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An integrated AHP-based framework for prioritizing digital marketing strategies in sustainable tourism destinations: evidence from an expert panel in Colombia

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Abstract

Although digital marketing and sustainability have become central pillars of tourism destination management, the literature integrating these two domains to prioritize specific strategies remains limited, particularly studies employing multicriteria decision-making methods. This study proposes an integrated Analytic Hierarchy Process (AHP) framework to prioritize ten digital marketing strategies against four criteria: brand equity enhancement, sustainability communication and promotion, local stakeholder engagement, and impact on visit intention. Criteria and alternatives were derived from a PRISMA-informed structured literature review (39 studies) and a keyword co-occurrence analysis. Criterion weights were obtained from eleven experts working in Colombia (academia, public sector, NGO and private sector) through aggregated pairwise comparisons (geometric mean, CR = 0.049), and alternatives were scored using the AHP ratings approach. Visit intention (0.416) and brand equity (0.268) received the highest relative weights; social media marketing, integrated digital marketing communications, and digital destination branding emerged as the top-ranked strategies. Social media was ranked first in 93% of bootstrap resamples, whereas the exact order of the criteria was less stable. The study offers destination managers a replicable, evidence-based framework for allocating sustainable digital marketing investment.

Keywords: digital marketing, sustainable tourism, Analytic Hierarchy Process, multicriteria decision-making, destination branding

1. Introduction

Digital marketing has become a key driver of tourism destination competitiveness and a strategic instrument for sustainable tourism development (Veseli et al., 2025; Badari et al., 2024; Yesicha et al., 2025). Channels such as social media, content marketing, email marketing, search engine optimization, and digital booking platforms allow destination management organizations to communicate their value proposition while simultaneously making sustainability attributes visible to a traveler segment that is increasingly attentive to the environmental and social footprint of its trips (Zarrouk & El Aidouni, 2023; Parra et al., 2024; Rodrigues et al., 2023). This dual role of digital marketing—commercial promotion and sustainability communication—has been documented across highly diverse contexts, from national tourism boards (Zarrouk & El Aidouni, 2023) to rural and community-based destinations (Vu et al., 2025; Badari et al., 2024), suggesting that this dual role is not confined to a single context, although the evidence comes mostly from case studies and cannot be taken as a general law of destination competition.

In parallel, sustainability has moved from being a peripheral, compliance-driven concern to becoming a central axis of destination management and a genuine source of brand differentiation (Luštický & Štumpf, 2021; El Archi et al., 2023; Ivars-Baidal et al., 2021). Smart-destination frameworks now explicitly embed sustainability indicators alongside

competitiveness and governance indicators (Ivars-Baidal et al., 2021), and bibliometric evidence shows that sustainability has become one of the fastest-growing thematic clusters within tourism digitalization research (El Archi et al., 2023). Taken together, these two trends—the consolidation of digital marketing as the dominant promotional channel and the consolidation of sustainability as a strategic differentiator—imply that decisions about which digital marketing strategies to prioritize can no longer rest on commercial reach alone; they require frameworks capable of weighing, simultaneously, brand-building potential, sustainability communication, community engagement, and effectiveness in generating visits.

This need has also been identified indirectly through bibliometric research. A recent study mapping the evolution of marketing strategies in hospitality and tourism found that digital marketing and sustainability, despite their conceptual proximity, remain largely disconnected as co-occurring research themes, with multicriteria decision-making appearing only marginally in either cluster (Giraldo et al., 2024). The Analytic Hierarchy Process (AHP), developed by T. L. Saaty (1977, 1980), is a multicriteria decision-making method specifically designed to structure this type of problem: it decomposes a complex decision into a hierarchy of goal, criteria and alternatives, and derives priorities from pairwise comparisons grounded in the decision-maker's expert judgment. AHP has been extensively validated in tourism for structurally similar problems, including destination attractiveness and competitiveness (Gu et al., 2022; Luštický & Štumpf, 2021, the latter combining system dynamics with AHP), barriers to sustainable geotourism development (Salamzadeh et al., 2021), tourist choice behavior (Velu & Anuradha, 2024), and, more recently, the definition of evaluation criteria for niche tourism segments through expert-based procedures (Lê Khang, 2025).

However, this AHP tradition in tourism has focused predominantly on destination-level planning decisions—competitiveness, attractiveness, governance barriers—rather than on the more operational question of which digital marketing strategies should be prioritized based on their simultaneous contribution to brand equity, sustainability communication, stakeholder engagement, and visit intention. Closely related work exists, but it addresses the problem only in part. Chen et al. (2025) rank nine green destination-branding strategies against sustainability criteria with fuzzy AHP and TOPSIS, Thai and Vinh (2026) compare five communication channels, including social media and influencer marketing, across four tourist segments, and Mortezaei et al. (2021) weight brand-equity components without a sustainability dimension. To our knowledge, none of the studies retrieved in our review ranks a broad portfolio of digital marketing strategies jointly against brand equity, sustainability communication, stakeholder engagement and visit intention using AHP. This limited integration between digital marketing, sustainable tourism, and multicriteria decision-making constitutes the specific research gap that motivates this study.

In response to this gap, the present study aims to prioritize, through AHP, a set of ten digital marketing strategies for sustainable tourism destinations, evaluated against four criteria: brand equity enhancement, sustainability communication, local stakeholder engagement, and impact on visit intention. This study addresses three research questions:

- RQ1. How do experts weigh brand equity, sustainability communication, stakeholder engagement and visit intention when prioritizing digital marketing strategies for sustainable destinations?
- RQ2. Which of ten digital marketing strategies score highest and lowest once these weights are applied?

- RQ3. How stable are the criterion weights and the strategy ranking when the composition of the expert panel changes?

The study's primary contribution is an integrated decision-making framework that articulates, within a single AHP structure, criteria of brand, sustainability, community, and visit intention to prioritize digital marketing strategies at the destination level—an integration that, to our knowledge, the studies retrieved in our review do not offer jointly. To build this framework, the study draws on a PRISMA-informed structured literature review to ground the selection of criteria and alternatives in documented evidence, and applies the AHP ratings approach (R. W. Saaty, 1987), which allows a comparatively large number of alternatives (ten, in this case) to be evaluated without the combinatorial burden of exhaustive pairwise comparison (45 comparisons per criterion and 180 per expert, against 40 ratings). Methodologically, the study also contributes to the discussion on aggregating expert judgments in group AHP applications, given that individual consistency and aggregated consistency can diverge substantially.

The remainder of the paper is organized as follows. Section 2 reviews the literature underpinning the four evaluation criteria and the AHP method. Section 3 details the structured literature review, the decision model, and the data collection instrument, including the ethical and confidentiality safeguards applied to the expert panel. Section 4 presents the results and discusses their implications jointly. Section 5 offers conclusions, including limitations and directions for future research.

2. Literature Review

Digital marketing, sustainability, and value co-creation in tourism destinations:

Digitalization has transformed how tourism destinations promote themselves and relate to travelers, consolidating digital marketing—social media, content marketing, email marketing, search engine strategies, and digital booking platforms—as the primary channel through which a destination's value proposition is communicated (Zarrouk & El Aidouni, 2023; Chamboko-Mpotaringa & Tichaawa, 2025). This transformation coincides with a growing convergence between digitalization and sustainable tourism development, a trend that is particularly visible in rural and emerging destinations seeking to leverage digital channels to reach niche, sustainability-conscious segments without the marketing budgets of established destinations (Vu et al., 2025; El Archi et al., 2023).

