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Revisiting the Push–Pull Tourist Motivation Model: A Theoretical and Empirical Justification for a Reflective–Formative Structure

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Abstract

This study introduces a novel reflective–formative hierarchical model specification for the classic Push–Pull Tourist Motivation construct, aligning its measurement with the theoretical distinction between intrinsic "push" drives and external "pull" attributes. Unlike prior work that treated all motivational dimensions reflectively, we argue that key push factors (e.g. ego-enhancement, anomie) are fixed antecedents and thus should form the higher-order motivation construct (Nguyen, 2020). Using Partial Least Squares structural equation modeling (PLS-SEM) on a purposive sample of 319 international tourists, we empirically validate the reflective–formative (reflective first-order, formative second-order) model. The reflective–formative model showed superior fit and predictive power: it explained substantially more variance in key outcome constructs [social motives (R^2 = 53.60) and self-actualization (R^2 = 23.10)] than the traditional reflective–reflective specification [social motives (R^2 = 49.30) and self-actualization (R^2 = 21.70)], consistent with best-practice guidelines for theoretically grounded models. In contrast, the mis-specified reflective–reflective model produced inflated effects for unrelated constructs, corroborating concerns that incorrect measurement mode choice can lead to misleading inferences (Lee & Cadogan, 2013; Mikulić, 2022). By reconciling the push–pull theory with measurement design, this work's main contributions are a theoretically justified reflective–formative model for tourist motivation, and evidence of its empirical benefits. These findings highlight a methodological innovation in motivation modeling and underscore that modeling push–pull motives formatively yields more accurate insights for theory and practice.

Keywords: tourist Satisfaction; tourist motive; model misspecifications; push pull motive

1. Introduction

Tourism is one of the most zestful and evergreen businesses in the world (Streimikiene et al., 2021). A purposive and conscious plan is essential for the development of tourism in congruence with environmental, economic, and societal goals of society (Bikse & Gavinolla, 2021; Scott & Gössling, 2022; Streimikiene et al., 2021). Understanding tourist motives helps market tourism effectively (Fodness, 1994). The two most frequently used measurement models for tourist motives are the self-perception (SP) and importance-rating (IR) approaches; both approaches are equally reliable and valid, producing similar factor structures empirically (Huang, 2010). However, the SP approach was found to be more pervasive in application (Fodness, 1994; Kessler et al., 2020; Kim et al., 2010). Several researchers (Fodness, 1994; Huang, 2010; Meng et al., 2008; Su et al., 2020; Ying & Wen, 2019) observed a lack of conceptual and empirical analogy in tourism motivation models. The development of an inventory to measure tourist motives universally across diverse tourist contexts is considered beyond scope (Huang, 2021), as tourist motivators are heterogeneous and contextual. New tourism concepts

continue to emerge, often unattended theoretically or empirically. Nevertheless, some core motivational themes are evident in most tourism contexts (Huang, 2021).

The Push-Pull Model proposed by Dann (1977) is one of the widely adopted tourist motivation measurement models (Yousaf et al., 2018). Several researchers (Battour et al., 2017; Correia et al., 2007; Dunn Ross & Iso-Ahola, 1991; Pestana et al., 2020) have utilized the push-pull model for assessing tourist motivation. However, Dann's push-pull motivation model lacks a strong theoretical foundation to validate its conceptual soundness (Huang, 2021). In 2013, Correia et al. developed a tourist motivation model based on the push-pull theory proposed by Dann (1977). According to Dann (1977), push factors are intrinsic within tourists, while pull factors represent destination characteristics, indicating some push and pull factors for tourist motivation are fixed in nature. When construct dimensions are fixed, the model should follow a formative structure (Finn & Wang, 2014; Lee & Cadogan, 2013). In contrast, push-pull based motivation measurement approaches (Battour et al., 2017; Correia et al., 2013; Dunn Ross & Iso-Ahola, 1991; Jang & Wu, 2006; Mimi et al., 2011) have been traditionally modeled reflectively. Dann (1977) described "anomie" and "ego-enhancement" within tourists as causing push factors inherent in every individual, meaning changes in these domains affect the tourist's motivation level. Similarly, certain basic amenities or characteristics, termed "pull factors," are expected to be universally present, further supporting their fixed nature. This indicates a divergence between the theoretical model of push-pull tourist motivation and its measurement model. Model misspecification can lead to incorrect model fit and misinterpretation, resulting in erroneous conclusions (Jarvis et al., 2003; Roy et al., 2012). Therefore, the objective of this study is to assess the validity of a reflective-formative measurement model of the push-pull theory of Tourist Motivation (TM) over the traditional reflective-reflective model.

2. Research Framework

2.1. Push Pull Tourist Motivation: An Evaluation of Construct Structure

There is no consensus in the literature regarding a conceptual framework or theoretical definition explaining tourist motivation (Huang, 2021). Various conceptual frameworks exist, among which the Push-Pull Model, Travel Career Ladder Model, Escaping-Seeking Model, and Travel Career Patterns Model are well recognized by tourism researchers (Hsu & Huang, 2007; Huang, 2021). For measuring tourist motivation (TM), the Push-Pull Model developed by Correia et al. (2013) is widely recognized (Cong, 2016; Dean & Suhartanto, 2019; Devesa et al., 2010). Within Push-Pull tourism motives, there are motivators that are destination- and context-specific, as well as destination- and context-general (Kozak, 2002). Dynamic modeling of motivation considers tourist motivation as influenced by individual tourist motives and destination-specific characteristics. Contextual tourist motives are affected by destination-specific factors, nationality, culture, and macro-economic variables (Pesonen et al., 2011). Tourist needs and wants continuously change based on individual preferences and travel status (Putri et al., 2021). Such dynamic modeling leads to a lack of common agreement on a theoretical framework within tourism research (Huang, 2010). Modeling TM as a complex psychological construct with individual-specific characteristics contributes to the absence of widely accepted research methodologies and validated measurement constructs (Pearce & Butler, 1993)

According to Dann (1977), certain types of anomie such as "escapism from daily life," "need for social interaction," and "need for love and affection" can motivate individuals to travel regardless of their living environment. Ego-enhancement refers to the desire for higher social status (Dann, 1977). When an individual travels from their usual place of residence to a new destination, their previously assigned social position dissolves, as their identity is unknown at the new location (Dann, 1977). Several core motivational factors commonly appear across most tourism contexts (Huang, 2021; Jewell & Crotts, 2002; Klenosky, 2002). Push and pull factors represent two sides of the motivation coin (Goossens, 2000). Both push and pull factors are psychosocial constructs derived from an individual's intrinsic desires (Baloglu & Uysal, 1996). Tourists are pushed by emotional needs and

pulled by the emotional benefits experienced at the destination (Goossens, 2000). Common tourist motivators include escapism, novelty seeking, knowledge acquisition, prestige, dream fulfillment, socialization, relaxation, destination amenities, and health and fitness (Correia et al., 2013; Devesa et al., 2010; Huang, 2021; Kozak, 2002; Seabra et al., 2016). Regional elements are insignificant in determining tourist motivation (Crompton, 1979). Generally, travel motivators can be categorized into three main groups: novelty, knowledge, and facilities at the tourist destination (Andruliene et al., 2018; Correia et al., 2013; Prebensen et al., 2014).

2.2. Push-Pull Tourist Motivation (PPTM): A Reflective–Formative Model

Push and pull factors of tourist motivation are theoretically distinctive (Bayih & Singh, 2020; Dann, 1977). Emotion is a common psychosocial factor influencing both push and pull travel motives; therefore, these factors need to be considered together (Goossens, 2000). Both push and pull factors are psychosocial constructs derived from an individual's intrinsic desires (Baloglu & Uysal, 1996). According to Dann (1977), push factors such as ego-enhancement and anomie dimensions lack theoretical congruence, indicating that the factor dimensions within the Push-Pull Model of tourist motivation (TM) are independent. The formative model is appropriate when factors are not correlated with each other (Jarvis et al., 2003). Each dimension of push and pull factors within TM is determined by specific items (Correia et al., 2013; Hanqin & Lam, 1999). Reflective measures represent a single dimension and are conceptually interchangeable (Edwards, 2011); thus, altering any measure does not affect the construct's interpretation (DeVellis, 2016). However, the items within each dimension of push-pull factors are contextual and should be modified according to the tourism context (Cong, 2016; Hsu & Huang, 2007; Klenosky, 2002). Consequently, within the Push-Pull Tourist Motivation (PPTM), the first-order constructs should be structured reflectively.

Unidimensional reflective measurement models cannot accommodate multidimensional constructs (Lee & Cadogan, 2013). The Push-Pull Model of TM is multidimensional (Correia et al., 2013; Dann, 1977; Goossens, 2000; Huang, 2021); thus, it cannot be structured as a second-order reflective construct. Higher-order reflective constructs can lead to misleading interpretations (Lee & Cadogan, 2013), and there is no rationale for developing hierarchical constructs that are reflective at higher levels (Mikulić, 2022). Traditionally, the Push-Pull Model of TM has been structured reflectively at both first and second-order levels (Correia et al., 2013; Dean & Suhartanto, 2019; Hanqin & Lam, 1999; Huang, 2010; Seabra et al., 2016). However, based on theoretical justifications, the Push-Pull Model should adopt a reflective-formative structure. Although not extensively applied in motivational research, formative models have been appropriately adopted in tourism research (Mikulić, 2022). Mis-specification of constructs positioned endogenously, such as TM, can cause downward bias in structural estimates (MacKenzie et al., 2005). Erroneous modeling using a reflective perspective can lead to underestimated relationships (Diamantopoulos & Siguaw, 2006). Thus, a reflective-formative perspective for the Push-Pull Model of TM should significantly explain more variance in outcome variables than a reflective-reflective perspective. The better-fitting model produces superior estimations for path coefficients and parameters (Diamantopoulos & Siguaw, 2006; MacKenzie et al., 2005).

