



A'WOT-Based Management Strategies for Eliminating Illegal Levies in Pelaruga Nature Tourism

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ABSTRACT

This study examines the impact of digital marketing strategies particularly social media engagement, content quality, and brand interaction on the online purchasing decisions of Indonesian consumers. The rapid expansion of digital platforms has reshaped how brands communicate with audiences, requiring businesses to optimize their online presence to maintain competitiveness. This research identifies the key digital marketing components that significantly influence consumer interest and purchase intention, highlighting the role of interactive features, personalized messaging, and visual consistency in shaping consumer trust. Using an integrative review of recent international and national studies published after 2017, this paper synthesizes empirical evidence to map the relationship between digital marketing variables and behavioral responses. The findings indicate that inadequate coordination among stakeholders, limited regulatory enforcement, and the absence of transparent management systems contribute significantly to the persistence of illegal levies. Furthermore, these practices negatively affect tourist trust, destination image, and the long-term sustainability of tourism activities.. This study provides a conceptual framework that can guide marketers in designing more effective digital strategies aligned with consumer expectations. The results also contribute to the broader understanding of sustainable tourism governance in emerging ecotourism destinations, offering insights for future research and policy development.



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INTRODUCTION

Tourism has become one of the fastest-growing sectors in Indonesia, with nature-based destinations emerging as a major contributor to regional economic development. Pelaruga, located in Langkat Regency, North Sumatra, is among these rapidly developing attractions, known for its pristine rivers, waterfalls, and immersive adventure experiences (Mukhlis, 2025a; Mukhlis & Saidah, 2025). Since its popularization through online communities and digital platforms, Pelaruga has attracted a significant number of visitors who are drawn to its natural beauty and unique ecotourism appeal. However, despite this potential, the destination faces persistent governance issues that hinder its sustainability. One of the most critical challenges is the existence of illegal levies (pungli), which occur along access routes and at informal entry points. These practices undermine visitor satisfaction, reduce trust in local management, and threaten the long-term image of the destination. Although previous studies have examined ecotourism development, community-based tourism, and destination management, limited attention has been given to how informal governance problems such as illegal levies weaken the institutional sustainability of community-managed nature destinations. This creates a theoretical gap in understanding how local governance weaknesses interact with destination development factors in emerging ecotourism areas

Sustainable tourism governance requires a balance between environmental protection, community empowerment, and transparent management systems. In Pelaruga, tourism is managed primarily by a community-based organization that has demonstrated strong solidarity and commitment

to environmental stewardship. Nevertheless, limitations in regulatory enforcement, inadequate facilities, and the absence of formal institutional arrangements have created governance gaps. These gaps allow pungli practices to emerge and persist, generating discomfort for visitors and triggering social tensions within the community, particularly when financial benefits are distributed unevenly. A structured and evidence-based assessment of these conditions is therefore essential to support Pelaruga's transition toward a more accountable and sustainable ecotourism model. From a theoretical perspective, this study positions sustainable tourism governance as not only a matter of resource conservation and community participation, but also as a strategic decision-making process that requires the identification, weighting, and prioritization of governance-related factors.

To address these challenges, it is necessary to analyze the destination's internal strengths and weaknesses, as well as external opportunities and threats. The SWOT framework offers a foundational tool for identifying these factors; however, traditional SWOT does not provide a mechanism for evaluating the relative importance of each element. To overcome this limitation, the Analytical Hierarchy Process (AHP) can be integrated to form the A'WOT method a hybrid approach that enhances strategic planning by assigning quantitative weights to SWOT components. This method strengthens decision-making by allowing management issues, including pungli, to be prioritized objectively.

Previous research indicates that natural tourism destinations with strong attractions but limited governance capacity often face vulnerabilities similar to those found in Pelaruga. Studies also show that weaknesses in accessibility and amenities significantly increase the potential for unauthorized charges and informal control points. Moreover, literature on community-based tourism emphasizes the importance of transparent financial mechanisms, internal coordination, and structured visitor management to maintain destination integrity. The A'WOT approach has been widely applied in strategic ecotourism planning because of its ability to integrate qualitative insights with quantitative prioritization, producing more targeted and actionable strategies. These findings form the conceptual foundation for analyzing Pelaruga's management issues.