As a result, digital marketing increasingly operates less as one-way promotional broadcasting and more as an interactive space of exchange between destination and traveler, consistent with the logic of value co-creation proposed by Prahalad and Ramaswamy (2004) and subsequently extended to tourism through the concept of experience co-creation (Binkhorst & Den Dekker, 2009). Although co-creation is not operationalized as an independent evaluation criterion in this study, it provides an explanatory logic for why participatory strategies—content marketing, storytelling, community-oriented campaigns—tend to outperform traditional, unidirectional communication: they invite the traveler, and often the host community, into the construction of meaning around the destination, rather than positioning them as passive recipients of a marketing message.

Brand equity as a strategic outcome of destination digital marketing:

One of the central outcomes pursued through destination digital marketing is the strengthening of brand equity, understood as the set of intangible assets—awareness, associations, perceived quality, and loyalty—that determine a brand's strength and its capacity to generate preference over competing destinations (Mortezaei et al., 2021).

Integrated marketing communications strategies, in which digital channels are coordinated around a single value proposition rather than deployed independently, have been shown to directly and measurably build destination brand equity (Qi et al., 2024). Likewise, deliberate city- and destination-branding campaigns have been proposed and prioritized as a means of improving tourism performance (Fafurida et al., 2021), but online visibility can be volatile: in a study of 28 internet-famous Chinese cities, sudden viral events and public participation drove the initial surge in popularity, while public policy and official branding were associated with its durability (Ma et al., 2026). This suggests that digital branding should be assessed together with the capacity of the destination to sustain and manage the attention it attracts.

SUSTAINABILITY COMMUNICATION AND STAKEHOLDER ENGAGEMENT:

Sustainability has consolidated as an unavoidable criterion in destination planning and communication, integrating environmental, social, and economic dimensions into a single evaluative lens (Kişi, 2019). Within this context, digital marketing does not merely report a destination's sustainability performance; the way it is communicated matters, and expert-based multicriteria evidence on green destination branding in Guilin places transparent communication and environmental sustainability among the most heavily weighted criteria (Chen et al., 2025). Consequently, the effectiveness of a digital marketing strategy from a sustainability standpoint depends not only on its commercial reach but on its capacity to reinforce these attributes credibly, avoiding the perception—or the reality—of greenwashing (El Archi et al., 2023).

This communicative dimension is closely linked to stakeholder theory, which holds that a destination's legitimacy, and by extension the legitimacy of its marketing claims, depends on the active participation of local communities and of public- and private-sector actors in defining what is communicated and how (Rumanti et al., 2025; Chamboko-Mpotaringa & Tichaawa, 2025). Collaborative governance arrangements anchor marketing strategies in the priorities of the host community rather than exclusively in those of destination marketing organizations and have been associated with more sustainable competitiveness outcomes than top-down promotional models (Kristiana et al., 2026). This stakeholder-engagement criterion therefore extends, from the standpoint of destination governance, the same participatory logic already introduced through the co-creation literature.

VISIT INTENTION AS THE BEHAVIORAL OUTCOME CRITERION:

The visit intention maybe is the principal behavioral outcome variable in tourism marketing research, since it is the closest measurable proxy to the actual decision to travel. Digital marketing can shape visit intention, in part by molding the destination's projected image, and this relationship has been documented for rural and sustainability-oriented destinations, where digital communication of sustainability attributes was found to influence both destination image and intention to visit (Rodrigues et al., 2023). Because visit intention aggregates, in a single behavioral measure, the combined effect of brand perception, sustainability credibility, and communicated authenticity, it constitutes an indispensable evaluation criterion for any framework seeking to prioritize digital marketing strategies holistically.

THE ANALYTIC HIERARCHY PROCESS AS AN INTEGRATIVE DECISION FRAMEWORK:

To prioritize digital marketing strategies against these four criteria, the study draws on the Analytic Hierarchy Process, originally proposed by T. L. Saaty (1977) as a scaling method for deriving priorities in hierarchical structures, and later developed into a complete decision-making methodology (T. L. Saaty, 1980). AHP structures a decision problem into a hierarchy comprising an overall goal, a set of evaluation criteria, and a set of alternatives, and derives

priority weights through pairwise comparisons expressed on a 1–9 ratio scale, from which the principal eigenvector is extracted and a Consistency Ratio (CR) is computed to assess the logical coherence of the judgments provided. AHP has proven particularly well suited to tourism decision problems that combine intangible, difficult-to-quantify criteria (such as brand strength or community engagement) with the need for a transparent, replicable prioritization output usable by managers who are not necessarily quantitative specialists themselves (Gu et al., 2022; Salamzadeh et al., 2021).

Table 1 - Critical synthesis of AHP applications in tourism marketing and destination studies

Study	Context	AHP variant	Criteria	Alternatives ranked	Experts
Gu et al. (2022)	Changbai biosphere reserve, China (nature-based)	Classical AHP (1–9, CR < 0.1) plus fuzzy comprehensive evaluation	4 dimensions, 8 factors, 31 attributes	None (single destination rated on 5 levels)	12 (5 academics, 6 managers, 1 director); 460 tourists rated attributes
Luštický & Štumpf (2021)	Destination competitiveness	System dynamics with AHP as a component (hybrid)	Competitiveness factors and sub-factors	None (identifies 3 leverage points)	Not reported
Velu & Anuradha (2024)	Rural tourism, 6 sites in 4 Indian states	Classical AHP	7Ps of services marketing	None (sites not ranked as alternatives)	No panel; 512 visitors
Lê Khang (2025)	Halal tourism, Vietnam	Delphi (3 rounds) + classical AHP	6 groups, 31 sub-criteria	None	10 (4 academia, 3 public, 3 private)
Kişi (2019)	Zonguldak, Türkiye (post-industrial city)	A'WOT: SWOT + AHP (geometric mean)	4 SWOT groups and their factors	None (strategies from a TOWS matrix)	10 stakeholders
Mortezaei et al. (2021)	Health-tourism branding, Iran	Fuzzy AHP + grounded theory + PLS-SEM	8 brand-equity criteria	None	22 specialists; 380 patients
Thai & Vinh (2026)	Nghe An province, Vietnam	Fuzzy AHP + fuzzy TOPSIS	Segmentation criteria and channel attributes (not named in the abstract)	4 segments and 5 channels (social media, influencers, advertising, PR, events)	Not reported
Chen et al. (2025)	Green destination branding, Guilin, China	Fuzzy AHP + fuzzy TOPSIS	5 criteria, 20 sub-criteria	9 branding strategies	6 (academia, government)

Table 1 shows that AHP in tourism has been applied mostly to evaluating or weighting destination attributes, barriers and competitiveness factors, often without a set of complete alternatives to rank (Gu et al., 2022; Kişi, 2019; Lê Khang, 2025; Velu & Anuradha, 2024). Studies that do rank strategies or channels typically rely on fuzzy variants combined with TOPSIS (Chen et al., 2025; Thai & Vinh, 2026) and draw on small panels of between six and twenty-two experts. Chen et al. (2025) is the closest antecedent: it ranks green destination-branding strategies against sustainability criteria with six experts. The present study differs in ranking ten specific digital marketing strategies against four criteria that combine brand equity, sustainability communication, stakeholder engagement and visit intention, and in using classical AHP for the criteria and absolute ratings for the alternatives, which keeps the elicitation task manageable for respondents. As in most of the studies in Table 1, the panel is small and purposive, so the results are decision support rather than population estimates.