Tourist motivation is classically framed by intrinsic push drives and extrinsic pull attributes, yet most empirical models ignore this distinction. We address this gap by proposing a two-tier motivation model: first-order push factors are treated as formative causes that combine into an overall motivation construct. Hamdy et al. (2023) extended push–pull (as "extrinsic" vs. "intrinsic" motives) to tourist experience and destination image, noting it was the first work to link these facets in an integrated model. Our work complements these by clarifying how to measure push–pull factors in hierarchical models. Across disciplines, studies on hierarchical component models have advocated careful reflective formative specification (e.g., Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003), and our results empirically validate those recommendations in tourism. In sum, this study adds to the literature by not only applying push–pull theory to tourism motivations but by improving its measurement.

2.3. Hypothesis 1: Social Motive (SM) and Push Pull Tourist Motivation (PPTM)

To empirically assess the better-fitting model between reflective-reflective and reflective-formative structures for PPTM, the construct Social Motive (SM) was selected as a related outcome variable, expected to have significant relationships with TM. SM includes interpersonal and personal seeking (Doran et al., 2015; Qiao et al., 2024). Previous studies have identified and validated the relationship between TM and SM (Chavez, Ruiz, Curras, & Hernandez, 2020; Crompton, 2024; Hsu, Cai, & Wong, 2007; Jensen, 2015; Pearce & Lee, 2005; Ryu, Hyun, & Shim, 2015; Zhou, Liu, Hu, & Cao, 2023). Hence, the following hypothesis is proposed:

H1. *The Reflective–Formative Model of the Push-Pull Tourist Motivation (RFM-PPTM) predicts greater variance in SM than the Reflective–Reflective Model of the Push-Pull Tourist Motivation (RRM-PPTM).*

2.4. Hypothesis 2: Self-actualisation (SA) and Push Pull Tourist Motivation (PPTM)

The construct Self-actualisation (SA) was also selected as a related outcome variable, expected to have a significant relationship with TM. SA replicates the ego-enhancement motive, identified as a primary travel motive (Crompton, 2024). Previous research supporting the relationship between TM and SA includes studies by Crompton (2024), Michael, Nyadzayo, Michael, and Balasubramanian (2020), Pearce and Caltabiano (1983), Pearce and Lee (2005), and Šimková and Holzner (2014). Thus, the following hypothesis is proposed:

H2. *The Reflective–Formative Model of the Push-Pull Tourist Motivation (RFM-PPTM) predicts greater variance in SA than the Reflective–Reflective Model of the Push-Pull Tourist Motivation (RRM-PPTM).*

2.5. Hypothesis 3: General Self-Efficacy (GSE) and Push Pull Tourist Motivation (PPTM)

The third outcome variable selected for this study is General Self-Efficacy (GSE). GSE is a construct theoretically and logically distinct from TM. It represents an individual's perceived ability to solve encountered problems independently (Jerusalem & Schwarzer, 1992). Information and literacy self-efficacy significantly influence positive destination image formation (Castañeda-García & Frías-Jamilena, 2024). However, as a distinct construct from TM, GSE should theoretically exhibit no significant relationship with TM. Model misspecification can yield superior predictive power for unrelated outcome variables (Jarvis et al., 2003). Thus, the reflective-reflective model of PPTM may predict greater variance in GSE if mis-specified. Therefore, the following hypothesis is proposed:

H3. *The Reflective–Reflective Model of the Push-Pull Tourist Motivation (RRM-PPTM) predicts greater variance in GSE than the Reflective–Formative Model of the Push-Pull Tourist Motivation (RFM-PPTM).*

Figure 1 illustrates the conceptual framework of the study, comparing both the traditional (reflective-reflective) and proposed (reflective-formative) frameworks of PPTM in predicting SM, SA, and GSE.
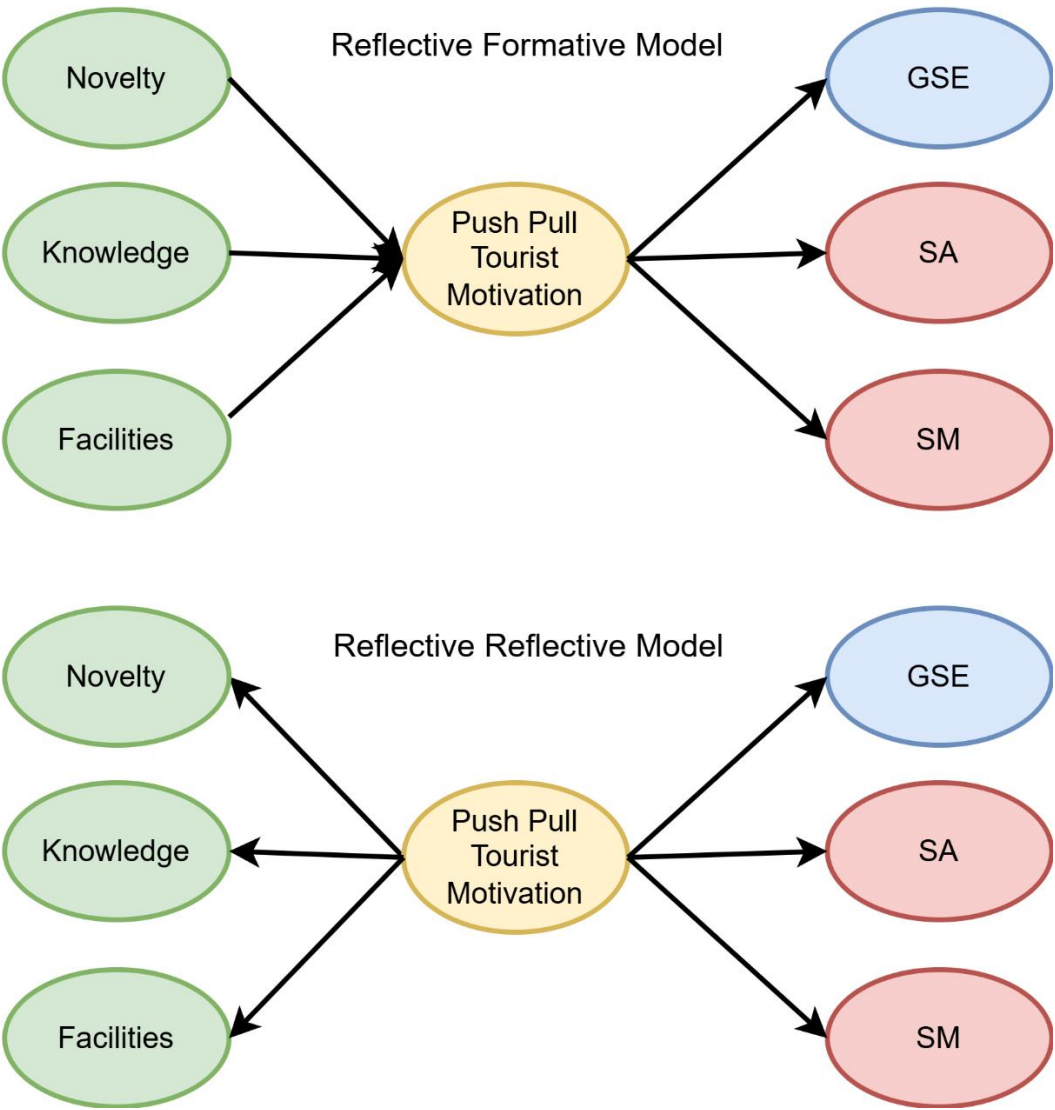
Figure 1. Proposed Theoretical Framework of the Study.

3. Material and Methods

3.1. Method of Analysis

This research is the theoretical evaluation and empirical validation of the factor structure of the Push-Pull framework of tourist motivation model. Specifically, the study evaluates the suitability of a reflective-formative structure for the Push-Pull tourist motivation model compared to its traditional reflective-reflective structure. Theoretically, the determination of whether a construct should be formative or reflective is based on the construct classification criteria proposed by Hanafiah (2020). According to this criterion, construct structure is evaluated from three perspectives: nature of the construct, direction of causality, and characteristics of indicators. Regarding the nature of the construct, if a latent construct exists independently of its measures, it exemplifies a reflective structure; conversely, if a latent construct depends on its measures, it is indicative of a formative structure (Borsboom et al., 2003; Coltman et al., 2008; Wilcox et al., 2008). In terms of direction of causality, a model is reflective when causality flows from the construct to its indicators; however, if causality flows from the indicators to the construct, a formative model structure is represented (K. A. Bollen & Diamantopoulos, 2017; K. Bollen & Lennox, 1991). Concerning the characteristics of indicators, reflective indicators are interchangeable since they collectively represent a common

theme, whereas formative indicators are definite and finite in relation to their construct (Coltman et al., 2008; Hulland, 1999).

Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to estimate the model, specifically employing the 'seminr' package in R software. The validation followed the methodological procedures outlined by Hair et al. (2021). The procedures for assessing the validity of a higher-order formative construct differ notably from those of reflective constructs (Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003; Lee & Cadogan, 2013). To empirically compare the traditional reflective-reflective construct perspective with the proposed reflective-formative perspective of tourist motivation, the PLS-SEM model comparison methodology recommended by various researchers was adopted (see Hair et al., 2021; S. Kim, 2011; MacKenzie et al., 2005; Nguyen, 2020). According to Diamantopoulos and Winklhofer (2001), a theoretically grounded measurement model should demonstrate superior predictive power regarding related outcome variables (in this study, SM and SA) and should have lower AIC and BIC values compared to a theoretically unsound measurement model. Conversely, a theoretically unsound measurement model may exhibit superior predictive power regarding outcome variables unrelated to the construct (in this study, GSE), due to model misspecification (Jarvis et al., 2003).

We chose PLS-SEM over covariance-based SEM for this analysis because it is better suited to our model's structure and sample size. PLS-SEM makes no distributional assumptions and focuses on maximizing explained variance Seočanac, (2024). Unlike CB-SEM, which emphasizes global fit and relies on shared variance, PLS SEM treats constructs as composites when appropriate and excels in predictive contexts. Recent guides specifically recommend PLS-SEM for higher-order models with formative components (Becker et al., 2012; Hair et al., 2019). By using PLS-SEM, we followed best practices for nomological validation with formative indicators, ensuring that our estimates are robust even with a relatively small sample (Seočanac, 2024).

3.2. Sample and Procedure

Researchers (See, Islam et al., 2021; Kuvaas et al., 2020; Morales-García et al., 2022) recommend employing robust and statistically validated measures to determine the appropriate sample size. As this study primarily employs Partial Least Squares Structural Equation Modeling (PLS-SEM), the a priori sample size calculator for SEM developed by Soper was utilized (Islam et al., 2021; Kanwal et al., 2023; Morales-García et al., 2022). Considering the number of latent variables (N = 7), the corresponding measurement items (N = 24), and commonly accepted threshold values for medium effect size (0.03), probability level (0.05), and desired statistical power level (0.80) (see Soper, 2022), the minimum required sample size was determined to be 170. Data for Study were collected via a crowdsourcing platform known as Clickworkers using purposive sampling. A total of 319 valid responses were retained for analysis (from an initial set of 350 completed questionnaires, 31 responses were invalidated due to failed security checks). The responses were received within one week of initiating the online survey on October 2, 2024. The participation was voluntary in nature and all members of the Clickworkers platform were eligible to participate, provided they had undertaken a vacation or leisure trip within the preceding 12 months. The participants were provided with the information sheet explaining the purpose of the study and no personal identification information were gathered at any phase rather than demographics.

3.3. Measures

Control Variables: The control variables used in the study included tourist demographics such as age, gender, and marital status (Bayih & Singh, 2020; Hanqin & Lam, 1999; Taheri et al., 2014); socio-cultural variables such as education, religion, ethnicity (race), income, and occupation (Hanqin & Lam, 1999; Kozak, 2002; Taheri et al., 2014); and other variables identified as influential to tourist motivation, such as mode of transportation (Cong, 2016; Kim et al., 2021; Wiradnyana et al., 2021).

Push Pull Tourist Motivation. PPTM was measured using the tourist motivation construct developed by Correia et al. (2013). This scale has previously been utilized by several researchers

(Martaleni et al., 2021; Pawaskar et al., 2020; Santoso, 2019) and was originally constructed based on Dann's (1977) Push-Pull theory of tourist motivation. The Correia et al. (2013) scale was selected because it is widely applied and incorporates both push and pull factors together at the first-order level, aligning with the theoretical framework defined by Goossens (2000). The scale comprises 11 items across three dimensions (two push dimensions and one pull dimension) and follows a reflective-formative framework.

Outcome Variables: The research has three outcome variables viz., GSE, SM and SA. GSE representing the construct that is theoretically distinct from TM. Whereas, SM and SA representing the constructs that are theoretically as well as empirically linked with TM General self-efficacy (GSE) was measured using the GSE-6 scale developed by Romppel et al. (2013). The GSE-6 is a six-item unidimensional scale widely cited (319 citations to date) and frequently used due to its concise and practical nature for assessment purposes. Social motive (SM) to travel was measured using the Holiday Motivation Scale developed by Ryan and Glendon. The scale includes three sub-domains, one of which is SM, measured specifically through four items. An example of an SM item from this scale is "build friendships." Self-actualisation (SA) was measured using an adapted SA scale developed by Yang et al. (2021). This scale is a three-item unidimensional instrument designed to measure self-actualisation as a reflection of an individual's self-perception.

4. Results

4.1. Participants Profile

The Table 1, shows the profile characteristics of the respondents who participated in the study.

Table 1. Sample Characteristics of Study.

		(N = 319)	
		N	*Percentage %*
Age Group	Below 35	145	45.5%
	35-54	142	44.5%
	55 and above	32	10.0%
	Total	319	100.0%
Gender	Male	153	47.96%
	Female	153	47.96%
	Transgender	0	0.00%
	Not willing to disclose	13	4.08%
	Total	319	100.00%
Marital Status	Single	26	8.15%
	In-relationship	80	25.08%
	Married	183	57.37%
	Divorcee	30	9.40%
	Total	319	100.00%
Education	No college degree	69	21.63%
	Undergraduate degree	123	38.56%
	Graduate degree or higher	127	39.81%
	Total	319	100.00%
Household income (annual)	<$1000	85	26.65%
	$1000 - $3000	69	21.63%
	$3000 - $6000	100	31.35%
	$6000 - $9000	57	17.87%
	>$9000	8	2.51%
	Total	319	100.00%
	Rental	83	26.02%

Main mode of Transportation at Tourist Destination	Private	98	30.72%
	Public	100	31.35%
	Other Modes	38	11.91%
	Total	319	100.00%
Occupation	Unemployed	56	17.55%
	Retired	58	18.18%
	Employed Part-time	72	22.57%
	Employed Full-time	133	41.69%
	Total	319	100.00%
Race	White/Caucasian	96	30.09%
	Black/African	65	20.38%
	Asian/Pacific islander	89	27.90%
	Other Race	69	21.63%
	Total	319	100.00%
Religion	Atheist	23	7.21%
	Buddhism	32	10.03%
	Christian	108	33.86%
	Hindu	34	10.66%
	Muslim	79	24.76%
	Other Religion	43	13.48%
	Total	319	100.00%

As shown in Table 2, the sample consisted of 319 respondents. Regarding age distribution, 45.5% were below 35 years, 44.5% were between 35 and 54 years, and 10.0% were aged 55 and above. In terms of gender, 47.96% identified as male, 47.96% as female, 0.00% as transgender, and 4.08% chose not to disclose their gender. Marital status was reported as follows: 8.15% were single, 25.08% in a relationship, 57.37% married, and 9.40% divorcees. For educational background, 21.63% had no college degree, 38.56% held an undergraduate degree, and 39.81% had a graduate degree or higher. Annual household income levels were distributed as: 26.65% earning less than $1000, 21.63% earning between $1000 and $3000, 31.35% earning between $3000 and $6000, 17.87% earning between $6000 and $9000, and 2.51% earning more than $9000. Regarding the main mode of transportation at tourist destinations, 26.02% used rentals, 30.72% used private transport, 31.35% used public transport, and 11.91% used other modes. In terms of occupation, 17.55% were unemployed, 18.18% retired, 22.57% employed part-time, and 41.69% employed full-time. For race, 30.09% identified as White/Caucasian, 20.38% as Black/African, 27.90% as Asian/Pacific Islander, and 21.63% as belonging to other races. In terms of religion, 7.21% identified as Atheist, 10.03% as Buddhist, 33.86% as Christian, 10.66% as Hindu, 24.76% as Muslim, and 13.48% as followers of other religions.

Table 2. Measurement Model Statistics.

	GSE	SM	SA	TMN	TMF	TMK	PPTM	α	rhoC	AVE	HTMT					
											GSE	SM	SA	TMN	TMF	TMK
GSE1	0.741															
GSE2	0.761															
GSE3	0.728							0.821	0.869	0.527						
GSE4	0.769															
GSE5	0.732															
GSE6	0.613															
SM1		0.889														
SM2		0.728						0.772	0.854	0.597	0.169					
SM3		0.703														
SM4		0.757														
SA1			0.925					0.756	0.864	0.688	0.166	0.840				
SA2			0.584													

SA3	0.931												
TMN1	0.956												
TMN2	0.968			0.957	0.972	0.921	0.101	0.810	0.494				
TMN3	0.954												
TMF1		0.884											
TMF2		0.860											
TMF3		0.858		0.886	0.921	0.744	0.144	0.672	0.504	0.653			
TMF4		0.847											
TMK1			0.931										
TMK2			0.957										
TMK3			0.915	0.953	0.966	0.875	0.137	0.529	0.366	0.596	0.534		
TMK4			0.939										
TMN				0.894									
TMF				0.841	0.794	0.878	0.707	0.159	0.689	0.585	0.992	0.988	0.943
TMK				0.783									

4.2. Push–Pull Tourist Motivation: Theoretical Evaluation of Construct Structure

While analysing the Push-Pull Tourist Motivation Model (PPTM) construct structure from the theoretical perspective (i.e., based on construct classification criteria), the higher-order latent variable of the push-pull model tourist motive is a multi-itemised construct with three first-order constructs which are of fixed in nature, viz., novelty, knowledge, and facilities (Correia et al., 2013; Huang, 2010, 2021). This indicates that the TM is dependent on these three variables. That is; while considering the nature of the construct, TM can only be formative in nature.

