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GUIDELINES FOR SUSTAINABLE COMMUNICATION GREEN MARKETING STRATEGIES IN VIDEO CONTENT

In a digital landscape focused on sustainability, video content on social media is a key tool for effectively and authentically communicating green initiatives. This research analyzes videos from European Fortune 500 companies to explore how the combination of text, images, and sound influences engagement and brand perception. The results show that multimodal consistency, narrative simplicity, and brand trust improve communication effectiveness and reduce the risk of greenwashing. This study provides strategic insights for sustainable communication that generate engagement without compromising corporate credibility.

SUSTAINABILITY//SOCIAL MEDIA MARKETING//COMMUNICATION//GREENWASHING//BRANDING

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In the evolving landscape of digital communication, where sustainability has become central to both corporate identity and consumer expectations, the method of conveying messages is as crucial as the message itself. Companies that fail to communicate their environmental efforts effectively risk not only consumer disengagement but also reputational damage – often facing accusations of greenwashing or manipulation. As consumers grow more sophisticated and skeptical, particularly about sustainability claims, the design and delivery of content become strategic imperatives.

This research addresses a highly practical and timely question: How can companies effectively use video especially on fast-moving platforms like TikTok to communicate their green initiatives in ways that resonate, engage, and avoid backlash?

As consumers demand not just transparency but authenticity, businesses must re-evaluate how digital content shapes audience perceptions of environmental responsibility. Drawing on a comprehensive dataset of video content from Europe's Fortune 500 companies, we analyze which communication formats drive better consumer engagement and explore the mechanisms behind these effects.

VIDEO CONTENT IN GREEN COMMUNICATION

Video content has become central to brand storytelling in the digital era. According to recent industry reports, 87% of consumers purchase a product after watching a video (Wyzowl, 2025), and users spend an average of 17 hours per week consuming video content online (Bajarin, 2023). These numbers are even higher among younger demographic groups, making platforms such as TikTok, Instagram (with its reels), and YouTube (with shorts) essential arenas for brand engagement and influence.

Video allows marketers to present complex information about the brand in an immediate, understandable, and emotionally engaging way. The combination of visuals, sound, and motion activates multiple senses and can trigger both cognitive and emotional responses. For companies pursuing environmental, social, and governance goals or launching sustainable product lines, social video represents a powerful tool for storytelling. However, it also introduces certain risks. Poorly designed or overly aggressive green messages can lead to skepticism, negative reactions, and reduced engagement. When consumer trust is at stake, execution matters as much as intent.

Moreover, video platforms offer interactive opportunities for brands. They can build communities, respond to consumer questions, and showcase environmental actions in real time. What's more, live streams, behind the scenes content, and campaigns that include user generated material can foster transparency and a sense of authenticity,

which are essential ingredients for building long term trust in green communication. In this context, strategic video content does not simply transmit information. It enables a two-way relationship with stakeholders who are more and more attentive to environmental responsibility and consistency.

THEORETICAL CONTEXT

Sustainability communication is becoming a top priority for both companies and consumers. But one of the main challenges is communicating sustainable practices effectively to both internal and external stakeholders. Companies are increasingly recognizing the strategic role of sustainability communication in shaping consumer behavior and stakeholder perceptions.

Scholars distinguish between prosocial behavior, which refers to voluntary and helpful actions intended to benefit others, and sustainable behavior, which brings benefits to the environment and society. Developing sustainable practices means addressing complex processes aimed at long term environmental and social well-being. Related behaviors are strongly influenced by how messages are formulated, delivered, and perceived.

Communication is a key enabler in achieving sustainability goals. It helps align corporate actions with broader environmental responsibility ambitions and facilitates meaningful stakeholder engagement. Our research focuses on sustainable behavior and explores a central area: how green claims on social media influence consumer engagement, and why these effects vary as different communication strategies are employed.

