Contents lists available at Scopus

ECONOMICS - Innovative and Economics Research Journal

Journal homepage: www.economicsrs.com

UNLOCKING TOURIST LOYALTY IN HERITAGE DESTINATIONS: ASSESSING THE MEDIATING ROLE OF MEMORABLE TOURISM EXPERIENCES IN SEMEY, KAZAKHSTAN

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Received 13.01.2026. | Sent to review 29.01.2026. | Accepted 19.05.2026.

Original article

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JEL Classification:
Z32, L83, R58

Doi: 10.2478/eoik-2026-0041

UDK: 338.486.1.02(574):338.124.4

ABSTRACT

This study investigates the structural relationships between visitor engagement, heritage motives, destination image and the impact on revisit intention and electronic word-of-mouth (eWoM) with memorable tourism experience (MTE) as a mediating mechanism in the heritage tourism context of Semey, Kazakhstan. This research utilized a purposive sample of 325 tourists from organized heritage tours to collect data for an online survey. The hypotheses were tested through Partial Least Squares Structural Equation Modeling (PLS-SEM). Results show that visitor engagement and destination image have a significant impact on both MTE and behavioral intentions. Heritage motives influence MTE positively, but they do not directly statistically significantly affect revisit intention or eWoM; rather they influence it, although indirectly, through MTE. These findings demonstrate the central mediation of MTE to transform cognitive and motivational antecedents toward loyalty outcomes, emphasizing that experiential quality is an important facilitate in promoting long-term behavioral intentions in heritage destinations.

Keywords: *visitor engagement, destination image, heritage tourism, memorable tourism experience, heritage motives, revisit intention, eWoM intention*

1. INTRODUCTION

Heritage tourism, defined as travel driven by an interest in the cultural and historical story of a tourist destination (Timothy, 2011), acts as an important tool in the economy of the modern world (Bonn et al., 2007). Heritage tourism is a fascinating form of leisure at its level of development and is a significant vehicle of cultural understanding and knowledge sharing (UNESCO, 2021). In addition to this, heritage tourism plays a central role in regional development. Apart from the educational aspect, it plays a crucial role in the defense and revival of the country's cultural heritage, creating opportunities to sustain artists' creative work, creating local employment opportunities, contributing to an improving a country's education and cultural infrastructure, notably in commonly inhabited sites. This industry is a major factor of a city and local economy and a major worker force for many tourism-based areas (Mrkaić Atelješević, 2025). Although economically attractive, the competitiveness of heritage sites relies very

much on a nuanced understanding of how tourists behave. In today's "Experience Economy," it's no longer enough to simply put historical artifacts on display to be able to sustain or revitalize their longevity. To ensure further sustainable growth and competitiveness, knowledge of the factors influencing visitor behaviour is necessary (Kanimozhi and Sengottuvel, 2024). Research in heritage tourism reveals that tourists' experiences are shaped by several determinants including engagement, motivations and destination image and drive their behavior directly and indirectly (Rasoolimanesh et al., 2021; Sanjaya & Aruan, 2021; Scarpi & Raggiotto, 2023). As other components of the general tourism sector, we find that generating Memorable Tourism Experiences (MTEs) is a key element that contributes to the long-term viability of a destination (Rasoolimanesh et al., 2021). Notably, MTEs are considered core predictors of destinations selected by the tourist, revisit intentions (RI) in addition to their loyalty with the destination and intention to leave them with positive comments and eWoM (Chi & Qu, 2008). Economically, building MTEs creates a strategic necessity to turn single-use tourists into repeat customers by lowering the cost of customer acquisition and enhancing market share (Jemmali et al., 2026). To decode the creation of these experiences we examine three main constructs in the study, Visitor Engagement (VE), Heritage Motives (HM), Destination Image (DI). VE is the cognitive and emotions in which a tourist invests during travel and includes attention, eagerness, absorption, and interacting with the hospitality services. It is acknowledged to play a key role in the all-encompassing tourism phenomenon (So et al., 2014). Moreover, HM, based on visitors' memories and emotional affiliation with heritage destinations, is suggested to play an important role in satisfaction (Sanjaya & Aruan, 2021). Overall perception of a place, known as DI, is the sum of knowledge, beliefs, and ideas about a place. This image has considerable impact on the perception tourists have and has a tremendous role to play in shaping the tourist expectations and experiences (Rasoolimanesh et al., 2021; Sanjaya & Aruan, 2021). The notion of MTE becomes equally prominent as a key indicator of tourism quality and a source of competitive advantage for contemporary destinations (Rasoolimanesh et al., 2021). Although more and more literature is attuned to the value of MTE and its related traditions, it can be observed that in conventional heritage destinations and those contexts without rich and sensitive historical narratives are neglected in the literature. Especially, limited studies exist on how VE, HM and DI interact to influence MTE and subsequent behavioral intentions in problematic or disputed heritage-contexts. This study consequently tests a mediation model in which VE, HM and DI predict RI and eWoM via MTE, taking a survey data from organised heritage tourists in Semey (Moeenland, 2009). Semey is a special case, integrating cultural treasures with sensitive historical sites associated with the Semipalatinsk Test Site. In particular, the research questions the study answers are:

RQ_1: What is the role of VE, HM and DI in shaping MTE in heritage tourism?

