The Effect of Social Media Marketing on Tourist Loyalty: a Mediation - Moderation Analysis in the Tourism Sector under the Stimulus-Organism-Response Model

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Abstract
This study investigates the impact of social media marketing (SMM) activities on destination loyalty, emphasizing the mediating roles of tourist satisfaction and engagement, and the moderating role of destination trust in an extended Stimulus-Organism-Response (S-O-R) model in the context of an emerging country (Vietnam). Data from 514 domestic tourists collected in Vietnam's coastal destinations were analyzed using partial least squares structural equation modeling (PLS-SEM). The results reveal significant direct effects of SMM on tourist satisfaction, engagement, and loyalty. Satisfaction and engagement mediate the relationship between SMM and loyalty, while destination trust strengthens these effects. This study offers significant theoretical contributions to the field of tourism marketing by extending the application of the S-O-R framework. It demonstrates how SMM influences destination loyalty not only through direct pathways but also through indirect mechanisms involving tourist satisfaction and tourist engagement. By examining these mediating and moderating roles, the study expands our understanding of how emotional and behavioral responses to SMM drive destination loyalty. The findings suggest that destination marketing organizations (DMOs) should develop SMM strategies that not only enhance engagement and satisfaction but also incorporate trust mechanisms to foster long-term loyalty, particularly in emerging tourism markets.

1. Introduction

Social media marketing (SMM) plays a crucial role in shaping consumer behavior and perceptions today (Keller & Printz-Markó, 2023). Its interactive features allow businesses to build strong customer relationships, fostering brand love and loyalty (Cheung et al., 2021; Hasan & Sohail, 2021). SMM is particularly strategic, influencing 54% of purchase decisions by effectively informing and engaging consumers (Lovett & Staelin, 2016). It overcomes the limitations of traditional marketing by enabling global promotion of products and services (Olotewo, 2016). Additionally, it is a crucial component of online marketing strategies, requiring organizations to allocate resources to manage online brand

communication from third-party experts and consumer reviews (Dwivedi et al., 2021). SMM also serves as a vital bridge for companies to enhance customer loyalty (Agnihotri et al., 2016). In the current context, destination loyalty is more crucial than ever, as it strengthens customer relationships, promotes sustainability, attracts tourists, and enhances competitiveness (Campón-Cerro et al., 2017; Li et al., 2018). Grasping the factors that drive destination loyalty enables policymakers, local destination managers, and tourism businesses to develop sustainable strategies (Stylidis et al., 2020).

The role of SMM in enhancing loyalty is well-documented in developed markets (Almeida-Santana et al., 2020; Mirzaalian & Halpenny, 2021). However, examining these dynamics in emerging markets like Vietnam could provide significant regional competitive advantages (Huerta-Álvarez et al., 2020; Tien et al., 2021). The Vietnamese government's push for digital transformation and green initiatives underscores the urgency of researching SMM's potential to enhance communication effectiveness for destinations (Government, 2020). In developing countries such as Vietnam, SMM is increasingly acknowledged as a highly effective communication channel (Olaniran, 2018). Despite these advancements, significant challenges persist in leveraging SMM to connect with and retain tourists (Singh & Sharma, 2023). While many countries strive to maximize SMM benefits, the impact of SMM activities (such as information sharing, interaction, personalization, trendiness, and word of mouth) on destination loyalty has rarely been studied comprehensively in emerging tourism contexts. Existing research often examines the individual impact of these activities rather than their collective influence (Hoang et al., 2024; Hultman et al., 2015). Addressing this gap requires a holistic examination of how SMM activities collectively influence destination loyalty. Such research could provide valuable insights for effectively utilizing SMM to enhance loyalty in Vietnam and other similar emerging markets.

On the other hand, understanding customer engagement and brand intimacy on social media is essential for enhancing the customer brand experience throughout their journey (Wang & Lee, 2020). The mediating role of customer engagement between social media advertising features and consumer behavioral intentions has been thoroughly examined, demonstrating its impact on consumption intentions (Ji et al., 2022). Furthermore, customer engagement significantly influences customer satisfaction and loyalty across various industries (Thakur, 2019). For example, in online banking, customer-brand engagement affects brand satisfaction and loyalty through online brand experiences (Khan et al., 2016). Similarly, in the airline industry, integrating customer engagement with other marketing constructs provides a comprehensive explanation of passenger loyalty (Hapsari et al., 2017). In line with this, because satisfaction emerges from the cognitive process between perceived value and expectations, significantly influencing tourist loyalty (Cong, 2021), it is incorporated as a mediator in the research model examining the impact of SMMA on destination loyalty.

Besides, Rasoolimanesh et al. (2019) have also called for an exploration of the mediating role of tourist engagement as a second-order construct in the relationship between satisfaction and destination loyalty, to compare with previous research findings. Thus, this study contributes to existing tourism theories by defining SMM as a multi-dimensional construct reflected through the following dimensions: Information, Interaction, Personalization, Trendiness, and eWOM (Kim & Ko, 2012; Yadav & Rahman, 2018). In addition, tourist engagement is characterized by five facets: identification, enthusiasm, attention, absorption, and interaction (Rasoolimanesh et al., 2019; Teng, 2021). Loyalty is assessed through intentions to revisit and recommend by word-of-mouth (Cong, 2021; Tuu et al., 2011). As a result, examining the mediating role of tourist engagement and satisfaction in the relationship between SMM and destination loyalty, especially when SMM and destination loyalty are operationalized as second-order constructs, is essential in the current economic recession, especially in emerging countries.

In addition, there has been a notable decline in consumer trust regarding information disseminated via social media, potentially impacting travelers' perceptions, emotions, and behaviors towards destinations in the context of the economic recession and the increasing incidence of online fraud (Turcotte et al., 2015). Destination trust has been considered as a mediator in the relationships between SMM, satisfaction, tourist engagement, and destination loyalty (Agyei et al., 2020; Ebrahim, 2019), while examining destination trust as a moderator in these relationships is a new approach that has

been rarely explored (Al-Hattami et al., 2023). Furthermore, Iglesias et al. (2020) has called for further research to explore the moderating role of tourist trust instead of its mediating role. Therefore, the findings from our study addressed and filled this existing research gap.

This research, therefore, aims to examine the direct and indirect effects of SMM on destination loyalty through satisfaction and tourist engagement in the context of an emerging destination such as Vietnam. Besides, this study also explores the moderating role of trust on the whole relationships between SMM, satisfaction, tourist engagement, and destination loyalty. These insights highlight the impact of SMM activities on tourists' perceptions and behaviors, particularly in the context of coastal tourism destinations in developing Southeast Asian countries with similar conditions to Vietnam within an integrated mediation-moderation model, particularly when the main constructs are defined and measured as second-order multidimensional constructs.

2. Literature review

2.1. Stimulus – Organism - Response (S-O-R) framework

The Stimulus-Organism-Response (S-O-R) framework, initially proposed by Mehrabian and Russell (1974), has been widely adopted by tourism and hospitality researchers and serves as the foundational basis for this study. Kim et al. (2020) expanded the S-O-R framework by integrating authentic experiences into tourism-related virtual reality (VR) activities, assessing VR attachment as a response, and incorporating affective responses such as enjoyment, emotional involvement, and flow state among VR tourists. Additionally, Ibrahim (2022), in a meta-analysis, supported the application of the S-O-R framework to study the relationship between SMMA and brand loyalty, with SMM acting as the stimulus, and brand loyalty and brand equity as responses. This study used the S-O-R theory to address the gap in the literature by examining the effect of social media marketing activities on cognitive and affective responses, which also influenced tourists' engagement and loyalty to coastal destinations in emerging tourism markets like Vietnam.