When the number of alternatives to be evaluated is large, as in this study, exhaustive pairwise comparison of all alternatives against each criterion becomes both cognitively demanding for respondents and, with many alternatives, prone to fatigue and inconsistency. R. W. Saaty (1987) addressed this limitation by formalizing the ratings approach, an absolute-measurement variant of AHP in which each alternative is scored directly against a fixed rating scale for each criterion, rather than compared pairwise against every other alternative. This approach preserves the criterion-based logic of AHP while making the evaluation of a comparatively large set of alternatives, such as the ten strategies considered here, manageable for expert respondents. With ten alternatives, exhaustive pairwise evaluation would require 45 comparisons per criterion, or 180 judgments per expert across four criteria, in addition to the six comparisons among criteria; the ratings approach reduces the alternative evaluation to 40 ratings per expert (ten strategies and four criteria).

3. METHODOLOGY

STRUCTURED LITERATURE REVIEW:

To ground the selection of evaluation criteria and strategic alternatives in documented evidence rather than in the authors' assumptions alone, a structured literature review was conducted and reported following the PRISMA 2020 reporting guideline (Page et al., 2021) in a reduced form. The review was carried out in the Scopus database, selected for its broad interdisciplinary coverage and recognized indexing quality relative to alternative databases (Pranckutė, 2021). The search strategy combined, through Boolean operators, the terms *digital marketing*, *tourism destination*, and *sustainability*, together with *AHP* and *marketing/branding*, applied to titles, abstracts, and keywords; the complete, verbatim search equation, which combines two blocks (digital marketing × tourism destination × sustainability; AHP × tourism destination × marketing/branding), is reported in Appendix A. The search was run on 22 June 2026. The review was restricted to articles and conference papers published between 2016 and 2026, in English, Spanish, or Portuguese, to ensure both topical currency and linguistic accessibility to the research team. All 57 records retrieved were in English.

The study selection process, summarized in **Table 2**, followed the four PRISMA stages of identification, screening, eligibility, and inclusion. Of the 57 records identified in Scopus, 2 were excluded during title/abstract screening for belonging to an unrelated disciplinary field (false positives), yielding 55 records that advanced to the eligibility stage; a further 16 records were excluded at this stage for not substantively addressing digital marketing or AHP/MCDM methods applied to tourism destinations, resulting in a final corpus of 39 studies included in the synthesis underpinning the theoretical background and the definition of criteria and alternatives.

The review should be read as a structured literature review used to ground the model rather than as a full systematic review: only one database (Scopus) was searched, the protocol was not registered, and eligibility was assessed on titles and abstracts only, without full-text screening; the 39 included studies are listed in Appendix B. Two records were judged doubtfully from their titles and abstracts and were resolved by reading their introduction, conclusions and future-research sections.

Keyword co-occurrence was analysed with the bibliometrix R package (Aria & Cuccurullo, 2017) (version 4.3.0) through its web interface, launched with *bibliometrix::biblioshiny()* and used with its default settings. The unit of analysis was author keywords, and the network was built from all 57 records retrieved in Scopus, before screening; only keyword pairs that co-occur in at least two records are displayed. The map is exploratory and based on a small corpus, so it is read as a description of the retrieved literature and cluster boundaries should be interpreted with caution.

Table 2 - PRISMA study selection process

Stage	Criterion	N
Identification	Records identified in Scopus	57
Screening (title/abstract)	Records excluded — unrelated disciplinary field (false positives)	2
Screening (title/abstract)	Records advancing to eligibility assessment	55
Screening against inclusion criteria (title/abstract)	Records excluded — did not address digital marketing or AHP/MCDM applied to tourism destinations	16
Included	Studies included in the theoretical synthesis	39

Decision model: Analytic Hierarchy Process:

The study adopted AHP given its extensive validation in tourism multicriteria problems, including destination attractiveness and competitiveness (Gu et al., 2022; Luštický & Štumpf, 2021), barriers to sustainable development (Salamzadeh et al., 2021), and expert-based definition of evaluation criteria in tourism subsegments (Lê Khang, 2025). The decision problem was structured into three hierarchical levels: the overall goal (prioritizing digital marketing strategies for sustainable tourism destinations), four evaluation criteria (C1 brand equity enhancement, C2 sustainability communication and promotion, C3 local stakeholder engagement, and C4 impact on visit intention) derived from the literature synthesis, and ten alternative strategies identified through the same synthesis: social media marketing, e-marketing/email marketing, influencer marketing, digital destination branding, content marketing and sustainability storytelling, integrated digital marketing communications (Digital IMC), digital booking platforms, artificial intelligence and personalization, immersive digital experiences (VR/AR), and search engine optimization/marketing (SEO/SEM).

We used classical AHP rather than fuzzy AHP for three reasons. First, the fuzzy extensions that dominate the tourism literature (Liao et al., 2023) have been criticized on mathematical grounds: Saaty and Tran (2007) argue that fuzzifying numerical judgments is unjustified, and Zhu (2014) shows logical flaws in the most popular fuzzy AHP procedures. Second, the Saaty scale already captures the imprecision of expert judgment through its verbal gradation, and the panel was asked for simple, interpretable comparisons suitable for non-quantitative managers. Third, the aim here was a transparent, replicable ranking rather than a model of uncertainty. We acknowledge that other studies in Table 1 use fuzzy variants (Chen et al.,

2025; Mortezaei et al., 2021; Thai & Vinh, 2026) and that fuzzy or probabilistic approaches could represent the uncertainty observed in our data more explicitly; we leave this to future work.

Criterion weights were derived through pairwise comparison on Saaty's 1 to 9 ratio scale, from which the principal eigenvector and the associated Consistency Ratio (CR) were computed for each respondent and for the aggregated group matrix (T. L. Saaty, 1980). Given the number of alternatives, their evaluation against each criterion was conducted using the ratings (absolute measurement) approach (R. W. Saaty, 1987; T. L. Saaty, 2006; Salomon, 2016) rather than exhaustive pairwise comparison. Final priority scores were obtained by combining normalized criterion weights and alternative ratings through weighted summation, yielding a single ranking of the ten strategies.

Each expert's six bipolar judgments (From 1 to 9, with 5 = equal importance) were converted to Saaty's ratio scale (Eq. 1, where v is the raw response) and completed with reciprocals to form a 4×4 matrix. Individual consistency was computed on each expert's own matrix. Group judgments were aggregated at matrix level by the element-wise geometric mean (Aggregation of Individual Judgments; Forman & Peniwati, 1998; Eq. 2), and the priority vector was obtained as the principal right eigenvector of the aggregated matrix. Consistency was assessed as CI = (λmax − n)/(n − 1) and CR = CI/RI, with n = 4 and RI = 0.90 (T. L. Saaty, 1980; Eq. 3). A sensitivity check with an alternative conversion that follows the verbal anchors of the questionnaire left the criterion order unchanged.

$$a_{ij} = \begin{cases} 1 + 2(5 - v), & v < 5 \\ 1, & v = 5 \\ \dfrac{1}{1 + 2(v - 5)}, & v > 5 \end{cases}, \quad a_{ji} = \frac{1}{a_{ij}} \qquad (1)$$

$$a_{ij}^{G} = \left(\prod_{k=1}^{K} a_{ij}^{(k)}\right)^{1/K} \qquad (2)$$

$$A\,w = \lambda_{\max}\,w, \quad CI = \frac{\lambda_{\max} - n}{n - 1}, \quad CR = \frac{CI}{RI} \qquad (3)$$

