

Volume 1 Number 1, 2026

Krakatoa Community Service Journal (KCSJ)

STIE KRAKATAU, Indonesia

**Digital Promotion of Petengoran Mangrove Ecotourism via
TikTok and Instagram**

Nadya Anggita Nugraeni^{1*}, Tasya Revalina Nasution², Alifia Rachma Aulia³, Yuliansyah
Yuliansyah⁴

University of Lampung, Lampung, Indonesia^{1,2,3,4}

2316071008@students.unila.ac.id^{1*}

ARTICLE INFO

Received: 4 January 2026;

Revised: 18 January 2026;

Revised: 6 February 2026;

Revised: 23 February 2026;

Accepted: 10 March 2026;

Volume 1, Number 1

2026, pp 31-43

<https://doi.org/10.61401/kcsj.v1i1.540>

Corresponding author:

Nadya Anggita Nugraeni

University of Lampung, Lampung,
Indonesia

E-mail:

2316071008@students.unila.ac.id

ABSTRACT

Purpose: This study evaluates the effectiveness of a digital promotion campaign for Petengoran Mangrove Ecotourism in Gebang Village using TikTok and Instagram platforms.

Methodology: A qualitative descriptive approach was applied through field observation, coordination with site managers, content production using smartphones and CapCut, and analysis of TikTok Analytics and Instagram Insights data.

Results: Ten content pieces were published across both platforms. The best-performing TikTok video reached 367,000 views, 11,000 likes, 621 comments, 5,436 shares, and 1,366 saves, with 234,300 accounts reached and 81% new viewers. The TikTok account gained 170 followers (total 682), while Instagram reached 3,900 impressions and 21 new followers, with 92% non-follower reach, indicating strong exposure and engagement.

Conclusions: TikTok and Instagram are highly effective tools for promoting rural ecotourism, generating significant visibility and audience engagement. The campaign successfully enhanced digital awareness of Petengoran Mangrove and accounts were transferred to local managers for continued promotion.

Limitations: The study is limited to a single site and short-term analytics and does not measure the direct impact of social media exposure on actual tourist visits.

Contribution: This research provides empirical evidence of short-video social media effectiveness in promoting coastal ecotourism and contributes to the literature on digital marketing strategies for community-based tourism development in rural Indonesia.

Keywords: *Digital Promotion, Ecotourism, Instagram, Mangrove Tourism, TikTok*

How to Cite: Nugraeni, N. A., Nasution, T. R., Aulia, A. R., & Yuliansyah, Y. (2026). Digital Promotion of Petengoran Mangrove Ecotourism via TikTok and Instagram. *Krakatoa Community Service Journal (KCSJ)*, 1(1), 31-43.

1. Introduction

Tourism has emerged as one of the most strategically significant sectors in regional and national economic development across the Global South. In Indonesia, the sector functions as a primary engine of economic growth by generating household income, creating employment, contributing to local government revenue, and earning foreign exchange. The presence of tourism destinations catalyses a broad range of ancillary economic activities that benefit local communities through supply chains, hospitality services, and informal commerce ([Virginio, & Fransina, 2024](#); [Cesarani, Herison, Ashruri, & Romdania, 2023](#)). Beyond these economic dimensions, the development of tourism strengthens regional competitiveness by enabling communities to translate their endowment of natural and cultural assets into recognized destinations that attract visitor flows and investment ([Sitepu, Naibaho, & Siregar, 2026](#); [Anindhita, Zielinski, Milanese, & Ahn, 2024](#)).

The evolution of information and communications technology has fundamentally restructured the promotional landscape for tourism destinations. Whereas conventional promotional modalities, including printed brochures, travel agency partnerships, and television advertising, required substantial financial investment and reached geographically constrained audiences, digital platforms now enable destinations to communicate with global audiences at negligible marginal cost ([Wilhelmina, & Mistriani, 2025](#); [Ogotu, & Othieno, 2025](#)). Social media platforms, in particular, have become the primary arena for destination discovery, with research consistently demonstrating that travellers rely heavily on social media content in destination selection, trip planning, and post-visit sharing ([Sarifiyono, Kusumawardhani, Rusnendar, Priyana, Pujianto, Purnama, & Saberina, 2024](#)); ([Pebianti, Ghani, Salwa, & Noviyanti, 2025](#)). The interactive character of social media further enables real-time engagement between destination promoters and prospective visitors, generating the participatory dynamics that underpin contemporary digital tourism marketing ([Zhou, Li, Liu, Zhou, Li, & Wen, 2023](#)).

Among social media platforms, TikTok and Instagram have emerged as the dominant channels for tourism destination promotion, each offering distinctive technical affordances that align with different aspects of destination communication. TikTok's short-video format and algorithmic For Your Page (FYP) distribution mechanism enable content to achieve exponential reach independent of follower count, creating the possibility for previously unknown destinations to attain viral visibility overnight ([Wengel, Ma, Ma, Apollo, Maciuk, & Ashton, 2022](#)); ([Blanco-Moreno, González-Fernández, Muñoz-Gallego, & Casaló, 2024](#)). Instagram, by contrast, excels as a visual curating platform where destinations can build aesthetic brand narratives through feed posts, Reels, and Stories, leveraging high-quality photography and videography to construct aspirational destination imagery ([Martinez-Sala, Monserrat-Gauchi, & Campillo-Alhama, 2023](#)). The combinatorial use of both platforms is increasingly recognized as a best practice in destination digital marketing, as the two platforms serve complementary audience acquisition and brand-building functions ([Agustiadi, & Sagala, 2024](#); [Jannah, Wibowo, & Arvianto, 2022](#)).

