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The Role of Indigenous Storytelling in Shaping Al-Ula's Tourism Brand Equity: Mediation Through Perceived Authenticity and Emotional Connection, and the Moderating Influence of World Heritage Site Designation

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Abstract

Local folklore stories are part of destination brands, and for the success of these destination brands, it is important to understand the impact that local folklore stories might have on tourists' perception of the destination. The present study examines the linkage between local folklore stories and the brand equity of Al-Ula, Saudi Arabia, in terms of the authenticity and emotional perception of the brand; brand equity and the loyalty and perception of sustainable inclusive tourism of the visitors; and how visitor perceptions regarding UNESCO World Heritage branding impact the linkage between local folklore stories and brand equity. Convergent mixed methods were employed, in which quantitative data was gathered through questionnaires completed by 450 visitors to five destinations and analyzed using path analysis based on regression of composite variables; and qualitative data was gathered through 24 semi-structured interviews. The connection between authenticity, emotional engagement, and UNESCO recognition was positive, but UNESCO recognition did not moderate this relationship. In addition, interviewees regarded the inscription process as a sign of reliability and discussed benefit-sharing and community consultations. This study extends brand equity research conducted among consumers to a new Gulf heritage destination.

Keywords: indigenous storytelling; destination brand equity; perceived authenticity; emotional connection; visitor loyalty; perceived inclusive tourism sustainability; perceived UNESCO recognition; mixed methods; path analysis; Al-Ula

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1. Introduction

Tourism has become one of the major pillars of economic diversification in Saudi Arabia [1,2], and Al-Ula in the northwestern part of the Kingdom is one of those destinations [3]. The sandstone landscapes, Nabatean rock-cut tombs of Hegra, and oral stories of the local community are being offered to an international audience unaware of them [3]. Heritage destinations in such a state need to translate their heritage into meanings comprehensible to

the tourists [4,5]. The Hegra archeological destination received UNESCO World Heritage status in 2008, and this status is used for marketing Al-Ula as a tourist destination. The relevance of this status to the awareness of tourists has not been studied yet.

Storytelling has long been recognized as a way of shaping tourist experiences. Stories and themes give structure to what visitors see [6], heritage sites become places where meaning is built jointly by guides and visitors [7], and narratives make experiences extraordinary rather than routine [8]. On the supply side, destinations use stories in their promotional material [9,10], and recent studies show how narrative content in social media and digital design shapes destination choice and heritage communication [11,12]. On the demand side, visitors respond to stories through their judgments of authenticity and through emotional engagement [13,14]. Indigenous storytelling is a narrower case. This refers to stories that are drawn from the community and backed by the community from which the heritage is derived [15–17]. At Al-Ula, such stories include the oral stories from the tribes and families inhabiting the area who have heritage from previous generations. It should be pointed out that a story may be local even without being community-based and most of the heritage interpretations take place through destination management.

Three gaps in the literature motivate this study. First, research on destination brand equity has examined awareness, image, quality, and loyalty as the building blocks of brand value [18–20], and authenticity has been linked to brand equity at heritage destinations [21,22]. However, studies that model storytelling as an antecedent of brand equity treat it as a promotional message, not as a community-based practice, and the few studies of indigenous tourism focus on supply-side issues such as control, benefit-sharing, and representation rather than on visitor outcomes [15,16]. Second, authenticity and emotional attachment have each been linked to loyalty [23–26], but in the studies reviewed here [23–26] they were tested separately rather than as parallel routes from storytelling to brand equity, and none of the studies we identified tested them in the Gulf, where heritage tourism is new and much of the narrative content is being created at the same time as the destination brand. Third, UNESCO recognition is often assumed to add value to a destination, yet evidence on its effect is mixed. Many visitors are not aware of the World Heritage designation [27], and studies of several sites have found that the label adds little to visitor decisions [28]. If recognition matters, it is likely to work through visitors' awareness and evaluation of it, and none of the studies reviewed [27,28] tested it as a condition that changes the association between local stories and visitor responses.

This study addresses these gaps with a convergent mixed-methods design. A visitor survey ($n = 450$) is used to test a model in which indigenous storytelling is linked to Al-Ula's tourism brand equity directly and through perceived authenticity and emotional connection; brand equity is linked to visitor loyalty; and loyalty is linked to perceived inclusive tourism sustainability. Perceived UNESCO recognition is tested both as a direct correlate of the two mediators and as a condition that may strengthen the links between storytelling and the mediators. Semi-structured interviews with officials, guides, and community members ($n = 24$) are used to explain the survey results and to examine points where community views differ from those of visitors. The study makes three contributions. It separates community-led storytelling from destination narratives in general and shows how it relates to brand equity through two psychological routes. It reframes UNESCO recognition as a visitor perception and shows that it is associated with authenticity and emotional connection in its own right but does not change the effect of local stories, which helps explain why earlier studies found weak effects of the World Heritage label. It combines visitor and community evidence, which shows where favorable visitor perceptions of sustainability do and do not match community experience.

The remaining sections of this paper are arranged as follows. The second section sets out the theory and the hypotheses to be tested. The third section describes the methodology of the study that includes design, sample, measures and analysis. The fourth section discusses the measurement model, common method bias, results from the structural model and qualitative analysis. The fifth section considers the findings of the study in the context of existing literature. The sixth section draws some implications for the practice at Al-Ula.