Alternatives were evaluated with the ratings approach. Each expert rated every strategy against each criterion on a 1 to 9 scale (1 = very low, 9 = very high contribution), yielding 440 ratings. One rating was missing (a single expert, one criterion–strategy cell) and the cell mean was computed over the ten available responses. For each criterion, ratings were averaged across experts (arithmetic mean), normalized so that the ten strategies sum to 1, and combined with the criterion weights by weighted sum (Eq. 4).

$$S_s = \sum_{c=1}^{4} w_c\, P_{sc}, \quad P_{sc} = \frac{\bar{r}_{sc}}{\sum_{s'} \bar{r}_{s'c}}, \quad \bar{r}_{sc} = \frac{1}{K_{sc}} \sum_{k} r_{ksc} \qquad (4)$$

Robustness was examined by recomputing the model after removing every combination of one, two and three experts (11, 55 and 165 subsets) and by a cluster bootstrap over experts (10,000 resamples with replacement, fixed seed; Efron & Tibshirani, 1994). Because the panel is purposive and not a random sample, the bootstrap proportions are descriptive and not significance tests, and panel size is treated as a matter of judgment quality rather than statistical sampling (Saaty & Özdemir, 2014). Agreement among experts was summarized with Kendall's W computed on individual rankings.

DATA COLLECTION INSTRUMENT, EXPERT PANEL, AND RESEARCH ETHICS:

The pairwise comparison of criteria and the rating of alternatives were collected through a structured, self-administered questionnaire, implemented on Google Forms and comprising 51 items: 5 profiling items, 6 pairwise criteria-comparison items, and 40 alternative-rating items (10 alternatives × 4 criteria). The instrument was developed and validated internally by the research team prior to data collection, following the pre-validation practices commonly recommended in AHP-based studies (Lê Khang, 2025), and combined a bipolar linear scale (1–9, Saaty scale) for the criteria comparisons with a multiple-choice grid for the alternative ratings, a format chosen specifically to reduce respondent fatigue given the number of items.

The instrument was administered to an expert panel purposively recruited to represent four stakeholder groups directly relevant to digital marketing decisions in tourism destinations: academia and research (n = 5), the public sector involved in destination management (n = 2), the private sector linked to tourism marketing, hospitality, and consulting (n = 3), and a non-governmental organization (n = 1), for a total of 11 experts, all working in Colombia (Table 3). This multi-sector composition follows recommendations in the literature to incorporate multiple stakeholder perspectives into destination-level decision processes rather than relying on a single professional viewpoint (Chamboko-Mpotaringa & Tichaawa, 2025; Rumanti et al., 2025). Experts were eligible for inclusion if they had at least three years of relevant professional experience, relevant publications, or an active professional role in destination management or tourism marketing; recruitment proceeded through snowball sampling from the research team's professional and academic networks. Responses were collected over a 33-hour window (23–24 July 2026). Data collection closed when the response target set by the research team was reached.

Seven of the eleven panelists reported three to five years of experience in the field, two reported six to ten and two more than ten. Purposive selection of this kind is common in AHP, where group size reflects the quality and diversity of judges rather than statistical sampling (Saaty & Özdemir, 2014). Colombia is the setting of the study; the framework is presented as transferable to other contexts, including the Portuguese-speaking countries targeted by this journal, but the weights should not be assumed to hold there without a new elicitation. Sector was self-reported from four categories: academia and research; public sector (destination or tourism management bodies); private sector (hospitality, travel agencies, consulting and tourism entrepreneurship); and non-governmental organizations. Experience refers to self-reported years of work in tourism, digital marketing or destination management, recorded in four bands (less than 3, 3 to 5, 6 to 10 and more than 10 years). Neither variable was verified.

Table 3 - Profile of the expert panel

Expert	Sector	Years of experience	Country
E1	Academia and research	More than 10	Colombia
E2	Academia and research	More than 10	Colombia
E3	Academia and research	3–5	Colombia
E4	Academia and research	6–10	Colombia
E5	Academia and research	3–5	Colombia
E6	Public sector	3–5	Colombia
E7	Public sector	3–5	Colombia

E8	NGO	3–5	Colombia
E9	Private sector	6–10	Colombia
E10	Private sector	3–5	Colombia
E11	Private sector	3–5	Colombia

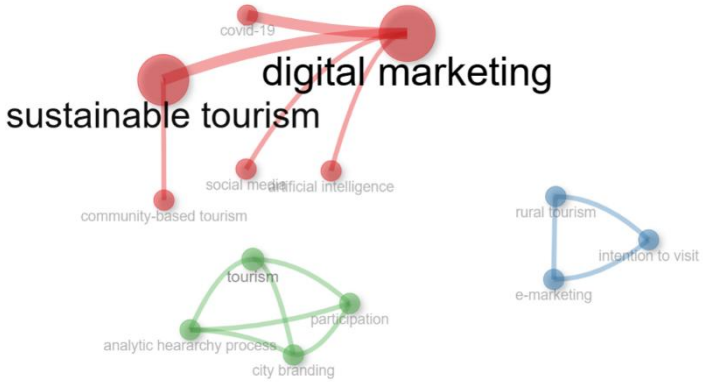
Participation was voluntary and confidential. The questionnaire did not ask for sensitive information; name and e-mail address were optional fields offered only to participants who wished to receive the results. These contact details were stored separately from the responses, were used for no other purpose and are not shared; the dataset analyzed (available from the authors on request) contains only pseudonymized codes (E1–E11), from which individual respondents cannot be identified by readers. Experts were informed of the study's academic purpose, of the voluntary nature of their participation, and of the estimated completion time before accepting to proceed with the questionnaire. No ethics committee was consulted because the questionnaire collected no sensitive information and involved no intervention on participants. Instead, the study was conducted in line with the parameters defined by the Committee on Publication Ethics (COPE, 2026): voluntary participation, prior information on the study's purpose, confidentiality of respondents and transparent reporting. Personal data were handled in accordance with Colombian Statutory Law 1581 of 2012 (Congreso de Colombia, 2012).

4. Results and Discussion

Synthesis of the structured literature review and keyword co-occurrence analysis:

The identification, screening, and eligibility process described previously, resulted in 39 studies included in the theoretical synthesis (**Table 2**), which informed, among other sources, the definition of the four evaluation criteria and the ten alternative strategies used in the AHP model. The keyword co-occurrence map of the 57 records retrieved in Scopus (Fig. 1) shows three groups. The largest contains the two most frequent author keywords, digital marketing and sustainable tourism (12 records each, co-occurring in three), together with COVID-19, social media, artificial intelligence and community-based tourism. A second group links rural tourism, e-marketing and intention to visit. A third small group links the Analytic Hierarchy Process, city branding, participation and tourism; it rests on only two records, one of which is unrelated to tourism, and it is therefore not interpreted. Because the map reflects only the keywords authors chose, includes records before screening and rests on a small corpus, it is read as a descriptive picture of the retrieved literature and not as evidence that the fields are disconnected.