2.2. Destination loyalty (DL)

Loyalty has been conceptualized and measured in varied ways within marketing (Watson et al., 2015) and tourism literature (Cong, 2021; Suhartanto et al., 2020). In this study, destination loyalty is defined as the intention of revisiting and recommending by word of mouth (Cong, 2021; Elbaz et al., 2021). In recent decades, destination loyalty has become a crucial part of tourism research (Mirzaalian & Halpenny, 2021). Therefore, destination loyalty is an important factor for identifying the competitive advantages of destinations and the development of effective marketing strategies (Elbaz et al., 2021). Understanding how tourists develop their destination loyalty and what factors influence their loyalty formation is crucial for the success of tourism destination management organizations (Mirzaalian & Halpenny, 2021). Through a review of the literature, numerous factors have been identified as influencing destination loyalty, including emotional experiences (Jeong & Kim, 2020), tourist satisfaction (Abbasi et al., 2022; Cong, 2021; Jeong & Kim, 2020; Rasoolimanesh et al., 2019), tourist engagement (Rasoolimanesh et al., 2019), and destination trust (Elbaz et al., 2021). This study investigated destination loyalty as the outcome of the influences of stimuli and organisms on revisit intention and recommendation, as well as the role of moderating factors which also represented the novelty of this research.

2.3. Tourist engagement (TE)

Tourist engagement (TE) is a psychological state that emerges from interactive and co-creative experiences with various aspects of a destination, such as its people, attractions, and activities, within the broader travel context (Huang & Choi, 2019). TE encompasses cognitive, emotional, and behavioral connections between tourists and destinations, driven by these immersive interactions (Huang & Choi, 2019). As outlined by So et al. (2014), TE comprises several core dimensions. Enthusiasm captures the tourist's excitement and passion for a destination, reflected in a strong emotional attachment. Attention measures the degree of focus tourists place on a destination, indicated by their active pursuit of information and updates. Absorption refers to the deep immersion tourists experience, where they become so engaged with the destination that they lose track of time. Interaction highlights active participation and idea exchange with others, such as fellow tourists or local communities, enriching the engagement. Lastly, identification reflects how closely a tourist's self-identity aligns with the destination, influencing how they perceive both positive and negative feedback.

The concept of tourist engagement (TE) originates from the broader framework of customer engagement (CE), which encompasses behavioral manifestations (Ferencakova et al., 2020; Van Doorn et al., 2010), psychological states (Brodie et al., 2011), and action tendencies (Storbacka et al., 2016). Engaged tourists tend to exhibit higher levels of loyalty, trust, and co-creation with the destination (Rather et al., 2019). Previous research consistently demonstrates that CE positively impacts customer loyalty (Alrawadieh et al., 2019; Rasoolimanesh et al., 2019); however, the specific role of TE in shaping loyalty in coastal tourism, particularly through the influence of social media marketing (SMM), remains insufficiently explored.

H1: Tourist engagement is positively associated with destination loyalty in the context of exposure to SMM.

2.4. Tourist satisfaction

Tourist satisfaction, divided into transaction-specific and cumulative satisfaction, is crucial for fostering destination loyalty (Dmitrović et al., 2009). Transaction-specific satisfaction relates to a tourist's immediate experience, while cumulative satisfaction encompasses their overall evaluation over time (Oliveri et al., 2019). Cumulative satisfaction has a more significant impact on behavior and intentions (Chochol'áková et al., 2015; Koufteros et al., 2014). High tourist satisfaction is vital for brand loyalty, significantly influencing tourism loyalty and mediates various factors affecting it (Abbasi et al., 2022; Cong, 2021; Rasoolimanesh et al., 2019). Loyalty, essential to tourist experiences, enables marketers to optimize satisfaction and performance across destinations; therefore, understanding satisfaction and loyalty is crucial for grasping tourist psychology and ensuring the success of tourist destinations (Elbaz et al., 2021).

H2: Tourist satisfaction is positively associated with destination loyalty regarding revisit intention and WOM recommendation.

Previous studies have suggested the importance of tourist emotions in positive behavioral intentions, including satisfaction, repeat intentions, and recommendation (Elbaz et al., 2021). Tourist engagement has been proven to have a positive impact on customer loyalty and also acts as a mediator in the relationship between various factors and tourist loyalty (Alrawadieh et al., 2019; Rasoolimanesh et al., 2019). Despite the increasing importance of co-creation and engagement in shaping the positive behavior of tourists, understanding the link between tourists' emotions, their intention to co-create value, and their engagement with destinations remains limited (Rather et al., 2019).

H3: Tourist satisfaction is positively associated with tourist engagement in the context of exposure to SMM.

2.5. Social media marketing (SMM)

Social media marketing (SMM) is defined as the use of social media technologies and platforms to create, communicate, and deliver marketing offerings that enhance value for a company's stakeholders (Yadav & Rahman, 2018). SMM has become a crucial tool due to its ability to increase brand visibility and recognition quickly and cost-effectively compared to traditional advertising methods (Liu-Thompkins, 2012). It expands traditional marketing by encouraging communication, interaction, and collaboration between brands, businesses, and customers, thereby increasing engagement (Ebrahim, 2019).

The key dimensions of SMM include several important factors. First, information refers to the accuracy, usefulness, and comprehensiveness of content provided in social media posts (Yadav & Rahman, 2018). Interaction highlights a destination's ability to engage tourists by enabling them to share their content and opinions with both the destination and other visitors (Kim & Ko, 2012). Personalization reflects how well social media content is customized to align with individual customer preferences (Yadav & Rahman, 2018). Trendiness emphasizes how effectively social media posts capture current events, news, or popular topics of discussion (Kim & Ko, 2012). Finally, electronic word of mouth (e-WOM) gauges the extent to which tourists recommend and share their experiences about a destination on social media platforms (Kim & Ko, 2012). These dimensions are critical in connecting social media marketing strategies to customer brand engagement, ultimately enhancing brand loyalty, particularly within the tourism industry (Aljuhmani et al., 2023; Ibrahim & Aljarah, 2024).

In tourism, individual perceptions of destination activities can vary widely (Agapito et al., 2013). Given public sector funding constraints, social media has become indispensable for DMOs to engage a global audience cost-effectively (Hays et al., 2013). Despite the growing importance of social media-driven brand equity, its dynamics in destination branding are still underexplored (Abbasi et al., 2022). This study seeks to develop a theoretical model using the Stimulus-Organism-Response (S-O-R) framework to investigate how SMM activities by DMOs and tourists influence destination loyalty through tourist satisfaction and engagement. Previous research underscores SMM's impact on customer satisfaction across various sectors (Chen & Lin, 2019; Hanaysha, 2017), highlighting the importance of social media monitoring and distinctive service offerings to enhance satisfaction (Ramanathan et al., 2017).

H4: SMM is positively associated with tourist satisfaction.

Recent literature has focused on SMM due to their potential to positively impact customer engagement (Liu et al., 2021; So et al., 2024). Muchardie et al. (2016) highlighted that SMM significantly influences customer engagement and brand loyalty. Bozkurt et al. (2021) investigated how customers' perceptions of brand social media interactivity influence engagement behaviors, considering factors like brand type and social media platform moderation. Building on these findings, the following hypotheses were formulated:

H5: SMM is positively associated with tourist engagement.

