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From Scrolling to Travelling: How TikTok's Micro-Gamification and Recommendation Cues Shape Destination Visit Intentions Among Nepalese Users

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Abstract: The rapid proliferation of short-video platforms like TikTok has transformed how individuals discover and select travel destinations, particularly in emerging markets such as Nepal, where tourism is vital for economic growth. This thesis investigates the psychological mechanisms through which TikToks content influ ences users intention to visit destinations. Drawing on the Stimulus–Organism–Response paradigm, the study integrates two rarely combined sets of antecedents: micro-gamification mechanisms (mastery and narratives) and recommendation cues (perceived accuracy and perceived serendipity) for TikTok context. These four stimuli are hypothesized to trigger two parallel psychological states—cognitive flow experience and affective destination attachment—which jointly explain users' intention to visit a portrayed destination. A survey of 218 active Nepalese TikTok users was analysed through PLS-SEM. Results show that perceived recommendation serendipity ($\beta = 0.331$, $p < 0.001$) and accuracy ($\beta = 0.319$, $p < 0.001$) are the strongest drivers of destination attachment, while mastery enhances both attachment ($\beta = 0.234$, $p < 0.01$) and flow ($\beta = 0.276$, $p < 0.01$). Narratives exert only marginal influence on flow experience while insignificant for destination attachment. Flow experience ($\beta = 0.416$, $p < 0.001$) and destination attachment ($\beta = 0.312$, $p < 0.001$) significantly predict visit intention, with both partially mediating the stimulus–response chain. Post-hoc multi-group analysis (MGA) indicates no significant gender moderation, suggesting model generalizability across demographics. Control variables like age and income showed negligible influence. The study advances tourism-psychology theory by modeling a complete S-O-R sequence for short-form video platforms and offers evidence-based guidance to destination marketers, content creators, and platform engineers in emerging markets.

Keywords: TikTok; Recommendation Cues; Flow Experience; Destination Attachment; Travel Intention.

1. Introduction

The rapid diffusion of short-video platforms has fundamentally reshaped how travelers discover, evaluate, and develop intentions toward tourism destinations, particularly in emerging markets. Contemporary tourists increasingly rely on digital platforms not only for functional information but also for experiential inspiration, emotional engagement, and social validation during the pre-travel decision-making process (Cao et al., 2021; Du et al., 2022). Visual-centric social media environments enable users to experience destinations vicariously through immersive audio-visual content, thereby reducing psychological distance and stimulating travel motivation prior to physical visitation (Wang et al., 2022). Within this evolving digital tourism landscape, mobile short-video platforms have emerged as particularly influential due to their ability to deliver continuous, algorithmically curated streams of highly engaging content that capture user attention almost instantaneously (Atkins et al., 2017; Liu et al., 2024).

Among these platforms, TikTok has rapidly established itself as a dominant travel inspiration medium. Its short-form video format, seamless scrolling interface, and artificial intelligence–driven recommendation system create an environment conducive to deep user immersion and sustained engagement (Zhao & Wagner, 2022). TikTok's "For You" feed exposes users to personalized and serendipitous content, allowing them to encounter travel destinations without deliberate search effort, often in ways that feel unexpectedly relevant and emotionally engaging (Kunaver & Požrl, 2017; Ma et al., 2021). This role is particularly salient in emerging markets such as Nepal, where tourism is a critical driver of economic development but continues to face challenges related to limited visibility and uneven regional promotion—challenges also observed in other nations such as Japan, South Korea, and Germany (Döringer et al., 2020; Kang et al., 2020; Roh & Kim, 2022). Following its reauthorization in 2024, TikTok's rapid adoption in Nepal has positioned the platform as a key channel through which destinations, cultural practices, and travel experiences are showcased to both domestic and global audiences (Kemp, 2025; Start.io, 2024).

Despite TikTok's growing prominence in tourism promotion, academic research has only begun to unpack the psychological mechanisms through which its distinctive features influence travel-related intentions. Existing studies have largely focused on influencer credibility, content quality, and platform trust (Qiu et al., 2024; Wang et al., 2022), while comparatively little attention has been given to how platform-specific affordances—particularly micro-gamification mechanisms and algorithmic recommendation characteristics—jointly shape users' cognitive and affective responses. From a tourism psychology perspective, exposure to digital content alone is insufficient to explain behavioral outcomes; rather, internal psychological processes mediate the relationship between environmental stimuli and behavioral responses (Mehrabian & Russell, 1974).

The Stimulus–Organism–Response (S-O-R) paradigm provides a robust framework for examining these processes. Within TikTok's digital environment, subtle gamification cues in its content are experienced. The integration of game-design elements into non-game contexts—a practice broadly termed gamification—has been shown to increase user engagement and facilitate behavior change (Deterding et al., 2011; Seaborn & Fels, 2015). In short-form video environments, like TikTok, these mechanisms operate as micro-gamification, subtly embedding gameful principles into individual content units (Amjad, 2023; Metwally et al., 2020). Micro-gamification mechanisms such as mastery and narratives function as experiential stimuli that enhance intrinsic motivation, perceived competence, and immersion without transforming content into explicit games.