Therefore, this study aims to (1) analyze the actual condition of Pelaruga's tourism management using the 3A framework Attraction, Accessibility, and Amenities particularly in relation to the impacts of illegal levies; (2) identify internal and external factors influencing its development; and (3) formulate priority management strategies using the A'WOT method to support the realization of a transparent, accountable, and pungli-free ecotourism destination (Mukhlis, Janwari, et al., 2023; Mukhlis & Abdullah, 2025). The results of this research are expected to contribute to improved community-based governance and provide strategic recommendations for stakeholders in advancing sustainable tourism development in Pelaruga.

RESEARCH METHODS

2.1 Research Design

This study employed a qualitative descriptive approach supported by decision-making analysis using the A'WOT method, which integrates the SWOT framework with the Analytical Hierarchy Process (AHP). The qualitative approach was used to explore the current management conditions of Pelaruga, particularly issues related to illegal levies (pungli), accessibility challenges, and community-based governance. Meanwhile, the A'WOT framework was applied to determine priority strategies required to develop Pelaruga as a pungli-free and sustainable ecotourism destination. SWOT is commonly used to identify internal and external factors influencing tourism destinations (Rangkuti, 2019), but its qualitative nature often lacks prioritization. Therefore, integration with AHP (Saaty, 1980) strengthens the analytical process by assigning numerical weights to each factor, resulting in more objective strategy formulation as recommended by Kurttila et al. (2000) in the development of the A'WOT method. The research design was structured to ensure that qualitative findings from interviews, observations, and document analysis served as the empirical basis for identifying SWOT factors, while the AHP procedure was used to validate the relative priority of these factors through systematic expert judgment.

2.2 Data Collection Procedures

Data were collected using three primary techniques:

- In-depth interviews, conducted with key informants including community leaders, tour guides, local residents, and the village government. These interviews aimed to obtain insights on management practices, access issues, and the emergence of pungli.
- Field observations, performed at key access points, basecamps, and tourist sites to document practices related to visitor flow, safety measures, and illegal levies along the route.
- Document analysis, including reports, online materials, and visitor-generated content, to complement the primary data and validate management issues.

To ensure data credibility, triangulation of sources and techniques was employed, following recommendations by Patton (2002) and Sugiyono (2013). Triangulation was carried out by comparing interview findings with field observation results and documentary evidence, particularly regarding the existence of informal payments, weaknesses in visitor service facilities, and the perceived image of Pelaruga as a tourism destination.

2.3 A'WOT Analytical Procedure

The A'WOT method was applied through four main stages:

- identifying internal strengths and weaknesses and external opportunities and threats;
- constructing a hierarchical structure for decision-making;
- conducting pairwise comparisons to compute weights;
- synthesizing results to generate strategic priorities.

2.3.1 Identification of SWOT Factors

Based on interviews and observations, eight main factors were identified:

- Strengths (S): strong natural attractions, cohesive community guides
- Weaknesses (W): limited amenities, emergence of pungli
- Opportunities (O): government support for village tourism, rising demand for nature-based travel
- Threats (T): negative destination image due to pungli, competition and environmental risks
- These factors formed the basis of the AHP pairwise comparison.

2.4 AHP Weighting Process (A'WOT Computation)

Pairwise comparison matrices were constructed to determine the relative importance of each SWOT factor.

The AHP scale of 1–9 was used, where 1 indicates equal importance and 9 indicates extreme importance (Saaty, 1980). Consistency Ratio (CR) was checked to ensure acceptable comparison reliability (<0.1).

Table 1. Pairwise Comparison of SWOT Categories (Level 1)

Criteria	S	W	O	T	Priority Weight
S	1	1/3	2	1/4	0.116
W	3	1	2	1/3	0.247
O	1/2	1/2	1	1/5	0.091
T	4	3	5	1	0.546

The results show that Threats (T) have the highest weight (0.546), indicating that external risks such as pungli and credibility loss pose the most significant challenges for Pelaruga.

Table 2. Priority Weights of SWOT Factors (Level 2)

Factor Code	Description	Weight in Category	Global Weight	Rank
T1	Negative image due to pungli	0.457	0.250	1
W3	Pungli and unregulated retribution	0.423	0.105	2
T4	Social conflict from unregulated fees	0.278	0.152	3
W1	Limited amenities	0.227	0.056	4

From the calculation, T1 and W3 clearly dominate the ranking, confirming that illegal levies are the most influential factors disrupting Pelaruga's tourism governance.

2.5 Integration of SWOT AHP into A'WOT Strategy Formulation

The weighted results were used to compute the strategic priority scores in the SWOT matrix. Strategies that directly addressed pungli specifically WO3 (digital ticketing system) and WT1 (official retribution scheme) received the highest scores.