Although text, images, and sound can all convey a message, they do so through different logics, codes, potentials, and limitations (Meyer et al., 2018). For example, images are processed quickly and holistically due to their spatial nature, while verbal modes such as written or spoken language follow a temporal sequence and require more attentive processing. As Packard and Berger (2024) point out, the use of multiple modes may encourage more

heuristic processing, limiting the attention that consumers dedicate to verbal information.

This distinction is crucial in sustainability communication, where a single mode may not be sufficient to fully convey the information contained in a green claim. For example, an image of a product may suggest an ecological association but it doesn't clarify that the product is made from recycled materials. In fact, this is information that requires textual or narrative support. Despite the salience of the topic, research remains limited on how effective messaging is influenced by the interaction between multiple modes such as text, image, and sound.

Emerging studies in marketing and social media communication are beginning to fill this gap. Research on the interaction between image and text shows that semantic consistency and complementarity increase consumer engagement (Ceylan, Diehl, and Proserpio, 2024). Similarly, the inclusion of audio elements such as ambient sounds or voice narration can influence the evaluation of advertising messages (Chang, Mukherjee, and Chattopadhyay, 2023).

However, sustainability is still a complex and abstract topic, often difficult for consumers to grasp and even more challenging for companies to communicate. Previous studies suggest that multimodality may facilitate understanding by simplifying complicated topics and stimulating social change (Barberá-Tomás et al., 2019).

Moreover, informational and educational content, especially on social media, has proven effective in shaping consumer attitudes toward issues such as climate change (Vlasceanu et al., 2024). This type of post is less likely to be perceived as commercially motivated and can reduce the activation of persuasion knowledge (that is, the consumer's ability to recognize persuasive attempts and respond with skepticism; Friestad and Wright, 1994). Ultimately, this has a positive effect on sharing and commenting rates.

Despite these insights, the literature remains underdeveloped in explaining how different modes such as text, audio, and video interact in the context of green communication. Indeed, most studies focus

on textual formats (Kronrod et al., 2023) or isolate specific channels such as audio (Chang, Mukherjee, and Chattopadhyay, 2023), yet few delve into how these elements work together, especially in multimodal video content that dominates platforms such as TikTok.

In this context, green communications that are too elaborate and multimodal may have unintended effects. Research shows that when consumers perceive excessive persuasive effort, especially in messages related to sustainability, they may experience skepticism and disengagement (Friestad and Wright, 1994). This is consistent with findings showing that too many green claims or overly complex formats can reduce positive attitudes toward the brand (Olsen et al., 2014; Chen and Chang, 2013).

Furthermore, if green messages appear assertive, as often happens in environmental campaigns, they risk triggering psychological reactance, especially when they are repeated across multiple formats such as images, sound, and text (Brehm, 1966). In contrast, content that evokes nature through images and elicits emotion, rather than presenting rational arguments, may be more effective in generating positive evaluations from consumers (Schmuck, Matthes, and Naderer, 2018).

Finally, trust in the brand seems to moderate the effects described above. In other words, well-established brands may benefit more from the use of multimodality, while lesser-known ones risk that their green content, if too complex, will arouse suspicion. Understanding how brand equity interacts with communication choices is essential to optimize sustainable communication strategies.

These insights highlight the importance not only of what is communicated regarding sustainability, but above all how it is communicated and how subtle or even paradoxical audience responses can be.

METHODOLOGY

To explore the communication dynamics of large companies on social media, we examined videos published on TikTok by European companies

listed on the 2023 Global Fortune 500 ranking. The selection focused exclusively on verified TikTok accounts, prioritizing the global or regional profile with the highest number of followers (in cases where multiple accounts were active). The aim here was to ensure consistency and representativeness. The sample counted 52 companies across 21 industry sectors, from which we collected 5749 videos published in 2023 (between January 1 and December 31).

The analysis considered both green and non-green content, providing a broad overview of the communication strategies adopted in the field of sustainability and beyond. Each video was systematically coded to identify key variables such as the level of multimodality and the degree of greenness of the message.