Several studies have examined how SMM influences customer loyalty (Yadav & Rahman, 2018). The incorporation of social media into destination marketing significantly impacts customer-based brand equity, influencing satisfaction and loyalty through improved brand awareness and image (Abbasi et al., 2022). User-generated content on social platforms plays a crucial role in fostering destination loyalty by showcasing tourist experiences and aiding informed management decisions (Mirzaalian & Halpenny, 2021). Furthermore, digital information search behavior is linked to destination loyalty, shaping tourist decisions and promoting loyalty across different destinations (Almeida-Santana et al., 2020).

H6: SMM is positively associated with destination loyalty regarding revisit intention and WOM recommendation.

H7: SMM indirectly influences destination loyalty via satisfaction (a) and tourist engagement (b).

H8: SMM indirectly influences tourist engagement via satisfaction.

2.6. The moderating role of destination trust

While the relationship between satisfaction and destination loyalty has been extensively studied, research on the moderating role of destination trust in coastal destinations remains limited (Cong, 2021). Trust is pivotal in maintaining strong relationships between tourism providers and tourists (Han & Hyun, 2015) and is a key predictor of destination loyalty (Elbaz et al., 2021). Han and Hyun (2015) define destination trust as tourists' belief in a location's reliability to fulfill its promises, while Abubakar and Ilkan (2016) suggest it relates to perceived capabilities to deliver advertised functions. Studies indicate that destination trust positively influences tourists' intentions to visit and their likelihood of returning (Abubakar & Ilkan, 2016). Research confirms that the level of trust tourists place in a destination, based on their satisfaction, significantly affects their intention to revisit (Han & Hyun, 2015). Therefore, destination trust plays a crucial role in shaping behavioral intentions and loyalty (Al-Ansi & Han, 2019; Elbaz et al., 2021). According to Al-Hattami et al. (2023), the moderating effect of trust on the relationship between tourist satisfaction and destination loyalty was confirmed.

H9: The greater the trust of tourists in their destination, the stronger the relationship between tourist satisfaction and destination loyalty.

Khan and Fatma (2023) pointed out that customer engagement had a significant influence on hotel brand trust. De Oliveira Santini et al. (2020) showed that customer engagement was driven by satisfaction, positive emotions, and trust. Agyei et al. (2020) revealed that trust in service providers, trust in regulatory bodies and information-based trust have a significant impact on customer engagement, while trust in service providers and trust in regulatory bodies drives higher customer engagement. In addition, this study also emphasizes the importance of trust in promoting customer loyalty and engagement.

H10: The greater the trust of tourists in their destination, the stronger the relationship between tourist satisfaction and engagement.

Trust plays a crucial role in consumer behavior, significantly impacting purchase intention (Koc et al., 2024). Trust in a brand ultimately results in brand loyalty or commitment (Azhar et al., 2023) because trust fosters the development of highly valued trade relationships (Kaur & Soch, 2018). Many studies had utilized brand trust as a moderator and mediator in examining the impact of SMM on brand equity (Hafez, 2021), purchase intention (Azhar et al., 2023), customer emotion, engagement (Samarah et al., 2022), and loyalty (Al-Hattami et al., 2023; Azhar et al., 2023; Ebrahim, 2019). In conclusion, tourists' trust in a destination magnifies the positive outcomes of social media marketing activities, thereby making it a crucial element to consider when aiming to improve tourist satisfaction, engagement, and loyalty. However, the specific exploration of destination trust as a moderator in these relationships had not been addressed in previous research. This gap highlights the unique and critical contribution of examining how destination trust moderates these important connections.

H11: The greater the trust of tourists in their destination, the stronger the relationship between social media marketing (SMM) and tourist satisfaction.

H12: The greater the trust of tourists in their destination, the stronger the relationship between SMM and tourist engagement.

H13: The greater the trust of tourists in their destination, the stronger the relationship between SMM and destination loyalty.

Customer trust is crucial for fostering strong bonds between service providers and customers, leading to committed relationships (Kaur & Soch, 2018). While a few studies have explored the mediating role of brand trust between engagement and loyalty (Li et al., 2020; Wongsansukcharoen, 2022), few studies have examined its moderating role, especially in tourism destination branding (Srivastava et al., 2022). This gap highlights the need to investigate how trust influences the connection between tourist engagement and destination loyalty, offering valuable insights for marketing strategies.

H14: The greater the trust of tourists in their destination, the stronger the relationship between tourist engagement and destination loyalty.

Combining the research approach and hypotheses, the research conceptual model was built up as follows (Figure 1):

Figure 1. **The conceptual research model of this study**
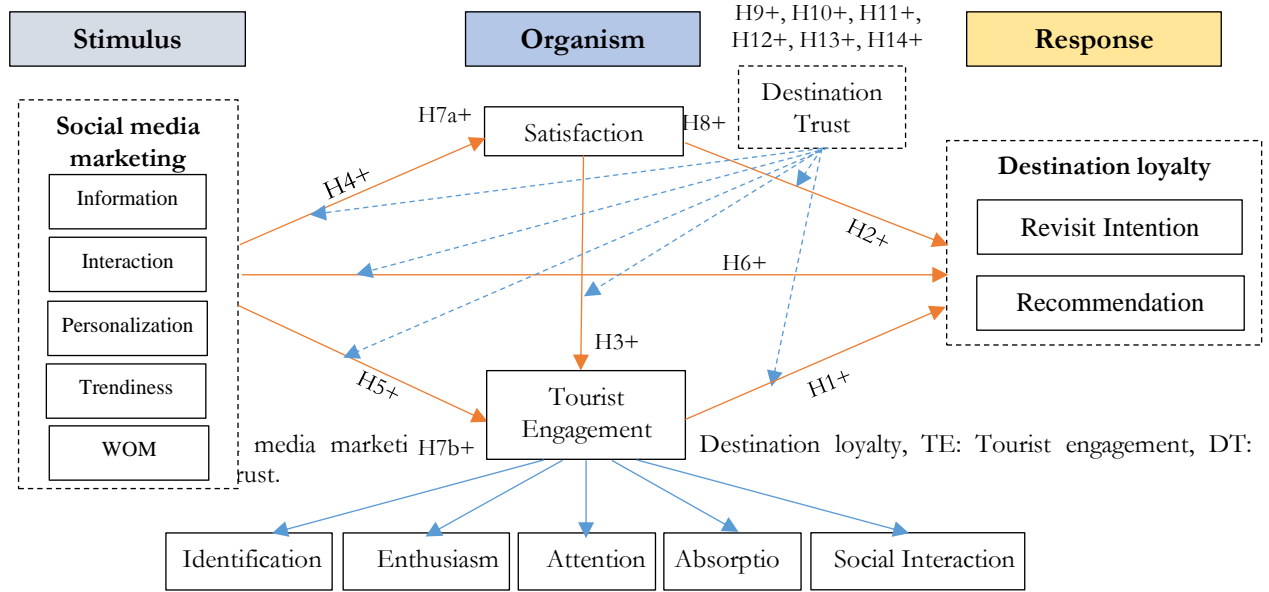
Source: own elaboration

3. Methods

3.1. Data collection

The research was conducted in two stages, aligning with qualitative research (Phase 1) and quantitative research (Phase 2, N = 514). In Phase 1, after identifying the research gap and proposing the research model, the initial measurement scales were discussed by 10 experts (5 associate professors and 5 PhDs in the field). Following this, a pilot interview was conducted with 55 domestic tourists visiting coastal tourism destinations in Phu Yen to ensure the accuracy and clarity of the indicators. In Phase 2, a convenience sampling method was employed, using paper questionnaires distributed directly to each tourist. The sample size in this study was ten times the number of independent variables in the most complex predictor factor in the PLS path model, as recommended by Hair Jr et al. (2021). This survey attracted over 530 participants, all of whom were domestic tourists currently visiting coastal tourism destinations in the central coastal provinces of Vietnam (Da Nang, Phu Yen, Khanh Hoa, and Ninh Thuan); however, only 514 of them provided valid responses (as shown in Table 1). This careful sampling process and large, diverse sample size contribute to the reliability of the sample and the robustness of the study's findings.