Petengoran Mangrove Ecotourism, situated in Gebang Village, Teluk Pandan District, Pesawaran Regency, Lampung Province, represents a compelling case of a natural ecotourism asset with significant development potential that has been constrained by limited promotional visibility. The site encompasses a biologically rich mangrove ecosystem characterized by species including *Rhizophora apiculata*, *Ceriops* sp., *Avicennia marina*, and *Rhizophora stylosa*, which collectively support coastal erosion control, biodiversity conservation, and environmental education functions ([Cesarani et al., 2023](#); [Afifah, Putri, Hartanti, Negari, Pratama, Zuaini, Muryanto, Muhammad, Astikasari, Indriyani, Kurniawati, Sunarto, Kusumaningrum, Budiharta, Flores, & Setyawan, 2023](#)). The broader Gebang Village coastal area also encompasses adjacent attractions including Pulau Tegal Mas, Pasir Timbul, and Pantai Dewi Mandapa, all managed through community-based frameworks that integrate conservation with ecotourism income generation ([Ramadan, Qurniati, & Kaskoyo, 2023](#); [Hussain, Alam, Malik, Tarhini, & Al, 2024](#)).

Despite its natural asset richness, Petengoran Mangrove Tourism faces challenges of declining visitor numbers and competitive pressure from better-promoted destinations in the Lampung coastal

tourism market ([Windyata, Murniati, & Riantini, 2024](#)). ([Agustiadi & Sagala, 2024](#)) Community participation in ecotourism management, while documented as an important contributor to sustainability, has not been matched by equivalent investment in digital promotional capacity, leaving the destination effectively invisible to the digital audiences that now drive tourism discovery ([Agustiadi & Sagala, 2024](#)). The absence of professionally managed social media accounts prior to this program created a digital visibility deficit that precluded the site from benefiting from the algorithmic distribution mechanisms that have transformed rural ecotourism promotion globally ([Li, & Fang, 2023](#); [Son, & Park, 2025](#)).

The novelty of this research lies in its empirically documented, analytics-grounded evaluation of a student-led short-video digital promotion program for a community-based coastal mangrove ecotourism destination in Indonesia, a context that has received limited systematic attention in the extant social media tourism marketing literature. This study aims to document the methodology of a KKN-led digital promotion campaign for Petengoran Mangrove Tourism using TikTok and Instagram, quantify the reach, engagement, and audience acquisition outcomes of the campaign through platform analytics data; and assess the mechanisms through which short-video content created organic virality and contributed to destination awareness, providing transferable insights for comparable rural ecotourism destinations seeking to leverage social media for promotional purposes.

2. Literature Review

2.1 Social Media as a Tourism Promotion Channel

The application of social media to destination marketing has transformed the economics and reach of tourism promotion over the past decade. Social media platforms function simultaneously as information sources, inspiration channels, peer recommendation systems, and Electronic Word Of Mouth (eWOM) dissemination mechanisms, each of which independently and collectively influences destination awareness and visit intention [Li & Fang, 2023](#). Research consistently demonstrates that content consumed on social media platforms creates stronger destination imagery and higher visit intention than conventional promotional formats, partly because social media content is perceived as more authentic, peer-validated, and experiential than brand-generated advertising [Rodrigues et al., 2023](#).

The rapid growth of short-video social media platforms, particularly TikTok, has introduced a structurally new dynamic into destination marketing. [Wengel et al. \(2022\)](#) document the 'TikTok effect' on destination development, showing that previously obscure destinations can achieve global recognition within days when content goes viral through the platform's algorithmic distribution system. This democratizing effect is particularly significant for community-based ecotourism destinations in developing countries that lack the marketing budgets of established commercial tourism operators. [Zhou et al. \(2023\)](#) further demonstrate that TikTok content shapes tourism destination choice among young Chinese tourists, with algorithmic amplification enabling destinations to reach precisely segmented audiences based on interest, geographic proximity, and prior engagement patterns. [Tham et al. \(2024\)](#) apply pentadic analysis to TikTok marketing in the tourism context, identifying scene, act, agent, agency, and purpose as the constitutive rhetorical elements of effective destination promotion content on the platform.

Instagram operates as a complementary visual identity platform for destination marketing. The platform's emphasis on high-quality photography and curated aesthetic narratives makes it particularly effective for constructing aspirational destination images and sustaining long-term follower engagement through consistent visual brand communication [Martinez-Sala et al., 2023](#). The geo-tagging function of Instagram has been identified as a particularly powerful feature for destination marketing, as location-tagged posts appear in location-based searches that effectively function as passive advertisement to users exploring a geographic area [Sarifiyono et al., 2024](#). Instagram's Reels feature, introduced as a competitive response to TikTok, further enables destinations to leverage short-video content within an audience that may be more oriented toward longer-form content and aesthetic imagery than TikTok users.

2.2 Electronic Word-of-Mouth (eWOM) and Content Virality

Electronic Word Of Mouth (eWOM) constitutes one of the most powerful mechanisms driving tourism destination awareness and visit intention in the digital era. Unlike traditional word-of-mouth, which operates through private interpersonal communication, eWOM is publicly visible, algorithmically amplified, and persists indefinitely in digitally accessible form [Li et al., 2023](#). In the tourism context, eWOM manifested through social media sharing, comment interaction, and content saving performs multiple functions: it validates destination quality through peer endorsement, expands geographic reach beyond the content creator's existing network, and creates cumulative digital asset value for the destination through searchable content archives [Fathurrahman & Kurniawan, 2023](#).