Figure 1 - Keyword co-occurrence network



Source: authors' elaboration using bibliometrix (Aria & Cuccurullo, 2017); Scopus data

Expert panel composition:

The questionnaire was completed by 11 experts, distributed across academia (n = 5), the public sector involved in destination management (n = 2), the private sector associated with tourism marketing (n = 3), and a non-governmental organization (n = 1), all working in Colombia. In terms of professional experience, seven experts reported 3–5 years of relevant experience, two reported 6–10 years, and two reported more than 10 years. While modest in absolute size, small purposive panels are common in AHP, where group size reflects judgment quality rather than statistical sampling (Saaty & Özdemir, 2014), and the studies in Table 1 used panels of between six and twenty-two experts; the implications of this panel size for generalizability are nonetheless addressed explicitly as a limitation.

Because most panelists (7 of 11) had three to five years of experience, we compared subgroups as an exploratory check. Academics (n = 5) weighted visit intention at 0.429 and brand equity at 0.345, whereas non-academics (n = 6) gave 0.393 and 0.207, with stakeholder engagement higher in the non-academic group (0.224 vs 0.118). Restricting the analysis to the seven experts with three to five years of experience keeps visit intention (0.469) and brand equity (0.219) at the top, with social media still first among strategies. With n = 11 these comparisons are descriptive only.

Criterion weights and model consistency:

The individual pairwise comparison judgments provided by the 11 experts were aggregated using the geometric mean to construct a single aggregated matrix, from which the final criterion weights and the associated Consistency Ratio were computed (Table 4). The aggregated model achieved CR = 0.049, comfortably below the generally accepted threshold of 0.10 (T. L. Saaty, 1980).

Table 4 - Criterion weights

Criterion	Weight
C4 — Impact on visit intention	0.416
C1 — Brand equity enhancement	0.268
C3 — Local stakeholder engagement	0.171
C2 — Sustainability communication and promotion	0.145

Note: aggregated matrix, n = 11, CR = 0.049

This aggregate-level consistency is notable because none of the 11 experts individually met the CR < 0.10 threshold in their own pairwise comparison matrix. Rather than treating this as a disqualifying flaw, the study follows the Aggregation of Individual Judgments (AIJ) approach, which is the recommended aggregation strategy precisely when a panel of experts is treated as a single collective decision-making body rather than as independent decision-makers whose priorities are aggregated only after being separately derived (Forman & Peniwati, 1998). Under AIJ, individual judgments are combined at the level of the pairwise comparison matrix, via the geometric mean, before priorities and consistency are computed, so that the aggregated matrix is the primary object of the consistency check, although individual matrices are also reported (**Table 5**). This choice has methodological support: controlled experiments on AHP judgment aggregation have shown that geometric-mean aggregation of individual comparison matrices can yield an acceptably consistent aggregated matrix even when a substantial share of the individual matrices are themselves inconsistent, provided the group is large enough for idiosyncratic, non-systematic judgment errors to average out (Aull-Hyde et al., 2006). Geometric-mean aggregation can, however, attenuate individual contradictions without removing them, so the individual inconsistency reported in Table 5 remains a limitation.

Table 5 reports the consistency of each expert's own 4×4 matrix. None of the eleven experts reached the conventional threshold of CR < 0.10 (range 0.126–0.747; mean 0.388; median 0.351); the closest was E6 (CR = 0.126). By contrast, the geometric-mean matrix obtained CR = 0.049. We therefore treat individual-level inconsistency as a substantive limitation of the data rather than as a statistical detail, and we examine how far the aggregated result depends on it.

Table 5 - Individual and aggregated consistency (RI = 0.90 for n = 4)

Expert	Sector	λmax	CI	CR
E1	Academia	6.016	0.672	0.747
E2	Academia	4.637	0.212	0.236
E3	Academia	4.991	0.330	0.367
E4	Academia	4.947	0.316	0.351
E5	Academia	4.539	0.180	0.200
E6	Public sector	4.340	0.113	0.126
E7	Public sector	5.894	0.631	0.701
E8	NGO	5.199	0.400	0.444
E9	Private sector	5.537	0.512	0.569
E10	Private sector	4.683	0.228	0.253
E11	Private sector	4.749	0.250	0.278
Aggregated matrix	n = 11 (geometric mean)	4.133	0.044	0.049

To examine how far the ranking depends on individual panelists, we repeated the analysis leaving out every combination of one, two and three experts and by resampling experts with replacement (10,000 bootstrap draws; **Table 6**). The leading position of visit intention (C4) was preserved whenever one or two experts were removed and in 81.3% of bootstrap draws, and social media remained the top-ranked strategy in 92.9% of draws, while VR/AR and AI-based personalization stayed at the bottom (VR/AR last in 91.7% of draws; AI-based personalization ninth in 76.1%). By contrast, the exact order of the four criteria was identical in only 38.8% of draws, and the same three strategies occupied the top three places in 50.0% of them. The aggregated consistency ratio was also sensitive to panel composition (bootstrap 95% interval 0.011–0.206). We therefore interpret the results as showing a stable separation between a high-priority group of criteria (C4, C1) and a lower-priority one (C3, C2), and between leading and lagging strategies, rather than a precise ordinal ranking within each group. Kendall's W was 0.27 for the criteria and 0.43 for the strategies (each expert's strategies ranked by his or her own weighted score), indicating limited consensus on criterion weights and only moderate agreement on the strategy ranking.

Table 6 - Stability of the results under leave-k-out and cluster bootstrap over experts

Result	Leave 1 out (11)	Leave 2 out (55)	Leave 3 out (165)	Bootstrap (10,000)
C4 (visit intention) ranked first	11/11	55/55	162/165	81.3%
Order of the 4 criteria identical	10/11	44/55	106/165	38.8%
Social media ranked first	11/11	55/55	162/165	92.9%

Last two strategies (VR/AR, AI) identical	11/11	54/55	157/165	82.4%
Same top three strategies	10/11	41/55	104/165	50.0%
Aggregated CR < 0.10	11/11	52/55	145/165	72.4%

Final ranking of strategies:

The average ratings of the ten alternatives under each of the four criteria were normalized and weighted using the criterion weights reported in **Table 4** (Eq. 4; scores are relative shares that sum to 1), yielding the final priority scores and strategy ranking shown in Fig. 2. Social media marketing ranked first (0.131), followed closely by integrated digital marketing communications (0.120) and digital destination branding (0.119). The gaps among the three are small and, in the case of IMC versus branding, indistinguishable from resampling noise; the lead of social media over the other two was found in 98.4% and 93.4% of bootstrap draws, respectively. Influencer marketing (0.116), content marketing and sustainability storytelling (0.111), digital booking platforms (0.102) and e-marketing (0.097) occupied intermediate positions, followed by SEO/SEM (0.075). At the opposite end of the ranking, AI-based personalization (0.069) and immersive digital experiences (VR/AR; 0.060) obtained the lowest scores; VR/AR was last in 91.7% of draws. **Table 7** reports the complete 10×4 decision matrix (mean rating and standard deviation of each strategy under each criterion) with the final weighted score; the pseudonymized responses are available from the authors on request (Data availability).

$$S_s = \sum_{c=1}^{4} w_c \, P_{sc}, \quad P_{sc} = \frac{\bar{r}_{sc}}{\sum_{s'} \bar{r}_{s'c}}, \quad \bar{r}_{sc} = \frac{1}{K_{sc}} \sum_{k} r_{ksc} \qquad (4)$$