Further, according to Dann (1977), push factors of TM are intrinsic (ego and anomie) and their dimensions are fixed. The ego enhancement and the anomie level of the tourist determine the motivation level of the tourist (Dann, 1977). This clarifies that the direction of causality is from ego enhancement and anomie to motivation (push). However, the determinants of ego and anomie can have socio-cultural as well as economic dimensions (see Dann, 1977). Therefore, it can be concluded that the direction of causality is from the indicators (ego and anomie) to the construct. Hence, according to the direction of causality, the PPTMM has a higher-order formative and lower-order reflective (i.e., indicators of ego enhancement and anomie are not finite) structure.

Similarly, the push and pull factors are distinctive from the theoretical perspective (see Bayih & Singh, 2020; Dann, 1977). That is, the pull dimension and push dimension have a unique structure, and the indicators are not interchangeable in nature. Further, the sub-constructs of push factors, viz., ego enhancement and anomie, are also distinctive in nature (see Dann, 1981). Therefore, while analysing the characteristics of indicators, PPTMM has a second-order formative and first-order reflective structure. Hence, based on theoretical evaluation, it can be concluded solidly that PPTM has a reflective–formative construct structure rather than the traditional formative–formative construct structure.

4.3. Push-Pull Tourist Motivation: An Empirical Evaluation of Construct Structure

4.3.1. Reliability and Validity

PLS-SEM is used to evaluate and compare the construct structure and dimensionality of the PPTM. The model assessment methodology of PLS-SEM is distinctive from that of CB-SEM (Dash & Paul, 2021; Hair et al., 2011; Henseler et al., 2015). The model assessment of a reflective measurement in PLS-SEM involves four steps, viz., assessing the indicator reliability, assessing the internal consistency reliability, assessing the convergent validity, and assessing the discriminant validity (Hair et al., 2021). In this study, PLS-SEM modelling has been followed, and the quality assessment of the measurement and structural model was conducted as per the methodology proposed by

several researchers (Dash & Paul, 2021; Hair et al., 2011, 2021; Henseler et al., 2015). Table 2 illustrates the measurement model assessment statistics of the study.

Table 2 presents the results of the measurement model assessment for the constructs General Self-Efficacy (GSE), Social Motive (SM), Self-Actualisation (SA), Tourist Motivation–Novelty (TMN), Tourist Motivation–Facilities (TMF), Tourist Motivation–Knowledge (TMK), and the second-order construct Push Pull Tourist Motivation (PPTM). The quality of the measurement model was evaluated based on indicator loadings, internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted, AVE), and discriminant validity using the heterotrait–monotrait (HTMT) ratio.

The measurement model of both Reflective–Reflective as well as Reflective–Formative PPTMM follows the same structure. As displayed in Table 2, all the indicators have communality values above .50, confirming the indicator reliability (Hair et al., 2011, 2022). Similarly, the composite reliability (ϱc) and the Cronbach's alpha (α) values of all the constructs considered in the study were > .70, indicating the internal consistency reliability of the constructs (Henseler et al., 2015; Trizano-Hermosilla & Alvarado, 2016). Cronbach's alpha (α) values were .821 for GSE, .772 for SM, .756 for SA, .957 for TMN, .886 for TMF, .953 for TMK, and .894 for PPTM. Composite reliability (ϱc) values were .869 for GSE, .854 for SM, .864 for SA, .972 for TMN, .921 for TMF, .966 for TMK, and .878 for PPTM.

The convergent validity is assessed with the help of average variance extracted (AVE), and all constructs have AVE > .50 (see Table 2), validating the convergent validity of the constructs (Hair et al., 2019). Specifically, AVE values were .527 for GSE, .597 for SM, .688 for SA, .921 for TMN, .744 for TMF, .875 for TMK, and .707 for TM, indicating substantial shared variance among the indicators of each construct.

Further, to assess the discriminant validity of the constructs in the model, the heterotrait–monotrait ratio (HTMT) was used. An HTMT < .85 between the constructs indicates discriminant validity (Henseler et al., 2015). According to Table 2, the HTMT ratios between all the constructs, except between the first-order constructs of PPTM and PPTM itself, were well under .85, confirming the discriminant validity of the model. The HTMT values between TM and its first-order constructs—TMN, TMF, and TMK—were .992, .988, and .943, respectively, validating the higher-order construct structure of the PPTMM (Hair et al., 2022). That is, the measurement model demonstrated sufficient levels of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, thereby supporting the validity and reliability of the model constructs.

4.3.2. Model Comparison

Two models were formulated as part of the study: the Reflective–Reflective Model and the proposed Reflective–Formative Model. The Reflective–Formative Model (RFM) is the model in which the PPTM is structured as first-order reflective and second-order formative. Whereas, the Reflective–Reflective Model (RRM) is the model in which the PPTM is structured as both first-order and second-order reflective (traditional structuring). In PLS-SEM, the model is evaluated based on the path coefficient, R^2, AIC, and BIC values (Hair et al., 2022). It does not produce the model fit indices that the CB-SEM may produce (Dash & Paul, 2021). Table 3 shows the predictive performance of Reflective–Formative Model of Push Pull Tourist Motivation (RFM-PPTM) and Reflective–Reflective Model of Push Pull Tourist Motivation (RRM-PPTM) predicting SA and SM.

Table 3. Predictive Performance RFM-PPTM and RRM-PPTM for SA and SM.

Model	Path	β	Bootstrap β	SE	95% CI (LL)	95% CI (UL)	AIC	BIC	R^2
RFM	PPTM→SA	0.481	0.488	0.050	0.388	0.582	-80.850	-73.319	0.231
RRM	PPTM→SA	0.466	0.470	0.049	0.375	0.559	-74.964	-67.433	0.217
RFM	PPTM→SM	0.732	0.734	0.036	0.660	0.798	-241.971	-234.440	0.536
RRM	PPTM→SM	0.702	0.705	0.036	0.624	0.770	-213.446	-205.916	0.493

As shown in Table 3, the Reflective–Formative Model of the Push–Pull Tourist Motivation (RFM-PPTM) demonstrated greater explanatory power for social motive to travel (SM; R^2 = .536) and self-actualisation (SA; R^2 = .231) than the Reflective–Reflective Model of the Push–Pull Tourist Motivation Model (RRM-PPTM), which accounted for R^2 = .493 in SM and R^2 = .217 in SA. For the path from PPTM to SM, the RFM-PPTM yielded a standardized estimate of β = .732 with a 95% confidence interval of [.660, .798], whereas the RRM-PPTM produced β = .702 with a 95% confidence interval of [.624, .770]. For the path from PPTM to SA, the RFM-PPTMM showed β = .481, 95% CI [.388, .582], while the RRM-PPTM produced β = .466, 95% CI [.375, .559]. In terms of model fit, the RFF-PPTMM yielded lower AIC and BIC values for SM (AIC = −241.97; BIC = −234.44) and SA (AIC = −80.85; BIC = −73.32) than the RRF-PPTMM (SM: AIC = −213.45, BIC = −205.92; SA: AIC = −74.96, BIC = −67.43). These results support Hypotheses 1 and 2, indicating that the RFF-PPTM exhibited superior predictive performance and better model fit for the outcome variables SM and SA than the existing Reflective–Reflective Model of the Push–Pull Tourist Motivation (RRM-PPTM). Figure 2, illustrates Reflective-Reflective Model of PPTM predicting GSE, SM and SA.
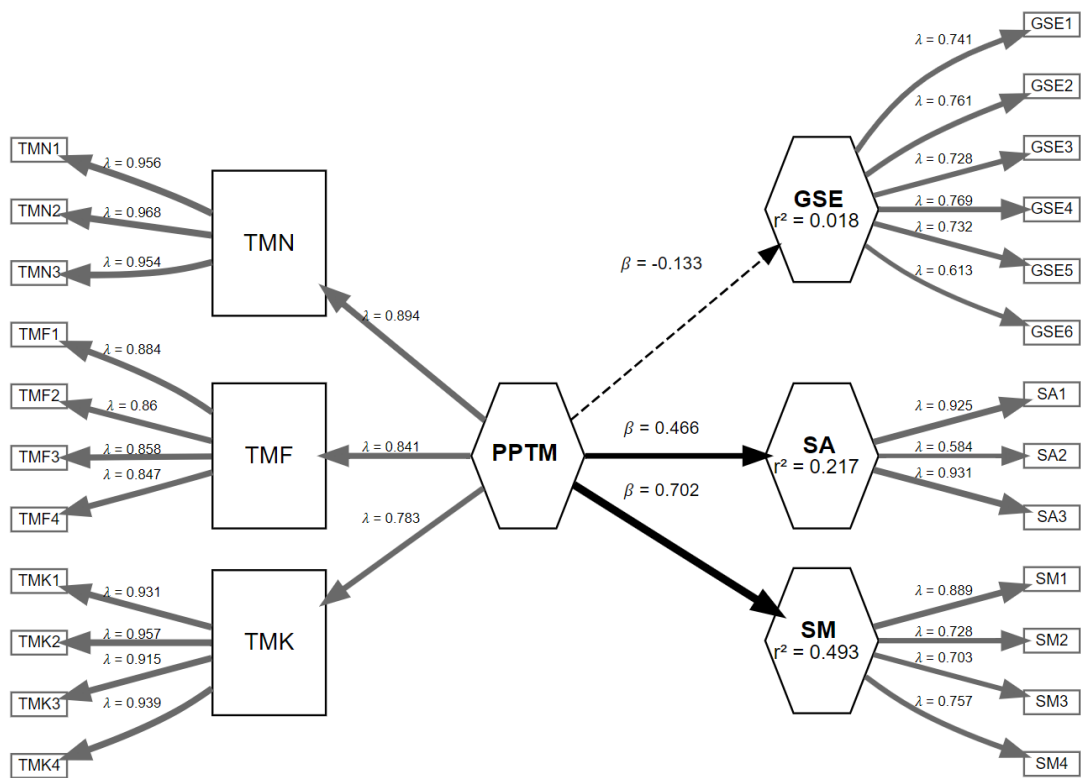
Figure 2. eflective-Reflective Model of PPTM predicting GSE, SA and SM.