2. Literature Review, Theoretical Background, and Hypotheses Development

The following section highlights the theories behind the proposed model along with hypotheses on the relationships between seven constructs listed below, as illustrated in Figure 1: IS = Indigenous Storytelling, PUR = Perceived UNESCO Recognition, PA = Perceived Authenticity, EC = Emotional Connection, ATBE = Al-Ula Tourism Brand Equity, VL = Visitor Loyalty, and ITS = Perceived Inclusive Tourism Sustainability. The underlying hypothesis for this study is that the activity of community storytelling is one of the practices that add value to the heritage destination brand through its authenticity and emotional connection with the destination.

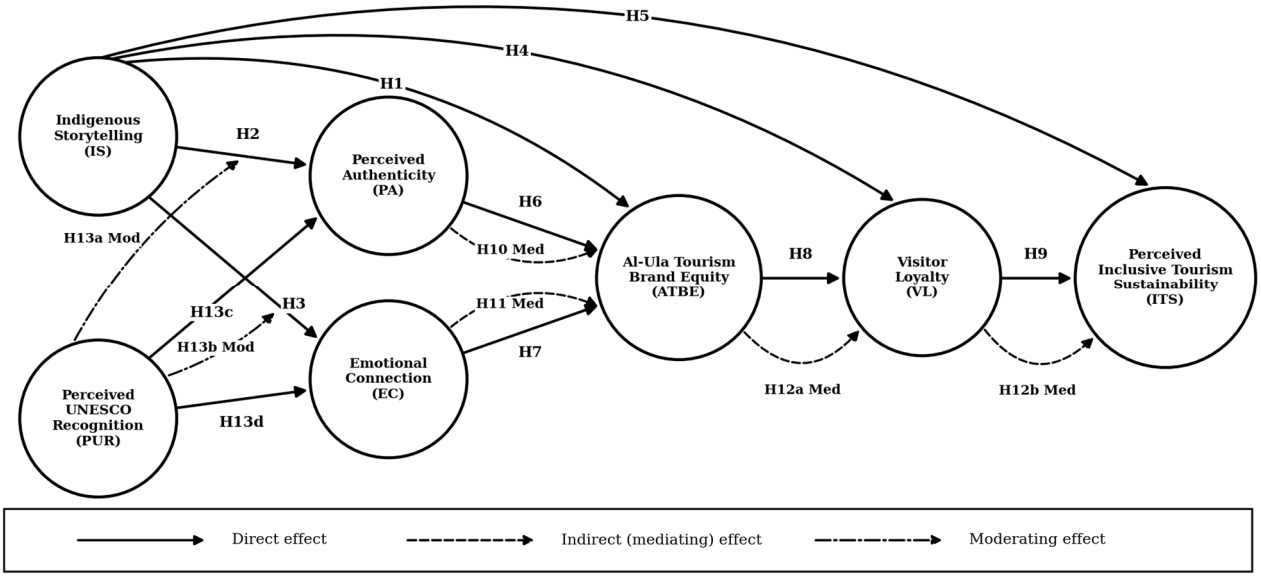


Figure 1. Proposed theoretical framework and research hypotheses.

2.1. Literature Review and Theoretical Background

2.1.1. Storytelling in Heritage Tourism

Storytelling has long been regarded as a means through which tourism experiences are shaped and given meaning. Moscardo [6] argued that stories and themes organize what visitors notice, remember and value, and Chronis [7] showed that heritage narratives are co-constructed by guides and visitors rather than simply transmitted to them. Stories can turn an ordinary visit into an extraordinary experience when they engage the imagination and emotions of the audience [8]. In destination marketing, storytelling has been studied mainly as promotional content, for instance in destination videos [9] and in place narratives that connect tourism marketing with the identity of a territory [10]. User-generated content and digital tools have widened the channels through which stories reach visitors [11,12], and AI-assisted heritage education has raised new questions about the reliability of narratives that are generated or mediated by technology [29]. In much of this literature, however, the

story is treated as a message produced by the destination or the marketer, and less attention is given to who tells the story and whose knowledge it carries.

2.1.2. Destination Brand Equity

Brand equity is commonly understood as the added value that brand knowledge gives to a product or place in the eyes of consumers [18,30]. Destination researchers adapted this idea to places, measuring brand equity through awareness, image, perceived quality and loyalty [5,19,20]. Later studies showed that brand equity at heritage destinations is related to perceived authenticity, nostalgia and credibility [21,22]. These studies explain why associations held in the minds of visitors matter for a destination brand, but they rarely specify which experiences produce these associations. Storytelling is a plausible source, since it supplies the meanings that visitors attach to a place.

2.1.3. Authenticity and Emotional Connection

The authenticity literature distinguishes objective authenticity, which concerns the genuineness of objects, from constructive and existential authenticity, which concern the visitor's own sense that an experience or a place is genuine [31,32]. At heritage sites, authenticity is shaped by interpretation and by the visitor's engagement with it [13,14,33], and a consumer-based view treats authenticity as an evaluation formed by the visitor [23]. Perceived authenticity has also been linked to loyalty outside heritage settings, for example in street food, where online word-of-mouth and the responses of managers shape customers' sense of what is genuine [34]. In parallel, research on tourist emotion and place attachment shows that emotionally engaging experiences create bonds with a destination that are associated with satisfaction and loyalty [24–26]. Authenticity and emotion are therefore two distinct, though related, responses through which a story may affect how a destination is evaluated.