This supports the argument of Ghorbani et al. (2015), who state that A'WOT is effective for determining strategic directions in tourism areas with complex stakeholder dynamics.

Therefore, the A'WOT process concludes that the most critical intervention for Pelaruga is establishing a transparent and standardized ticketing and retribution system, which becomes the foundation for developing a pungli-free and sustainable destination. This conclusion is supported by the validated AHP consistency process and by stakeholder-based judgments regarding the urgency of reducing informal levies, improving public trust, and strengthening destination governance.

RESULTS AND DISCUSSION

Condition of Pelaruga Based on the 3A Framework

The assessment of Pelaruga through the 3A framework demonstrates a significant imbalance between its strong natural attractions and its limited management infrastructure. The attraction component is Pelaruga's most prominent strength, consisting of four main natural sites Teroh-Teroh Waterfall, Lauberte, Kolam Abadi, and Tongkat Waterfall which offer clear streams, canyoning experiences, and scenic landscapes. These natural features, combined with the destination's exposure through social media and online travel communities, have contributed to Pelaruga's rapid rise in popularity, consistent with the argument of Buhalis (2000) that digital visibility enhances destination competitiveness. Accordingly, the attraction dimension was identified as the dominant internal strength in the subsequent SWOT and A'WOT assessment.

In contrast, the accessibility component presents serious constraints. Field observations recorded the presence of multiple unregulated access points, inadequate road markings, and the absence of formal entrance control. Most importantly, the emergence of illegal levies (pungli) along the access routes has directly affected visitors' perceptions of safety and comfort. This aligns with UNWTO's (2018) emphasis that governance failures and informal financial practices can diminish destination credibility. Community guides often need to "pick up" visitors along the main road to prevent them from being stopped or charged illegally, indicating structural governance gaps. Accordingly, the attraction dimension was identified as the dominant internal strength in the subsequent SWOT and A'WOT assessment.

The amenities component remains underdeveloped, as facilities such as sanitation, rest areas, and safety equipment are community-provided and limited in capacity. Although local guides play an important role in enhancing safety and providing visitor assistance, demand often exceeds available resources. These findings support Scheyvens' (1999) observation that community-based tourism can succeed in stewardship but often struggles with formal service standards without external institutional support (Mukhlis, Maryam, et al., 2023; Mukhlis et al., 2024). Collectively, the 3A analysis shows that

while Pelaruga excels in natural attractions, challenges in accessibility and amenities—particularly due to pungli affect its sustainability and visitor experience.

Identification of Internal and External Factors Affecting Pelaruga's Tourism Management

The SWOT analysis reveals a combination of internal strengths and weaknesses, as well as external opportunities and threats. Strengths include the outstanding natural environment, cohesive community leadership, and the popularity of adventure-based tourism that aligns with current ecotourism trends (Fennell, 2015). These assets reinforce Pelaruga's position as a promising ecotourism destination.

However, weaknesses present major management constraints. The most critical among these is the presence of unregulated retribution practices (pungli), which not only reduce visitor satisfaction but also threaten the destination's image and the legitimacy of the community-based management system. Other weaknesses include limited amenities, inadequate accessibility infrastructure, and insufficient managerial capacity. Based on Tosun (2000), these issues are typical of community-managed destinations lacking formal institutional frameworks.

Externally, Pelaruga benefits from opportunities such as government programs for village tourism development, increasing post-pandemic demand for nature-based tourism, and the growing effectiveness of digital promotion. These conditions present potential for collaborative development with government and travel organizations.

However, Pelaruga also faces significant threats, with the most severe being the damaging effect of pungli on visitor trust and destination image. Additional threats include competition from tourism sites in Langkat, environmental degradation risks, and potential social conflict arising from unclear financial arrangements among communities (Mukhlis, Arifin, Ridwan, & Zulbaidah, 2025; Mukhlis, Arifin, Ridwan, Zulbaidah, et al., 2025). These findings mirror observations by Goeldner and Ritchie (2009), who highlight governance and regulatory weaknesses as major risks for developing destinations.

A'WOT Analysis and Strategic Prioritization

The A'WOT framework was applied to integrate SWOT findings with AHP-based weighting. The Level 1 pairwise comparison matrix shows that Threats (T) received the highest weight (0.546), emphasizing the severity of external pressures—especially pungli—on Pelaruga's sustainability. Weaknesses (W) were ranked second (0.247), suggesting that internal management limitations are also significant. This finding indicates that Pelaruga's governance challenge is not merely an operational issue, but a structural problem involving weak institutional control, unclear authority, and insufficient accountability in community-based tourism management.