Table 4 presents the predictive performance of the Reflective–Formative Model and Reflective–Reflective Model of PPTM for general self-efficacy (GSE), a construct that is distinct from tourist motivation (TM).

Table 4. Predictive Performance of RFM-PPTM and RRM-PPTM for GSE.

Model	Path	β	Bootstrap β	SE	95% CI (LL)	95% CI (UL)	AIC	BIC	R²
RFM	PPTM→GSE	-0.120	-0.143	0.042	-0.223	-0.072	-1.630	5.901	0.014
RRM	PPTM→GSE	-0.133	-0.152	0.041	-3.279	-0.080	-2.728	4.803	0.018

As shown in Table 4, the Reflective–Reflective Model of the Push–Pull Tourist Motivation (RRM-PPTM) demonstrated greater explanatory power for general self-efficacy (GSE; R^2 = .018) than the Reflective–Formative Framework of the Push–Pull Tourist Motivation Model (RFM-PPTM; R^2 = .014). For the path from PPTM to GSE, the standardized coefficient in the RRM-PPTM was β = −.133, with

a bootstrap mean of −.152, standard error (SE) = .041, and a 95% confidence interval of [−3.279, −0.080]. The corresponding AIC and BIC values were −2.73 and 4.80, respectively. In the RFM-PPTM, the standardized coefficient for PPTM → GSE was β = −.120, with a bootstrap mean of −.143, SE = .042, and a 95% confidence interval of [−0.223, −0.072]. The AIC and BIC values in the RFM-PPTM were −1.63 and 5.90, respectively. These results support Hypothesis 3, indicating that the RRM-PPTM provided a better predictive accuracy and model fit for GSE, a construct theoretically unrelated to tourist motivation. Figure 4, illustrates the proposed Reflective-Formative Model of PPTM predicting GSE,.
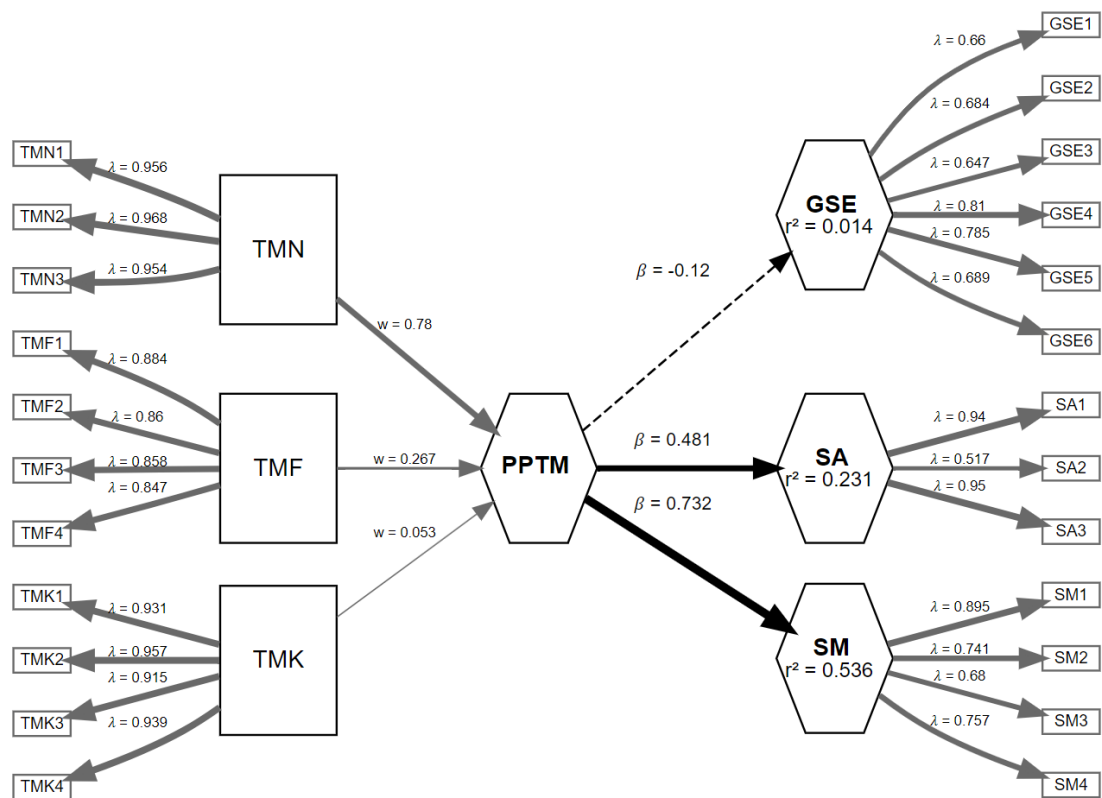
Figure 3. Reflective-Reflective Model of PPTM predicting GSE, SA and SM.

5. Discussion

The Push–Pull Tourist Motivation Model (PPTMM) is widely regarded as a comprehensive framework to explain behavioral and psychological motives in tourism. Theoretically, it has been classified as a first-order reflective and second-order formative construct (Correia et al., 2013; Dann, 1977; Huang, 2021). The first-order constructs—knowledge, novelty, and facilities—represent reflective dimensions that load onto the higher-order construct of Push–Pull Tourist Motivation (PPTM). This classification is supported by construct classification criteria based on the direction of causality, where the latent variable PPTM is determined by its indicators (Jarvis et al., 2003; MacKenzie et al., 2005). According to Dann (1977), push factors such as ego enhancement and anomie are intrinsic and fixed, implying a formative role for these dimensions in constructing PPTM. The indicators in PPTMM—representing push and pull factors—are distinctive and non-interchangeable, affirming a second-order formative and first-order reflective structure (Bayih & Singh, 2020; Dann, 1981). The higher-order latent variable (Tourist Motivation, TM) depends on three fixed first-order constructs: novelty, knowledge, and facilities, indicating a formative structure. This suggests that the causality flows from indicators to construct, supporting a formative model. Indicators of push and pull factors are not interchangeable and have a definite structure, which supports a reflective

measurement at the first-order level. Based on these dimensions, PPTMM should follow a second-order formative and first-order reflective model (i.e., reflective–formative structure).

Empirical evidence further validates this theoretical structuring. For instance, the Reflective–Formative Model of the PPTM (RFM-PPTM) explained more variance in theoretically associated constructs such as Social Motive (SM; R^2 = .536) and Self-Actualisation (SA; R^2 = .231), compared to the Reflective–Reflective Model (RRM-PPTM), which accounted for R^2 = .493 in SM and R^2 = .217 in SA. In addition, the RFM-PPTM demonstrated lower AIC and BIC values, indicating superior model fit. These findings are supported by research showing significant links between TM and SM (Crompton, 2024; Zhou, Liu, Hu, & Cao, 2023; Chavez, Ruiz, Curras, & Hernandez, 2020; Ryu, Hyun, & Shim, 2015; Jensen, 2015; Hsu, Cai, & Wong, 2007; Pearce & Lee, 2005), as well as between TM and SA (Crompton, 2024; Pearce & Lee, 2005; Michael, Nyadzayo, Michael, & Balasubramanian, 2020; Šimková & Holzner, 2014; Pearce & Caltabiano, 1983). According to Diamantopoulos and Winklhofer (2001), the theoretically grounded measurement model should have a superior predictive power on outcome variables and lower AIC and BIC values which are related to the construct (here in this study SM and SA) than a theoretically unsound measurement model. That is, it can be ascertained that because of the theoretically sound model specification, RFM-PPTM predicts a larger amount of variance on outcome variables viz., SA and SM than the traditionally specified RRM-PPTM. Conversely, the RRM-PPTM showed a better predictive performance for General Self-Efficacy (GSE; R^2 = .018) than the RFM-PPTM (R^2 = .014), despite GSE being theoretically unrelated to TM. This supports the assertion that model misspecification can inflate prediction for unrelated constructs (Jarvis et al., 2003). Moreover, the HTMT values for the sub-constructs of PPTM were above the liberal threshold of .900, with TMN = .992, TMF = .988, and TMK = .943, further validating the higher-order construct structure of the PPTMM (Hair et al., 2022). Therefore, both theoretical and empirical evidence suggest that PPTMM should be modelled as a reflective–formative construct rather than a reflective–reflective model to more accurately capture tourist motivation.