2.1.4. Indigenous, Community-Based and Inclusive Tourism

Research on indigenous tourism has focused on control, benefit-sharing and representation, i.e., on whether local and indigenous communities decide how their culture is presented and whether they gain from it [15–17]. The idea of inclusive tourism extends this concern to the wider question of who takes part in, and who benefits from, tourism development [35]. Sustainability in tourism is commonly assessed along economic, social and environmental dimensions [36–38]. Community-told stories connect these debates with visitor research, since they are both a form of cultural representation and a possible channel for community participation. In this study, visitors' perceptions that stories come from the local community are measured; actual ownership or control of the narratives is not.

2.1.5. Heritage Designation and Visitor Perceptions

UNESCO World Heritage status is often expected to increase the attractiveness and credibility of a site. The evidence is mixed, as many visitors are not aware of the designation [27] and several sites gain little from the label in visitor decisions [28]. Institutional theory suggests that endorsement by a credible external body can make claims more believable [39–41], which implies that recognition may matter through how visitors perceive and evaluate it. For this reason, the study examines perceived recognition rather than the designation itself.

2.1.6. Theoretical Framework

The model rests on one primary theory and two supporting perspectives, each assigned to a specific part of the model. Customer-based brand equity (CBBE) theory is the primary

framework. It defines brand equity as the differential effect of brand knowledge on consumer response [18,30] and has been adapted to destinations as a combination of awareness, image, perceived quality, and loyalty [5,19,20]. CBBE theory explains why storytelling, as a source of brand associations, should be related to brand equity (H1), and why brand equity should be related to loyalty (H8). Authenticity theory supplies the first mechanism. It distinguishes objective authenticity, which concerns the genuineness of objects, from constructive and existential authenticity, which concern the visitor's own sense that an experience is genuine [31,32]. Community-told stories are one of the main ways in which constructive authenticity is produced at heritage sites [23,33], so authenticity theory explains H2, H6, and H10. Research on tourist emotion and place attachment supplies the second mechanism. Emotionally engaging experiences create bonds with a destination that are associated with stronger brand evaluations and loyalty [24–26], which explains H3, H7, and H11. Institutional legitimacy theory is used only for the moderating role of UNESCO recognition. It holds that endorsement by a credible external body makes an organization's claims more believable to its audiences [39,40], which explains why visitors who perceive UNESCO recognition as credible may respond more strongly to local stories (H13a, H13b). The remaining outcome links (H4, H5, H9, H12) follow from the loyalty and sustainability literature, as explained in Section 2.5. Social exchange theory and place attachment, which were cited in the earlier version, are not used as separate frameworks because neither is measured as a construct in the model.

2.2. Indigenous Storytelling and Tourism Brand Equity, Visitor Loyalty, and Inclusive Sustainability

Because the study examines a single destination, the hypotheses are formulated for Al-Ula and refer to its visitors; they are not stated as general propositions about heritage destinations, and the conclusions drawn from them apply to Al-Ula only. Tourism brand equity refers to the brand equity of Al-Ula (abbreviated as ATBE in the figures and tables).

Indigenous storytelling gives visitors specific content from which to form associations with a destination. When guides and community members recount legends, family histories, and local ways of life, visitors take away memorable and distinctive impressions that standard marketing scripts do not provide [8,13]. Distinctive and favorable associations are the core of customer-based brand equity [18,19], and experimental and survey evidence shows that narrative content in destination promotion improves brand evaluations and visit intentions [9,10]. Stories told by community members may also strengthen visitors' attachment to the place and their willingness to recommend it, since loyalty at heritage destinations is closely related to the meaning visitors find in the experience [14,42]. Visitors who hear community voices are also more likely to see tourism as something that benefits local people, which is the visitor-side view of inclusive tourism [16,43]. These arguments lead to the following hypotheses:

H1. *Among visitors to Al-Ula, indigenous storytelling is positively associated with Al-Ula's tourism brand equity.*

2.3. Indigenous Storytelling, Perceived Authenticity, and Emotional Connection

Storytelling is also likely to work through the way visitors judge the destination. Narratives that are visibly owned by the community signal that what visitors see reflects living traditions rather than staged performance, which is the basis of constructive authenticity [23,31,32]. Studies of heritage consumption in Japan and of historical nostalgia in China show that engagement with interpreted heritage raises perceived authenticity [13,21], and research on existential authenticity shows that visitors' sense of an authentic experience

depends on how sites are interpreted to them [14]. Stories are also rich in emotional content. Narratives that name ancestors, places, and events elicit stronger emotional responses than factual, object-based interpretation [7,8], and emotional responses are a well-documented route from tourist experiences to attachment and recommendation [24]. On this basis:

H2. *Among visitors to Al-Ula, indigenous storytelling is positively associated with the perceived authenticity of Al-Ula.*

H3. *Among visitors to Al-Ula, indigenous storytelling is positively associated with emotional connection to Al-Ula.*

H4. *Among visitors to Al-Ula, indigenous storytelling is positively associated with loyalty to Al-Ula.*

H5. *Among visitors to Al-Ula, indigenous storytelling is positively associated with the perceived inclusive tourism sustainability of Al-Ula.*