Table 1. **The socio-demographic profile of the respondents (n=514).**

Socio-demographic		N	Percentage (%)
Gender	Male	263	51.17
	Female	251	48.83
Age	18 - 29 years	216	42.02
	30 - 39 years	165	32.10
	40 - 49 years	84	16.34
	50 - 59 years	43	8.37

	60 years and older	6	1.17
Income	<= 120 USD	21	4.09
	121 -200 USD	30	5.84
	201-400 USD	184	35.80
	> 400 USD	279	54.28
Selected survey destination	Da Nang	150	29.18
	Phu Yen	105	20.43
	Khanh Hoa	160	31.13
	Ninh Thuan	99	19.26

Source: own elaboration

3.2. Measures

The measurement scales in this study were developed based on existing literature. Each item was assessed using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scale for measuring SMMA activities (overall $\alpha = 0.896$) was divided into five second-order reflective constructs: Information ($\alpha = 0.807$), Interaction ($\alpha = 0.785$), Personalization ($\alpha = 0.795$), Trendiness ($\alpha = 0.834$), and eWOM ($\alpha = 0.796$), with three items each, adapted from Kim and Ko (2012) and Yadav and Rahman (2018).

Similarly, the scale for measuring tourist engagement (overall $\alpha = 0.905$) was a second-order reflective construct, divided into five aspects: Identification ($\alpha = 0.826$), Enthusiasm ($\alpha = 0.786$), Attention ($\alpha = 0.832$), Absorption ($\alpha = 0.852$), and Social Interaction ($\alpha = 0.782$), adapted from Rasoolimanesh et al. (2019).

The scales for measuring destination loyalty (overall $\alpha = 0.870$) were also second-order reflective constructs, divided into Revisit Intention ($\alpha = 0.835$) and Recommendation Intention by WOM ($\alpha = 0.860$), with three items each, adapted from Cong (2021). Satisfaction scales (four items, $\alpha = 0.868$) were adapted from Cong (2021), and destination trust scales (four items, $\alpha = 0.915$) were adapted from Abubakar and Ilkan (2016). Detailed descriptions of the measurement instruments are provided in Table 2.

3.3. Analysis procedures

The study's methodology consisted of two phases, integrating both qualitative and quantitative approaches. Initially, qualitative research was conducted to construct a theoretical framework and develop a measurement tool based on literature reviews. The scale was refined with input from five associate professors specializing in marketing and tourism. A pilot survey involving 55 tourists in Phu Yen province assessed question clarity, with subsequent adjustments leading to the development of a structured questionnaire used in the main study (details in Table 2).

In the second phase, 514 valid responses were gathered and analyzed using SPSS. To mitigate potential methodological biases, Cronbach's alpha and collinearity tests (with all VIF values below 3.3) were conducted. Convergent validity, composite reliability, and discriminant validity of the measurement model were evaluated using SmartPLS 4.0 software. The Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was employed to assess the structural model and test hypotheses, including moderating effects. To examine the moderating role of destination trust, the average value of the destination trust indicator was calculated, dividing respondents into low (coded as 0) and high (coded

as 1) trust groups. These values were then incorporated into the model to test hypotheses using SmartPLS 4.0 software.

4. Results

4.1. Common method bias

All items of the initial scales (see section 3.2) were retained after checking the scales' reliability (Cronbach's Alpha > 0.6) (Table 2). Furthermore, all VIF values are less than 3.3. Hence, the common method bias was avoided and all remaining items in this study (46 items) were used to analyze the measurement model.

4.2. Assessment of measurement model

Table 2. **Constructs measurement**

Constructs with measuring items	Mean	S.D	Loading	Cronbach's α	CR	AVE
Social media marketing activities (SMMA)				0.895	0.898	0.567
Information (Yadav & Rahman, 2018)				0.807	0.808	0.722
INF1: Destination's social media offer accurate information about products and services.	5.4	1.45	0.849			
INF2: Destination's social media provide useful information.	5.3	1.49	0.835			
INF3: Information provided by the destination's social media is comprehensive.	5.3	1.52	0.864			
Interaction (Kim & Ko, 2012)				0.785	0.786	0.699
INT1: Destination's social media allow me to share and update existing content.	5.4	1.41	0.838			
INT2: This destination regularly interacts with followers and fans on social media.	5.3	1.47	0.830			
INT3: It is easy to communicate my opinion and conversations with other users through social media of my preferred destination.	5.4	1.40	0.840			
Personalization (Yadav & Rahman, 2018)				0.795	0.796	0.709
PER1: Destination's social media recommends the purchase according to my requirements.	5.4	1.44	0.850			
PER2: I think my needs are met using destination social media.	5.4	1.42	0.850			
PER3: Destination's social media facilitate personalized information searches.	5.4	1.43	0.826			
Trendiness (Kim & Ko, 2012)				0.834	0.835	0.751

TRE1: Content of destination's social media is the newest information.	5.3	1.60	0.859			
TRE2: Using destination's social media is very trendy.	5.3	1.60	0.867			
TRE3: The topics on destination' social media are often lively discussed.	5.2	1.60	0.873			
Electrics Word-of-mouth (EWOM) (Kim & Ko, 2012)				0.796	0.796	0.710
EWOM1: I recommend to my friends to visit the destination's social media.	5.5	1.42	0.846			
EWOM2: I encourage my friends and family to use the social media of this destination.	5.4	1.38	0.845			
EWOM3: I would like to share my experiences with friends and family through this destination' social media.	5.4	1.37	0.838			
Tourist Engagement (TE) (Rasoolimanesh et al., 2019)				0.904	0.907	0.568
Identification (ID)				0.826	0.827	0.742
ID1: The success of this destination is my success.	5.2	1.55	0.855			
ID2: When someone criticizes this destination, it seems like a personal insult.	5.2	1.63	0.868			
ID3: When someone praises this destination, it's like a personal compliment.	5.2	1.63	0.862			
Enthusiasm (EN)				0.787	0.787	0.701
EN1: I love this destination.	5.5	1.44	0.839			
EN2: I am enthusiastic about this destination.	5.4	1.53	0.843			
EN3: I feel excited about this destination.	5.4	1.42	0.829			
Attention (AT)				0.832	0.833	0.665
AT1: I like to learn more about this destination.	5.3	1.43	0.801			
AT2: I pay a lot of attention to anything about this destination.	5.4	1.51	0.836			
AT3: Anything related to this destination grabs my attention.	5.4	1.54	0.825			
AT4: I pay more attention to news about this destination than others do.	5.4	1.42	0.800			
Absorption (AB)				0.852	0.853	0.693
AB1: When I am visiting this destination, I forget everything else around me.	5.4	1.53	0.830			
AB2: Time flies when I visit this destination.	5.4	1.55	0.841			
AB3: When I visit this destination, I get carried away.	5.3	1.45	0.824			