The sharing behavior of social media users, particularly on TikTok, is the primary mechanism through which organic virality is achieved. When a user shares a piece of content, it is exposed to their personal follower network, effectively extending reach beyond the original account's subscriber base without additional promotional investment. The multiplicative character of sharing behavior explains how a single high-performing TikTok video can achieve orders of magnitude more reach than all of a platform account's other content combined. [Sarifiyono et al. \(2024\)](#), specifically demonstrate that tourist involvement in creating and sharing TikTok content significantly increases destination visibility and promotional effectiveness, reinforcing the value of user-generated content as a promotional asset.

2.3 Mangrove Ecotourism and Digital Promotion

Mangrove ecotourism occupies a distinctive position in the Indonesian rural tourism landscape, combining conservation functions with community livelihood generation and environmental education in coastal settings. Research on mangrove ecotourism development consistently identifies promotional capacity as a limiting factor in destination growth, with many well-endowed mangrove ecotourism sites failing to realize their visitor potential due to inadequate information dissemination and limited digital presence ([Windyata et al., 2024](#); [Agustiadi & Sagala, 2024](#)). [Ramadan et al. \(2023\)](#), in their study of community participation in the management of Petengoran Mangrove Ecotourism specifically, document the operational and governance frameworks of the site while noting the absence of systematic promotional strategies as a constraint on sustainable visitor growth.

Studies of digital promotion for mangrove ecotourism and community-based conservation tourism in Indonesia confirm the effectiveness of social media in expanding destination awareness. [Normelani et al. \(2023\)](#), documenting the digitalization of mangrove forest village branding, demonstrate that integrated social media promotion strategies can effectively connect previously isolated ecotourism destinations with urban digital audiences who represent the primary growth segment for coastal conservation tourism. [Nurhayati et al. \(2023\)](#) further document the role of community empowerment in strengthening mangrove ecotourism promotion capacity at Pangandaran, West Java, finding that digitally enabled community promotion significantly increases visitor diversity and destination resilience. These findings provide the comparative context within which the Petengoran case can be evaluated.

2.4 Mangrove Ecotourism and Digital Promotion

The Community Service Program (KKN) program in Indonesia has evolved beyond its traditional community service paradigm to encompass increasingly sophisticated digital interventions, including social media account creation, content production, and digital marketing strategy development for tourism destinations and local enterprises. [Pebianti et al. \(2025\)](#) document the effectiveness of digital marketing training interventions in improving the competitive capacity of local community enterprises through enhanced consumer quality and brand communication. [Wilhelmina and Mistriani \(2025\)](#) demonstrate that social media-based digital transformation of tourism promotion is particularly effective in attracting millennial audiences, the demographic most likely to respond to TikTok and Instagram content, to heritage and ecotourism destinations. Within this context, KKN programs that embed digital marketing competencies directly in destination promotional infrastructure, specifically by creating and managing social media accounts before

transferring them to local managers, represent a durable community development model that extends the program's impact well beyond the operational period.

3. Methodology

This study employs a qualitative descriptive approach to document and evaluate the digital promotion program for Petengoran Mangrove Ecotourism conducted during the KKN Period 1 2026 of Universitas Lampung. The qualitative framework is appropriate because the primary objective is to provide a richly contextualized account of the promotional process, content strategy, and outcomes that quantitative methods alone would inadequately capture (Agustiadi & Sagala, 2024). Primary data were obtained through two complementary collection streams: direct field observation conducted by the KKN team during multiple visits to the Petengoran Mangrove Ecotourism site, involving systematic assessment of the site's natural assets, tourism facilities, visitor demographics, and promotional gaps, and structured interviews and coordination sessions with Hariman, the site manager, to understand the site's operational context, historical promotional activities, and community aspirations for destination development. Secondary data comprised the platform analytics reports generated by TikTok Analytics and Instagram Insights during the promotional period, providing quantitative metrics on content reach, audience engagement, and follower acquisition that supplement the qualitative observational data.

Table 1. Digital promotion program implementation stages and methods

Stage	Method / Tool	Content / Activity	Platform & Format
Field Observation	Direct site visit; interview with manager (Hariman)	Assessment of tourism facilities, natural assets, mangrove species, visitor flow patterns	Field notes; photographic record
Content Planning	FGD with KKN team; analysis of platform trends	Concept development aligned to TikTok FYP algorithm and Instagram visual aesthetics; hashtag and caption strategy	Pre-production brief for both platforms
Content Production	Smartphone; CapCut editing app	10 promotional videos: mangrove scenery, facilities, visitor activities, biodiversity highlights	TikTok short video; Instagram Reels & feed posts
Publication & SEO	Hashtag tagging; location tagging; caption writing	#MangrovePetengoran #ekowisataMangrove #wisatalampung #rekomendasiwisata #fyp; geo-tag: Desa Gebang	TikTok & Instagram (both accounts handed over to site manager)
Analytics Review	TikTok Analytics; Instagram Insights	Views, likes, comments, shares, saves, follower growth, audience demographics (new vs. returning)	7-Jan to 10-Feb 2026 monitoring period

Table 1 show the program implementation proceeded through five sequential stages. The content production stage utilized smartphones as the primary capture device and CapCut as the video editing application, tools deliberately selected for their accessibility to future site managers who would continue the social media promotion after the KKN program concluded. The content strategy was developed with explicit attention to the platform-specific algorithmic characteristics of TikTok and Instagram: for TikTok, content was optimized for FYP discoverability through trending audio selection, rapid opening sequences, and hashtag clustering; for Instagram, content prioritized visual quality and aesthetic coherence to support follower retention and brand-building. The monitoring and evaluation stage employed TikTok Analytics and Instagram Insights as the primary analytical instruments, with data collection covering the period from January 7 to February 10, 2026, supplemented by the peak-performance data from the highest-reach TikTok video. The ethical dimensions of the program were addressed through formal coordination with the site manager, who

provided informed consent for the program's activities and received full ownership of the social media accounts and content archive upon program completion.