2.4. Perceived Authenticity, Emotional Connection, and Brand Equity

Authenticity is one of the main determinants of value at heritage destinations. Under the customer-based perspective, perceived authenticity was found to have an influence on tourists' motivation and loyalty at heritage destinations [23]; under the research scope of heritage destination branding, brand authenticity was linked to brand credibility and brand equity [21,22]. The stronger and more distinct associations that tourists create based on their perceptions of the authenticity of the destination make a positive contribution to brand equity. The same is true of emotional connection. Tourists' attachment to a destination was found to be connected with positive evaluations of the destination and the probability of its recommendation [24,25] as well as with cognitive, affective, and conative loyalty [26]. Since brand equity consists of evaluative and affective components [19,20], emotional connection should have a positive correlation with it. Thus:

H6. *Among visitors to Al-Ula, perceived authenticity is positively associated with Al-Ula's tourism brand equity.*

H7. *Among visitors to Al-Ula, emotional connection is positively associated with Al-Ula's tourism brand equity.*

2.5. Brand Equity, Visitor Loyalty, and Inclusive Tourism Sustainability

In CBBE theory, loyalty is the behavioral outcome of strong brand knowledge: destinations with favorable and distinctive associations attract repeat visits and positive word of mouth [19,20], and structural models of destination loyalty confirm the link between evaluations of a destination and loyalty [42,44]. The link from loyalty to perceived inclusive sustainability is less direct. Loyal visitors are more likely to support the destination's development goals, to spend in local businesses, and to accept measures that protect heritage and the environment, which are the economic, social, and environmental dimensions of the triple bottom line [36,43]. Recent work on social sustainability in tourism stresses that visitors' views of who benefits from tourism are part of how sustainability is achieved and legitimized [37], and studies of Saudi and Egyptian hospitality show that stakeholder involvement is associated with more sustainable outcomes [45,46]. In this study, inclusive tourism sustainability is measured as visitors' perception of these outcomes, not as an objective outcome. Thus:

H8. *Among visitors to Al-Ula, Al-Ula's tourism brand equity is positively associated with loyalty to Al-Ula.*

H9. *Among visitors to Al-Ula, loyalty to Al-Ula is positively associated with the perceived inclusive tourism sustainability of Al-Ula.*

2.6. Mediating Roles of Perceived Authenticity, Emotional Connection, and Brand Equity

As can be inferred from the above discussion, these two psychological processes have an influence on the link between storytelling and brand equity. In other words, the effect of storytelling on brand equity can be moderated by authenticity and emotion. This generalization can also apply to the second outcome process: storytelling will be linked with loyalty through brand equity, while brand equity will be linked with sustainability perception through loyalty. Mediation effects are simultaneously tested in one structural equation model. The mediation hypotheses are:

H10. *Among visitors to Al-Ula, perceived authenticity mediates the relationship between indigenous storytelling and Al-Ula's tourism brand equity.*

H11. *Among visitors to Al-Ula, emotional connection mediates the relationship between indigenous storytelling and Al-Ula's tourism brand equity.*

H12. *Among visitors to Al-Ula, (a) Al-Ula's tourism brand equity mediates the relationship between indigenous storytelling and loyalty to Al-Ula, and (b) loyalty to Al-Ula mediates the relationship between Al-Ula's tourism brand equity and its perceived inclusive tourism sustainability.*

2.7. The Moderating Role of Perceived UNESCO Recognition

Being included in the list of UNESCO sites is a concrete attribute of Hegra; however, its effect on tourists will happen only if they are aware of it and believe it. According to the research conducted so far, the point is that many people know nothing about the World Heritage status [27], and it hardly influences their decisions [28]. In this regard, the moderator used in this research will be the Perceived UNESCO Recognition (PUR). It refers to the awareness of tourists of the UNESCO status and belief in it. According to the Institutional Legitimacy Theory, external legitimation may add credibility to the organization's claims [39–41]. This means that if the tourists perceive the status as legitimate, then the narratives of the community members will sound more authentic and credible. Furthermore, PUR is expected to influence storytelling, authenticity perception, and emotional engagement to a larger extent. Also, PUR will influence other variables directly.

H13a. *Among visitors to Al-Ula, perceived UNESCO recognition positively moderates the relationship between indigenous storytelling and the perceived authenticity of Al-Ula.*

H13b. *Among visitors to Al-Ula, perceived UNESCO recognition positively moderates the relationship between indigenous storytelling and emotional connection to Al-Ula.*

H13c. *Among visitors to Al-Ula, perceived UNESCO recognition is positively associated with the perceived authenticity of Al-Ula.*

H13d. *Among visitors to Al-Ula, perceived UNESCO recognition is positively associated with emotional connection to Al-Ula.*

In total, the model contains 13 hypothesis labels (H1 to H13) that cover 17 separately tested relationships: nine direct relationships (H1 to H9), four mediation relationships (H10, H11, H12a, and H12b), and four relationships involving perceived UNESCO recognition (H13a to H13d). Where results are counted in the rest of the paper, the count refers to these 17 relationships. Table A12 in Appendix C maps each hypothesis to its structural equation and results table.

3. Materials and Methods

3.1. Research Design and Study Context

A convergent mixed-methods design was used [47]. The quantitative strand tests the hypothesized model, and the qualitative strand is used for three purposes: to explain the mechanisms behind the survey results, to check whether stakeholders' accounts confirm or challenge them, and to capture community views on the distribution of tourism benefits, which a visitor survey cannot measure. The two strands were collected in parallel and integrated at the interpretation stage by comparing each structural result with the corresponding interview themes (Section 4.10). This study was conducted in the Governorate of Al-Ula of Saudi Arabia, where there is a UNESCO World Heritage Site called Hegra and several other sites, including Dadan, Jabal Ikmah, Old Town, Elephant Rock, and Winter Park, under the management of the Royal Commission for AlUla, following the vision of Saudi Vision 2030 strategic goals [1,2]. The study received ethical approval on 25 September 2026 prior to the collection of data, and data collection through questionnaires and interviews occurred from 26 September to 5 October 2026. The Saudi Vision 2030 is known as the national strategy (2016–2030).