RQ_2: What are the direct and indirect effects of these factors via MTE on RI and eWoM?

RQ_3: What is the mediating role of MTE from tourists' perceptions and motivations as a mediator of their post-visit behavior intentions in a sensitive heritage context?

Drawing on tourism experience theory and behavioral intention models, the current research integrates core constructs of VE as a cognitive–emotional investment in the destination experience (So et al., 2014), HM as memory and identity-related components of experience, and DI as a cumulative perception influencing and shaping expectations and experience (Rasoolimanesh et al., 2021). The study utilizes a PLS-SEM approach for a strong empirical investigation of MTE as mediating variable that maps tourist motivations and perceptions of loyalty to an overall loyalty-related outcome. There are three contributing aspects of this study that add to the existing literature of MTE and heritage tourism. First, it applies MTE theory to a sensitive

and underexplored heritage context with complex historical narratives which enables the contextual boundary conditions of experience-based models to be shown. Second, it also separates the roles of VE, HM and DI in a single mediation model, making clear that motivators do not directly affect behavior loyalty, unless they are converted into memorable experiences.

Third, the results contribute to the theory of heritage tourism by making a meaningful distinction between visiting motivation and loyalty based on experience, developing understanding of emotional and cognitive processes that underpin post-consumption behavior within heritage in a more comprehensive manner. The rest of this paper is organized as follows. The following section provides an informative theoretical background and a hypothesis development, which addresses the relationships between VE, HM, DI, MTE, RI and eWoM. The methodology section includes the research design, data collection, and analytical procedures. Empirical findings are interpreted in the results and discussion sections thereafter. Last but not the least, the conclusion introduces theoretical and practical contributions, details limitations and proposes future work.

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The study builds upon theories of the experience economy, self-determination theory and post-consumption behavior literature to explain how cognitive, emotional, and experiential processes of tourists influence RI and eWoM in heritage tourism. Although previous studies have explored these relations in depth, limited research has investigated their integrated structural relationships, particularly in heritage destinations which have sensitive and complex historical narratives. Overcoming this divide, the current model situates MTE as a key factor mediating the relationship between VE, HM, and DI to post-visit behavioral intentions.

2. 1. VISITOR ENGAGEMENT, MEMORABLE TOURISM EXPERIENCE, REVISIT INTENTION, AND EWOM INTENTION

VE has emerged as a central construct in tourism research and has been extensively studied; it constitutes the psychological and behavioral link that tourists have with a destination or experience. It covers attention, enthusiasm, absorption, and interaction (So et al., 2014). It goes beyond simply consuming, it indicates how much a tourist is prepared to expend cognitive, emotional, and physical resources for their travel experience (Rasoolimanesh et al., 2021; Scarpi & Raggiotto, 2023). As part of the experience economy, active VE is now considered essential to provide a meaningful tour and memorable experience (Su et al., 2020). This is especially pertinent in heritage tourism, as a focus on learning, interpreting, and engaging with cultural stories provides deeper experiential depth.

By the assessment of persons (Kim et al., 2012), MTE is generally defined as positively remembered experience and recalled after the occurrence of the event. These experiences include hedonism (pleasurable feelings), novelty, local refreshment, local culture, and knowledge acquisition (Hosseini et al., 2023; Rasoolimanesh et al., 2021). The development of these vivid and emotionally engaging experiences is becoming progressively recognized as vital for tourism businesses, especially in competitive markets, because they affect tourists' perception and behavior significantly (Widjanarko et al., 2025). Heritage sites, as a site of living heritage with a sense of rich history, provide potential for cultural knowledge and cultural engagement that can be achieved for the experience to be deep and engaging. According to empirical tourism research, stronger VE contributes to generating more MTE and improving the overall experience (Chen & Rahman, 2018; Taheri et al., 2014). This positive effect of VE on MTE is consistent with self-determination theory

(Ryan & Deci, 2002), which considers the motivations of tourists and applies to cultural tourism.

With this established link, one can expect:

H_1: VE has a positive effect on MTE in heritage tourism.

Empirical evidence indicates that closer participation during travel makes tourists have a positive effect on their attitude to a place, their intention to return, and their loyalty to that place (Chen & Rahman, 2018; Rasoolimanesh et al., 2021). Indeed, research from (Rasoolimanesh et al., 2021) has shown that tourist engagement (e.g., interaction with the travel site) greatly influences satisfaction and loyalty as well as likelihood of return visits. Additionally, engagement triggers advocacy behaviors, because tourists tend to share experience by eWoM (Alrawadieh et al., 2019).

Hence, this study makes the following hypothesis:

H_2: VE has a direct positive impact on RI in heritage tourism.

H_3: VE has a positive direct impact on eWoM in heritage tourism.