The digital promotion program for Petengoran Mangrove Ecotourism was implemented through a structured multi-stage process to ensure systematic content development and effective audience engagement. The first stage, field observation, involved direct site visits and interviews with the site manager (Hariman) to assess tourism facilities, natural assets, mangrove biodiversity, and visitor flow patterns. This stage produced essential baseline data in the form of field notes and photographic documentation, which became the foundation for subsequent content development. The second stage, content planning, was conducted through Focus Group Discussions (FGD) within the KKN team and analysis of current social media trends. This process focused on aligning content strategies with TikTok “For Your Page” (FYP) algorithm and Instagram visual engagement principles. Key elements such as hashtags, captions, and storytelling themes were carefully designed to maximize visibility and audience interaction across both platforms, resulting in a structured pre-production plan.

The third stage, content production, involved the creation of 10 promotional videos using smartphones and CapCut editing software. The content highlighted various aspects of the ecotourism site, including mangrove landscapes, visitor activities, available facilities, and biodiversity features. The videos were adapted into TikTok short-form content and Instagram Reels and feed posts to optimize platform-specific engagement formats. The fourth stage, publication and SEO optimization, focused on distributing content using targeted hashtags, captions, and geo-tagging strategies such as #MangrovePetengoran and Desa Gebang. All digital accounts were later transferred to the site manager to ensure sustainability of promotion efforts. The final stage, analytics review, utilized TikTok Analytics and Instagram Insights to measure performance indicators including views, engagement rates, audience demographics, and follower growth over a monitoring period from 7 January to 10 February 2026, providing comprehensive evaluation of campaign effectiveness.

4. Results and Discussion

4.1 Field Observation and Content Development

Field observation at Petengoran Mangrove Ecotourism confirmed the site's substantial natural and educational tourism potential: the mangrove forest encompasses multiple ecologically significant species, boardwalk infrastructure for visitor access, a sampan-based exploration experience, and an adjacent coastal landscape that includes clear water visibility and mangrove root system photography opportunities. These natural assets were systematically documented across multiple observation visits to build a content library covering the full range of site attractions. Coordination with site manager Hariman established the promotional objectives, informed the selection of content themes, and provided historical context for the site's visitor pattern and seasonal dynamics.

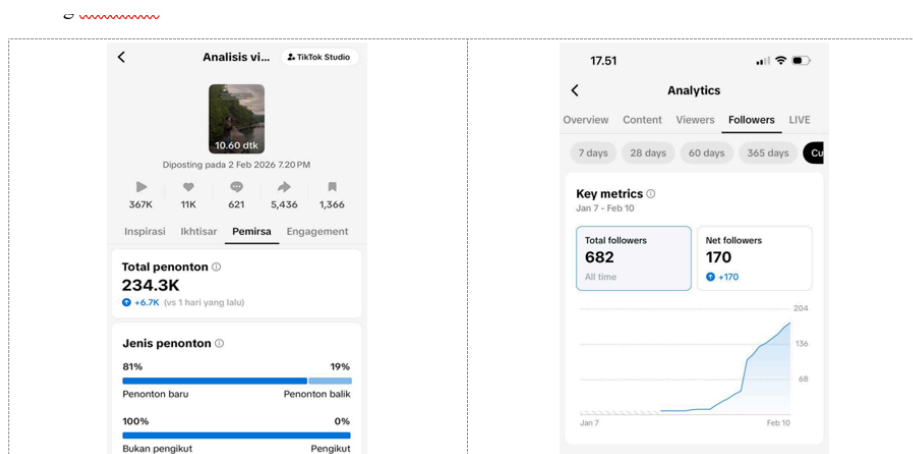


Figure 1. Promotional content published on TikTok Petengoran Mangrove account and the apxperience

Figure 1 show the content planning process translated the field observation findings into a structured content calendar of ten promotional videos designed to serve multiple promotional functions: destination awareness (mangrove scenery and biodiversity), facility information (boardwalk, boat access), activity inspiration (sampan exploration, photography opportunities), and environmental education (mangrove species and ecological role). This multi-functional content architecture reflects the recommendation of [Wengel et al. \(2022\)](#) that effective destination TikTok promotion should address the practical informational needs of prospective visitors alongside the aspirational visual inspiration that drives sharing behavior.

4.2 Quantitative Promotion Outcomes

The quantitative outcomes of the digital promotion program are presented in Table 2. All ten published videos achieved more than 500 views, establishing a consistent baseline performance that demonstrates systematic content quality rather than isolated viral luck. The standout performance was a single TikTok video that achieved 367,000 views, 11,000 likes, 621 comments, 5,436 shares, and 1,366 saves, reaching 234,300 unique accounts. These metrics substantially exceed typical performance benchmarks for community tourism accounts at comparable follower scales, reflecting the effectiveness of the FYP algorithmic distribution in amplifying well-optimized short-video content to non-follower audiences ([Tham, Chen, & Durbidge, 2024](#)).