We categorized these variables into three groups. Dependent variables represent the aspects that might be affected by multimodality and greenness; independent variables are the factors we hypothesize may influence the dependent variables. Finally, control variables are the elements that are not the primary focus of the analysis, but could nonetheless interfere with the relationship between independent and dependent variables. For this reason we included them to isolate the specific effect of the independent variables.

Dependent variables

As noted, our main focus is to assess the impact of multimodality, in particular multimodal green messages, on user engagement. We measured social media engagement using three key indicators: the number of likes, comments, and shares for each post. The sum of these three metrics defines our engagement variable.

Independent variables

One researcher manually coded the level of multimodality in the videos based on the use of overlay text and/or voice-over. At the same time, two independent coders analyzed the post content according to a protocol designed to spot green messaging. Classification was based on the

detection of visual and verbal elements that promote sustainable products, brands, or lifestyles. A message was coded as green when it did the following:

1. Explicitly or implicitly addressed the relationship between a product or service and the environment.
2. Promoted a sustainable lifestyle, with or without highlighting a specific product or service.
3. Presented a corporate image of environmental responsibility (Banerjee, Gulas, and Iyer 1995, p. 22).

The level of agreement among coders was high, with a Krippendorff's alpha coefficient of 0.86. Any disagreements were resolved through an additional round of independent coding carried out by other annotators.

We hypothesized that multimodal communication would increase engagement, based on findings from research in education and communication suggesting that multisensory input enhances attention, recall, and understanding (Mayer, 2024; Kanuri, Hughes, and Hodges, 2024). However, we also acknowledged the potential risk of negative effects when it comes to sustainability-related content.

Control variables

We factored in brand-specific and temporal effects, as well as the number of words, hashtags, and views, in line with best practices in social media analysis. These controls allowed us to account for differences in content visibility and strategy across brands and publication periods, thereby isolating the specific impact of message type and communication format.

We also included variables related to the specific characteristics of the videos' textual, audio, and visual components. For the visual dimension, we looked at faces in the video, the emotional expressions of people, and the overall color vibrancy of the post. In the audio component, we assessed sound intensity, pitch, and speech rate. On the textual level, we considered emotional valence, readability, word count, and the presence of emojis.

Additionally, we evaluated cross-modal features by measuring the total number of words used across different channels (captions, on-screen text, narration) and the degree of content similarity across these modes. These indicators helped us assess whether redundancy or alignment between modes influenced user engagement.

Following existing literature, we coded posts based on their informative or persuasive purpose – that is, whether captions, on-screen text, or voice-overs incorporated language promoting the brand. We also measured brand congruence, defined as the overlap between the vocabulary contained in a given post and the typical language used by the brand in other content. Finally, we calculated the ratio of green words to total words in the post to quantify the intensity of the sustainability message.

These additional control variables helped us rule out alternative explanations. For example, word count can be an indicator of the cognitive effort required to process a message. Brand congruence reflects the consistency between a specific post and the brand's overall positioning. Lastly, the green-to-total word ratio allowed us to monitor whether sustainability claims dominated the main message of the post.

Estimation

We analyzed the effect of multimodality and its interaction with green messaging on engagement. Since the dependent variable is a count variable (the sum of likes, comments, and shares) and is over dispersed, we used negative binomial regression.

Robustness checks

To verify the robustness of our results, we replicated the analysis separately for likes, comments, and shares. The results did not vary significantly across these alternative specifications. We also conducted a Propensity Score Matching analysis to rule out the possibility that our results were due to self-selection. Again, results did not change when we analyzed a matched sample.

THE ENGAGEMENT PARADOX

Our analysis revealed a surprising and counterintuitive divergence:

- For non-green videos, greater use of multimodality generally increased engagement. The effect is indeed positive and significant.
- For green videos, however, the effect was the opposite: Using more modes simultaneously leads to lower engagement. In other words, the interaction between greenness and multimodality is negative and significant.