This study's primary novelty lies in realigning the Push–Pull Motivation model with its theoretical foundations. By recognizing that push motivations (internal drivers) and pull motivations (destination attributes) are causally distinct components that collectively constitute overall tourist motivation, we depart rom conventional reflective-only models. Guided by construct validity principles , we demonstrate that push and pull dimensions should form the higher-order construct. Our theoretical analysis (drawing on Dann's [1977] original push–pull concept and later articulations) establishes that when first-order dimensions are conceptually fixed causes of motivation, the correct measurement model is reflective at the first-order and formative at the second-order. Empirically, our PLS-SEM results confirm this: the reflective formative model achieved stronger explanatory power for motivation-related outcomes than the traditional reflective model . In practical terms, this means our specification provides more accurate estimates of how core motives combine to drive tourist behavior; mis-specification, by contrast, can inflate spurious paths and mislead researchers . Hence, a key contribution is demonstrating both theoretically and empirically that push–pull motivation is best represented via a reflective–formative framework, resolving a gap between theory and measurement in the tourism literature

Our reflective–formative model delivers higher predictive accuracy because it aligns measurement with theory. Conceptually, treating push motives as formative (fixed antecedents) means each motive contributes its unique variance to overall motivation, rather than being interchangeable effects. This preserves their causal influence on outcomes. Consistent with this idea, Nguyen (2020) found that a reflective–formative hierarchical model of authenticity exhibited "strong predictive power" on tourist satisfaction . Likewise, our reflective–formative specification explains substantially more variance in motivation-related outcomes than the conventional model and avoids the inflated spurious paths that appeared when we forced a fully reflective structure.

We build on prior tourism research by reconciling theory and measurement. Earlier studies often modeled push–pull motives reflectively (e.g. Correia et al. 2013; Jang & Wu 2006), implicitly assuming the latent motivation construct causes its dimensions. Recent methodological critiques warn that such

mis-specification can produce misleading inferences. Our empirical results reinforce these warnings. For example, Yang et al. (2023) validate push–pull theory in rural educational tourism and find that pull factors directly boost loyalty while push factors have the strongest effect via satisfaction . Nieves-Pavón et al., (2025) show push and pull motives shape willingness-to-pay and eWOM in smart tourism destinations, and they advise managers to tailor digital services to tourists' motivational profiles. In comparing to prior work, this study engages with a broad base of tourism motivation research that has traditionally modeled push–pull constructs reflectively (e.g. Correia et al., 2013; Jang & Wu, 2006; Dunn Ross & Iso-Ahola, 1991). These earlier models implicitly assumed the aggregate motivation construct "reflects" its dimensions, but they did not test the formative alternative. Our findings resonate with and extend recent methodological critiques in tourism research. For example, Murphy & Hofacker (2009) argued that correct reflective vs. formative specification is crucial because mis-specification can lead to Type I/II errors and "inappropriate conclusions about hypothesized relationships". Similarly, Mikulić (2022) noted widespread confusion in tourism studies regarding measurement modes, and our study provides a concrete solution within the push–pull context. In terms of content, our results also align with the theoretical view that push and pull factors are conceptually distinct parts of motivation . By structuring the model accordingly, we find consistency with known links between tourist motivation and outcomes; for example, our reflective–formative model yielded expected positive effects on social motives and self actualization (consistent with Crompton 2024; Pearce & Lee 2005) while avoiding the spurious effects seen under reflective-only modeling .

5.1. Theoretical implications

This study bridges a gap between classic push–pull theory and modern measurement. We show that overall tourist motivation is formed by distinct sub-motives, not reflected by them, which enhances construct validity. Future research on tourism motivations (and other composite constructs) should adopt reflective–formative frameworks when theory indicates causal aggregation. By doing so, scholars can avoid the Type I/II errors highlighted in methodological literature and obtain more coherent, interpretable models. In line with Nguyen (2020), our reflective–formative model's strong explanatory power confirms that respecting constructs' nature leads to better models.

5.2. Managerial implications

For destination marketers and practitioners, this framework offers a clearer way to segment and reach tourists. By identifying visitors' formative push motives (e.g. novelty seeking vs. relaxation seeking), managers can tailor offerings and communications to each motivational profile. For instance, Katsikari et al. (2020) segmented tourists by push–pull motives and designed targeted social media content for each group . Similarly, managers could develop marketing messages or destination experiences that specifically address the dominant motives of each segment. Overall, treating push and pull factors as composite drivers enables more precise targeting: destinations can promote attributes (pulls) that best complement a tourist's intrinsic desires (pushes), thereby improving satisfaction and loyalty.

6. Conclusion

The research uniquely validates a reflective–formative framework for the Push–Pull Tourist Motivation Model (PPTMM), contrasting it against the traditionally used reflective–reflective approach. This is significant because previous models did not appropriately reflect the theoretically independent and formative nature of push and pull dimensions as originally conceptualized by Dann (1977) and later refined by Correia et al. (2013). Model misspecification is a common error in social science research (Mikulić, 2022; Nguyen, 2020). Though highest-order constructs should not be modelled reflectively (MacKenzie et al., 2005), reflective frameworks are still commonly used in theory development within the social sciences (Coltman et al., 2008). However, formative models

may offer a more appropriate approach (Coltman et al., 2008). The theoretical evaluation and empirical assessment in this study confirm that the Push–Pull Tourist Motivation Model (PPTM) follows a reflective–formative structure rather than the traditionally followed reflective–reflective structure. This study has demonstrated both theoretically and empirically that the PPTM is best represented by a first-order reflective, second-order formative structure. Moreover, model misspecification results in underestimation and overestimation of predictive relationships, as evidenced by the reduced predictive power of PPTM on Self-Actualisation (SA) and Social Motive (SM) (see Table 3), and the inflated prediction of PPTM on General Self-Efficacy (GSE) when the reflective–reflective framework is used for modelling the PPTM (Finn & Wang, 2014; Lee & Cadogan, 2013; Mikulić, 2022). Incorrect modelling of PPTM can result in deflated or inflated relationships, which may lead to misinformed decisions and misallocation of resources in the tourism sector.

As this research used purposive sampling (N=319) in a single context, so future work could test the reflective–formative model with larger, more diverse and cross-cultural samples to assess generalisability. Nevertheless, the model should also be validated using estimation techniques beyond PLS-SEM (Dash & Paul, 2021; Hair et al., 2011, 2022). The study considered GSE, SA, and SM as outcome variables to validate the RFM-PPTM. Additionally, the current study employed the PLS-SEM approach for model estimation, which does not provide model fit indices (Hair et al., 2021). Therefore, estimating the model using CB-SEM would serve as an effective revalidation of the proposed reflective–formative structure of the PPTM model. Further, enhance the generalizability of the model, future research should incorporate a broader set of variables, including those theoretically related and unrelated to tourist motivation. Researchers should apply the reflective–formative framework to other contexts and outcomes, refine motivational scales with formative indicators, and use robust sampling to validate the generality of our findings. Researchers might integrate additional motivational or contextual factors (such as mooring or risk factors) into a hierarchical push–pull framework, testing how the reflective–formative approach holds for expanded models. Fourth, longitudinal or experimental designs could explore how push–pull motivations evolve and whether formative indicators remain stable over time. Similarly, as we focused on social motives and self-actualization, other outcome variables (e.g. satisfaction, loyalty, revisit intention) could be examined under the correct model to see if similar gains in predictive validity emerge.

Compared to a traditional reflective-only specification, the new model fits the data better and predicts key motivational outcomes (e.g. social motives, self-actualization) much more accurately, while avoiding the spurious effects seen under the mis specified model. The results imply that destination managers should acknowledge tourists' internal desires and external attractions as distinct, composite drivers of behavior. In practice, this means segmenting and targeting visitors based on their core motivational profiles (push motives) and highlighting destination attributes (pull factors) accordingly. By aligning measurement with classic push–pull theory, our approach closes a theory-to-method gap and yields clearer, more actionable insights for destination marketing.