Table 2. Digital promotion performance metrics: TikTok and instagram analytics (January-February 2026)

Metric	TikTok (Peak Video)	TikTok (Account 7-Jan to 10-Feb)	Instagram (Feb 2026)	Benchmark / Change
Total Video / Post Views	367,000	>500 per post (all 10 videos)	3,900 (Reels + feed)	+29% vs Jan
Likes	11,000	N/A	N/A	High engagement
Comments	621	N/A	N/A	Community discussion
Shares	5,436	N/A	N/A	High virality
Saves	1,366	N/A	N/A	Bookmark intent
Unique Accounts Reached	234,300	7,109 total viewers; 3,171 new	N/A	Broad awareness
New Audience Share	81% new viewers	N/A	92% non-followers	Strong discovery
Follower / Subscriber Gain	N/A	+170 net followers (total: 682)	+21 new followers	Consistent growth

Table 2 show the audience composition data are particularly significant from a promotional effectiveness perspective. On TikTok, 81% of the peak video's viewers were classified as new viewers who had not previously encountered the account's content; crucially, 100% of viewers on this video were non-followers, confirming that the content achieved its reach entirely through algorithmic distribution to users beyond the existing subscriber base. This non-follower reach pattern demonstrates the FYP mechanism operating as theorized: content quality and optimization characteristics triggered algorithmic amplification to audiences with inferred interest alignment ([Zhou, Sotiriadis, & Shen, 2023](#)). On Instagram, 92% of the 3,900 impressions originated from non-followers, with a 12% increase in non-follower reach compared to January, confirming that the geo-tagging and hashtag strategy successfully extended content visibility beyond the existing follower network.

4.3 Discussion

The results of this digital promotion program provide empirical support for several theoretical propositions in the social media tourism marketing literature. First, the exceptional reach achieved

by the peak TikTok video, 367,000 views from a 682-follower account, confirms the democratizing potential of TikTok's FYP algorithm for resource-constrained tourism destinations. [Wengel et al. \(2022\)](#) describe this phenomenon as the 'TikTok effect,' whereby previously obscure destinations achieve sudden international or national recognition through algorithmic amplification that is completely decoupled from the destination's prior promotional investment or marketing budget. The Petengoran case demonstrates that this effect is not confined to internationally famous destinations but can be replicated for community-based ecotourism sites in rural Indonesia when content quality, optimization strategy, and destination visual appeal are combined effectively.

Second, the audience composition data, specifically the 81% new viewer share on TikTok and the 92% non-follower impression share on Instagram, demonstrate that the digital promotion campaign successfully performed its primary function: introducing Petengoran Mangrove Tourism to audiences that had no prior awareness of the destination. This is the foundational outcome required for destination awareness building in a market where the potential visitor population has no existing brand relationship with the site. [Sarifiyono et al. \(2024\)](#) identify tourist and audience involvement in content sharing as the key mechanism through which destination visibility expands beyond the content creator's own network; the 5,436 shares achieved by the peak video represent precisely this mechanism in action, as each sharing event exposed the content to a new personal network of potential visitors whose interest was signalled by their relationship with the sharing user.

Third, the eWOM dynamics activated by the TikTok content can be interpreted through the framework of [Li et al. \(2023\)](#) and [Fathurrahman and Kurniawan \(2023\)](#), who demonstrate that social media sharing in tourism contexts generates cumulative digital asset value through the creation of searchable content archives that continue to attract new audiences long after the initial publication event. The 1,366 saves recorded for the peak video are particularly significant in this regard: saves on TikTok indicate that users have bookmarked the content for future reference, typically in the context of trip planning. This suggests that a proportion of the video's audience had sufficient visit intention to preserve the content as a planning resource, translating digital reach into tangible tourism demand potential [Li & Fang, 2023](#).

The content strategy decisions embedded in the program, specifically the multi-thematic content architecture covering scenery, facilities, activities, and biodiversity, reflect the informational needs of prospective visitors identified in the destination choice literature. [Rodrigues et al. \(2023\)](#) demonstrate that digital marketing effectiveness in rural destinations depends critically on the quality and completeness of information provided to prospective visitors, as destination discovery through social media typically occurs in the absence of prior knowledge, requiring content to simultaneously inspire, inform, and reassure. The decision to cover all major site attributes across the ten-video content calendar ensures that algorithmically distributed content encounters prospective visitors at each stage of the destination consideration process.

The challenges encountered during implementation, encompassing content production experience limitations, time constraints, weather dependency, and algorithmic unpredictability, are consistent with those documented in comparable community-based digital tourism promotion programs. The algorithmic challenge is inherent to social media marketing: no content creator can guarantee algorithmic amplification, and the disproportionate performance of a single video relative to the others in this program reflects the probabilistic character of FYP distribution ([Tham, Chen, & Durbidge, 2024](#)). However, the consistent threshold performance of all ten videos, each achieving over 500 views, confirms that the content quality floor was sufficient to avoid the algorithmic penalty applied to very low-engagement content. Future programs should experiment with posting timing, trending audio selection, and video opening hook optimization to improve the average performance floor across all published content.

The sustainability dimension of the program, specifically the transfer of account ownership and content assets to site manager Hariman, represents a critical design feature that distinguishes this program from purely output-oriented community service interventions. [Normelani et al. \(2023\)](#) emphasize that sustainable digital promotion for community-based tourism destinations requires not

merely content creation but institutional capacity building that enables local managers to continue, adapt, and expand digital promotional activities after external program support concludes. The handover of fully operational TikTok and Instagram accounts with an established follower base and a content archive provides Hariman with a promotional platform that would have required months of independent account-building to develop from scratch, significantly reducing the activation energy required for sustained digital promotion.