2. 2. HERITAGE MOTIVES, MEMORABLE TOURISM EXPERIENCE, REVISIT INTENTION, AND EWOM INTENTION

HM is based on the intrinsic motivations and emotional connections in their culture which encourage individuals to visit cultural and historical experiences. HM is classified as heritage experiences in the literature as well as recreational experience, cultural experience and emotional experiences (Poria et al., 2003). HM are terms and concepts that capture visitors' memories of emotional attachments to heritage sites (Scarpi & Raggiotto, 2023). HM focus on a deep and profound interaction with the past, culture and identity based on heritage sites such as their historical and cultural significance. Therefore, the precise identification and explanation of those HM are of paramount importance in managing and promoting heritage tourism in a proper manner. If they are realised, HM correlates highly with higher level experiential satisfaction. MTE: When tourists feel that a destination meets (or even exceeds) their expectations regarding heritage, they report greater emotional involvement and experiential richness (Sanjaya & Aruan, 2021; Su et al., 2020). In addition, Scarpi & Raggiotto (2023) maintain that heritage-related memories, be it autobiographical or vicarious become influential factors that inform tourists' involvement in an event or the quality of their experience therein.

Thus, this study intends:

H_4: HM positively influences MTE in heritage tourism

And destination loyalty has been linked to the emotional bond and feelings visitors have during their trip. HM is recognized as significant "push" factors that drive tourists to heritage destinations. For example, research on the revisit of cultural heritage destination youth tourists found that heritage motivation (knowledge seeking and cultural interest) strongly enhances repeat intention (Hasan et al., 2023). Moreover, heritage tourism research also shows that positive, meaningful heritage experiences will positively influence eWoM behaviour. Indeed, research provides evidence that MTE, typically driven by heritage motivations, leads to positive recommendations and intentions to revisit (e.g., Riptiono et al., 2023). Moreover, research on neurotourism suggests that memory emotional processing is key determinant of recommendation behavior (Balaskas et al., 2025).

Thus, this study proposes direct and indirect relationship:

H_5: HM has a positive direct influence on RI in heritage tourism.

H_6: HM has a positive direct effect on eWoM in heritage tourism.

2. 3. DESTINATION IMAGE, MEMORABLE TOURISM EXPERIENCE, REVISIT INTENTION, AND EWOM INTENTION

DI is sum of knowledge, beliefs, ideas, and overall perception about destination (Sanjaya & Aruan, 2021; Yang et al., 2022). A robust and positive DI is crucial in destination's competitiveness in the tourism market, significantly influencing potential visitors' decision- making process, destination selection, and pre-trip expectations (Jebbouri et al., 2022).

DI is considered as key determinant of tourist experience in heritage tourism (Sanjaya & Aruan, 2021). A positive pre-visit image sets favorable expectations, and when the actual experience at heritage sites aligns with these perceptions, it directly contributes to higher level of satisfaction (Rodríguez et al., 2020; Yang et al., 2022). Therefore, strategically cultivating and maintaining a positive image is essential for heritage tourism sites to enhance MTE.

H_7: DI positively influences MTE in heritage tourism

DI is considered a key determinant of travelers' post-visit behavior (Tasci & Gartner, 2007). According to the studies, tourists with favorable DI evaluate experiences more positively (Wu & Li, 2017). Empirical research indicates that a positive DI is associated with greater intentions to revisit and engage in eWoM (Zhang et al., 2025). In the current travel landscape, many tourists express their experiences online, and such eWoM can reinforce these intentions, ultimately promoting both repeat visits and further eWoM activity.

Hence, this study proposes:

H_8: DI has a positive direct influence on RI in heritage tourism.

H_9: DI has a positive direct influence on eWoM in heritage tourism.

2. 4. MEMORABLE TOURISM EXPERIENCE, REVISIT INTENTION, AND EWOM INTENTION

MTE is an important result of tourist–destination interaction and is one of the best predictors of post-visit behavior. (Marschall, 2012) maintains that people are more likely to return to places that provide valuable and vivid memories. Previous research has examined how MTE affect RI in different settings. For instance, some research shows this loyalty to travel as a destination associated with positive memories (Rasoolimanesh et al., 2021) whilst elsewhere mention memorable local food experiences can elevate tourists' satisfaction and the intention of recommending the destination (Adongo et al., 2015). Consequently, MTE and loyalty positively influence eWoM. MTE is especially salient for heritage tourism, where emotionally engaging and meaningful experiences create emotional links between visitors and heritage sites. Moreover, MTE frequently turn into destination advocates in eWoM (Shatnawi et al., 2023). In the modern tourism environment, eWoM (online reviews, social media posts and recommendations shared digitally) has emerged as such an influential type of promotion (Descarten, 2023). Studies have indicated that MTE has a positive effect on eWoM, as people who have gone on eWoM tend to share their experiences with others online (Descarten, 2023; Shatnawi et al., 2023; Wu & Li, 2017). This turns MTE into valuable, unpaid agents for expansion projects – thus expanding the reach of the destination and building up the profile of the destination in prospective visitor groups. Thus, it is not only a must to promote MTE to achieve repeated visitation, but also a way to harness the power of online peer recommendations.