3.2. Quantitative Strand: Sampling, Data Collection, and Measurement

The target population was domestic and international leisure visitors to Al-Ula aged 18 or over who had taken part in at least one guided or interpreted heritage experience during their visit. A systematic intercept sample with quotas was used, because no sampling frame of visitors exists and because the hypotheses require respondents who have been exposed to storytelling [48,49]. Visitors were approached at five sites: Hegra, the Old Town, Dadan and Jabal Ikmah, Elephant Rock, and Winter Park. Site quotas (30%, 25%, 20%, 15%, and 10% of the sample, respectively) and minimum quotas for Saudi and non-Saudi visitors (40% each), first-time and repeat visitors (30% each), men and women (40% each), and English-language questionnaires (20%) were set so that the sample would include both domestic and international visitors, first-time and repeat visitors, and the main interpretive settings. All quotas were reached (Table 1). Of the 600 visitors approached, 98 (16.3%) were ineligible or declined to take part; because ineligible visitors and refusals were not recorded separately, the number of eligible visitors who were invited cannot be determined. A further 52 (8.7%) began but did not complete the questionnaire, and 450 returned valid completed questionnaires. The figure of 75.0% is therefore the proportion of all approached visitors who provided a valid questionnaire (450/600), and not a conventional response rate among eligible invitees; among the 502 visitors who agreed to take part, 89.6% completed the questionnaire (450/502). No completed questionnaire failed the minimum-duration criterion (130 s) or the attention check. The questionnaire was conducted in the Arabic language (n = 343, 76.2%) and English language (n = 107, 23.8%). The English language version of the questionnaire was developed first using the published scales, and then it was translated into Arabic via a forward-backward translation procedure: the questionnaire was independently translated by two translators (a specialist in heritage tourism marketing and a linguist, respectively) into the Arabic language and merged; the third bilingual translator, not having the original, translated the Arabic version into the English

language again; finally, three specialists in heritage and tourism management validated the conceptual and cultural equivalence of the two English versions of the questionnaire, including specific terminology used for Al-Ula. The average completion time is 6.7 min (SD = 1.7). All measures that were applied were based on a five-point Likert scale (from 1 = Strongly disagree to 5 = Strongly agree). These were modified from existing scales such as indigenous storytelling (five items) [6,10,13], perception of recognition by UNESCO (four items) [27,28], perceived authenticity (four items) [23,33], emotional bonding (four items) [24,26], tourism brand equity (five items) [5,19], visitor loyalty (four items) [25,42] and inclusive tourism sustainability (six items) [36,38,43]. These are the construct measures, and there are 32 measures in total, shown in Appendix A. Apart from the above 32 measures, there are two other items for the common method bias test (Section 4.5): an attention check item and a marker variable measure. Before the main fieldwork, the questionnaire was pre-tested with 35 visitors at the Old Town and Winter Park, who were not included in the final sample, to assess clarity and completion time. Cronbach's alpha in the pre-test ranged from 0.78 to 0.86; the mean completion time was 390 s, and two items (IS3 and ITS-S2) were reworded after participants' comments. Perceptions of sustainability of inclusive tourism include economic, social, and environmental perceptions and are considered a reflective construct with the following Jarvis et al. criteria [50]: the set of items measures one general perception of sustainable management of tourism in Al-Ula; the items are related to one construct; the items are supposed to covary; the change in the perception will influence all items. The proposed structure is confirmed by the data since there are six items which belong to one component (eigenvalues 3.20 and 0.68 for the first and second components, respectively) and three dimensions which are intercorrelated with correlation coefficients from 0.59 to 0.60 (see Appendix D). Since every dimension includes two items, the latent dimensions cannot be estimated accurately and, therefore, the construct is analyzed by one score.

Table 1. Sample Demographics (n = 450).

Characteristic	Category	*n*	%
Collection site	Hegra	135	30.0
	Old Town	113	25.1
	Dadan & Jabal Ikmah	90	20.0
	Elephant Rock	67	14.9
	Winter Park	45	10.0
Questionnaire language	Arabic	343	76.2
	English	107	23.8
Gender	Male	253	56.2
	Female	197	43.8
Age group	18–24	97	21.6
	25–34	152	33.8
	35–44	109	24.2
	45–54	63	14.0
	55+	29	6.4
Nationality	Saudi	263	58.4
	Non-Saudi	187	41.6
Education	Secondary or below	83	18.4
	Bachelor	265	58.9
	Postgraduate	102	22.7

Table 1. *Cont.*

Characteristic	Category	*n*	%
Visit type	First visit	267	59.3
	Repeat visit	183	40.7
Purpose of visit	Cultural/Heritage	172	38.2
	Leisure	131	29.1
	Events/Festivals	94	20.9
	Business	30	6.7
	Other	23	5.1