AB4: I am immersed when visiting this destination.	5.4	1.49	0.833			
Social Interaction (SI)				0.782	0.783	0.696
SI1: I am someone who enjoys interacting with like-minded others regarding this destination.	5.5	1.47	0.847			
SI2: I am someone who likes actively participating in discussions related to this destination.	5.5	1.45	0.821			
SI3: In general, I really enjoy sharing ideas about this destination with others.	5.4	1.45	0.834			
Tourist's satisfaction (SA) (Cong, 2021)				0.868	0.869	0.717
SA1: I really enjoyed the visit to this destination.	5.4	1.56	0.859			
SA2: I am satisfied with the decision to visit this destination.	5.2	1.60	0.851			
SA3: This experience is exactly what I needed.	5.2	1.62	0.842			
SA4: This was a pleasant visit.	5.4	1.59	0.834			
Destination Trust (Abubakar & Ilkan, 2016)				0.915	0.917	0.796
DT1: This tourism destination guarantees satisfaction for me.	4.4	1.89	0.877			
DT2: I feel confidence with this tourism destination.	4.4	1.87	0.888			
DT3: This tourism destination would make any effort to satisfy me.	4.3	1.93	0.905			
DT4: This tourism destination would be honest and sincere in addressing my concerns.	4.3	1.95	0.899			
Destination loyalty (DL) (Cong, 2021)				0.870	0.870	0.790
Revisit intention (RE)				0.836	0.836	0.753
RE1: If I could have done it again, I would have chosen this destination	5.3	1.63	0.865			
RE2: I plan to visit this destination again	5.2	1.51	0.863			
RE3: I will visit this destination again in the future.	5.3	1.55	0.875			
Intention to recommend by WOM (WOM)				0.860	0.860	0.781
WOM1: I would recommend this destination to others.	5.3	1.58	0.874			
WOM2: I speak positively about this destination to others.	5.2	1.69	0.885			
WOM3: I will suggest this destination to others.	5.3	1.65	0.893			

Source: Own elaboration

Table 3. **HTMT result**

	AB	AT	DT	EN	EWOM	ID	INF	INT	PER	RE	SA	SI	TRE	WOM
AB														
AT	**0.528**													
DT	0.308	**0.346**												
EN	0.475	0.467	**0.301**											
EWOM	0.529	0.476	0.290	**0.495**										
ID	0.693	0.622	0.434	0.609	**0.640**									
INF	0.609	0.539	0.293	0.530	0.471	**0.717**								
INT	0.552	0.473	0.343	0.632	0.570	0.720	**0.610**							
PER	0.527	0.427	0.296	0.510	0.487	0.552	0.479	**0.590**						
RE	0.568	0.558	0.466	0.636	0.531	0.696	0.654	0.691	**0.565**					
SA	0.632	0.559	0.361	0.631	0.623	0.734	0.687	0.680	0.603	**0.818**				
SI	0.561	0.455	0.353	0.560	0.507	0.622	0.459	0.629	0.577	0.629	**0.564**			
TRE	0.682	0.598	0.379	0.601	0.530	0.756	0.639	0.673	0.625	0.690	0.699	**0.576**		
WOM	0.636	0.608	0.520	0.628	0.603	0.765	0.714	0.691	0.623	0.683	0.810	0.625	**0.746**	

Source: Own elaboration

Table 2 shows that all factors are more than 0.7, and all Cronbach Alpha and CR values are more than 0.7, indicating that the measuring scales of the structures studied are reliable. In addition, all AVE values are greater than 0.5, which supports the structural convergence. Table 2 shows that the square root of the construction's AVE is greater than the correlation with other constructions. In addition, all values in the HTMT matrix were below 0.85 (Hair Jr et al., 2021). Consequently, discriminatory validity between constructions is acceptable. All VIF values are also lower than 5 which indicates that there are no issues with multicollinearity and common method bias (Hair Jr et al., 2021).

4.3. Assessment of structural model

4.3.1. Structural model and path analysis

PLS-SEM is used to test direct, indirect, and moderate effects. Following the suggestion of Aguinis et al. (2017), authors estimated direct, indirect and moderating effects in the same model (bootstrapping 10.000).
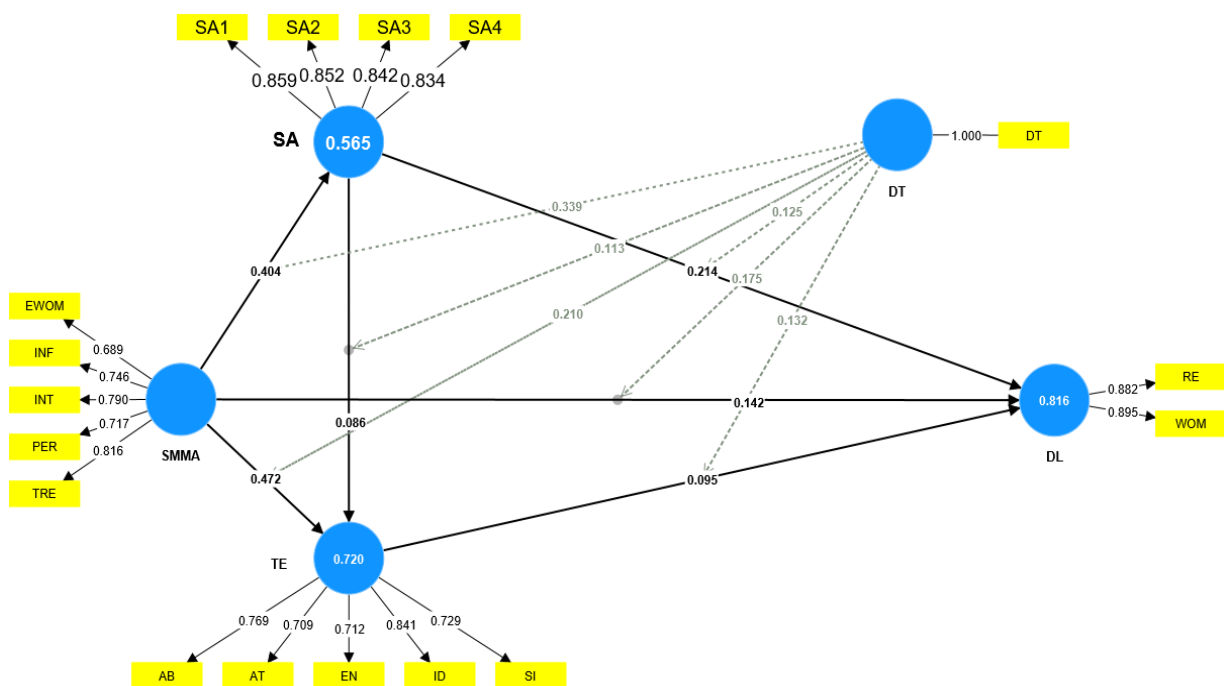
Table 4. **Direct hypothesized relationships**

Structural paths	β	S.D	T -value	P value	Conclusion
H1: Tourist engagement → Destination Loyalty	0.095	0.042	2.279	0.023	Supported
H2: Tourist satisfaction → Destination Loyalty	0.214	0.037	5.779	0.000	Supported
H3: Tourist satisfaction → Tourist engagement	0.086	0.038	2.257	0.024	Supported
H4: SMM Activities → Tourist satisfaction	0.404	0.040	10.155	0.000	Supported
H5: SMM Activities → Tourist engagement	0.472	0.064	7.372	0.000	Supported
H6: SMM Activities → Destination Loyalty	0.142	0.042	3.383	0.001	Supported

Source: own elaboration

Test results showed that all direct effects proposed were supported by data as shown in Table 4. In more detail, tourist engagement exerted positive influences on destination loyalty (H1: β = 0.095, p < 0.05). Satisfaction was positively associated with destination loyalty (H2: β = 0.214, p < 0.001) and tourist engagement (H3: β = 0.086, p < 0.05). Social media marketing was positively associated with satisfaction (H4: β = 0.404, p < 0.001), tourist engagement (H5: β = 0.472, p < 0.001), and destination loyalty (H6: β = 0.142, p < 0.001). Therefore, hypotheses (H1 to H6) are accepted (p<0.05).