Based on this evidence, the following hypotheses are formulated.

H_{10}: The MTE has a positive impact on RI in heritage tourism.

H_{11}: MTE affects positively the eWoM in heritage tourism.

2. 5. MEMORABLE TOURISM EXPERIENCE AS MEDIATOR MECHANISM.

Although the research on the MTE has become much richer, no theoretical consensus exists on the exact ingredients and antecedents of MTE, owing to the intricate, subjective and multidimensional aspects of tourism experiences and its experiences of individuals, and therefore the findings as in any previous MTE studies (Kim et al., 2012). As such, scholars have urged for studies more empirical to investigate the background history and behaviour-related effects of MTE on different (and relatively underexplored) tourism contexts - including heritage tourism. Behavioral-wise, MTE can be considered as a psychological mechanism connecting tourists' experiences with the consequent behavior. Various previous research has shown that memorable experiences substantially influence behavioral intentions, eWoM and RI among them (Kim et al., 2012; Rasoolimanesh et al., 2021). Chen & Rahman, (2018) also proposed that significant and emotionally charged experiences trigger tourists' assessment and communication of their experiences through eWoM; thus, the memory-based evaluation is important factor in case of online advocacy behavior. Thus, drawing on the context-dependent aspect of MTE and existing evidence, this research defines MTE as the key mediating factor between experiential antecedent experience and post-experience behavioral outcomes.

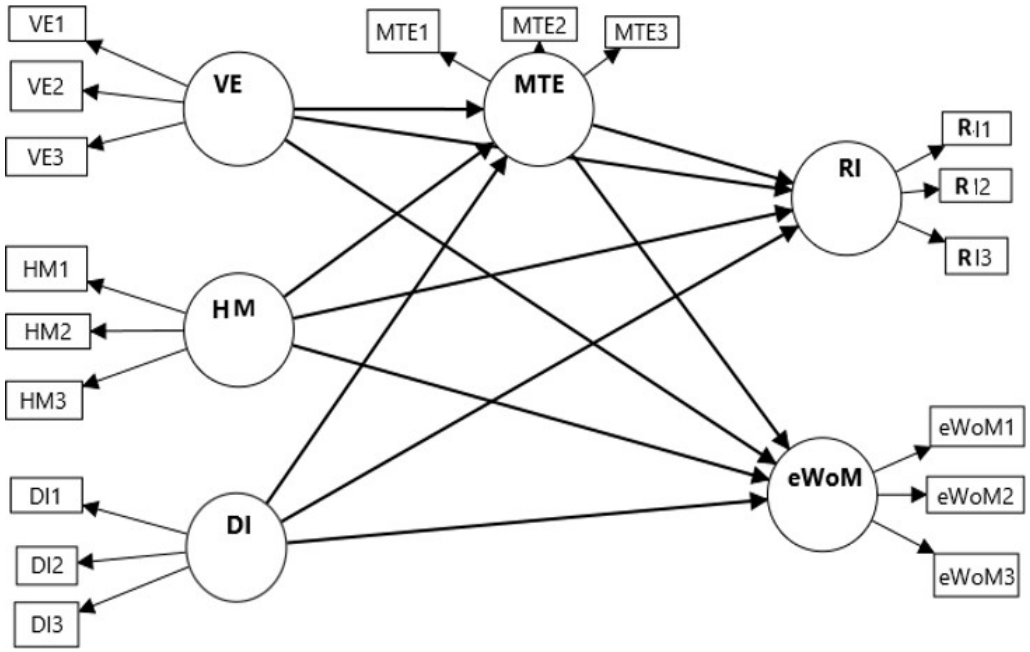
Based on this theoretical rationale, the following mediation theories are suggested:

H_{12}: MTE mediates the relationship between (a) VE (b) HM and (c) DI on RI in heritage tourism.

H_{13}: MTE mediates the relationship between (a) VE (b) HM & (c) DI on eWoM in heritage tourism.

This article constructs a unified framework to explain the role of experiential and perceptual factors that influence RI and eWoM in heritage tourism through integrating these theoretical perspectives. Figure 1 presents the conceptual framework framing the empirical investigation.

Figure 1. Conceptual framework



Note: VE – Visitor Engagement, HM – Heritage Motives, DI - Destination Image, MTE – Memorable Tourism Experience, RI – Revisit Intention, eWoM - electronic Word of Mouth intention.

Source: constructed by authors

3. METHODOLOGY

This section describes the study's research design, methods of data collection, measurement instruments, and analytical approaches used to examine the proposed hypotheses concerning VE, HM, DI, RI, and eWoM within the context of heritage tourism.