The implications of these findings extend beyond the specific case of Petengoran Mangrove Tourism to inform digital marketing strategy for rural ecotourism destinations more broadly. The results demonstrate that a well-designed short-video content program, even one produced with consumer-grade equipment and freely available editing software, can achieve reach metrics that rival professional destination marketing campaigns when platform optimization principles are correctly applied. This finding is particularly significant for community-based conservation tourism sites in developing countries where professional digital marketing services are financially inaccessible. The core principle illustrated by the Petengoran case is that platform algorithm literacy, specifically the understanding of how TikTok and Instagram rank and distribute content to non-follower audiences, can substitute for financial investment in paid promotion as a driver of organic reach. Destinations that invest in building this algorithm literacy within their management teams, whether through KKN partnerships, digital literacy training programs, or collaborative arrangements with local universities, can access promotional channels that were previously available only to well-resourced commercial tourism operators ([Zhou et al., 2023](#); [Wengel et al., 2022](#); [Sarifiyono et al., 2024](#)).

The environmental and conservation dimensions of digital promotion for mangrove ecotourism warrant explicit attention. Increased visitor flows generated through digital promotion create both opportunities and risks for the mangrove ecosystem: visitor spending supports the livelihoods of community managers who have a direct financial incentive to maintain ecosystem quality, while unmanaged visitor growth can damage sensitive mangrove root systems and disturb the bird and marine wildlife that constitute key ecological features of the destination ([Ritonga et al., 2024](#); [Sathyanarayan & Jain, 2024](#)). The content strategy employed in this program deliberately incorporated environmental education themes alongside purely recreational content, including videos highlighting mangrove species diversity, ecological functions, and conservation significance, to attract environmentally conscious eco-tourists rather than mass tourism audiences whose interests may be misaligned with the site's conservation management objectives. Future digital promotion programs for mangrove and other conservation-linked ecotourism sites should continue to integrate conservation messaging into their content strategies to ensure that the visitor audience attracted through digital channels is compatible with sustainable site management principles ([Islam & As, 2025](#); [Nurhayati et al., 2023](#)).

5. Conclusions

5.1 Conclusion

This study has documented and evaluated a digital promotion program for Petengoran Mangrove Ecotourism in Gebang Village, Pesawaran Regency, implemented through TikTok and Instagram by KKN students from Universitas Lampung in January-February 2026. The program produced quantitatively substantial outcomes: the peak TikTok video achieved 367,000 views, 5,436 shares, and 234,300 unique account reach from a zero-baseline promotional infrastructure, while the overall campaign consistently exceeded a 500-view threshold across all ten published content pieces. New audience reach ratios of 81% on TikTok and 92% on Instagram confirm that the campaign successfully performed its primary function of introducing Petengoran Mangrove Tourism to previously unaware prospective visitors.

The program demonstrates that TikTok's FYP algorithm and Instagram's geo-tagging and Reels features together constitute a potent, low-cost promotional toolkit for community-based ecotourism destinations in Indonesia that lack conventional marketing budgets. The transfer of account ownership to the site manager ensures that the promotional infrastructure built during the program

generates long-term value beyond the KKN period, contributing to the sustainable promotion capacity of the destination. These findings confirm that student-led digital marketing programs within the KKN framework represent a replicable and effective model for addressing the digital visibility deficits that constrain many rural ecotourism destinations in Indonesia and comparable developing country contexts.

Taken together, the quantitative evidence presented in Table 2 and the qualitative assessment of the program's implementation and outcomes confirm that digital promotion through TikTok and Instagram constitutes an effective and resource-efficient strategy for increasing the visibility of community-based mangrove ecotourism destinations in rural Indonesia. The complementarity of the two platforms, with TikTok providing algorithmic discovery reach to new audiences and Instagram building sustained follower relationships through consistent visual brand communication, creates a robust dual-platform promotional infrastructure that addresses both the awareness and the engagement dimensions of destination marketing. The 367,000 views achieved by the peak TikTok video, reached entirely through organic algorithmic distribution from an account with fewer than 700 followers, demonstrates that content quality and optimization literacy can generate promotional outcomes that are qualitatively comparable to those achieved through paid advertising campaigns by destinations with substantially larger marketing budgets. For the broader population of rural ecotourism destinations in Indonesia and comparable developing country contexts, this finding holds significant practical and policy implications: digital platform proficiency, cultivated through partnerships with higher education institutions, represents a scalable, low-cost promotional pathway that can substantially improve destination competitiveness without requiring increases in community-generated financial investment.

5.2 Research Limitations

This study is subject to several limitations, the first is the absence of pre-program baseline data on visitor numbers, destination awareness levels, and social media presence precludes a formal before-and-after causal assessment of the program's impact on actual visitation. Second, the analytics data cover a relatively short monitoring period (January 7 to February 10, 2026), insufficient to assess medium-term trends in follower growth, content decay, or seasonal fluctuations. Third, the qualitative evaluation of content quality and community response is based on the observations of the student implementation team, introducing potential observer bias. Fourth, the study does not follow up with the site manager regarding post-handover promotional activities, leaving the long-term sustainability of the digital promotion effort unevaluated. Fifth, the generalizability of findings is limited by the single-site, single-program-cycle design.