Mastery may emerge through perceived learning and exploration related to travel destinations, while narratives emotionally situate destinations within meaningful storylines (Liu et al., 2019; Jo & Shin, 2025). In parallel, algorithmic recommendation cues—specifically perceived recommendation accuracy and perceived recommendation serendipity—serve as technological stimuli that shape users' engagement by balancing relevance and novelty, thereby fostering curiosity, enjoyment, and emotional resonance (Xiao et al., 2025).

These stimuli are expected to influence visit intention through two key organismic states: flow experience and destination attachment. Flow experience reflects deep cognitive immersion and enjoyment during content consumption (Csikszentmihalyi, 1975; Hoffman & Novak, 1997), while destination attachment represents an affective bond toward places that can develop even prior to physical visitation through emotionally engaging digital experiences (Yuksel et al., 2010; Jo & Shin, 2025). However, existing research rarely integrates these cognitive and affective mechanisms within a single explanatory model, particularly in emerging market contexts. Addressing this gap, the present study develops and empirically tests an integrated S-O-R model to explain how TikTok's micro-gamification mechanisms and recommendation cues influence visit intention through flow experience and destination attachment among Nepalese TikTok users.

2. Theoretical Background and Hypotheses Development

2.1. Stimulus–Organism–Response (S-O-R) Paradigm in Digital Tourism

The Stimulus–Organism–Response (S–O–R) paradigm was originally proposed by Mehrabian and Russell (Mehrabian & Russell, 1974). The model proposed that environmental stimuli incite the internal and physical state of an individual, thereby fostering a behavioral response. Within this framework, stimuli (S) refer to environmental cues that arouse individuals, organismic states (O) refers to the affective and cognitive intermediate states that intervene in the relationship between the stimulus and the individual 's reaction, and responses (R) represent attitudinal or behavioral outcomes (Eroglu et al., 2001). The S–O–R model has been widely applied in consumer behavior and digital environments to explain how online stimuli influence users'internal experiences and intentions (Li & Peng, 2021; Liu et al., 2023).

In digital environments, platform design features and technological affordances serve as critical stimuli shaping users internal states (Mollen & Wilson, 2010). While existing research on short-video platforms has examined interactive features such as likes and comments, the role of AI-driven recommendation systems as environmental stimuli remains underexplored (Liu et al., 2024). Similarly, gamification research demonstrates that game-design elements consistently elicit cognitive engagement and emotional responses in tourism contexts (Bravo et al., 2021; Xu et al., 2013). Accordingly, this study conceptualizes two categories of platform stimuli: micro-gamification mechanisms (mastery and narratives) and perceived recommendation cues (accuracy and serendipity).

The organismic state encompasses both affective and cognitive dimensions. The affective state involves emotional responses elicited by environmental stimuli, with place attachment—specifically its place affect component—representing the emotional bond formed with a destination (Isa et al., 2020; Kyle et al., 2004). The cognitive state involves information processing and is exemplified by flow experience, characterized as an optimal state of deep immersion and cognitive enjoyment (Csikszentmihalyi & LeFevre, 1989; Hoffman & Novak, 1997).

The response represents the final behavioral outcome, manifested as approach behaviors including intentions to explore or visit (Donovan & Rossiter, 1982). Drawing on this framework, the study proposes that TikToks stimuli elicit destination attachment and flow experience, which in turn drive users visit intention.

2.2. Flow Theory in Short-Video Tourism Contexts

Flow theory, introduced by (Csíkszentmihályi, 1975), explains the state of deep absorption individuals experience when they are fully engaged in an activity. This optimal state is characterized by several factors, often summarized under nine dimensions of which transformation of time, concentration on the task at hand, autotelic experience, challenge-skill balance are some of them. (Hoffman & Novak, 1997; Hoffman & Novak, 2009) extended flow to digital environments, arguing that online flow occurs when users become completely immersed in the online activity.

Flow theory has been widely applied in online consumer and tourism contexts (Chen et al., 2018; Ding & Hung, 2021; Liu et al., 2022; Yang et al., 2022). When users browse short tourism videos, the continuous visual stimulation from appealing landscapes and engaging characters can draw them into a deeper sense of involvement. Vivid scenery and dynamic scene transitions help evoke enjoyment, increasing the likelihood of entering a focused flow state (Collins et al., 2009). Once viewers experience this state of immersion while watching tourism content, they may naturally develop a desire for the destination being portrayed, which ultimately enhances their visit intention.

However, limited research has examined how TikTok-specific affordances—such as perceived recommendation accuracy and perceived recommendation serendipity—interact with micro-gamification mechanisms—such as mastery and narratives— to shape flow experience in tourism contexts. Existing studies suggest that such features can heighten enjoyment, attention, and immersion, positioning flow as a critical cognitive organismic state in this study (Jiménez Valverde et al., 2025; Liu et al., 2024; Llorente-Cejudo, 2024; Zhao & Wagner,

2022).

Therefore, this study adopts flow experience as a key organismic state mediating the relationship between TikTok stimuli and visit intention.

2.3. Attachment Theory and Destination Attachment

Attachment theory was originally developed by Bowlby (Bowlby, 1969, 1973) to explain emotional bonds between infants and caregivers. Subsequent work by Ainsworth demonstrated that attachment varies in strength and form, based on behavioral characteristics of infants; highlighting variation in how such bonds develops (Ainsworth, 1979). Over time, attachment theory has been extended to adult interpersonal bonds (Li & Peng, 2021), brand attachment (Fournier, 1998; Park et al., 2010), and place-based attachment (Jo & Shin, 2025; Song et al., 2019).