3. 1. RESEARCH DESIGN AND CASE STUDY OVERVIEW

This study employs a quantitative research design with an online survey of tourists to collect data. Such approach is well fit for investigating association of the variables or testing the theoretical hypotheses. The study examines Semey, Kazakhstan, a traditional town situated on the Irtysh River in the eastern half of the country, in terms of history and culture. As one of Kazakhstan's oldest cities, Semey has an impressive variety of historical attractions (Mukhatzhanova, 2023). There are special three-day tours led by local tour operators like Nomadic Travel, including the Historical and Local History Museum, the Republican Literary and Memorial Reserve, the Abay Museum, Literary and Memorial Museum of F.M. Dostoevsky and the Nevzorov Family Fine Arts Museum, to the city's cultural and historical sites. The second day of the trip visits Kurchatov city for the study of facilities of the Semipalatinsk Test Site (STS), which include such facilities as "Experimental Field" and the Test Site Museum. A tourist comes to visit the famous "Atomic Lake" on the third day. Safety is ensured by all dosimetrist-supervised visits in radiation sites.

3. 2. QUESTIONNAIRE DESIGN

The questionnaire in this study was developed based on existing scales and items from studies in the scientific literature based on Scarpi&Raggiotto (2023) and Rassoolimanesh et al. (2021), to ensure content validity and reliability. It had two primary components: the demographic profiles of the respondents and the main study variables. Six latent variables were measured in all of 18 items in total: VE, HM, DI, MTE, RI, eWoM. To measure all items of study variables the items were rated according to the five-point Likert scale, with respondents indicating their degree of agreement with each statement, ranging from 1 (Totally disagree) to 5 (Totally agree). The questionnaire variables, items, and originals are listed in Table 1.

Table 1. Questionnaire variables and items

Variables	Items		Sources
Visitor Engagement (VE)	VE1	I am passionate about the city	(Rasoolimanesh et al., 2021)
	VE2	I pay a lot of attention to anything about this destination	
	VE3	Visiting this destination simulates my interest to learn more about it.	
Heritage Motives (HM)	HM1	Highlights the connection between you and your heritage	(Scarpi & Raggiotto, 2023)
	HM2	This visit allowed me to experience sense of continuity with the past	
	HM3	Provides you with an emotional experience	
Destination Image (DI)	DI1	This cultural heritage site is famous for its long history and reputation	(Rasoolimanesh et al., 2021)
	DI2	This cultural heritage site has established a good image in the minds of its tourists	
	DI3	This cultural heritage site reflects its historical atmosphere and cultural blend	
Memorable Tourism Experience (MTE)	MTE1	I had good impressions about this heritage travel	(Rasoolimanesh et al., 2021)
	MTE2	I had memorable experience during my visit this destination	
	MTE3	I closely experienced the local culture	
Revisit Intention (RI)	RI1	I will revisit this place in the future	(Rasoolimanesh et al., 2021)
	RI2	If given the opportunity, I will return to this place	
	RI3	The likelihood of my return to this place for another heritage travel is high	
eWoM intention (eWoM)	eWoM1	I will spread good things about this heritage site in social media.	(Rasoolimanesh et al., 2021)
	eWoM2	I would say positive things about Semey my friends or my family via my personal networks	
	eWoM3	When asked online I will say good things about Semey	

Source: constructed by authors

3. 3. DATA COLLECTION

The research used a non-probability purposive sampling. Respondents were selected based on a screening criterion: they must have completed a three-day organized heritage tour in Semey, including visits to key cultural and historical sites. The survey was distributed using email via the customer database of a local tour operator (Nomadic Travel). The data were collected between January 2024 and April 2025; 325 valid responses (response rate ≈45%) were obtained. A sample size of 325 was deemed a reasonable number within standard guidelines for quantitative research. In particular, (Kline, 2011) recommends more than 10 cases per parameter/item and requires a minimum of 180 samples for the 18 items in this study. This was therefore the condition for a final sample of 325, thus leading to enough statistical power for the results of the next analysis. All data collection guidelines were strictly followed, including principles on participant anonymity and confidentiality of their answers.

3. 4. DATA ANALYSIS

The research model employed the Structural Equation Modeling (SEM) approach, in particular PLS-SEM was used to examine the hypotheses in the research model. We chose PLS-SEM because it is appropriate for complex models, constructs that are reflective (although all

constructs in this study are reflective), and can produce a comprehensive predictive analysis process even if the data has a non-normally distributed distribution (Henseler et al., 2015; Sarstedt et al., 2011). Data was processed in Smart-PLS 4 software. The raw data was filtered, validated, and coded before analysis. To increase the quality of the measurements, the original sample was bootstrapped to 5000 samples (Henseler et al., 2016). The measurement model was tested prior to structural model evaluation. For internal consistency reliability, reflective constructs were measured by Cronbach's alpha and Composite reliability (threshold value >0.70), for convergent validity Average Variance Extracted (AVE value >0.50), and for indicator reliability, outer loadings (>0.70). The discriminant validity was determined according to the Heterotrait–Monotrait ratio (HTMT) and values lower than 0.90 indicate acceptable discriminant validity. Multicollinearity was assessed with VIF values <5. The structural model was then checked after the agreement of acceptable measurement properties was established. The effect size analysis (f2) is performed to allow consideration of the extent to which exogenous constructs contribute to the R^2 of the latent predictor variable (Hair et al., 2022). The second step investigated the correlation between the latent variables and the tested hypotheses. The R-squared (R^2) and Q-square (Q2) values, representing a predictive strength of endogenous variables, and path coefficients (β) (indicative of the relation between endogenous variables, with directionality), were used as the analytical tools, along with their respective t-value and p-value for statistical significance interpretation. This bootstrapping also contributed reliable standard errors and t-values for the path coefficients significance test. Since all the hypotheses were directional (proposing positive correlations), one-tailed significance testing was performed. Path coefficients were statistically significant at the 10% level, following conventional guidelines in PLS-SEM research (Hair et al., 2021) ($p < 0.10$; $t > 1.645$ for one-tailed tests). P-values below 0.10, however, were interpreted as marginally significant and handled cautiously (given the exploratory nature of the study in a relatively unexplored heritage context).