3.3. Qualitative Strand: Semi-Structured Interviews

These semi-structured interviews involved key informants who belonged to three categories as listed below: tourism administration and destination management officials ($n = 8$), licensed local tour guides and traditional storytellers ($n = 8$), and local community members ($n = 8$). The stakeholders in the development, distribution and representation of the heritage narratives included these three categories of informants and hence, an equal number was taken from each so that any single perspective would not influence the analysis too much. The informants were purposively selected based on their various functions as well as experience at the site (3 to 35 years). The interview guides (Appendix B) were developed from the constructs of the model and the literature on storytelling and indigenous tourism [6,15]. The interviews were conducted from 26 September to 5 October 2026, either within the workplace of the interviewees or at the AlUla heritage sites, in either Arabic ($n = 17$) or English ($n = 7$), taking between 38 and 58 min, with an average of 46.9 min. Maximum Variation Purposive Sampling was done to select the sample participants in coordination with the Royal Commission for AlUla, guides association, and local community council. Three pilot interviews (one per group) were used to test the guide, the probes, and the interview length (planned at 40 to 50 min) and were excluded from the analysis. The responses were organized under the eight topics of the interview guide and analyzed with codebook thematic analysis, following the six phases described by Braun and Clarke [51], combining deductive codes taken from the model constructs with inductive codes for issues raised by participants, such as cultural privacy and the consistency of narration. Two researchers experienced in qualitative analysis coded the data independently (dual coding). Agreement was checked on a random 25% of the transcripts (6 interviews), and Krippendorff's alpha was 0.86. Independent double coding and agreement coefficients are not part of reflexive thematic analysis, in which themes are produced through the researcher's interpretive engagement and coding agreement is not regarded as a quality criterion [52]. For this reason, the analysis is described as codebook-based: a codebook derived from the model constructs and refined inductively provided a shared frame, the agreement check was used only to confirm that the codebook was applied consistently, and disagreements were discussed to refine the code definitions rather than to establish a single correct interpretation. The coding log recorded thematic saturation for each interview. The sample size was judged against evidence that most themes in homogeneous groups appear within the first 12 interviews [53]. Credibility and dependability were addressed following Lincoln and Guba [54] through member checking, an audit trail, and the joint display of the two strands.

The quantitative data were analyzed with regression-based path analysis on composite scores. Each construct score was the mean of its items and was standardized (z-score) before estimation. This approach was chosen because each structural equation can be estimated and checked separately, mediation and moderation can be examined within the same set of

equations, and every coefficient can be reproduced from the raw data. It does not use the iterative PLS algorithm or latent-variable estimation, so the coefficients are not PLS-SEM estimates [55]. The analysis was run in Python 3.11 (NumPy, SciPy, pandas). The measurement model was assessed with item loadings from a one-factor principal component solution for each construct, Cronbach's alpha (Equation (1)), composite reliability (Equation (2)), and average variance extracted (Equation (3)), using the usual thresholds (loadings of 0.70 or more, with 0.60 to 0.70 acceptable when AVE is at least 0.50; alpha and CR of 0.70 or more; AVE of 0.50 or more) [56]. Discriminant validity was assessed with the Fornell-Larcker criterion [57] and the heterotrait-monotrait ratio (Equation (4); values below 0.85) [58]. A seven-factor principal component solution with varimax rotation was examined as a supplementary check on whether the 32 items separate into the seven constructs.

$$\alpha = (k/(k-1)) \times [1 - (\Sigma\sigma_i^2/\sigma_\gamma^2)] \quad (1)$$

where k is the number of items, σ_i^2 is the variance of item i, and σ_γ^2 is the variance of the summed scale.

$$CR = (\Sigma\lambda_i)^2/[(\Sigma\lambda_i)^2 + \Sigma(1 - \lambda_i^2)] \quad (2)$$

where λ_i is the standardized loading of item i on its construct.

$$AVE = \Sigma\lambda_i^2/n \quad (3)$$

where *n* is the number of items loading on the construct.

$$HTMT_a{}^b = \text{mean}(r_{het})/\sqrt{[\text{mean}(r_{mona})_a \times \text{mean}(r_{mona})^b]} \quad (4)$$

where r_{het} is the set of heterotrait-heteromethod correlations between the items of constructs a and b, and r_{mon_a} is the set of monotrait-heteromethod correlations within each construct.

The structural model was estimated with ordinary least squares regressions on the standardized composite scores, one equation for each endogenous construct (Equations (5)–(9)), so the coefficients are standardized path coefficients. Their significance was assessed with the t-tests of each regression, and effect sizes are reported as f^2 [59]. Specific indirect effects were computed as the product of the coefficients along each path (Equation (10)), and confidence intervals for the indirect, direct, and total effects were obtained by bootstrapping (10,000 resamples of the 450 cases, percentile intervals), re-estimating all five equations in each resample so that every effect comes from the same set of equations. The type of mediation was classified following Zhao et al. [60]. The moderation hypotheses were tested with the mean-centerd interaction terms in Equations (5), (6) and (11), and interactions were examined with the change in R^2, f^2, and simple slopes at low (−1 SD), mean, and high (+1 SD) levels of the moderator [61]. The required sample size was assessed following the G*Power 3.1 procedure for the F test of an increase in R^2 [62], for the most demanding relationship (the interaction term in a regression with three predictors, IS, PUR, and IS × PUR), with $\alpha = 0.05$ and power = 0.80. The minimum sample is 395 respondents for $f^2 = 0.02$, 159 for $f^2 = 0.05$, and 55 for $f^2 = 0.15$ [59]. With 450 respondents, the achieved power is 0.85 for $f^2 = 0.02$ and above 0.99 for $f^2 = 0.05$, and the smallest detectable effect is about $f^2 = 0.018$. Common method bias was addressed procedurally by separating the predictor and outcome sections of the questionnaire and assuring anonymity, and statistically, with the full collinearity VIF test [63], the marker-variable technique [64], and Harman's single-factor test, the latter interpreted only as a supplementary indicator [65,66]. The qualitative data were analyzed thematically and compared with the quantitative results path by path.