Destination attachment originates from place attachment theory in environmental psychology, which conceptualizes attachment as an emotional bond between individuals and their environments (Hummon, 1992; Low & Altman, 1992). In the realm of contemporary tourism, destination attachment has emerged as a pivotal psychological construct, representing the emotional, cognitive, and functional bonds that tourists form with specific travel sites (Yuksel et al., 2010). This theoretical framework is increasingly applied in tourism, where destination attachment has revealed to be a key determinant of traveler attitudes and behaviors (Luong, 2024; Patwardhan et al., 2020).

In digital tourism contexts research indicates that gamified interactions can fortify the emotional links between a place and person (Jo & Shin, 2025). Accordingly, this study adopts destination attachment as a key organismic state mediating the relationship between TikTok stimuli and visit intention.

2.4. The Stimulus (S): TikTok as a Travel Inspiration Platform

Within the S-O-R framework, stimuli represent external environmental cues that trigger internal psychological responses. In the context of TikTok travel content, this study focuses on two key categories of stimuli: **micro-gamification mechanisms** and **recommendation cues**.

2.4.1. Micro-Gamification Mechanisms

Gamification refers to the use of game design elements in non-game contexts to enhance user engagement and motivation (Deterding, Dixon, et al., 2011). Unlike full-fledged games, micro-gamification involves subtle, lightweight elements that introduce game-like experiences without explicit gameplay structures (Amjad, 2023; Metwally et al., 2020). In social media environments, micro-gamification mechanisms are often embedded within content formats, interaction patterns, and narrative structures.

Drawing on prior gamification and tourism literature, this study conceptualizes two micro-gamification mechanisms relevant to TikTok travel content: **mastery** and **narratives**.

Mastery refers to users‘perceptions of skill development, control, and knowledge acquisition through content consumption and is grounded in the broader psychological concept of exerting control over one‘s experiences (Liu et al., 2019; Pearlin & Schooler, 1978). In TikTok travel contexts, mastery may arise when users feel that watching travel contents helps them discover new destinations, understand travel-related information, or improve their travel planning abilities

Narratives refers to the storytelling structure that provides coherence, emotional sequencing, and meaning to content, and it has been identified as a distinct gamification mechanism (Liu et al., 2019). This perspective aligns with narrative theory, which highlights storytelling as a key mechanism for shaping experiences in both gaming and tourism contexts (Lu, 2014; Polkinghorne, 1988).

In this study, micro-gamification encompasses lightweight, platform-native elements embedded within TikTok travel content—such as polls, quizzes, music, narrations, transitions, and text overlays. These observable features operate through mastery and narratives as experiential mechanisms that shape users engagement with content, ultimately influencing psychological outcomes including flow experience and destination attachment.

2.4.2. Perceived Recommendation Cues

In addition to content-based stimuli, TikTok’s technological infrastructure plays a crucial role in shaping user experiences. Algorithmic recommendation systems determine which content users encounter and how it is presented, thereby shaping engagement, attention, and enjoyment (Kunaver & Požrl, 2017; Ma et al., 2021). This study focuses on two perceived characteristics of TikTok’s recommendation system: perceived recommendation accuracy and perceived recommendation serendipity.

Perceived Recommendation Accuracy (PRA) reflects users judgments of how well recommended content aligns with their interests, while *Perceived Recommendation Serendipity (PRS)* represents evaluations of unexpectedly novel yet personally meaningful recommendations that fall outside usual preferences.

Past studies show that recommendation accuracy and serendipity shape engagement, attention, and enjoyment—critical psychological states in short-video consumption (Kunaver & Požrl, 2017; Ma et al., 2021). These recommendation cues affect users curios ity, concentration, and perceived enjoyment, recognized as key antecedents of immersive digital experiences (Zhao & Wagner, 2022).

Tourism psychology research indicates that surprising stimuli enhance experiential intensity and strengthen affective bonds with places (Vada et al., 2019; Wang et al., 2020). Research on tourism recommender systems further demonstrates that accurate, preference-congruent recommendations enhance informational value while reducing cognitive uncertainty, fostering satisfaction and platform trust (M. Li et al., 2025; Xiao et al., 2025). Such positive cognitive appraisals promote well-being and cognitive clarity, supporting the development of meaningful destination connections (Wang et al., 2020).

Thus, PRA and PRS are conceptualized as algorithmic stimuli shaping users cognitive and affective responses on TikTok.

2.5. The Organism (O): Critical Psychological States

2.5.1. Flow Experience as a Mediating Mechanism

Online *flow* represents a cognitive organismic state characterized by immersion, enjoyment, and focused attention (Agarwal & Karahanna, 2000; Hoffman & Novak, 1997; Novak et al., 2000). Flow experience remains a widely studied psychological state across digital contexts. Numerous studies have documented artifact-related, personal, and contextual antecedents to flow, emphasizing the importance

of considering technology- and content-specific characteristics when examining immersive digital engagement (Jeon et al., 2017; Sreejesh et al., 2021; Triberti et al., 2021).