4. RESULTS

Regarding the demographic profile of respondents, the sample is mainly young and well educated with 249 (77%) females and 76 (23%) males, age ranges: 18-24-year-olds, 230 (71%), 25-34 - 55 (17%), 35-44 - 23 (7%), 45 people and above-17 (5%). With respect to educational qualification, participants were mostly of university or bachelor's degree – 234 (72%), postgraduate education – 20 (6%) and other qualifications - 71 (21%).

4. 1. RESEARCH RELIABILITY AND VALIDITY OF DATA

To determine reliability and convergent validity, outer loadings of the associated items in each construct need to be greater than 0.7 and average variance extracted (AVE), composite reliability (CR) and Cronbach's Alpha must be greater than 0.5, 0.8 and 0.7 respectively. Table 2 shows that AVE VE=0.867, HM=0.895, DI=0.905, MTE=0.920, RI=0.936 and eWoM=0.9 indicates acceptable reliability. All items show acceptable composite reliability and convergent validity (Table 2).

Table 2. Reliability and validity

Variables	Outer Loading	AVE	CR	Cronbach's Alpha
VE1	0,937	0,867	0,951	0,923
VE2	0,933			
VE3	0,923			
HM1	0,936	0,895	0,962	0,942
HM2	0,951			
HM3	0,952			
DI1	0,949	0,905	0,966	0,947
DI2	0,956			
DI3	0,948			
MTE1	0,958	0,920	0,976	0,951
MTE2	0,958			
MTE3	0,962			
RI1	0,966	0,936	0,978	0,966
RI2	0,973			
RI3	0,964			
eWoM1	0,949	0,910	0,968	0,951
eWoM2	0,964			
eWoM3	0,949			

Source: Authors' calculations

To evaluate the discriminant validity of the constructs, the Heterotrait–Monotrait (HTMT) ratio proposed by Henseler et al. (2015) was employed. According to Henseler et al. (2015), HTMT values should be well below `0,9 to confirm adequate discriminant validity. As shown in Table 3, all HTMT ratios are below this critical value, indicating that discriminant validity among the latent variables is satisfactorily established.

Table 3. Heterotrait-monotrait ratio (HTMT)

	DI	HM	MTE	RI	VE
DI					
HM	0,884				
MTE	0,889	0,870			
RI	0,840	0,818	0,897		
VE	0,825	0,877	0,813	0,880	
eWoM	0,847	0,832	0,851	0,868	0,894

Source: Authors' calculations

Table 4 presents the f^2 values used to assess the effect sizes of the latent variables. In line with Henseler et al. (2016), it is essential to go beyond significance testing and examine the magnitude of these effects. According to Henseler et al. (2015), f^2 values above 0.35 indicate a strong effect, values exceeding 0.15 suggest a moderate effect, and those above 0.02 are considered weak. The results reported in Table 4 reveal strong effects of DI on MTE, moderate effect of MTE on RI, while effects of others are weak.

Table 4. Effect size (f^2)

	Original sample (O)
DI -> eWoM	0,039
DI -> MTE	0,500
DI -> RI	0,035
HM -> eWoM	0,001
HM -> MTE	0,013
HM -> RI	0,000
MTE -> eWoM	0,131
MTE -> RI	0,171
VE -> eWoM	0,038
VE -> MTE	0,031
VE -> RI	0,026

Source: Authors' calculations

Furthermore, the findings indicate that the full collinearity VIF values for all constructs are below the threshold of 5 (Henseler et al., 2015), demonstrating that multicollinearity is not a concern in the dataset used for this study.

4. 2. STRUCTURAL MODEL AND HYPOTHESES TESTING

Predictive relevance (Q^2) analysis is used to evaluate the model's ability to correctly predict observations (Hair et al., 2021). If it is a Q^2 value larger than zero, the model has sufficient predictive ability. The blindfolding process was abandoned in SmartPLS version 4.0, and PLSpredict/CVPAT were established (Hair et al., 2019). PLSpredict assesses predictive accuracy by comparing the mean absolute error (MAE) or root mean squared error (RMSE) computed from the linear regression model (LM) with the respective values from the PLS-SEM model. RMSE is generally used in practice.