5.3 Suggestions and Directions for Future Research

Several productive directions for future research emerge from this study. Future programs should incorporate pre-post visitor count data collection in cooperation with the site manager to enable empirical assessment of the relationship between digital promotion metrics and actual visitor arrival trends. Longitudinal follow-up studies tracking the social media account's performance over six and twelve months post-handover would provide valuable evidence on the sustainability of community-managed digital promotion in comparable ecotourism contexts. Comparative multi-site studies across mangrove and other ecotourism destinations in Lampung Province would allow identification of contextual moderators, including destination attribute characteristics, content style preferences, and audience demographics, that determine digital promotion effectiveness. Future programs should also explore the integration of paid promotion mechanisms, such as TikTok and Instagram advertising boosts, to supplement organic algorithmic reach, and should investigate the use of collaborative content strategies involving local influencers with established regional followings to accelerate audience acquisition. Research examining visitor conversion rates, specifically the proportion of social media audiences who translate digital engagement into actual site visits, would substantially enrich the evidence base for evaluating the economic impact of digital promotion programs for rural ecotourism destinations.

Acknowledgement

The authors would like to express their sincere gratitude to the supervisory team for their invaluable guidance, constructive feedback, and scholarly mentorship throughout the research process. Special appreciation is extended to Prof. Yuliansyah, SE, MSA, Ph.D., Akt for his exceptional academic supervision, insightful direction, and continued encouragement that significantly shaped the intellectual development of this study. The authors also wish to acknowledge Universitas Sultan Ageng Tirtayasa, Banten and the University of Lampung, Lampung, for providing the institutional support and academic environment that made this research possible. Gratitude is further extended to the management and staff of Private Higher Education Institutions in Southern Sumatra who generously participated in this study and devoted their time to completing the survey instruments. Finally, the authors thank the anonymous reviewers whose critical and constructive comments substantially improved the quality of this manuscript.

References

- Afifah, R. N., Putri, A., Hartanti, A. N., Negari, S. I. T., Pratama, M. S. R., Zuaini, P. A. K., Al Madani, A. R., Muryanto, B. S., Muhammad, F., Astikasari, L., Indriyani, S., Kurniawati, I., Sunarto, Kusumaningrum, L., Budiharta, S., Flores, A. B., & Setyawan, A. D. (2023). Ecotourism development as a community-based conservation effort in Ayah Mangrove Forest, Kebumen, Central Java, Indonesia. *Asian Journal of Forestry*, 7, 37-44. <https://doi.org/10.13057/asianjfor/r070105>
- Agustiadi, Z., & Sagala, A. E. (2024). Partisipasi masyarakat dalam pengelolaan mangrove Petengoran sebagai objek ekowisata di Desa Gebang Lampung. *TOBA: Journal of Tourism, Hospitality and Destination*, 3(3), 54-60. <https://doi.org/10.55123/toba.v3i3.3973>
- Anindhita, T. A., Zielinski, S., Milanec, C. B., & Ahn, Y. J. (2024). The protection of natural and cultural landscapes through community-based tourism: The case of the indigenous Kamoro Tribe in West Papua, Indonesia. *Journal for Nature Conservation*, 80, 126754. <https://doi.org/10.1016/j.jnc.2024.126754>
- Blanco-Moreno, S., González-Fernández, A. M., Muñoz-Gallego, P. A., & Casaló, L. V. (2024). Understanding engagement with Instagram posts about tourism destinations. *Journal of Destination Marketing & Management*, 34, 100948. <https://doi.org/10.1016/j.jdmm.2024.100948>
- Cesarani, A., Herison, A., Ashruri, A., & Romdania, Y. (2023). Studi potensi ekowisata mangrove di Petengoran, Kabupaten Pesawaran. *Jurnal Rekayasa Sipil Dan Desain*, 11(2), 437-448. <https://doi.org/10.23960/jrsdd.v11i2.3442>
- Fathurrahman, A., & Kurniawan, R. (2023). Digital content marketing and electronic word-of-mouth in rural tourism: Evidence from community-based ecotourism in West Java. *Cogent Business & Management*, 10(1), 2154261. <https://doi.org/10.1080/23311975.2023.2154261>
- Hussain, K., Alam, M. M. D., Malik, A., Tarhini, A., & Al Balushi, M. K. (2024). From likes to luggage: The role of social media content in attracting tourists. *Journal of Destination Marketing & Management*, 31, 100861. <https://doi.org/10.1016/j.jdmm.2024.100861>
- Islam, D., & As, F. (2025). Mangrove ecotourism and social entrepreneurship: An integrated solution for sustainable community development. *IOP Conference Series: Earth and Environmental Science*, 1441(1), 012036. <https://doi.org/10.1088/1755-1315/1441/1/012036>
- Jannah, D. N., Wibowo, M. S., & Arvianto, B. (2022). Mengembangkan strategi promosi pariwisata melalui media sosial di Pantai Indah Kemangi Kendal Jawa Tengah. *Journal of Indonesian Tourism, Hospitality and Recreation*, 5(2), 229-236. <https://doi.org/10.17509/jithor.v5i2.48732>
- Li, S., & Liu, F. (2023). Investigating the dynamic mechanism of user willingness to actively publish travel-related electronic word-of-mouth (eWOM) on tourism platforms. *PLOS ONE*, 18(10). <https://doi.org/10.1371/journal.pone.0285773>