This suggests that, in the context of sustainability communication, less is often more. Simpler green videos (those that used only an image and a caption) received more likes, shares, and comments than those with narration, text overlays, and multiple visual effects. This challenges common assumptions in media design, where richer content is generally thought to drive higher engagement.

These findings indicate that communication strategies must be adapted not only to the platform but also to the nature of the message. Audiences may interpret the production complexity of green content as a signal of insincerity or an attempt to obscure information, thereby undermining trust and reducing the message's effectiveness. Since sustainability has become a central issue for brands, understanding these nuances is crucial for developing effective communication campaigns.

LIMITS OF GREEN COMMUNICATION ON SOCIAL MEDIA

Several psychological and theoretical mechanisms help explain our results, drawing on persuasion theory and consumer psychology:

- Cognitive Load: Multimodal green content may overwhelm users, especially on fast-paced platforms like TikTok. Sustainability messages

are already complex and become even harder to process when presented in overly rich formats.

- **Perception of Manipulation:** Highly produced green videos may trigger what is known as *persuasion knowledge* – consumers' awareness that they are being targeted by marketing – which can lead to skepticism and reduced message effectiveness.
- **Psychological Reactance:** When messages come across as moralizing or assertive and are repeated across multiple modes (visual, textual, audio), users may perceive a threat to their freedom of choice and respond with resistance or disengagement.
- **Emotional Misalignment:** Green messages that evoke authentic emotion using natural imagery and minimal text may be more effective than those that are overly technical or layered. Excessive emotional and rational elements can confuse audiences and weaken the core message.

RECOMMENDATIONS FOR MARKETING TEAMS

In light of our findings, we offer the following practical guidelines for designing green video campaigns:

- Limit the number of modes per video. For example, use image plus voice, or image plus caption. Keeping it simple helps avoid perceptual and informational overload.
- Avoid redundancy. Do not repeat the same message across voice, text, and images. Each mode should contribute unique or complementary information.
- Ensure that the green message does not override or alter the brand's value proposition.
- Prioritize simplicity, transparency, and emotional appeal. Rather than relying on technically dense production, focus on content that feels authentic and easy to understand.
- Evaluate not just the message, but the format. A green video that underperforms may not need a full rewrite, but rather a simplified redesign.

STRATEGIC IMPLICATIONS FOR BRANDS

This research highlights a paradox in sustainability communication. While rich multimodal content tends to increase engagement for general or commercial messages, green content appears to benefit more from moderation and simplicity.

Marketing professionals should therefore align content complexity with message type. Value-driven or ethical messages, such as those related to environmental issues, are more effective when delivered with clarity and minimalism.

In other words, sometimes saying less allows the message to resonate more.

DIRECTIONS FOR FUTURE RESEARCH

We are currently extending this work through experimental studies to better understand the underlying psychological mechanisms. In any case, future research should explore:

- The role of brand trust.
- Consumers' pre-existing attitudes toward sustainability.
- Cultural differences in responses to multimodal green messages.

Additionally, expanding the analysis to other platforms, such as YouTube (shorts) or Instagram (reels), may reveal platform-specific patterns and further refine strategic guidelines.

CONCLUSION

Our findings suggest that, in the field of green communication, simplicity outperforms complexity. Specifically, social video campaigns that use a limited number of communication modes and focus on educational or emotionally resonant content achieve higher levels of engagement.

Even when green content is not central to a company's core business, informative and concise

messaging promotes more positive reactions. This underscores the potential of social media to amplify awareness of environmental issues and encourage more sustainable behaviors.

In an era where sustainability is constantly in the spotlight, how something is communicated can matter just as much as what is communicated. Brands that embrace simplicity, authenticity, and strategic design will be best positioned to lead credible, effective conversations about environmental responsibility.



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