Empirical works in online environments consistently identify enjoyment, curiosity, and focused attention as central components influencing users‘ subsequent intentions (Chen et al., 2020; Liu et al., 2024; Lu & Cheng, 2020). In TikTok context, technology affordances facilitate flow (Zhao & Wagner, 2022). Additionally, game mechanics like mastery and narratives have been shown to be conduits of flow (Jiménez-Valverde et al., 2025; Llorente-Cejudo, 2024).

Thus, in this study, flow functions as a cognitive mediator through which TikTok stimuli influence intention.

2.5.2. Destination Attachment as a Mediating Mechanism

Destination attachment, recognized as a pivotal affective bond shaping traveler attitudes and behaviors (Luong, 2024; Patwardhan et al., 2020; Yuksel et al., 2010), can be cultivated through various experiential pathways. Among these, gamification has emerged as a significant mechanism, with social connectivity in location-based games notably fostering place attachment (Oleksy & Wnuk, 2017). This process operates through dual channels: the hedonic enjoyment of the experience and the meaningful, educational understanding of a place facilitated by game-like structures (Lewicka, 2011; Oleksy & Wnuk, 2017).

Recent research further crystallizes two specific gamified elements—mastery and narratives—as particularly potent, independent drivers of a stronger emotional connection to a destination (Jo & Shin, 2025). Additionally, prior tourism psychology scholarships have highlighted the role of perceived recommendation cues in shaping emotional attachment to places (M. Li et al., 2025; Vada et al., 2019; Wang et al., 2020; Xiao et al., 2025).

Therefore, destination attachment is conceptualized as an affective organismic state mediating the influence of TikTok stimuli on visit intention.

2.6. The Response (R): Visit Intention

Intention, defined as an individuals readiness to perform a specific future behavior (Ajzen, 1991), serves as the primary predictor of actual behavior in tourism and is thus a critical outcome variable for research and marketing (Qiu et al., 2024; Wang et al., 2022). While factors like platform quality and influencer content directly influence travel intentions (Qiu et al., 2024; Wang et al., 2022); this study positions intention within the Stimulus-Organism-Response (S-O R) framework. Here, the intention to visit a destination constitutes the ultimate Response (R), which is theorized to be directly shaped by the individuals internal Organism (O) states.

Specifically, we posit that the two core organism states developed in this review—the immersive flow experience and the emotional destination attachment—are the pivotal psychological drivers that translate digital engagement into concrete travel plans. Therefore, this study adopts visit intention as the key dependent variable, arguing that it is the combined influence of flow and destination attachment, elicited by micro-gamification mechanisms (mastery and narratives) and recommendation cues (PRA and PRS), which most effectively explain how TikTok experiences convert into real-world travel motivation.

Drawing on the preceding theoretical discussion, the conceptual framework is depicted along with the relevant hypotheses in the next section.

2.7. Research Model and Hypotheses Development

Based on the attachment theory and flow theory, we use the S-O-R model to explain how micro-gamification mechanism in tandem with perceived recommendation cues in TikTok influence destination attachment and flow, which eventually influences visit intention. The proposed research model is shared in Figure 1.

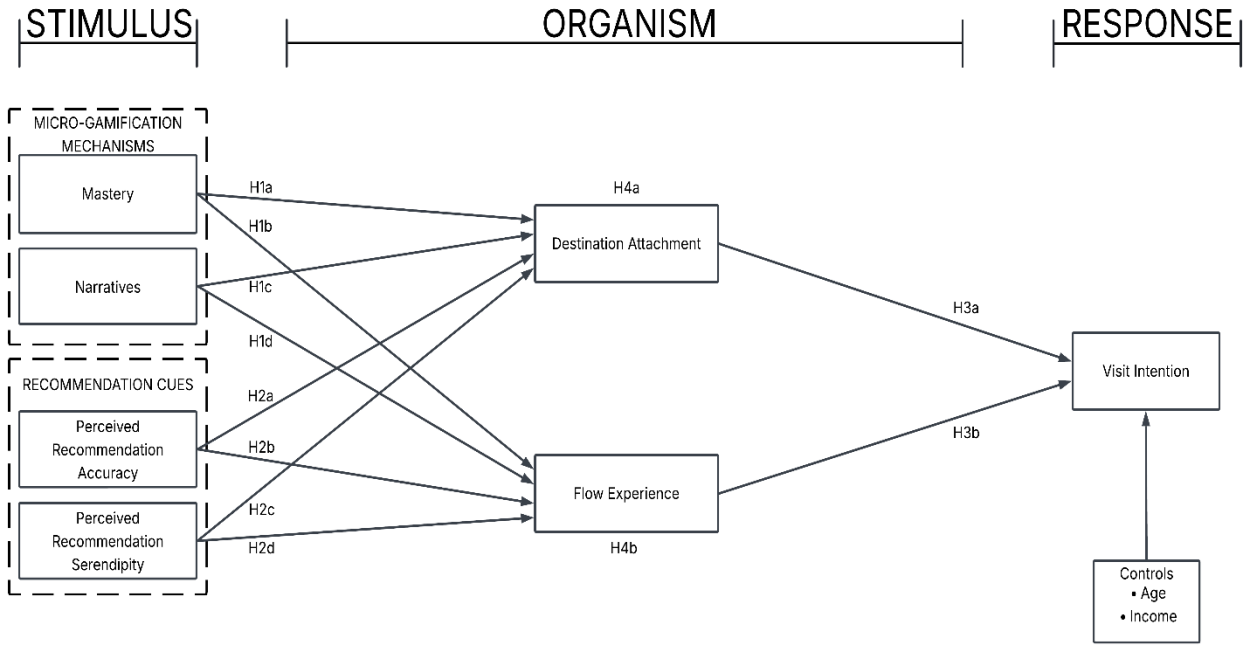

Figure.1 Proposed Research Model

Drawing on the preceding theoretical discussion the following hypotheses are proposed:

H1: Micro-gamification mechanisms positively influence users psychological states.

