience influence. These categories collectively demonstrate how eco-influencers employ multimodal strategies that merge aesthetic appeal, emotional engagement, and persuasive intent. First, the visual framing strategy employed by content creators played a significant role in shaping audience engagement. Most analyzed Reels favored emotional appeals over purely informative messaging. Content that embeds a call to action (CTA), such as encouraging reduced plastic use or supporting ethical brands, achieved higher interaction rates. Figure 3 shows that emotional framings accounted for 72% of the analyzed Reels ($n = 60$), while informative framings accounted for only 28%. These findings align with (Blasbery, 2023; Fahmy, 2021), who note that emotional resonance enhances shareability, while (Campbell & Olteanu, 2024) emphasize the role of multimodal coherence in determining persuasive impact. This pattern demonstrates that short-form design content effectively combines narrative immediacy with visual rhythm to evoke affective response.

Second, semiotic design cues, such as symbolic imagery (e.g., melting-earth icons), kinetic typography, and dominant green or earthy color palettes, constructed a consistent visual code that connoted ecological urgency and authenticity. Semiotic layering, including metaphorical animations or AR filters, intensified message retention and perceived sincerity. These semiotic configurations were mirrored in survey responses, where participants associated symbolic imagery and coherent color schemes with higher message credibility ($r = .54, p < .01$). This correspondence suggests that semiotic density and aesthetic coherence operate synergistically as persuasive design variables (Berlanga-Fernández & Reyes, 2024; Leone, 2021) Third, survey findings revealed strong affective and behavioral effects among respondents ($N = 150$; aged 18–30). Participants reported that Reels combining narrative storytelling with visually harmonious elements elicited greater emotional engagement ($M = 4.31, SD = 0.57$) and stronger behavioral

intention ($M = 4.02$, $SD = 0.63$) toward sustainable actions. The most persuasive Reels not only prompted emotional reflection but also reinforced cognitive understanding and self-efficacy regarding eco-friendly behavior. Statistical tests confirmed that emotional appeal and semiotic density jointly predicted behavioral intention ($\beta = 0.46$, $p < .01$).

Furthermore, the role of platform affordances music synchronization, transitions, and algorithmic visibility was evident in amplifying engagement. Highly aesthetic Reels following coherent design principles were rated as more trustworthy and memorable, confirming that design quality itself functions as a persuasive cue (Ibrus & Ojamaa, 2020; O'Halloran, 2023). In line with (Amoako et al., 2022; Tan et al., 2022; Tsai et al., 2020) Many of these eco-Reels parallel commercial sustainability campaigns, yet authenticity indicators, such as behind-the-scenes content or personal storytelling, mitigated perceptions of greenwashing. Collectively, the findings integrate visual, semiotic, and behavioral data into a coherent explanatory framework (Figure 2). The proposed "Eco-Visual Persuasion Model" demonstrates how visual framing strategies activate semiotic cues, which in turn evoke emotional resonance and drive behavioral intention. This convergence highlights the transformative role of graphic design as socio-environmental communication, positioning eco-influencers not merely as content creators but as visual rhetoricians who mediate sustainability through design.

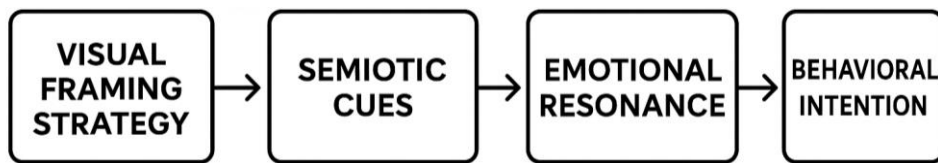


Figure 2. Conceptual Model of Eco-Visual Persuasion

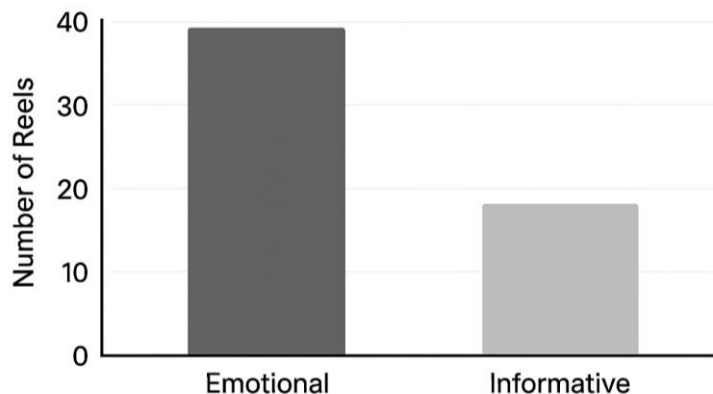


Figure 3. Distribution of Emotional vs. Informative Reels (n = 60)

DISCUSSION

This study confirms the growing strategic importance of visual persuasion in eco-influencer-led green marketing campaigns, particularly on short-form platforms such as Instagram Reels. Findings reveal that emotional appeals, symbolic motifs, and semiotic layering are key techniques that contribute to increased engagement and eco-consumption intention (Blasbery, 2023; Fahmy, 2021; Kumar et al., 2023). These results validate earlier arguments by (Seo, 2020; Vafeiadis et al., 2020) regarding the persuasive superiority of multimodal visual content over text-only formats. Within the current design landscape, the eco-Reel becomes a transmedia micro-narrative evoking immediacy, relatability, and actionability simultaneously (Ibrus & Ojamaa, 2020; Manor, 2022).