- Li, X., & Fang, Z. (2023). Social media engagement and tourism destination image: The role of platform affordances and content characteristics. *Tourism Management*, 96, 104708. <https://doi.org/10.1016/j.tourman.2023.104708>
- Martinez-Sala, A.-M., Monserrat-Gauchi, J., & Campillo-Alhama, C. (2023). Social media and influencer marketing for promoting sustainable tourism destinations: The Instagram case. *Sustainability*, 15(8), 6374. <https://doi.org/10.3390/su15086374>
- Normelani, E., Arisanty, D., Hastuti, K. P., Noortyani, R., & Rusdiansyah. (2023). Sustainable tourism village development through strengthening collaborative governance strategy. *International Journal of Social Science*, 3(4), 403-410. <https://doi.org/10.53625/ijss.v3i4.6988>
- Nurhayati, A., Akbarsyah, N., Pamungkas, W., Herawati, T., & Yustiati, A. (2023). Strengthening local community in mangrove ecotourism at Pangandaran, West Java Province, Indonesia. *Asian Journal of Fisheries and Aquatic Research*, 21(3), 44-52. <https://doi.org/10.9734/ajfar/2023/v21i3669>
- Ogutu, H., & Othieno, A. N. (2025). Current research trends on social media marketing and sustainable tourism. *Journal of Tourism and Hospitality Management*, 13, 1-18. <https://doi.org/10.15640/jthm.v13p1>
- Pebianti, K., Ghani, A. A., Salwa, N., & Noviyanti, I. (2025). Strategi pemasaran digital terhadap daya saing melalui kualitas konsumen. *Jurnal Penelitian Tindakan dan Pendidikan*, 9. Retrieved from <https://jptam.org/index.php/jptam/article/view/30173>
- Ramadan, G., Qurniati, R., & Kaskoyo, H. (2023). Partisipasi masyarakat lokal dalam pengelolaan ekowisata mangrove Petengoran di Desa Gebang. *ULIN: Jurnal Hutan Tropis*, 7(2), 235. <https://doi.org/10.32522/ujht.v7i2.11277>
- Ritonga, A. R., Thamrin, M. H., Siahaan, H., Dalimunthe, M. A., & Nur'aini. (2024). Promotion of ecotourism and communication policy in increasing tourists in Indonesia. *Heliyon*, 10(4). <https://doi.org/10.1016/j.heliyon.2024.e26051>
- Rodrigues, S., Correia, R., Gonçalves, R., Branco, F., & Martins, J. (2023). Digital marketing's impact on rural destinations' image, intention to visit, and destination sustainability. *Sustainability*, 15(6), 5165. <https://doi.org/10.3390/su15065165>
- Sarifiyono, A. P., Kusumawardhani, A. P., Rusnendar, E., Priyana, I., Pujiyanto, A. B., Purnama, S., & Saberina, S. (2024). Tourist involvement in creating social media content on TikTok and its impact on destination promotion. *Commercium: Journal of Business and Management*, 2(4), 216-226. <https://doi.org/10.61978/commercium.v2i4.350>
- Sathyanarayan, S., & Jain, P. K. (2024). Integration of community-based tourism (CBT) index and biophysical assessment for sustainable ecotourism mangrove: A case study of Karangsong, Indonesia. *Sustainability*, 16(7), 2806. <https://doi.org/10.3390/su16072806>
- Sitepu, A. M., Naibaho, R., & Siregar, Q. (2026). Peran sektor pariwisata dalam meningkatkan pendapatan di Sumatera Utara. *Jurnal Ekonomi dan Manajemen Berbasis*, 3. Retrieved from <https://jurnalisticomah.org/index.php/jemb/article/view/6518>
- Son, H., & Park, Y. E. (2025). Understanding travel influencers' video on Instagram: A transfer learning approach. *Tourism Management*, 110, 105168. <https://doi.org/10.1016/j.tourman.2025.105168>
- Tham, A., Chen, S.-H., & Durbidge, L. (2024). A pentadic analysis of TikTok marketing in tourism: The case of Penang, Malaysia. *Tourist Studies*, 24(1), 3-27. <https://doi.org/10.1177/14687976231218483>

- Virginio Y. L Ndjurumbaha, Maria I. H. Tiwu, & Fransina W. Ballo. (2024). Peran sektor pariwisata dalam meningkatkan pendapatan asli daerah Kabupaten Sumba Timur. *Jurnal Manajemen dan Ekonomi Kreatif*, 2(3), 46-55. <https://doi.org/10.59024/jumek.v2i3.366>
- Wengel, Y., Ma, L., Ma, Y., Apollo, M., Maciuk, K., & Ashton, A. S. (2022). The TikTok effect on destination development: Famous overnight, now what? *Journal of Outdoor Recreation and Tourism*, 37, 100458. <https://doi.org/10.1016/j.jort.2021.100458>
- Wilhelmina, N., & Mistriani, N. (2025). Transformasi digital pariwisata: Efektivitas media sosial strategi promosi menarik generasi milenial ke Grand Maerakaca Semarang. *Kepariwisata: Jurnal Ilmiah*, 19(1), 46. <https://doi.org/10.47256/kji.v19i1.718>
- Windyata, A. V., Murniati, K., & Riantini, M. (2024). Strategi pengembangan ekowisata konservasi hutan mangrove Petengoran di Kabupaten Pesawaran. *Agroinfogaluh*. Retrieved from <https://jurnal.unigal.ac.id/agroinfogaluh/article/view/13878>
- Zhou, Q., Sotiriadis, M., & Shen, S. (2023). Using TikTok in tourism destination choice: A young Chinese tourists' perspective. *Tourism Management Perspectives*, 46, 101101. <https://doi.org/10.1016/j.tmp.2023.101101>
- Zhou, Z., Li, T., Liu, C., Zhou, Y., Li, P., & Wen, S. (2023). Why do social media users follow tourism-related posts? Roles of bloggers and posts in trip planning. *Industrial Management and Data Systems*, 123(12), 3080-3108. <https://doi.org/10.1108/IMDS-11-2022-0692>