Figure 2. **The results of the impact analysis of the factors in this study model**

Source: own elaboration

4.3.2. Mediating hypothesized relationship

According to Hair Jr et al. (2021), when a third construction, such as an external and an external variable, intervenes between two existing constructions, an intermediary effect is created. The results of Table 4 showed that SMM has a significant positive impact on satisfaction, tourism engagement and destination loyalty. Similarly, Table 5 also exhibited that SMM had indirect effects on destination loyalty via satisfaction (H7a: $\beta = 0.086$, $p < 0.001$) and tourist engagement (H7b: $\beta = 0.045$, $p < 0.05$). The results of this study also show that SMM has an indirect impact on tourist engagement through the mediator of satisfaction (H8: $\beta = 0.035$, $p < 0.05$). Hence, hypotheses (H7a, H7b, and H8) are accepted ($p < 0.05$).

Table 5. **Mediating hypothesized relationships**

Hypotheses and Mediation	β	S.D	T -value	P value	Conclusion
H7a: SMMA → SA → DL	0.086	0.018	4.884	0.000	Supported
H7b: SMMA → TE → DL	0.045	0.020	2.199	0.028	Supported
H8: SMMA → SA → TE	0.035	0.016	2.136	0.033	Supported

Source: own elaboration

4.3.3. Testing moderating effects

Table 6. **Moderating hypothesized relationships**

| Relationship	β	S.D	T -value	P value	Conclusion
H9: DT x SA → DL	0.125	0.036	3.459	0.001	Supported
H10: DT x SA → TE	0.113	0.037	3.011	0.003	Supported
H11: DT x SMMA → SA	0.339	0.041	8.241	0.000	Supported
H12: DT x SMMA → TE	0.210	0.069	3.042	0.002	Supported
H13: DT x SMMA → DL	0.175	0.041	4.310	0.000	Supported
H14: DT x TE → DL	0.132	0.041	3.242	0.001	Supported
R^2		**DL**: 0.816; **SA**: 0.565; **TE**: 0.720			

Source: own elaboration

Six moderating effects were supported by the data. Destination trust positively influenced the relationship between satisfaction and destination loyalty (H9: $\beta = 0.125$, $p < 0.001$) and the relationship between satisfaction and tourist engagement (H10: $\beta = 0.113$, $p < 0.05$). Additionally, destination trust strengthened the relationships between SMMA and satisfaction (H11: $\beta = 0.339$, $p < 0.001$), tourist engagement (H12: $\beta = 0.210$, $p < 0.05$), and destination loyalty (H13: $\beta = 0.175$, $p < 0.001$). Finally, destination trust enhanced the relationship between tourist engagement and destination loyalty (H14: $\beta = 0.132$, $p < 0.001$).

The results in Table 6 and Figure 3a supported hypothesis H9, showing that destination trust positively influenced the relationship between satisfaction and loyalty. As destination trust increased, this
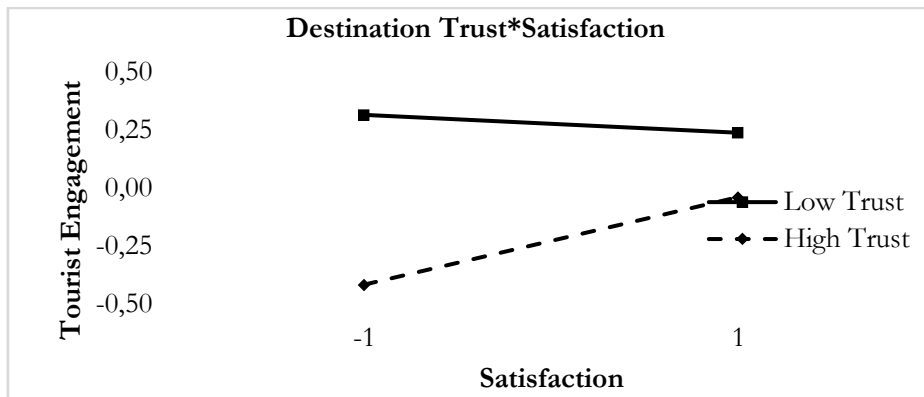
connection was strengthened, highlighting the importance of fostering trust to enhance tourist satisfaction and loyalty.

Figure 3a. **Tourist satisfaction by destination trust on destination loyalty**
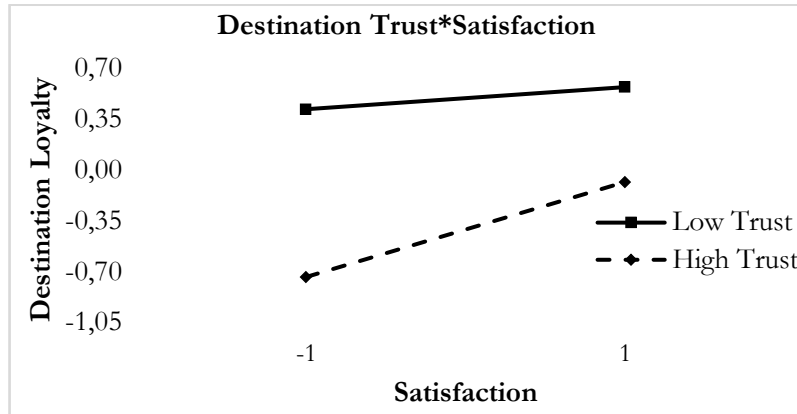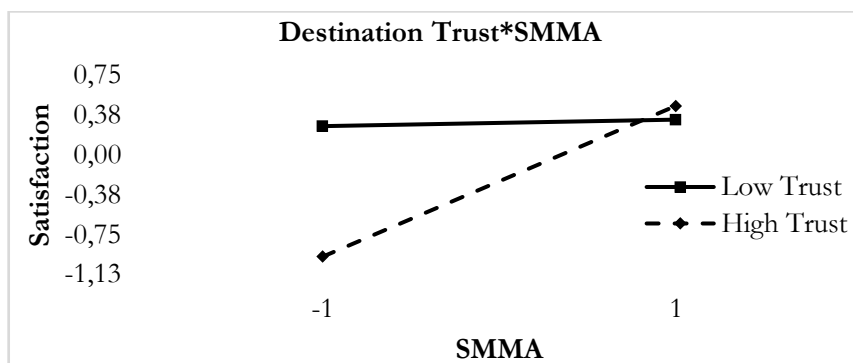