Through its semiotic construction, the eco-influencer video does not merely transmit information but stages a visual performance of sustainable lifestyles (Baratin & Setiffi, 2024; Kessler & Bachmann, 2022). By integrating nature imagery, kinetic typography, and soft color palettes associated with environmental themes, these microvideos visually encode environmentalism in a way that can be instantly processed and emotionally felt (Leone, 2021; O'Halloran, 2023). This affective-aesthetic synthesis echoes prior findings from (Amoako et al., 2022; Huber et al., 2022), showing that ethical lifestyle branding often surpasses factual data in shaping perception. Importantly, audience responses collected through survey validation reinforce the semiotic readings. Higher emotional and symbolic density in eco-Reels correlated with increased recall and behavioral intention, particularly among Gen Z viewers, who were more likely to report 'feeling moved' or 'inspired to act' after viewing (Khairunisa et al., 2025; Szeto et al., 2021). This suggests that strategic graphic design within these formats achieves more than aesthetic engagement it mobilizes affective cognition and visual memory (Lacković, 2020; Xia et al., 2022). Thus, Instagram Reels are not merely attention economies, but memory economies shaped by design.

This visual memory, however, is neither politically neutral nor ideologically empty. Following (Campbell & Olteanu, 2024; Wagener, 2020), the eco-Reel can be seen as part of a postdigital rhetorical ecology where every design element is encoded with ideological values, whether through nature-centric aesthetics or lifestyle representations. While these narratives may appear decentralized, they are embedded within broader cultural scripts of ethical consumerism (Castillo-Abdul et al., 2024; Tavman & Yalçın Doğan, 2025). As such, graphic designers and marketers must critically reflect on the ethics of aestheticizing environmental crises through algorithm-friendly formats.

Furthermore, there is a paradox of visual credibility. As noted by Gelderman et al. (2021) and Peng et al. (2023), the more visually sophisticated a message is, the more likely it is to be

believed, but also the more likely it is to blur the lines between authentic activism and performative marketing. This aligns with critiques by (Szabo & Webster, 2021; Tan et al., 2022) on greenwashing in the digital age. If eco-influencers prioritize aesthetic coherence over substantive messaging, visual persuasion risks becoming an illusion of action a spectacle rather than a solution.

Nevertheless, the study affirms that graphic design, when grounded in semiotic intentionality and audience insight, has transformative potential. It enables sustainable messaging to reach emotionally saturated publics who may be desensitized to scientific data or political discourse (Hasyim & Arafah, 2023; Molem et al., 2024). Instagram Reels, with their blend of visual rhythm, sound, and symbol, create a unique space for eco-literacy that is informal yet impactful. This fusion of persuasion, participation, and platform-specific creativity marks a pivotal frontier in sustainable visual communication. Drawing on the integrated results, this study proposes the Eco-Visual Rhetoric Framework (Figure 2), which maps how design-led semiotic strategies translate into persuasion outcomes for audiences. The model contributes to visual communication theory by situating eco-influencers as applied designers agents who merge aesthetic judgment with social advocacy. This framework bridges theoretical discourse in design rhetoric (Buchanan, 1992; Cross, 2001) with contemporary digital media practices, underscoring that persuasive sustainability design is both an ethical and aesthetic endeavor. These findings expand design pedagogy by emphasizing multimodal design literacy, urging future designers to critically engage with sustainability as both content and communicative form.

Despite its contributions, this study acknowledges several limitations. First, the dataset is limited to a curated selection of Instagram Reels with eco-influencer tags, predominantly in English and Bahasa Indonesia. This linguistic and cultural narrowing may exclude localised environmental storytelling practices across non-Western or non-mainstream geographies (Baratin & Setiffi, 2024; Tan et al., 2022). Future research should explore vernacular visual languages in green microcontent across more diverse socio-semiotic landscapes.

Second, while semiotic and audience reception analyses offer rich interpretive depth, they cannot fully account for the algorithmic dynamics that mediate visibility on Instagram (Aini & Soegiarto, 2022; Molem et al., 2024). Platform architecture, including hashtag strategies, audio trends, and engagement metrics, shapes which Reels are seen, shared, or shadowbanned. Thus, the persuasive power of eco-Reels must be understood as co-produced by design choices and platform logics (Blasbery, 2023; König et al., 2024). Third, self-reported survey data, while useful, carries inherent biases such as social desirability and recall distortion. As noted by (Amoako et al., 2022; Li et al., 2021), participants may overstate their behavioral intentions to

align with perceived eco-norms. Mixed-methods approaches involving eye-tracking, ethnography, or A/B testing may yield more nuanced insights into visual impact.

Finally, this study centers Instagram as the primary field of inquiry, leaving other emerging platforms such as TikTok, YouTube Shorts, and BeReal less explored. While Instagram remains a major hub for eco-influencer content, cross-platform analyses are necessary to trace how visual persuasion strategies evolve across digital ecosystems (Ibrus & Ojamaa, 2020; Tsai et al., 2020). Future studies should include comparative analyses of TikTok and YouTube Shorts to test the transferability of this framework across platforms. These limitations notwithstanding, the research offers a conceptual and methodological foundation for future inquiries into the ethics, aesthetics, and effectiveness of eco-visibility in short-form digital storytelling.

CONCLUSION

This study highlights the transformative role of Instagram Reels as a dynamic medium for persuasive ecological narratives in contemporary graphic design. By integrating visual content analysis, digital semiotic interpretation, and audience perception through survey validation, the research reveals how microvideos can shape environmental consciousness through design. The findings suggest that concise visual storytelling on social platforms is not only impactful but also capable of fostering deeper public engagement with sustainability themes. Ultimately, this research encourages graphic designers to embrace emerging digital formats not just as creative outlets, but as tools for meaningful, value-driven communication in a visually saturated culture.

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