Abbreviations

The following abbreviations are used in this manuscript:

TM	Tourist Motive
PPTM	Push Pull Tourist Motivation
PPTMM	Push Pull Tourist Motivation Model
RFM	Reflective Formative Model
RRM	Reflective Reflective Model
RFM-PPTM	Reflective Formative Model of Push Pull Tourist Motivation
RRM-PPTM	Reflective Reflective Model of Push Pull Tourist Motivation
SM	Social Motivation
SA	Self Actualisation
GSE	General Self Efficiency
HTMT	Heterotrait–monotrait
TMN	Tourist Motive Novelty
TMF	Tourist Motive Facilities
TMK	Tourist Motive Knowledge
AVE	Average Variance Extracted
UL	Upper Limit
LL	Lower Limit
CI	Confidence Interwall
SEM	Structural Equation Modelling
PLS-SEM	Partial Least Squares Structural Equation Modelling
SE	Standard Error
rhoC	Composite Reliability

References

1. Andruliene, R., Macerinskiene, A., & Urbonavicius, S. (2018). Relations of tourist push and pull motivations with their activities: The case of Lithuania. International Journal of Sustainable Development and Planning, 13(6). https://doi.org/10.2495/SDP-V13-N6-893-904

2. Baloglu, S., & Uysal, M. (1996). Market segments of push and pull motivations: A canonical correlation approach. International Journal of Contemporary Hospitality Management, 8(3). https://doi.org/10.1108/09596119610115989

3. Battour, M., Ismail, M. N., Battor, M., & Awais, M. (2017). Islamic tourism: an empirical examination of travel motivation and satisfaction in Malaysia. Current Issues in Tourism, 20(1). https://doi.org/10.1080/13683500.2014.965665

4. Bayih, B. E., & Singh, A. (2020). Modeling domestic tourism: motivations, satisfaction and tourist behavioral intentions. Heliyon, 6(9). https://doi.org/10.1016/j.heliyon.2020.e04839

5. Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical Latent Variable Models in PLS-SEM: Guidelines for Using Reflective-Formative Type Models. Long Range Planning, 45(5–6), 359–394. https://doi.org/10.1016/j.lrp.2012.10.001

6. Bikse, J., & Gavinolla, M. R. (2021). Water springs as a resource for nature tourism in Latvia: A tourist perspective. Vide. Tehnologija. Resursi - Environment, Technology, Resources, 1. https://doi.org/10.17770/etr2021vol1.6614

7. Bollen, K. A., & Diamantopoulos, A. (2017). Notes on measurement theory for causal-formative indicators: A reply to Hardin. In Psychological Methods (Vol. 22, Issue 3). https://doi.org/10.1037/met0000149

8. Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. Psychological Bulletin, 110(2). https://doi.org/10.1037/0033-2909.110.2.305

9. Borsboom, D., Mellenbergh, G. J., & Van Heerden, J. (2003). The Theoretical Status of Latent Variables. In Psychological Review (Vol. 110, Issue 2). https://doi.org/10.1037/0033-295X.110.2.203

10. Coltman, T., Devinney, T. M., Midgley, D. F., & Venaik, S. (2008). Formative versus reflective measurement models: Two applications of formative measurement. Journal of Business Research, 61(12). https://doi.org/10.1016/j.jbusres.2008.01.013

11. Cong, L. C. (2016). A formative model of the relationship between destination quality, tourist satisfaction and intentional loyalty: An empirical test in Vietnam. Journal of Hospitality and Tourism Management, 26. https://doi.org/10.1016/j.jhtm.2015.12.002

12. Correia, A., Kozak, M., & Ferradeira, J. (2013). From tourist motivations to tourist satisfaction. International Journal of Culture, Tourism, and Hospitality Research, 7(4). https://doi.org/10.1108/IJCTHR-05-2012-0022

13. Correia, A., Oom do Valle, P., & Moço, C. (2007). Why people travel to exotic places. International Journal of Culture, Tourism and Hospitality Research, 1(1). https://doi.org/10.1108/17506180710729600

14. Crompton, J. L. (1979). An Assessment of the Image of Mexico as a Vacation Destination and the Influence of Geographical Location Upon That Image. Journal of Travel Research, 17(4). https://doi.org/10.1177/004728757901700404

15. Dann, G. M. S. (1977). Anomie, ego-enhancement and tourism. Annals of Tourism Research, 4(4). https://doi.org/10.1016/0160-7383(77)90037-8

16. Dann, G. M. S. (1981). Tourist motivation an appraisal. Annals of Tourism Research, 8(2). https://doi.org/10.1016/0160-7383(81)90082-7

17. Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. Technological Forecasting and Social Change, 173. https://doi.org/10.1016/j.techfore.2021.121092

18. Dean, D., & Suhartanto, D. (2019). The formation of visitor behavioral intention to creative tourism: the role of push–Pull motivation. Asia Pacific Journal of Tourism Research. https://doi.org/10.1080/10941665.2019.1572631

19. DeVellis, R. F. (2016). Scale Development Theory and Applications (Fourth Edition). SAGE Publication, 4.

20. Devesa, M., Laguna, M., & Palacios, A. (2010). The role of motivation in visitor satisfaction: Empirical evidence in rural tourism. Tourism Management, 31(4). https://doi.org/10.1016/j.tourman.2009.06.006

21. Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. British Journal of Management, 17(4), 263–282. https://doi.org/10.1111/j.1467-8551.2006.00500.x

22. Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. Journal of Marketing Research, 38(2), 269–277. https://doi.org/10.1509/jmkr.38.2.269.18845

23. Doran, R., Larsen, S., & Wolff, K. (2015). Different but Similar: Social Comparison of Travel Motives Among Tourists. International Journal of Tourism Research, 17(6). https://doi.org/10.1002/jtr.2023

24. Dunn Ross, E. L., & Iso-Ahola, S. E. (1991). Sightseeing tourists' motivation and satisfaction. Annals of Tourism Research, 18(2), 226–237. https://doi.org/10.1016/0160-7383(91)90006-W

25. Edwards, J. R. (2011). The fallacy of formative measurement. Organizational Research Methods, 14(2). https://doi.org/10.1177/1094428110378369

26. Finn, A., & Wang, L. (2014). Formative vs. reflective measures: Facets of variation. Journal of Business Research, 67(1). https://doi.org/10.1016/j.jbusres.2012.08.001

27. Fodness, D. (1994). Measuring tourist motivation. Annals of Tourism Research, 21(3), 555–581. https://doi.org/10.1016/0160-7383(94)90120-1

28. Goossens, C. (2000). Tourism information and pleasure motivation. Annals of Tourism Research, 27(2). https://doi.org/10.1016/S0160-7383(99)00067-5

29. Guyon, H. (2018). The fallacy of the theoretical meaning of formative constructs. In Frontiers in Psychology (Vol. 9, Issue FEB). https://doi.org/10.3389/fpsyg.2018.00179

30. Hamdy, A., Zhang, J., & Eid, R. (2023). Pull-Extrinsic and Push-Intrinsic Motivations Effect on Destination Image Formation: The Moderate Effect of Tourists' Experiences. *Frontiers in Artificial Intelligence and Applications*, *367*, 250–257. https://doi.org/10.3233/FAIA230024

31. Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. In Practical Assessment, Research and Evaluation (Vol. 21, Issue 1).

32. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, 19(2). https://doi.org/10.2753/MTP1069-6679190202

33. Hair, J. F., Ringle, C. M., Hult, G. T. M., & Sarstedt, M. (2022). Specifying The Path Model And Examining Data. In A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).

34. Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. In European Business Review (Vol. 31, Issue 1). https://doi.org/10.1108/EBR-11-2018-0203

35. Hanafiah, M. H. (2020). FORMATIVE VS. REFLECTIVE MEASUREMENT MODEL: GUIDELINES FOR STRUCTURAL EQUATION MODELING RESEARCH. International Journal of Analysis and Applications, 18(5). https://doi.org/10.28924/2291-8639-18-2020-876

36. Hanqin, Z. Q., & Lam, T. (1999). An analysis of Mainland Chinese visitors' motivations to visit Hong Kong. Tourism Management, 20(5). https://doi.org/10.1016/S0261-5177(99)00028-X

37. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1). https://doi.org/10.1007/s11747-014-0403-8

38. Hsu, C. H. C., & Huang, S. (2007). Travel motivation: A critical review of the concept's development. In Tourism Management: Analysis, Behaviour and Strategy. https://doi.org/10.1079/9781845933234.0014

39. Huang, S. S. (2010). Measuring tourist motivation: Do scales matter? Tourismos, 5(1).

40. Huang, S. S. (2021). Tourist motivation: A critical overview. In Routledge Handbook of the Tourist Experience. https://doi.org/10.4324/9781003219866-18

41. Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic Management Journal, 20(2). https://doi.org/10.1002/(sici)1097-0266(199902)20:2<195::aid-smj13>3.0.co;2-7

42. Islam, Z. ul, Khan, M. A., Farooq, A., & Aslam, S. (2021). Impact of Gratitude on Mental Health of Adults: Mediating Role of Prosocial Behavior Authors. Pakistan Journal of Applied Psychology, 1(1). https://doi.org/10.52461/pjap.v1i1.822

43. Jang, S. C., & Wu, C. M. E. (2006). Seniors' travel motivation and the influential factors: An examination of Taiwanese seniors. Tourism Management, 27(2). https://doi.org/10.1016/j.tourman.2004.11.006

44. Jarvis, C. B., Mackenzie, S. B., Podsakoff, P. M., Giliatt, N., & Mee, J. F. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. In Journal of Consumer Research (Vol. 30, Issue 2). https://doi.org/10.1086/376806