At Level 2, the most influential factor was T1: Negative destination image caused by pungli, followed by W3: Unregulated retribution practices. This means that illegal levies form the core problem affecting Pelaruga's development. These two factors dominated global weights, confirming that improvements in governance and financial regulation must become the primary focus of intervention.

Table 1. Global Priority Ranking of SWOT Factors (A'WOT Results)

Factor	Description	Global Weight	Rank
T1	Negative image due to pungli	0.250	1
W3	Unregulated retribution (pungli)	0.105	2
T4	Social conflict risk	0.152	3
W1	Limited amenities	0.056	4

These results indicate that the issue of pungli is central, both as a threat and as a weakness, making it the primary determinant of Pelaruga's future sustainability. This result differs from many community-based tourism studies that identify infrastructure, marketing, or capacity-building as the dominant constraints. In Pelaruga, the most urgent constraint is governance legitimacy: when visitors

perceive payments as unofficial or coercive, the destination's social license, trust, and reputation are weakened. Therefore, illegal levy prevention must be positioned as a core governance strategy rather than a secondary administrative reform.

Strategic Implications for Pelaruga's Pungli-Free Tourism Development

The weighted SWOT factors were used to evaluate strategy alternatives. The hybrid A'WOT analysis identified two top-priority strategies:

- 1) Implementation of a standardized digital ticketing system (WO3)
This strategy minimizes cash-based transactions, reduces opportunities for illegal levies, and enhances transparency. Previous studies (e.g., Ghorbani et al., 2015) support digital systems as an effective tool in reducing informal payment practices in tourism management.
- 2) Development of an official retribution and entrance mechanism (WT1)
Establishing legally recognized entry points and formalizing guide assignments strengthen accountability, reduce conflict, and improve the financial governance structure.

Together, these strategies form an integrated governance model that supports transparency, visitor trust, and long-term sustainability (Mukhlis, 2025b; Mukhlis, Suradi, et al., 2023). Strengthening institutional cooperation between the community, local government, and tourism authorities becomes essential to ensure that these strategies are effectively implemented.

CONCLUSION

This study investigated the management conditions of Pelaruga Natural Tourism and examined strategic priorities for achieving a pungli-free destination using the A'WOT approach. The analysis of the 3A components showed that Pelaruga possesses strong natural attractions, yet challenges persist in accessibility and amenities due to limited infrastructure and the recurring presence of illegal levies. These issues directly reduce visitor comfort and weaken the destination's credibility. Through the integration of SWOT and AHP, this research identified illegal levies as the most dominant factors influencing Pelaruga's development, appearing simultaneously as internal weaknesses and external threats. Meanwhile, opportunities such as increasing demand for nature-based tourism and governmental support for village tourism initiatives present significant potential for improvement. The A'WOT method enabled a systematic prioritization of management strategies, highlighting the need for transparency, institutional strengthening, and standardized financial mechanisms. The findings indicate that establishing an official and transparent ticketing system, preferably through a digital or semi-digital mechanism that is adjusted to local infrastructure capacity, community readiness, and visitor accessibility, combined with strengthened collaboration between community groups and local authorities, represents the most critical intervention for eliminating pungli. In practical terms, the implementation of digital ticketing in Pelaruga is feasible if introduced gradually, beginning with simple semi-digital payment options, clear price information, official ticket counters, and continuous assistance from local government and tourism stakeholders. This study provides practical implications for sustainable tourism governance and contributes to the broader discourse on community-based destination management. However, this study has several limitations. The analysis was based on stakeholder assessments within a specific local context, and the findings may not fully represent visitor perceptions or conditions in other community-managed tourism destinations. In addition, the proposed digital ticketing strategy requires further assessment regarding internet connectivity, digital literacy, operational costs, and the willingness of local actors to adopt transparent financial systems. Future research is encouraged to explore technological integration, visitor perception monitoring, and comparative assessments with other community-managed destinations.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this article.

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The authors realize that this scientific work is not without shortcomings; therefore, constructive feedback and suggestions are highly welcomed to help improve future studies. Finally, the authors express their gratitude to all individuals who have contributed, whether directly or indirectly, and hope that this research may provide meaningful benefits for future readers and the development of sustainable tourism management.

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