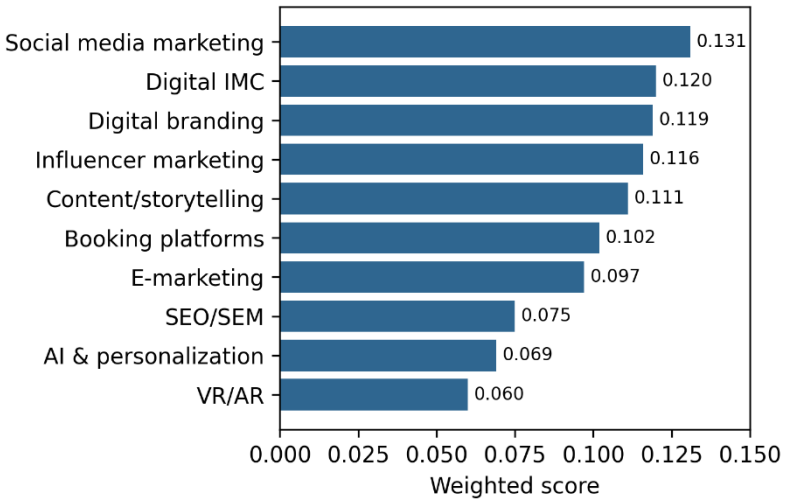
Table 7 - Decision matrix: mean expert ratings and final scores

Strategy	C1 Brand equity (0.268)	C2 Sustainability communication (0.145)	C3 Stakeholder engagement (0.171)	C4 Visit intention (0.416)	Score	Rank
Social media marketing	7.64 (2.34)	6.55 (2.46)	6.36 (2.87)	7.91 (2.43)	0.131	1
Digital IMC	6.91 (2.34)	6.18 (2.68)	6.40 (3.03)	6.91 (2.59)	0.120	2
Digital destination branding	6.36 (2.73)	6.27 (2.15)	6.18 (3.16)	7.27 (2.28)	0.119	3
Influencer marketing	6.36 (2.42)	5.73 (2.97)	5.18 (2.64)	7.45 (2.30)	0.116	4
Content marketing and storytelling	5.73 (2.24)	7.00 (2.65)	6.36 (2.62)	6.09 (2.30)	0.111	5
Digital booking platforms	6.36 (2.20)	4.55 (2.21)	4.64 (2.54)	6.27 (2.80)	0.102	6
E-mail marketing	5.55 (3.27)	4.18 (2.82)	5.00 (2.53)	6.00 (2.45)	0.097	7
SEO/SEM	4.73 (2.49)	3.82 (2.36)	3.09 (1.70)	4.45 (2.70)	0.075	8

AI and personalization	4.18 (1.83)	3.27 (1.90)	3.18 (2.09)	4.18 (2.23)	0.069	9
Immersive experiences (VR/AR)	3.09 (2.21)	3.00 (1.61)	3.18 (1.99)	3.82 (2.56)	0.060	10

Note. Mean expert rating on the 1–9 scale (standard deviation in parentheses); criterion weights in the header. The C3 cell for Digital IMC is the mean of 10 responses.

Figure 2 - Final ranking of digital marketing strategies based on weighted scores



Source: authors' elaboration.

Note. Scores are relative shares: for each criterion, the mean expert rating of each strategy was normalized so that the ten strategies sum to 1, and criterion weights were applied by weighted sum; the ten scores therefore sum to 1.000. Differences among the three leading strategies (0.131, 0.120, 0.119) are small; the bootstrap interval for social media minus digital IMC was 0.001 to 0.023, and the interval for digital IMC minus digital branding included zero (−0.009 to 0.012)

5. Discussion

Taken together, impact on visit intention and brand equity enhancement account for more than 68% of total criterion weight, outweighing sustainability communication (0.145) and stakeholder engagement (0.171). This hierarchy indicates that, for the expert panel consulted, the commercial effectiveness of a digital marketing strategy continues to weigh more heavily in prioritization decisions than its explicit role in communicating sustainability. This finding qualifies, without contradicting, the theoretical premise that digital marketing and sustainability communication mutually reinforce one another (El Archi et al., 2023; Kişi, 2019): in practice, the experts appear to treat sustainability as an attribute that a good strategy should communicate, but not as the dominant criterion driving which strategy is selected in the first place. Because the exact order of the four criteria was not stable across resamples (Table 6), this reading applies to the contrast between the higher-priority group (C4, C1) and the lower-priority group (C3, C2). It is consistent with the view that, in practice, short-term commercial results often receive more attention than long-term sustainability goals, although the present data cannot test this directly. The pattern differs from that reported for green destination branding in Guilin, where communication transparency and environmental sustainability were weighted most heavily by a panel of six experts (Chen et al., 2025), a difference that may reflect the focus on digital marketing strategies, the composition of the panels or the national context.

The leading positions of social media marketing, integrated digital marketing communications, and digital destination branding align closely with the literature reviewed, which discusses integrated communication and destination branding as drivers of destination brand equity (Mortezaei et al., 2021; Qi et al., 2024). Their shared ability to combine broad reach, direct and continuous interaction with the traveler, and a coherent brand narrative plausibly explains why the expert panel rated them consistently well across all four criteria, outperforming more specialized or narrowly scoped strategies such as email marketing or search engine optimization. This pattern is also consistent with the co-creation logic (Prahalad & Ramaswamy, 2004; Binkhorst & Den Dekker, 2009): the highest-ranked strategies are precisely those that enable a bidirectional, participatory relationship with the traveler and, to a lesser but still meaningful extent, with the host community, rather than a traditional, one-way communication model.

At the opposite end of the ranking, immersive digital experiences (VR/AR) and AI-based personalization obtained the lowest overall scores and, together, the two lowest ratings under three of the four criteria (all except stakeholder engagement, where SEO/SEM was marginally lower). This result is plausibly explained by the still-incipient adoption of these technologies in the day-to-day management of tourism destinations, particularly among smaller destination management organizations, where cost barriers, limited in-house technical capacity, and uncertain perceived return on investment constrain their prioritization relative to more mature digital channels (Cordeiro et al., 2026). This should not be read as evidence that these technologies lack strategic potential; rather, from the standpoint of the experts consulted, they are not yet perceived as short-term investment priorities—an interpretation that itself constitutes a relevant, evidence-based signal for destinations considering early adoption as a differentiation strategy.

A further, more critical reading of these results is warranted. The fact that more than 68% of aggregated strategic priority concentrates on visitor-attraction and brand-strength criteria, against only 31.6% combined for sustainability communication and stakeholder engagement, points to what can be described as an *influencer-driven visibility paradox*: the high-reach, high-engagement campaigns that the model ranks highest for brand building and visit intention are the ones whose visibility is hardest to control. Evidence on internet-famous cities shows that viral attention is volatile and depends on policy support to last (Ma et al., 2026), and research on influencer work documents the commercial pressure and authenticity tensions that creators face (Mileros et al., 2025). We offer this as an interpretation of our results and not as a finding of the present data, since the expert ratings did not measure overtourism or creator well-being. This suggests that the strategies prioritized as most effective by the present model are not strategically neutral from a sustainability standpoint and may require deliberate safeguards—visitor-flow management, carrying-capacity communication, or explicit sustainability messaging embedded within the campaign itself—if their brand and visitation benefits are not to come at the expense of the destination's sustainability objectives and of the wellbeing of the local community and of the digital creators involved in promoting it.