H1a: Mastery positively influences Destination Attachment.

H1b: Mastery positively influences Flow Experience.

H1c: Narratives positively influences Destination Attachment.

H1d: Narratives positively influences Flow Experience.

H2: Perceived recommendation cues positively influence users psychological states.

H2a: Perceived Recommendation Accuracy (PRA) positively influences Destination Attachment.

H2b: Perceived Recommendation Accuracy (PRA) positively influences Flow Experience.

H2c: Perceived Recommendation Serendipity (PRS) positively influences Destination Attachment.

H2d: Perceived Recommendation Serendipity (PRS) positively influences Flow Experience.

H3: The organismic psychological states positively influence the response.

H3a: Destination Attachment positively influences Visit Intention.

H3b: Flow Experience positively influences Visit Intention.

H4: The relationships between TikTok stimuli (micro-gamification mechanisms and recommendation cues) and Visit Intention are mediated by the organismic states.

H4a: Destination Attachment mediates the relationship between the stimuli and Visit Intention.

H4b: Flow Experience mediates the relationship between the stimuli and Visit Intention.

3. Methodology

3.1. Sample and Data Collection

The target population comprises **active TikTok Nepalese users,** who have been exposed to travel-related content on the platform. A **non-probability convenience sampling technique** was employed, which is common in social media and tourism research where sampling frames are difficult to establish (Hair et al., 2022). To ensure content relevance, respondents were screened using a qualifying question confirming that they use TikTok or not. Data were collected using a **self-administered online questionnaire** developed on Google Forms. The survey link was disseminated through social media channels, including TikTok, Facebook, and WhatsApp, over a four-week period. Participation was voluntary, and no monetary incentives were offered. A total of **218 usable responses** were retained for analysis after data screening.

The **structured questionnaire** consisting of three sections. All construct measures were **adapted from established scales** in prior literature to ensure content validity. Minor wording modifications were made to contextualize the items to TikTok travel content and the Nepalese setting, without altering the original meaning of the items. All items were measured using a **five-point Likert scale**, ranging from 1 ("strongly disagree") to 5 ("strongly agree"), which is consistent with prior tourism and social media studies (Wang et al., 2022; Liu et al., 2024).

3.2. Data Analysis

Data were analyzed using SPSS and Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS4. PLS-SEM was selected for its predictive orientation and suitability for complex models with medium sample sizes (Hair et al., 2019, 2022).

The analysis followed a two-stage approach:

Measurement Model: Assessed for internal consistency reliability (Cronbach's alpha, composite reliability > 0.70), convergent validity (average variance extracted > 0.50) (Fornell & Larcker, 1981), and discriminant validity (heterotrait–monotrait ratio < 0.85) (Henseler et al., 2015).

Structural Model: Evaluated through path coefficients, R^2, f^2, and predictive relevance (Q^2). Path significance was tested via bootstrapping with 5,000 resamples (Hair et al., 2019). Common method bias was assessed using a full collinearity approach (Kock, 2015) and multi-collinearity (variance inflation factor < 5) (Hair et al., 2022).

3.3. Ethical Considerations

The study adhered to ethical standards for social science research. Participation was voluntary, informed, and anonymous.

4. Results

4.1. Sample Profile

The demographic profile of respondents (Table 1) indicates a sample largely representative of active TikTok Nepalese users, particularly within younger and digitally engaged segments. The majority of respondents fell within the younger age categories, reflecting TikTok's dominant user demographics, while gender distribution was relatively balanced. Most respondents reported frequent TikTok usage, indicating sufficient exposure to travel-related content on the platform.

These characteristics suggest that the sample is appropriate for examining TikTok-induced travel intentions and aligns with prior digital tourism studies conducted in emerging markets (Wang et al., 2022; Liu et al., 2024).

Table 1. Demographic Profiles of Respondents (N=218)

Demographic Variable	Category	Frequency	Percentage
Gender	Male	110	50.46%
	Female	108	49.54%
Age Group	Under 20	17	7.80%
	20-25	101	46.33%
	26-30	37	16.97%
	31-35	32	14.68%
	36-40	13	5.96%
	Above 40	18	8.26%
Education Level	(ISC/+2) or Below	29	13.30%
	Diploma Degree	13	5.96%
	Associate Degree	4	1.83%
	Bachelor Degree	121	55.50%
	Master Degree	45	20.64%
	Doctorate - PhD or Above	6	2.75%
Monthly Income (NPR)	Below 10,001	61	27.98%
	10,001 - 20,000	16	7.34%
	20,001 - 30,000	32	14.68%
	30,001 - 40,000	15	6.88%
	40,001 - 50,000	26	11.93%
	Above 50,000	68	31.19%

4.2. Descriptive Statistics

Descriptive statistics (Table 2) were computed to examine the central tendency and dispersion of all latent constructs included in the study. The results indicate that respondents generally held positive perceptions toward TikTok travel content, micro-gamification mechanisms, and recommendation cues. Mean values across constructs were

above the scale midpoint, suggesting favorable evaluations of mastery, narratives, recommendation accuracy, and serendipity.