45. Jewell, B., & Crotts, J. C. (2002). Adding psychological value to heritage tourism experiences. Journal of Travel and Tourism Marketing, 11(4). https://doi.org/10.1300/J073v11n04_02

46. Kanwal, F., Iqbal, S., & Javed, A. (2023). Stalking and Relationship Satisfaction among Partners. Qlantic Journal of Social Sciences and Humanities, 4(3). https://doi.org/10.55737/qjssh.053741734

47. Katsikari, C., Hatzithomas, L., Fotiadis, T., & Folinas, D. (2020). Push and pull travel motivation: Segmentation of the greek market for social media marketing in tourism. *Sustainability (Switzerland)*, *12*(11). https://doi.org/10.3390/su12114770

48. Kessler, D., Lee, J. H., & Whittingham, N. (2020). The wellness tourist motivation scale: a new statistical tool for measuring wellness tourist motivation. International Journal of Spa and Wellness, 3(1). https://doi.org/10.1080/24721735.2020.1849930

49. Kim, E. J., Kim, Y., Jang, S., & Kim, D. K. (2021). Tourists' preference on the combination of travel modes under Mobility-as-a-Service environment. Transportation Research Part A: Policy and Practice, 150. https://doi.org/10.1016/j.tra.2021.06.016

50. Kim, S. (2011). Testing a revised measure of public service motivation: Reflective versus formative specification. Journal of Public Administration Research and Theory, 21(3). https://doi.org/10.1093/jopart/muq048

51. Kim, Y. H., Goh, B. K., & Yuan, J. J. (2010). Development of a multi-dimensional scale for measuring food tourist motivations. Journal of Quality Assurance in Hospitality and Tourism, 11(1). https://doi.org/10.1080/15280080903520568

52. Klenosky, D. B. (2002). The "Pull" of Tourism Destinations: A Means-End Investigation. Journal of Travel Research, 40(4). https://doi.org/10.1177/004728750204000405

53. Kozak, M. (2002). Comparative analysis of tourist motivations by nationality and destinations. Tourism Management, 23(3). https://doi.org/10.1016/S0261-5177(01)00090-5

54. Kuvaas, B., Buch, R., & Dysvik, A. (2020). Individual variable pay for performance, controlling effects, and intrinsic motivation. Motivation and Emotion, 44(4). https://doi.org/10.1007/s11031-020-09828-4

55. Lee, N., & Cadogan, J. W. (2013). Problems with formative and higher-order reflective variables. Journal of Business Research, 66(2). https://doi.org/10.1016/j.jbusres.2012.08.004

56. MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. In Journal of Applied Psychology (Vol. 90, Issue 4). https://doi.org/10.1037/0021-9010.90.4.710

57. Martaleni, M., Hadiyati, E., Pertiwi, Y. I., & Kerti Yasa, N. N. (2021). Role of tourist motivation as mediating variable on visitor decisions at Indonesian tourism village. Innovative Marketing, 17(3). https://doi.org/10.21511/im.17(3).2021.07

58. Meng, F., Tepanon, Y., & Uysal, M. (2008). Measuring tourist satisfaction by attribute and motivation: The case of a nature-based resort. Journal of Vacation Marketing, 14(1). https://doi.org/10.1177/1356766707084218

59. Mikulić, J. (2022). Fallacy of higher-order reflective constructs. Tourism Management, 89. https://doi.org/10.1016/j.tourman.2021.104449

60. Mimi, L., Tong, W., & Ariel, L. (2011). An Exploratory Study of the Travel Motivation of Chinese Female Outbound Tourists. Journal of China Tourism Research, 7(4). https://doi.org/10.1080/19388160.2011.627020

61. Morales-García, W. C., Huancahuire-Vega, S., Saintila, J., Morales-García, M., Fernández-Molocho, L., & Ruiz Mamani, P. G. (2022). Predictors of Intention to Vaccinate Against COVID-19 in a Peruvian Sample. Journal of Primary Care and Community Health, 13. https://doi.org/10.1177/21501319221092254

62. Murphy, J., & Hofacker, C. F. (2009). RIGOR IN TOURISM RESEARCH. Formative and Reflective Constructs. *Annals of Tourism Research*, *36*(4). https://doi.org/10.1016/j.annals.2009.04.005

63. Nguyen, T. H. H. (2020). A Reflective–Formative Hierarchical Component Model of Perceived Authenticity. Journal of Hospitality and Tourism Research, 44(8). https://doi.org/10.1177/1096348020944460

64. Nieves-Pavón, S., López-Mosquera, N., & Sánchez González, M. J. (2025). Unlocking Tourist Motivations in a Smart Tourism Destination: An Application of the Push–Pull Theory. *Societies*, *15*(4). https://doi.org/10.3390/soc15040082

65. Pawaskar, P., Mekoth, N., & Thomson, A. R. (2020). Travel motivation and choice of destination attributes: Empirical evidences based on tourist perceptions. International Journal of Advanced Science and Technology, 29(8 Special Issue).

66. Pestana, M. H., Parreira, A., & Moutinho, L. (2020). Motivations, emotions and satisfaction: The keys to a tourism destination choice. Journal of Destination Marketing and Management, 16. https://doi.org/10.1016/j.jdmm.2018.12.006

67. Prebensen, N. K., Woo, E., & Uysal, M. S. (2014). Experience value: antecedents and consequences. Current Issues in Tourism, 17(10). https://doi.org/10.1080/13683500.2013.770451

68. Qiao, G., Huang, S., & Vorobjovas-Pinta, O. (2024). Seeking tourism in a social context: an examination of Chinese rural migrant workers' travel motivations and constraints. Leisure Studies, 43(4). https://doi.org/10.1080/02614367.2023.2249259

69. Roy, S., Tarafdar, M., Ragu-Nathan, T. S., & Marsillac, E. (2012). The effect of misspecification of reflective and formative constructs in operations and manufacturing management research. Electronic Journal of Business Research Methods, 10(1).

70. Santoso, S. (2019). Examining Relationships between Destination Image, Tourist Motivation, Satisfaction, and Visit Intention in Yogyakarta. Expert Journal of Business and Management, 7(1).

71. Scott, D., & Gössling, S. (2022). A review of research into tourism and climate change - Launching the annals of tourism research curated collection on tourism and climate change. Annals of Tourism Research, 95. https://doi.org/10.1016/j.annals.2022.103409

72. Seabra, C., Silva, C., Luís Abrantes, J., Vicente, M., & Herstein, R. (2016). The influence of motivations in tourists' involvement. Anatolia, 27(1). https://doi.org/10.1080/13032917.2015.1083204

73. Seočanac, M. (2024). PLS-SEM: A hidden gem in tourism research methodology. *Menadzment u Hotelijerstvu i Turizmu*, *12*(1), 115–131. https://doi.org/10.5937/menhottur2400005s

74. Soper, D. (2022). A-Priori Sample Size for Structural Equation Models (Software). Free Statistics Calculators.

75. Streimikiene, D., Svagzdiene, B., Jasinskas, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. In Sustainable Development (Vol. 29, Issue 1). https://doi.org/10.1002/sd.2133

76. Su, D. N., Johnson, L. W., & O'Mahony, B. (2020). Analysis of push and pull factors in food travel motivation. Current Issues in Tourism, 23(5). https://doi.org/10.1080/13683500.2018.1553152

77. Taheri, B., Jafari, A., & O'Gorman, K. (2014). Keeping your audience: Presenting a visitor engagement scale. Tourism Management, 42. https://doi.org/10.1016/j.tourman.2013.12.011

78. Trizano-Hermosilla, I., & Alvarado, J. M. (2016). Best alternatives to Cronbach's alpha reliability in realistic conditions: Congeneric and asymmetrical measurements. Frontiers in Psychology, 7(MAY). https://doi.org/10.3389/fpsyg.2016.00769

79. Wilcox, J. B., Howell, R. D., & Breivik, E. (2008). Questions about formative measurement. Journal of Business Research, 61(12). https://doi.org/10.1016/j.jbusres.2008.01.010

80. Wiradnyana, I. G. N. P., Suthanaya, P. A., Wedagama, D. M. P., Yana, A. A. G. A., & Dissanayake, D. (2021). Analysing the choice and pattern of needs of transportation mode for domestic tourists in Bali. IOP Conference Series: Earth and Environmental Science, 673(1). https://doi.org/10.1088/1755-1315/673/1/012019

81. Yang, F., Ayavoo, R., & Ab Aziz, N. (2023). Exploring Students' Push and Pull Motivations to Visit Rural Educational Tourism Sites in China. *Sustainability (Switzerland)*, *15*(20). https://doi.org/10.3390/su152014739

82. Yousaf, A., Amin, I., & Jose Antonio, C. (2018). Tourists' motivations to travel: A theoretical perspective on the existing literature. In Tourism and Hospitality Management (Vol. 24, Issue 1). https://doi.org/10.20867/thm.24.1.8

83. Ying, T., & Wen, J. (2019). Exploring the male Chinese tourists' motivation for commercial sex when travelling overseas: Scale construction and validation. Tourism Management, 70. https://doi.org/10.1016/j.tourman.2018.09.014