Table 5. Predictive relevance test results (Q^2)

	Q^2predict	PLS-SEM_RMSE	LM_RMSE
MTE1	0,805	0,576	0,595
MTE2	0,826	0,523	0,555
MTE3	0,824	0,539	0,560
RI1	0,813	0,566	0,599
RI2	0,822	0,555	0,526
RI3	0,780	0,620	0,588
eWoM1	0,754	0,637	0,611
eWoM2	0,784	0,586	0,591
eWoM3	0,744	0,676	0,671

Source: Authors' calculations

For MTE, as presented in Table 5, none of the indicators with PLS-SEM RMSE values exceed those of the linear model (LM) variables and show considerable predictive power. Similarly, RI2, RI3, eWoM1, and eWoM3 indicators are smaller than LM_RMSE values and have low prediction ability. Results of tests of structural models and hypotheses can be seen in Table 6

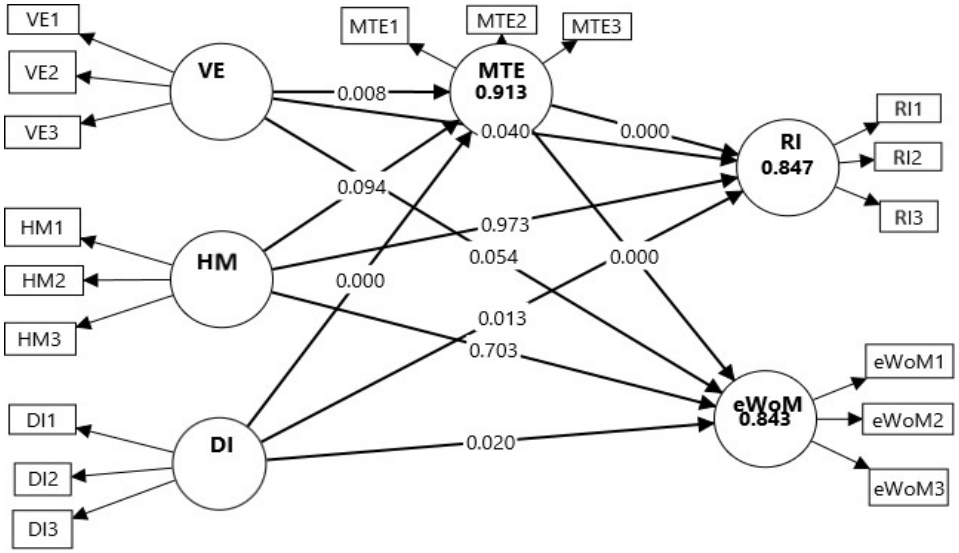
and Figure 2. The adjusted R-squared values in Figure 2 represent the explanatory power of predictor variable(s) on the relevant construct. VE, HM, and DI predict 91.3% (R2=0,913) of MTE in heritage travel. VE, HM, DI, and MTE reflect about 84 percent (R2=0,847) of RI. In sum, all of these predict eWoM by 84% (R2=0,843). The t-statistics showed that the path is greater than 1.67 or p-value less than 0.1; all H1, H2, H3, H4, H7, H8, H9, H10, H11, H12a, H12c, H13a, H13c (other than H5, H6, H12b, and H13b) are supported (Table 6).

Table 6. Structural model evaluation

		Beta	T statistics	P values	Conclusion
H1	VE -> MTE	0,110	2,642	0,008	Supported
H2	VE -> RI	0,136	2,052	0,040	Supported
H3	VE -> eWoM	0,166	1,928	0,054	Supported
H4	HT -> MTE	0,066	1,675	0,094	Supported
H5	HT -> RI	0,002	0,034	0,973	Not supported
H6	HT -> eWoM	0,022	0,381	0,703	Not supported
H7	DI -> MTE	0,802	16,427	0,000	Supported
H8	DI -> RI	0,257	2,495	0,013	Supported
H9	DI -> eWoM	0,274	2,334	0,020	Supported
H10	MTE -> RI	0,550	4,328	0,000	Supported
H11	MTE -> eWoM	0,486	3,887	0,000	Supported
H12a	VE -> MTE -> RI	0,061	2,270	0,023	Supported
H12b	HT -> MTE -> RI	0,036	1,378	0,168	Not supported
H12c	DI -> MTE -> RI	0,441	4,389	0,000	Supported
H13a	VE -> MTE -> eWoM	0,054	2,179	0,029	Supported
H13b	HT -> MTE -> eWoM	0,032	1,392	0,164	Not supported
H13c	DI -> MTE -> eWoM	0,389	3,877	0,000	Supported

Source: Authors' calculations

Figure 2. Results of assessments of structural model



Source: Authors' calculations

The results indicate that VE positively influences MTE (H1; $p = 0.008$, $\beta = 0.110$), RI (H2; $p = 0.040$, $\beta = 0.136$), and eWoM (H3; $p = 0.054$, $\beta = 0.166$), supporting H1–H3 and aligning with Rasoolimanesh et al. (2021).