Flow experience and destination attachment also exhibited relatively high mean scores, indicating that respondents frequently experienced immersion and emotional connection while engaging with TikTok travel content. Visit intention demonstrated a similarly positive distribution, supporting the platform's relevance as a travel inspiration medium.

Table 2. Descriptive Statistics of Measurement Items

Construct	Indicators	Mean	Std. Deviation	Skewness	Kurtosis
MA	MA1	3.60	1.003	-0.557	0.132
	MA2	3.47	1.039	-0.423	-0.136
	MA3	3.74	0.945	-0.624	0.256
NA	NA1	3.78	0.929	-0.694	0.320
	NA2	3.72	0.873	-0.816	0.973
	NA3	3.61	0.959	-0.489	-0.073
PRA	PRA1	3.90	0.969	-1.023	1.174
	PRA2	3.82	0.932	-0.865	1.013
	PRA3	3.43	0.991	-0.224	-0.410
PRS	PRS1	3.64	0.980	-0.643	0.043
	PRS2	3.60	0.966	-0.539	0.145
	PRS3	3.63	0.995	-0.742	0.349
DA	DA1	3.75	1.079	-0.803	0.206
	DA2	3.79	0.959	-0.808	0.554
	DA3	3.49	1.026	-0.427	-0.218
FE	FE1	4.00	0.960	-1.009	0.884
	FE2	3.93	1.060	-1.056	0.855
	FE3	3.49	1.091	-0.427	-0.347
VI	VI1	3.77	0.938	-0.766	0.479
	VI2	3.71	0.928	-0.686	0.549
	VI3	3.83	0.989	-0.789	0.365

4.3. Measurement Model Assessment

The measurement model was assessed to ensure the reliability and validity of the reflective constructs prior to testing the structural relationships.

4.3.1. Internal Consistency Reliability

Internal consistency reliability was evaluated using **Cronbach's alpha** and **composite reliability (CR)**. As shown in (Table 3), all constructs exceeded the recommended threshold of 0.70 for both Cronbach's alpha and CR, indicating satisfactory internal consistency (Hair et al., 2019). These results confirm that the measurement items consistently capture their intended latent constructs.

Table 3. Construct Reliability Analysis (Cronbach Alpha and Composite Reliability) & AVE

	Cronbachs alpha	Composite reliability (rho_c)	AVE
MA	0.874	0.923	0.799
NA	0.880	0.926	0.806
PRA	0.817	0.891	0.732
PRS	0.830	0.898	0.747
DA	0.823	0.894	0.739
FE	0.809	0.887	0.723
VI	0.777	0.870	0.690

4.3.2. Convergent Validity

Convergent validity (Table 3) was assessed using **average variance extracted (AVE)**. All constructs achieved AVE values above the recommended cutoff of 0.50, indicating that each construct explained more than half of the variance in its indicators (Fornell & Larcker, 1981). Additionally, **outer loadings** for all items were above acceptable thresholds, further supporting convergent validity.

4.3.3. Discriminant Validity

Discriminant validity was examined using the **heterotrait–monotrait ratio (HTMT)**. As reported in (Table 4), all HTMT values were below the conservative threshold of 0.85, indicating adequate discriminant validity among the constructs (Henseler et al., 2015). These findings suggest that the constructs are empirically distinct and measure conceptually different phenomena.

Table 4. Discriminant Validity-HTMT

	MA	NA	PRA	PRS	DA	FE	VI
MA							
NA	0.837						
PRA	0.532	0.546					
PRS	0.726	0.620	0.671				
DA	0.686	0.579	0.734	0.789			
FE	0.718	0.671	0.624	0.673	0.699		
VI	0.758	0.803	0.524	0.644	0.694	0.742	

4.4. Structural Model Assessment

After establishing the adequacy of the measurement model, the structural model was evaluated to test the hypothesized relationships.

4.4.1. Path Coefficients and Hypothesis Testing

Path coefficients were estimated using a **bootstrapping procedure with 5,000 resamples** to assess the statistical significance of hypothesized relationships. The results (Table 5) indicate that micro-gamification mechanisms and algorithmic recommendation cues exert significant positive effects on both flow experience and destination attachment.

Specifically, **mastery** demonstrated a strong and significant effect on flow experience and destination attachment, highlighting the importance of perceived learning and exploration in enhancing both cognitive immersion and emotional bonding. **Narratives** on the contrary had marginal significant positive effects on flow and no significant effect on destination attachment. Among recommendation cues, **perceived recommendation accuracy** and **perceived recommendation serendipity** emerged as strong predictors, particularly for destination attachment. Flow experience and destination attachment both had significant positive effects on **visit intention**, supporting their roles as key organismic mechanisms translating TikTok stimuli into behavioral response.