$$PA = a_1 \cdot IS + a_2 \cdot PUR + a_3 \cdot (IS \times PUR) + \zeta_1 \quad (5)$$

$$EC = b_1 \cdot IS + b_2 \cdot PUR + b_3 \cdot (IS \times PUR) + \zeta_2 \quad (6)$$

$$ATBE = c_1 \cdot IS + c_2 \cdot PA + c_3 \cdot EC + \zeta_3 \quad (7)$$

$$VL = d_1 \cdot IS + d_2 \cdot ATBE + \zeta_4 \quad (8)$$

$$ITS = e_1 \cdot IS + e_2 \cdot VL + \zeta_5 \quad (9)$$

$$ITS = e_1' \cdot IS + e_2' \cdot VL + e_3' \cdot ATBE + \zeta_5' \quad (10)$$

$$\text{Specific indirect effect} = \text{product of the path coefficients (e.g., H10} = a_1 \times c_2) \quad (11)$$

$$Y = \beta_1 X_c + \beta_2 M_c + \beta_3 (X_c \times M_c) + \zeta \quad (12)$$

In Equations (5)–(9), ζ_1–ζ_5 represent the unexplained variance of each endogenous construct, and the coefficients are standardized path coefficients. In Equations (5) and (6), a_3 and b_3 are the coefficients of the interaction term IS × PUR, which test H13a and H13b, and in Equation (12) the subscript C denotes mean-centerd variables. In Equation (11), H10 = $a_1 \times c_2$, H11 = $b_1 \times c_3$, and H12b is tested with Equation (10), in which the indirect effect is $d_2 \times e_2'$ and the direct effect is e_3'; H12a is the sum of the indirect effects of IS on VL through ATBE, $(c_1 + a_1c_2 + b_1c_3) \times d_2$, reported with its three components.

Equation (10) adds the direct association between tourism brand equity and perceived inclusive tourism sustainability: $ITS = e_1' \cdot IS + e_2' \cdot VL + e_3' \cdot ATBE + \zeta_5'$. It is used only to test H12b as a conventional mediation hypothesis, so that the direct, indirect, and total effects of brand equity on perceived inclusive tourism sustainability can be reported with their bootstrap confidence intervals. All other hypotheses are tested with Equations (5)–(9), and the coefficients for H5 and H9 come from Equation (9).

4. Results

4.1. Sample Profile

The summary for the demographic characteristics of the 450 respondents is given in Table 1 below. The percentages obtained in each of the five locations were equal to those specified in the quotas (Hegra 30.0%, Old Town 25.1%, Dadan and Jabal Ikmah 20.0%, Elephant Rock 14.9% and Winter Park 10.0%), and the minimum quotas were met in all of them. The nationalities of the sampled population were as follows: 58.4% were Saudis and 41.6% non-Saudis; 59.3% of respondents have visited the sites once, 56.2% of the respondents are male, and 23.8% have answered the English version of the questionnaire. The age category of the respondents is mostly 25–44 years (58.0%), and they hold a bachelor's degree or above (81.6%). The objectives of the visit were cultural and heritage (38.2%), leisure (29.1%), and events/festivals (20.9%). The sample can be considered as diverse based on nationality, past visits and sites visited; nevertheless, it is an intercept quota sample.

4.2. Descriptive Statistics of Study Constructs

As illustrated in Figure 2, the demographic and visit-related characteristics of the 450 respondents reveal a relatively balanced gender distribution, with males accounting for 56.2% and females for 43.8% of the sample. The largest age group was 25–34 years (33.8%), followed by 35–44 years (24.2%). Saudi nationals represented 58.4% of the respondents, while 41.6% were non-Saudis. First-time visitors accounted for 59.3% of the sample, compared with 40.7% repeat visitors. Cultural and heritage tourism was the primary purpose of visiting Al-Ula (38.2%) followed by leisure activities and events (29.1%). Regarding collection sites, Hegra accounted for the largest proportion of respondents (30.0%), followed by Old Town (25.1%) and Dadan (20.0%).