HM positively affects MTE (H4; $p = 0.094$, $\beta = 0.066$), supporting H4. However, HM does not significantly influence RI (H5; $p = 0.973$, $\beta = 0.002$) or eWoM (H6; $p = 0.703$, $\beta = 0.022$); therefore, H5 and H6 are not supported.

DI has a strong direct positive effect on MTE (H7; $p = 0.000$, $\beta = 0.802$). It also significantly influences RI (H8; $p = 0.013$, $\beta = 0.257$) and eWoM (H9; $p = 0.020$, $\beta = 0.274$), supporting H8 and H9.

MTE exerts a substantial positive effect on RI (H10; $p = 0.000$, $\beta = 0.550$) and eWoM (H11; $p = 0.000$, $\beta = 0.486$), confirming H10 and H11.

The mediation analysis (Table 6) reveals that MTE partially mediates the relationships between VE and RI (H12a; $p = 0.023$, $\beta = 0.061$) and VE and eWoM (H13a; $p = 0.029$, $\beta = 0.054$). It also mediates the relationships between DI and RI (H12c; $p = 0.000$, $\beta = 0.441$) and DI and eWoM (H13c; $p = 0.000$, $\beta = 0.389$). However, MTE does not mediate the relationships between HM and RI (H12b) or HM and eWoM (H13b).

5. DISCUSSION

This study examined the structural relationships among VE, HM, DI, MTE, RI, and eWoM in the heritage tourism context of Semey, Kazakhstan. The model demonstrates strong explanatory power. VE, HM, and DI jointly explain 91.3% of the variance in MTE ($R^2 = 0.913$), indicating that experiential and perceptual antecedents strongly determine memorability. Furthermore, VE, HM, DI, and MTE account for 84.7% of the variance in RI ($R^2 = 0.847$) and 84.3% of the variance in eWoM ($R^2 = 0.843$), confirming substantial predictive capacity.

VE positively influences MTE ($\beta = 0.110$), RI ($\beta = 0.136$), and eWoM ($\beta = 0.166$), suggesting that psychological and behavioral involvement enhances both memorability and post-visit behaviors. These findings reinforce prior research emphasizing engagement as a driver of experiential and loyalty outcomes (Kurniawan et al., 2024; Rasoolimanesh et al., 2021; Zhang et al., 2025).

HM contributes to MTE ($\beta = 0.066$) but does not significantly affect RI ($\beta = 0.002$) or eWoM ($\beta = 0.022$). This indicates that heritage motives primarily function as visit-triggering factors rather than loyalty drivers. In destinations such as Semey, where visits may fulfill specific educational or "bucket-list" motives, satisfaction of these motives does not automatically translate into revisit or advocacy intentions.

DI emerges as the strongest predictor in the model, exerting a substantial influence on MTE ($\beta = 0.802$) and significant effects on RI ($\beta = 0.257$) and eWoM ($\beta = 0.274$). In a destination characterized by complex and sensitive historical narratives, pre-existing perceptions strongly shape experiential and behavioral outcomes. This aligns with prior evidence that destination image influences satisfaction and loyalty (Chi & Qu, 2008; Hung et al., 2021; Rasoolimanesh et al., 2021).

MTE significantly predicts RI ($\beta = 0.550$) and eWoM ($\beta = 0.486$), confirming its role as a central mechanism transforming experiential inputs into behavioral outcomes.

The mediation findings further clarify this mechanism. MTE partially mediates the effects of VE and DI on RI and eWoM but does not mediate the effects of HM. This suggests that engagement and image must be internalized as memorable experiences before influencing post- visit behaviors, whereas heritage motives alone are insufficient to generate loyalty through memorability.

Overall, the findings demonstrate that while heritage assets are fixed, experiential management is dynamic. MTE functions as a transformation mechanism converting engagement and perceptions into measurable loyalty-related outcomes.

6. CONCLUSION

Using PLS-SEM on data from 325 tourists, this study confirms that VE and DI are primary drivers of MTE in the heritage tourism context of Semey, Kazakhstan. MTE, in turn, significantly predicts RI and eWoM. Although HM contributes to MTE, it does not directly influence post-visit behavioral intentions.

The study advances MTE literature by demonstrating its mediating role in a sensitive heritage context and by distinguishing between motivation-driven visitation and experience-driven loyalty. Historical significance alone does not ensure repeat visitation; engagement and destination image must translate into memorable experiences to generate sustained behavioral outcomes.

Managerially, the findings suggest prioritizing immersive and interactive experience design, strategic image management, and post-visit digital engagement. Given DI's strong effect ($\beta = 0.802$ on MTE), consistent branding and sensitive narrative communication are particularly important in destinations associated with complex historical legacies such as the Semipalatinsk test site.

Limitations include the cross-sectional design, reliance on self-reported data, and single- destination context. Future research should adopt longitudinal designs, include additional mediators (e.g., authenticity, emotional intensity, place attachment), and replicate the model across diverse heritage settings to enhance external validity.

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