4.4.2. Coefficient of Determination (R^2)

The explanatory power of the model was assessed using the **coefficient of determination (R^2)** for endogenous constructs. The R^2 values (Table 6) indicate that the model explains a substantial proportion of variance in flow experience, destination attachment, and visit intention. According to established benchmarks, the observed R^2 values can be interpreted as moderate to substantial, demonstrating strong predictive capability (Hair et al., 2019).

Table 5. Structural Model Results (Path Coefficients (β), t-statistics, p-values, and effect sizes)

Path	Original sample (β)	t-statistics (|O/STDEV|)	f2	Interpretation
MA -> DA	0.234**	2.934	0.046	Significant positive effect.
MA -> FE	0.276**	3.084	0.057	Significant positive effect.
NA -> DA	-0.007	0.081	0.000	Not significant.
NA -> FE	0.170 †	1.924	0.024	Marginally significant positive effect.
PRA -> DA	0.319***	5.534	0.144	Significant positive effect.
PRA -> FE	0.221***	3.487	0.061	Significant positive effect.
PRS -> DA	0.331***	4.222	0.125	Significant positive effect.
PRS -> FE	0.175*	2.022	0.030	Significant positive effect.
DA -> VI	0.312***	4.599	0.114	Significant positive effect.
FE -> VI	0.416***	6.740	0.199	Significant positive effect.
Age -> VI	0.052	0.847	0.004	Not significant.
Income -> VI	-0.067	1.031	0.006	Not significant.

Note: † $p < 0.10$ (marginally significant), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Effect-size (f^2) interpretation: 0.02 small, 0.15 medium, 0.35 large (Cohen, J. 1988).

Table 6. Coefficient of Determination (R^2) Adjusted R^2 & Q2 for Endogenous Constructs

Construct	R^2	Adjusted R^2	95% CI for R^2	Q^2predict
DA	0.543	0.534	[0.419,0.639]	0.520
FE	0.479	0.469	[0.337,0.582]	0.449
VI	0.433	0.422	[0.308,0.529]	0.401

4.4.3. Effect Size (f^2)

Effect sizes (f^2) were examined to assess the relative impact of each exogenous construct on endogenous variables. The results (Table 5) reveal that mastery and recommendation cues exert meaningful effect sizes on flow experience and destination attachment, while both organismic states contribute meaningfully to visit intention. These findings further support the theoretical relevance of the proposed S-O-R pathways.

4.4.4. Predictive Relevance (Q^2)

Predictive relevance (**Q^2**) was evaluated using the PLSpredict. All endogenous constructs yielded Q^2 values greater than zero, indicating satisfactory predictive relevance of the model (Hair et al., 2022). These results (Table 6) suggest that the model not only explains variance but also possesses adequate out-of-sample predictive capability.

4.4.5. Multicollinearity and Common Method Bias

Multicollinearity was assessed using **inner variance inflation factor (VIF)** values. All inner VIF (Table 7) values were well below the threshold of 5, indicating no critical multi-collinearity issues among predictor constructs (Hair et al., 2022). Following Kock's (2015) full collinearity assessment approach, those results also suggest that **common method bias is unlikely to be a significant concern** in the present study.

Table7. Inner Model (VIF)

	DA	FE	VI
MA	2.582	2.582	
NA	2.293	2.293	
PRA	1.549	1.549	
PRS	1.926	1.926	
DA			1.503
FE			1.528

4.5. Mediation Analysis

To examine the mediating roles of **flow experience** and **destination attachment**, indirect effects were assessed using bootstrapping. The results indicate that both flow experience and destination attachment **partially mediate** the relationships between TikTok stimuli (micro-gamification mechanisms and recommendation cues) and visit intention. These findings confirm the central role of cognitive immersion and emotional bonding as psychological mechanisms linking digital platform features to travel behavior.

4.6. Multi-Group Analysis (MGA)

A post-hoc multi-group analysis (MGA) was conducted to assess potential differences in structural relationships across demographic groups. The MGA results indicate **no statistically significant differences** across groups, suggesting that the proposed model operates consistently across key demographic segments. This finding enhances the robustness and generalizability of the study's conclusions.

4.7. Summary of Results

Overall, the empirical findings provide strong support for the proposed Stimulus–Organism–Response model. TikTok's micro-gamification mechanisms and recommendation cues significantly influence users' flow experience and destination attachment, which in turn drive visit intention. The results underscore the importance of integrating both cognitive and affective pathways when examining digital tourism behavior on short-video platforms Figure 2 depicts the proposed research model with path co-efficient.

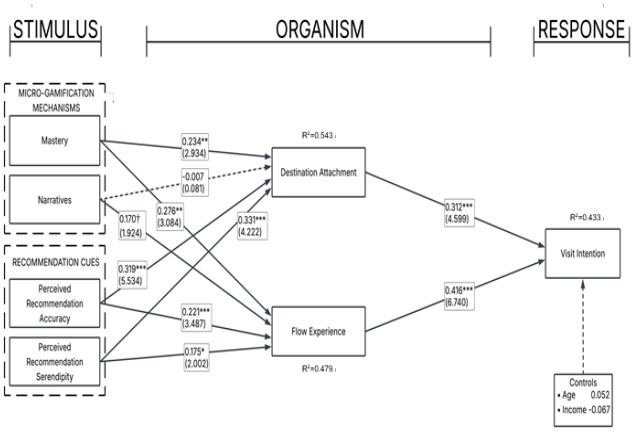

Figure 2. Proposed Research Model with Path Co-efficient

Note:
(1) † $p < 0.10$ (marginally significant), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(2) Standard path co-efficient are described outside parentheses
(3) t-values are indicated in parentheses;
(4) Solid lines are Significant Paths; Dotted lines are In-Significant Paths

5. Discussion

This study applied the S-O-R paradigm to investigate how TikTok's digital features influence travel intentions through psychological responses. The findings confirm that both micro-gamification mechanisms and algorithmic recommendation cues serve as potent stimuli, significantly enhancing users flow experience and destination attachment, which subsequently drive visit intention.