Source: own elaboration

Figure 3b. **Tourist satisfaction by destination trust on tourist engagement**

Source: own elaboration

Table 6 showed that destination trust positively influenced the relationship between satisfaction and engagement. Figure 3b illustrated that increasing destination trust shifted the relationship from negative to positive. This shift supported hypothesis H10, emphasizing the need for destinations to enhance and maintain high tourist trust.
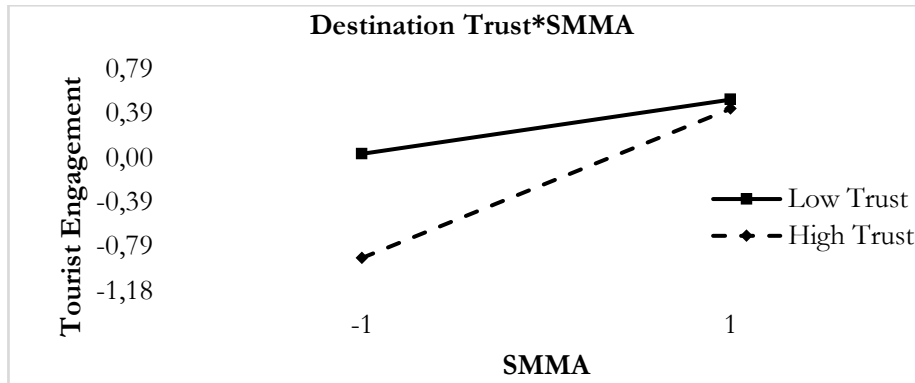
Figure 4a. **SMMA by destination trust on tourist satisfaction**
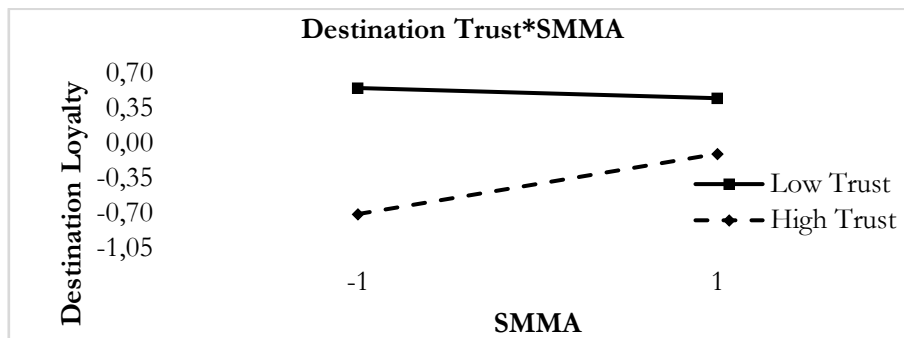

Source: own elaboration

Similarly, Table 6 and Figures 4a, 4b, and 4c supported hypotheses H11, H12, and H13. Figure 4a showed that high destination trust significantly boosts the positive impact of SMMA on tourist satisfaction, while low destination trust results in minimal impact on satisfaction. Figure 4b indicated that higher tourist trust in a destination strengthened the positive relationship between SMMA and tourist engagement, whereas lower trust resulted in a weaker correlation. Figure 4c supported hypothesis H13: Higher destination trust led to a stronger positive relationship between SMMA and destination loyalty, whereas lower destination trust resulted in a weaker relationship.

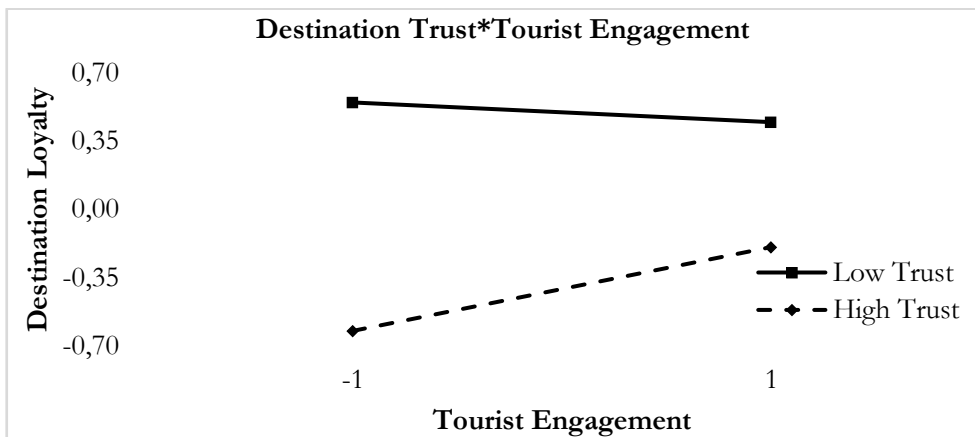Figure 4b. **SMMA by destination trust on tourist engagement**

Source: own elaboration

Figure 4c. **SMMA by destination trust on destination loyalty**

Source: own elaboration

Figure 5. **Tourist engagement by destination trust on destination loyalty**

Source: own elaboration

Furthermore, Table 5 and Figure 5 supported hypothesis H14. Specifically, Figure 5 demonstrated that higher tourist trust in a destination led to a stronger positive relationship between tourist engagement and destination loyalty, whereas lower trust resulted in a weaker relationship.

Finally, the R^2 value presented in Table 5 indicated that 81.6% of the variance in destination loyalty was explained by the model. This high R^2 value suggested that the independent variables were highly effective in predicting destination loyalty.

5. Discussions

This study makes a significant contribution by developing an integrated model based on an extended Stimulus-Organism-Response (S-O-R) framework (Mehrabian & Russell, 1974), aimed at examining how social media marketing activities (SMMA) as stimuli influence the organism—specifically tourist satisfaction and engagement—ultimately leading to the response, represented by destination loyalty. The research underscores the mediating role of the organism (tourist satisfaction and engagement) and the moderating role of destination trust in shaping the relationships between these factors and the response (destination loyalty) within the proposed model. In this study, SMMA, tourist engagement, and destination loyalty are conceptualized as multidimensional constructs, each measured using second-order structures. SMMA is comprised of five dimensions: Information, interaction, personalization, trendiness, and electronic word-of-mouth (Kim & Ko, 2012; Yadav & Rahman, 2018). Tourist engagement is similarly measured across five dimensions: Identification, enthusiasm, attention, absorption, and social interaction (Huang & Choi, 2019; Rasoolimanesh et al., 2019; So et al., 2014). Destination loyalty is assessed through two dimensions: intention to revisit and word-of-mouth recommendation (Cong, 2021; Elbaz et al., 2021). The research investigates both direct and indirect connections between stimuli, organisms, and responses, with the findings supporting the proposed hypotheses. The suitability of the S-O-R model in explaining tourist behavior in the tourism sector has been demonstrated through numerous studies (Chen et al., 2015; Choi & Kandampully, 2019; Fakfare et al., 2024; Gupta et al., 2019), proving its relevance in interpreting tourists' behavioral intentions. The current study contributes to understanding that destination loyalty is the outcome of stimuli (SMMA) capable of eliciting tourists'cognitive and emotional organisms, leading to tourists' responses. The study findings confirmed both direct and indirect effects between the components, establishing a more comprehensive understanding of how and why SMMA promotes destination loyalty. Furthermore, the exploration of the moderating effect of destination trust on the relationships within the S-O-R model introduces a novel contribution, extending previous research and offering valuable insights into the link between stimuli, organism, and response in tourism context. Overall, this study not only validates the role of SMM but also provides new insights into the mediating roles of tourist satisfaction and engagement, as well as the moderating role of destination trust. These findings contribute to a deeper understanding of tourist behavior and offer valuable implications for global tourism businesses seeking to harness the power of SMM and trust in different markets.