These findings also provide practical, empirical evidence for the research gap identified. While AHP has been extensively applied to destination-level planning decisions—competitiveness (Gu et al., 2022; Luštický & Štumpf, 2021), sustainability barriers (Salamzadeh et al., 2021)—this study shows that applying the same method specifically to the prioritization of digital marketing strategies surfaces a decision pattern of its own, in which visit intention outweighs sustainability communication for this panel. This nuance would likely remain undetected if digital marketing and destination sustainability continued

to be studied as separate literatures, as earlier bibliometric work suggests may have been the case (Giraldo et al., 2024).

From a practical standpoint, these results offer destination managers and tourism marketing professionals an evidence-based criterion for allocating limited digital marketing budgets: social media marketing, integrated digital marketing communications, and digital destination branding should receive priority investment, but without neglecting the explicit strengthening of their sustainability component, given the still-meaningful weight this criterion retains within the model (Rumanti et al., 2025; Kristiana et al., 2026). For destinations with a strongly sustainability-oriented profile—ecotourism or community-based tourism destinations, for example—this criterion balance derived from a general expert panel may not be directly transferable, a point taken up as a limitation and as an avenue for future research.

6. Conclusions

This study proposed and applied an integrated AHP-based framework to prioritize ten digital marketing strategies for sustainable tourism destinations, evaluated against four criteria: brand equity enhancement, sustainability communication, local stakeholder engagement, and impact on visit intentions. Social media marketing, integrated digital marketing communications, and digital destination branding emerged as the highest-priority strategies, while visit intention and brand equity emerged as the most influential criteria, jointly accounting for more than two-thirds of the aggregated decision weight. A cautionary result emerges from the ranking itself: the strategies that experts consider most effective, social media and influencer-based visibility among them, are those whose sustainability implications are least controlled, so the priority given to visit intention and brand equity should be accompanied by explicit safeguards on visitor flows and sustainability messaging.

Regarding the research questions, RQ1: visit intention (0.416) and brand equity (0.268) outweighed stakeholder engagement (0.171) and sustainability communication (0.145). RQ2: social media marketing (0.131), integrated digital marketing communications (0.120) and digital destination branding (0.119) scored highest, and AI-based personalization (0.069) and VR/AR (0.060) lowest. RQ3: social media was first in 92.9% of bootstrap draws and VR/AR last in 91.7%, but the exact order of the four criteria was identical in only 38.8% of draws and the same three strategies led in 50.0%, so the separation between groups is more reliable than the order within them.

The study's primary contribution is the operationalization, within a single, methodologically transparent AHP framework, of a decision problem that prior research had addressed only in a fragmented manner across the separate literatures of digital marketing, sustainable tourism, and multicriteria decision-making—an integration gap noted in earlier bibliometric work (Giraldo et al., 2024). In doing so, the study provides destination managers, tourism marketing professionals, and destination management organizations with a prioritized, evidence-based, and replicable framework capable of guiding investment decisions in digital marketing under resource constraints, while making explicit the sustainability trade-offs that such prioritization decisions inevitably involve. The influencer-driven visibility paradox discussed is offered as a hypothesis derived from the model, which other studies can test with visitor-flow data, and not as an empirical result of this study.

Limitations

Three limitations should be considered when interpreting these findings. First, the literature review used a single database (Scopus), the protocol was not registered, and screening and

eligibility were conducted on titles and abstracts rather than on full texts, owing to the study's time constraints; a full-text review could refine the criteria and alternatives derived from the corpus, and the keyword map rests on a small corpus and should be read with caution. Second, the reliability of the expert judgments is limited. All eleven individual matrices exceeded the conventional CR threshold of 0.10, and the acceptable consistency of the aggregated matrix (CR = 0.049) should not be read as evidence that individual judgments were coherent: geometric-mean aggregation can attenuate individual contradictions without removing them. The questionnaire was answered online and without a facilitator, so respondents could not be asked to revise inconsistent comparisons, as is usual in face-to-face AHP sessions (Pascoe, 2022; Pascoe et al., 2024); inspection of response patterns suggests that at least some inconsistency may stem from misreading the bipolar slider, which could not be verified with respondents. The short collection window (about 33 hours) may also have favored quick responses, and the high inconsistency is compatible with hurried responding, although the data cannot distinguish it from genuine ambivalence about criterion trade-offs. Future applications could benefit from brief prior training in the Saaty scale and from consistency-improvement procedures. Third, the expert panel is small (n = 11), purposively selected and based in a single country, and most of its members (7 of 11) reported only three to five years of experience in the field. Small panels are common in AHP, where the number of judges is a matter of judgment quality rather than statistical power (Saaty & Özdemir, 2014), but the leave-k-out and bootstrap analyses show that the exact order of the criteria depends on who is in the panel. The weights should therefore be read as the informed view of this panel, to be replicated in other regions, in other destination types and with practitioners with longer experience.

Future research

Building on these limitations, future research could pursue at least three complementary directions. First, expanding the expert panel, both in size and in seniority profile, would allow the stability of the criterion weights reported here to be tested more rigorously and would strengthen the generalizability of the resulting strategy ranking. Second, replicating the proposed framework in destinations with markedly different sustainability profiles—ecotourism destinations or community-based tourism destinations, for instance—would test whether the dominance of visit intention over sustainability communication observed here is a general feature of digital marketing prioritization or a pattern specific to the destination types more heavily represented in the underlying literature corpus. Third, incorporating complementary multicriteria techniques, such as Fuzzy AHP, could capture the uncertainty inherent in expert judgment more robustly than the classical AHP formulation used here, particularly given the individual-level inconsistency documented, and could be combined with group-consensus measures (Dong et al., 2010; Escobar & Moreno-Jiménez, 2007) and larger-panel sensitivity analysis on criterion weights to assess how robust the final strategy ranking is to plausible variation in those weights.

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Appendix A. Scopus search equation:

Database: Scopus; field: TITLE-ABS-KEY; search date: 22 June 2026. The string has two blocks joined by OR: the first retrieves digital marketing × tourism destination × sustainability; the second retrieves AHP × tourism destination × marketing/branding, without requiring digital marketing or sustainability. Results: 57 records (46 articles and 11 conference papers, all in English).

TITLE-ABS-KEY((("digital marketing" OR "online marketing" OR "e-marketing") AND ("tourism destination*" OR "tourist destination*") AND ("sustainab*" OR "green marketing" OR "eco-friendly")) OR (("AHP" OR "analytic hierarchy process") AND ("tourism destination*" OR "tourist destination*") AND ("marketing" OR "branding" OR "digital promotion" OR "communication strategy"))) AND PUBYEAR > 2015 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE,"ar") OR LIMIT-TO (DOCTYPE,"cp")) AND (LIMIT-TO (LANGUAGE,"English") OR LIMIT-TO (LANGUAGE,"Spanish") OR LIMIT-TO (LANGUAGE,"Portuguese"))

Appendix B. Included studies and traceability of criteria and strategies:

Record numbers refer to the row of each record in the Scopus export (57 records). Table B1 lists the 39 studies included after screening of titles and abstracts; Table B2 shows which of them mention each criterion or strategy explicitly. The mapping is by keyword match and is indicative: the criteria and strategies were also informed by the literature reviewed.

Table B1 - Studies included in the synthesis (n = 39)

No.	Study	Title
1	Lelawatty et al. (2025)	Exploring the Potential of Digital Platform-Based Tourism Markets Towards International Tourism Market...
2	Yesicha et al. (2025)	The Intersection of Digital Marketing and Sustainable Tourism: A Study on Tour de Siak's Promotion and...