The results establish mastery is an effective micro-gamification mechanism. Mastery fosters a sense of competence in travel planning, leading to deeper cognitive immersion and emotional connection, consistent with research on intrinsic motivation (Hamari et al., 2014; Ryan & Deci, 2000). Narratives, on the other hand, had marginal impact on flow while having insignificant impact on destination attachment. Narratives enable cognitive simulation marginally in our study, reinforcing findings on storytelling in digital tourism (Kim et al., 2021; Jo & Shin, 2025). Tiktok is a short video platform, where a user is exposed to a content for a short time; hence this factor may have been the reason behind the narrative mechanism not having significant impact on emotional attachment to a destination viewed on the app. Overall, the results demonstrate that even lightweight, embedded gamification in short videos can produce significant psychological outcomes.

Regarding recommendation cues, both perceived accuracy and serendipity were powerful influences. Accuracy builds trust and reduces uncertainty by aligning content with user interests (Ma et al., 2021; Xiao et al., 2025), while serendipity leads to foster emotional attachments to destinations (Vada et al., 2019). By empirically demonstrating the complementary roles of accuracy and serendipity, this study advances digital tourism research by highlighting how algorithmic design features function as critical environmental stimuli within the S-O-R framework.

Mediation analysis reveals that flow experience and destination attachment are critical psychological pathways. They partially mediate the relationship between platform stimuli and behavioral intention, integrating cognitive immersion and affective bonding as parallel mechanisms, as underscored in recent digital tourism literature (Liu et al., 2024; Qiu et al., 2024). Finally, multi-group analysis confirmed the models robustness, showing no significant differences across demographic segments, which supports the general consistency of these effects among Nepalese TikTok users.

6. Implications

6.1. Theoretical Implications

This study advances tourism psychology and digital media research by validating a complete Stimulus-Organism-Response (S-O-R) framework within short-form video platforms. The findings demonstrate that TikToks micro-gamification mechanisms (mastery and narratives) and recommendation cues (perceived accuracy and serendipity) jointly function as stimuli that shape users flow experience and destination attachment, ultimately driving destination visit intention. This addresses a gap in tourism research where these relationships were previously examined in isolation, while also bridging gamification theory and recommender system research by revealing how content-level engagement and platform-level recommendations operate synergistically.

Furthermore, the study extends destination attachment theory by confirming that place bonding can emerge through algorithm-driven exposure without direct physical interaction, highlighting the evolving nature of place attachment in digital environments. The confirmed structural invariance across genders through MICOM and multi-group analysis demonstrates that these psychological mechanisms robustly influence visit intention for both male and female users, contributing meaningful evidence to debates on demographic invariance in digital tourism contexts.

6.2. Practical Implications

From a practical perspective, the findings offer actionable insights for tourism stakeholders. The strong influence of perceived recommendation accuracy and serendipity on destination attachment suggests that destination marketers should adopt algorithm-compatible strategies balancing relevance with novelty to enhance emotional bonding and visit intention. Additionally, the significant role of mastery-based micro-gamification implies that content creators should focus on building users knowledge and competence through informational cues, fostering deeper engagement beyond traditional narrative storytelling.

For platform designers, the results underscore the need for recommendation systems that optimize both precision and serendipitous discovery. In emerging tourism markets like Nepal, TikTok serves as a cost-effective channel for shaping destination perceptions and stimulating travel demand among digitally active populations, reinforcing the value of strategically designed content and algorithm features in driving tourism outcomes.

7. Limitations and Future Research

Despite its contributions, this study has several limitations. First, the cross-sectional design restricts causal inference, suggesting that future research could adopt longitudinal or experimental approaches to capture dynamic changes in psychological states and intentions.

Second, the sample is limited to Nepalese TikTok users, which may constrain the generalizability of findings to other

cultural or geographical contexts.

Third, the study focuses on selected gamified mechanisms and recommendation affordances, leaving scope for future research to examine additional platform features such as social interaction cues, influencer credibility, or emotional valence of content.

Finally, while gender invariance was established, future studies could explore other moderating variables such as travel experience, personality traits, or usage intensity

8. Conclusion

This study provides empirical evidence that TikTok's micro-gamification mechanisms and recommendation cues play a significant role in shaping users' psychological experiences and visit intentions. By integrating flow experience and destination attachment within a comprehensive S-O-R framework, the research demonstrates how short-video platforms transform digital engagement into meaningful tourism-related behavioral outcomes. The findings contribute to tourism theory and practice by highlighting the psychological processes through which emerging digital platforms influence travel decision-making in emerging markets.

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