5.1 Theoretical implications

First, this study makes a notable theoretical contribution to tourism marketing by expanding the S-O-R framework, addressing the gaps identified by Asyraff et al. (2023), who pointed out the lack of strong theoretical foundations and consistency in prior uses of the S-O-R model in hospitality and tourism research. Asyraff et al. (2023) called for the application of the S-O-R model in various contexts, such as green hotels and emerging tourism destinations, and also emphasized the need to expand the model by incorporating both mediating and moderating variables to further explore its applicability across different contexts. Responding to this call, this study integrates both mediating and moderating variables to explore the intricate relationships between tourists' perceptions, emotions, and behaviors within a

single, comprehensive model. In contrast, many other studies have only examined destination trust as a mediator in relationships (Abubakar & Ilkan, 2016; Azhar et al., 2023; Ebrahim, 2019; Hafez, 2021; Su et al., 2022) This simultaneous examination of mediating and moderating effects provides a deeper understanding of how external stimuli—such as SMM—affect tourists' cognition and emotions (satisfaction, engagement, and trust), leading to behavioral outcomes like destination loyalty. The study also integrates a second-order structure to assess SMM, tourist engagement, and destination loyalty, providing an in-depth exploration of the multidimensional aspects of SMM and their individual impacts on tourists' cognition, emotions, and behaviors (satisfaction, engagement, and loyalty). This offers a more comprehensive framework for understanding how each dimension of SMM influences tourists' cognition, emotions, and behaviors, particularly in the context of emerging tourism destinations in developing countries, where digital transformation is rapidly progressing.

Second, this study expands on the moderating role of destination trust within the model, building on the research of Elbaz et al. (2021), who discovered the moderating effect of destination trust on the relationship between tourist satisfaction and destination loyalty in the health tourism scene. This study goes further by simultaneously exploring the moderating effect of destination trust on all relationships within the research model, revealing that destination trust significantly strengthens key connections, including those between tourist satisfaction and engagement, between social media marketing (SMM) and tourist satisfaction, SMM and tourist engagement, SMM and destination loyalty, as well as between tourist engagement and destination loyalty, offering a more comprehensive understanding of its influence across various aspects of tourist perceptions, emotions, and behaviors. This is the first study to examine destination trust as a moderator across these relationships, whereas prior research primarily viewed it as a mediator (Abubakar & Ilkan, 2016; Su et al., 2022). The study's theoretical implications enrich the literature on destination trust and tourist behavior, and its practical insights emphasize the importance of incorporating destination trust into SMM strategies to boost tourist satisfaction, engagement, and loyalty. It also encourages future exploration of destination trust in diverse cultural and social contexts.

Moreover, the findings confirm that SMM directly boosts tourist satisfaction, engagement, and loyalty to destinations, aligning with previous studies (Chen & Lin, 2019; Godey et al., 2016; Kim & Ko, 2012; Muchardie et al., 2016; Yadav & Rahman, 2018), which highlighted the influential role of social media in shaping customer perceptions, emotions, and behaviors. Additionally, SMM indirectly enhances destination loyalty through mediators such as tourist satisfaction and engagement. This study extends the findings of previous research (Godey et al., 2016; Kim & Ko, 2012; Yadav & Rahman, 2018) by delving deeper into the mediating factors between SMM and loyalty, with a particular emphasis on the mediating role of tourist engagement, which has not been thoroughly explored in this context before. The findings suggest that SMM is particularly effective amid digital transformation in emerging markets, reinforcing the argument by Hays et al. (2013) and Dwivedi et al. (2021) that social media is not just an additional marketing tool but a central component of a successful destination marketing strategy.

In conclusion, this study enhances the theoretical framework by offering a more holistic understanding of how SMM, satisfaction, engagement, and destination trust collectively influence destination loyalty. By incorporating both mediating and moderating variables into the S-O-R framework, it provides deeper insights into the effects of different SMM dimensions on tourists' cognition, emotions, and behaviors, thereby contributing to a more comprehensive model of tourism marketing dynamics.

5.2 Practical implications

This study holds significant implications for policymakers and tourism managers, highlighting the need to enhance social media marketing and build destination trust to improve tourist satisfaction, engagement, and loyalty. It offers valuable insights for developing more effective tourism marketing strategies. Based on the findings, we propose the following policy recommendations to enhance the effectiveness of destination marketing activities:

- **Provide accurate information:** Ensure that the destination's social media platforms offer precise and up-to-date information about products and services. This builds trust with tourists and includes essential details like travel tips, event schedules, and featured activities, which are crucial for attracting and retaining tourists.
- **Facilitate user-generated content:** Encourage tourists to actively participate by sharing and updating content. Regular engagement with followers on social media, along with prompt and positive responses to comments and inquiries, can build a sense of closeness and trust, fostering a stronger community.
- **Offer personalized recommendations:** Tailor content to meet individual tourists' needs, such as providing personalized shopping suggestions. This approach not only enhances satisfaction and engagement but also ensures that tourists feel valued and well-served.
- **Feature the latest information consistently:** Keep tourists informed and engaged by consistently featuring the latest information. Highlighting the trendiness of the destination's social media platforms can appeal to younger, dynamic tourists, while stimulating lively discussions on relevant topics fosters high interaction.
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6. Conclusion

In conclusion, this study demonstrated how perceived SMMA influenced destination loyalty through the mediating effects of satisfaction and tourist engagement, based on the S-O-R model. It examined the direct effects of SMMA on tourist satisfaction ($R^2 = 0.565$), engagement ($R^2 = 0.720$), and destination loyalty ($R^2 = 0.816$). The study identified SMMA, tourist satisfaction, destination trust, and tourist engagement as primary factors affecting destination loyalty. It advanced existing research by exploring how destination trust moderates the relationships between tourist satisfaction and both engagement and loyalty, as well as between SMMA and these variables. This study explored the moderating role of destination trust on the relationships between SMMA and tourist satisfaction, engagement, and destination loyalty. It offered new insights into the significance of trust in crucial tourism relationships specifically, and in the broader context of customer behavior.

Despite its significant contributions, this study has several limitations. Firstly, it exclusively examines the impact of SMMA within the S-O-R framework on destination loyalty through satisfaction and tourist engagement. Secondly, the research relies on data from 514 domestic tourists visiting coastal destinations in four Vietnamese cities, with uneven sample sizes among these locations potentially impacting the findings' validity. Lastly, the study focuses solely on four central coastal tourist destinations in Vietnam, each differing in cultural and natural characteristics, management capabilities, and popularity levels.

Future research could enhance the S-O-R framework by incorporating stimuli such as tourists' emotional experiences. Additionally, comparing tourist trust between less popular and more popular destinations could offer insights into the dynamics of destination loyalty, considering how destination popularity influences tourist perceptions and behaviors, as suggested by Liu et al. (2019). Moreover, tourist inspiration should be examined as a moderator in the relationship between SMMA and tourist loyalty or engagement. Future studies should also broaden the scope of the survey population to include international tourists or explore similar coastal destinations like Vietnam to investigate whether cultural differences impact the relationships between the aforementioned factors.

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