3	Giraldo et al. (2024)	Exploring the evolution of marketing strategies in hospitality and tourism: a bibliometric study
4	Mortezaei et al. (2021)	Prioritization of Brand Equity Components Using an Integrated Structural Equation Modelling and Fuzzy AHP
6	Veseli et al. (2025)	The Impact of Digital Marketing on Promotion and Sustainable Tourism Development
9	Lemy et al. (2021)	Explorative Study of Tourist Behavior in Seeking Information to Travel Planning
10	Badari et al. (2024)	The Role of Digital Marketing in Sustainable Tourism: Evidence from Indonesia
11	Thai & Vinh (2026)	A dual-stage fuzzy MCDM approach for strategic target market prioritisation and communication channel ...
12	Rodrigues et al. (2022)	e-Marketing Influence on Rural Tourism Destination Sustainability: A Conceptual Approach
13	Luštický & Štumpf (2021)	Leverage points of tourism destination competitiveness dynamics
15	Chen et al. (2025)	Influencing consumer perceptions in green tourism: criteria and strategies for effective destination b...
18	Kisi (2019)	A Strategic Approach to Sustainable Tourism Development Using the A'WOT Hybrid Method: A Case Study of...
19	Leiras et al. (2025)	A novel framework for the quantitative analysis of the projected image of Accessible Tourist Destinations
21	Salamzadeh et al. (2021)	An AHP Approach to Identify the Barriers of Sustainable Geotourism Development in Iran: an Economic View
23	Lê (2025)	Applying the Delphi and AHP Methods to Develop Evaluation Criteria for Halal Tourism Destinations in V...
26	Sasana et al. (2019)	The development strategy of world heritage tourism in Indonesia
29	Vu et al. (2025)	Bibliometric and content analysis of global trends in digital transformation and rural tourism
30	Parra et al. (2024)	Analysis of digital marketing strategies to consolidate sustainable tourism case study of la manga del...
31	Rumanti et al. (2025)	The role of organizational and stakeholder factors in strengthening digital literacy and communication...
32	Ivars-Baidal et al. (2021)	Measuring the progress of smart destinations: The use of indicators as a management tool
33	Kristiana et al. (2026)	Operationalizing Sustainable Tourism Competitiveness through Governance Practices and Cultural Communi...
34	Qi et al. (2024)	Navigating the Digital Landscape: Evaluating the Impacts of Digital IMC on Building and Maintaining De...
35	Igoumenakis et al. (2024)	Digital Marketing and the Contribution to Sustainable Tourism: Case Study of Zakynthos Island
36	More et al. (2025)	Digital Marketing and Social Media in Tourism: A Review of Past Development and Current Trends
37	Mustain & Ariyanti (2024)	Increasing Globalization Business and Ecotourism Branding on the Beach of Delegan, Gresik, East Java
38	Velu & Anuradha (2025)	The analytical hierarchical process (AHP) approach to study the tourist choice behavior in rural south...
40	Chamboko-Mpotaringa & Tichaawa (2021)	Digital Trends and Tools Driving Change in Marketing Free State Tourism Destinations: A Stakeholder's ...
41	El et al. (2023)	Mapping the Nexus between Sustainability and Digitalization in Tourist Destinations: A Bibliometric An...
42	Alebaki et al. (2022)	Digital Winescape and Online Wine Tourism: Comparative Insights from Crete and Santorini

45	Zarrouk & El (2023)	The Digital Marketing Practiced by the Moroccan Tourism Sector: National-scale Communication Actions a…
46	Uka & Balla (2025)	Influencer Marketing for Promoting New Tourist Destinations: The Case of Albania
47	Cordeiro et al. (2026)	Smart and Sustainable Tourism in the Azores - The Integration of Technological Practices: A Study of a…
48	Okpa et al. (2025)	Role of social media as a catalyst for sustainable tourism development in calabar metropolis, nigeria
50	Chamboko-Mpotaringa & Tichaawa (2025)	Tourist-Centric Framework to Align Digital Marketing Strategies in Tourism
51	Yao et al. (2026)	Dualistic perspectives of digital marketing strategies and sustainable performance of cultural heritag…
53	Fafurida et al. (2021)	City Branding Implementation as an Effort of Increasing Tourism Performance
54	Pricopoaia et al. (2024)	Applying digital marketing strategies to promote tourist areas in romania in the digital era
55	Rodrigues et al. (2023)	Digital Marketing's Impact on Rural Destinations' Image, Intention to Visit, and Destination Sustainab…
57	Gu et al. (2022)	Evaluating Nature-Based Tourism Destination Attractiveness with a Fuzzy-AHP Approach

Table B2 - Traceability of the four criteria and ten strategies to the included studies

Element	Records whose title, abstract or keywords mention it (record numbers)
C1 Brand equity	4, 12, 34, 55
C2 Sustainability communication	2, 30
C3 Stakeholder engagement	1, 2, 9, 13, 15, 29, 31, 32, 33, 37, 40, 41, 48, 50, 51, 53, 54
C4 Visit intention	12, 55
S1 Social media marketing	2, 9, 11, 30, 36, 41, 42, 45, 46, 48, 54
S2 E-mail marketing	12, 55
S3 Influencer marketing	11, 46
S4 Digital destination branding	3, 4, 10, 15, 18, 19, 34, 37, 53, 55
S5 Content marketing and storytelling	3, 46, 54
S6 Digital IMC	34
S7 Digital booking platforms	1, 15, 26, 31, 34, 35, 45, 47
S8 AI and personalization	36, 40
S9 Immersive experiences (VR/AR)	45
S10 SEO/SEM	No record mentions it explicitly

AUTHORS' CONTRIBUTIONS (CREDIT)

Conceptualization, JFL-S, DC-V; methodology, JFL-S, DC-V; validation, JFL-S, DC-V; formal analysis, JFL-S, DC-V; investigation, JFL-S, DC-V; data curation, JFL-S, DC-V; writing—original draft preparation, JFL-S, DC-V; writing—review and editing, JFL-S, DC-V; visualization, JFL-S, DC-V; supervision, JFL-S, DC-V; project administration, JFL-S, DC-V. All authors have read and agreed to the published version of the manuscript.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The aggregated criterion weights, the individual and aggregated consistency indicators and the decision matrix supporting the findings of this study are reported in Tables 4, 5 and 7. At the express request of the respondents, and to protect their privacy, individual responses are not deposited in a public repository; the pseudonymized dataset (E1–E11) and the analysis scripts are available from the corresponding author upon reasonable request. Names and e-mail addresses were stored separately and are not shared, in order to preserve respondent confidentiality as described in previously.

ETHICS STATEMENT

This study involved the voluntary and confidential participation of professional and academic experts responding to a non-sensitive, work-related questionnaire. Name and e-mail address were optional fields, stored separately from the responses and not shared; the analyzed dataset is pseudonymized (E1–E11). No vulnerable populations were involved. The study's design and reporting followed the COPE Code of Conduct (COPE, 2026) and the Colombian statutory law on personal data (Congreso de Colombia, 2012). No ethics committee was consulted because no sensitive information was collected.

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ARTIFICIAL INTELLIGENCE DISCLOSURE

During the preparation of this manuscript, the authors used an AI-based language assistant (Claude, Anthropic) for language editing and translation to improve the clarity of the manuscript in accordance with the journal guidelines. The AI tool was not used to generate research data, results, or scientific claims. The authors reviewed, verified, and edited all AI-assisted content, and take full responsibility for the accuracy, integrity, and originality of the published work.