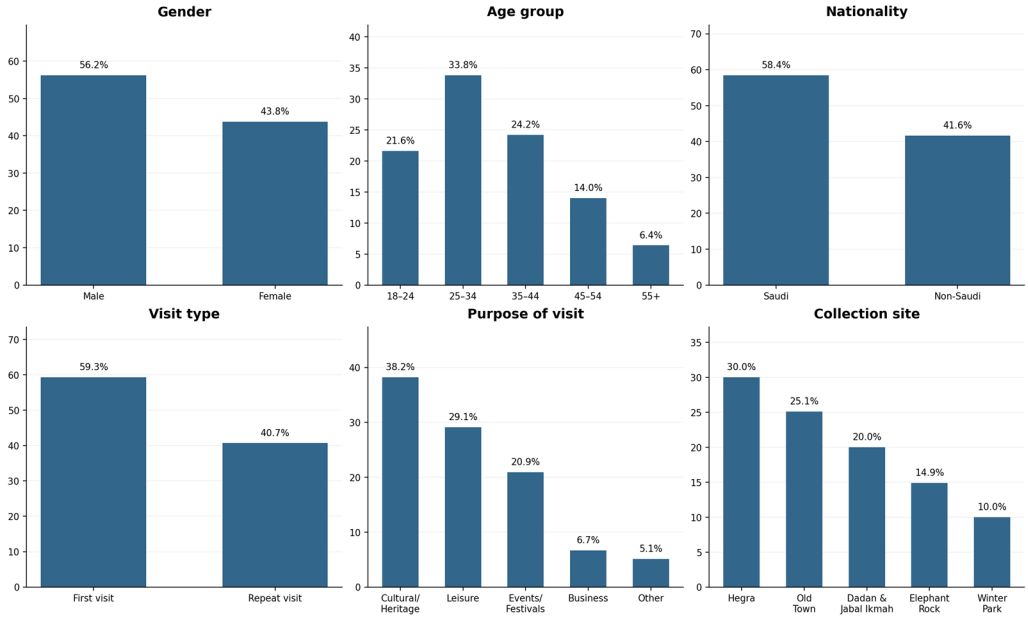


Figure 2. Distribution of respondents by gender, age group, nationality, visit type, purpose of visit, and collection site ($n = 450$).

Table 2 reports the means, standard deviations, skewness, and kurtosis of the seven construct scores (the mean of each construct's items). Means ranged from 3.83 (IS) to 3.90 (ITS), which indicates generally favorable evaluations, with standard deviations of 0.58 to 0.67. Skewness (−0.35 to −0.22) and kurtosis (−0.61 to −0.04) were within ±2 for all constructs and for all 32 items (skewness −0.46 to −0.10; kurtosis −0.76 to 0.01), so the normality assumption of the regression estimates was not a concern. The consistently high means also mean that responses are concentrated in the upper half of the scale, which limits variance and may attenuate some associations.

Table 2. Descriptive Statistics.

Construct	Items	Mean	SD	Skewness	Kurtosis	Min	Max
Indigenous storytelling (IS)	5	3.828	0.576	−0.308	−0.041	1.60	5.00
Perceived UNESCO recognition (PUR)	4	3.873	0.627	−0.324	−0.365	2.00	5.00
Perceived authenticity (PA)	4	3.881	0.623	−0.294	−0.469	2.25	5.00
Emotional connection (EC)	4	3.889	0.674	−0.310	−0.608	2.00	5.00
Al-Ula tourism brand equity (ATBE)	5	3.850	0.590	−0.302	−0.165	2.00	5.00
Visitor loyalty (VL)	4	3.889	0.612	−0.224	−0.340	1.75	5.00
Perceived inclusive tourism sustainability (ITS)	6	3.903	0.604	−0.346	−0.275	2.17	5.00

4.3. Measurement Model: Item Loadings, Reliability, and Convergent Validity

Table 3 shows the loadings of the constructs that were derived through one-factor solution using principal component analysis and the Cronbach's alpha values. The loadings range from 0.677 to 0.815. Twenty-eight out of thirty-two have loadings greater than 0.70, whereas the other four loadings are between 0.60 and 0.70 (IS4 = 0.692, IS5 = 0.695, ITS-S1 = 0.690, ITS-E1 = 0.677) but are part of the analysis because the AVE of their constructs is above 0.50. The Cronbach's alpha value ranges from 0.736 to 0.824, the CR value ranges from 0.835 to 0.872, and the AVE value ranges from 0.504 to 0.616. All constructs

satisfy the reliability and convergent validity requirements. IS and ATBE are close to the AVE threshold. These are the statistics of composite scores used for path analysis.

Table 3. Item Loadings and Reliability (one-factor principal component solution for each construct).

Construct/Item	Loading	Cronbach's α	CR	AVE
Indigenous storytelling (IS)				
IS1	0.733	0.753	0.835	0.504
IS2	0.722			
IS3	0.706			
IS4	0.692			
IS5	0.695			
Perceived UNESCO recognition (PUR)				
PUR1	0.776	0.751	0.843	0.573
PUR2	0.758			
PUR3	0.760			
PUR4	0.733			
Perceived authenticity (PA)				
PA1	0.756	0.747	0.840	0.568
PA2	0.727			
PA3	0.757			
PA4	0.775			
Emotional connection (EC)				
EC1	0.785	0.791	0.865	0.616
EC2	0.769			
EC3	0.815			
EC4	0.768			
Al-Ula tourism brand equity (ATBE)				
ATBE1	0.711	0.767	0.843	0.517
ATBE2	0.708			
ATBE3	0.745			
ATBE4	0.704			
ATBE5	0.726			
Visitor loyalty (VL)				
VL1	0.762	0.736	0.835	0.558
VL2	0.762			
VL3	0.722			
VL4	0.741			
Perceived inclusive tourism sustainability (ITS)				
ITS-E1	0.677	0.824	0.872	0.533
ITS-E2	0.754			
ITS-S1	0.690			
ITS-S2	0.728			
ITS-N1	0.748			
ITS-N2	0.780			

4.4. Discriminant Validity

Table 4 reports the Fornell-Larcker matrix and Table 5 the HTMT matrix. In Table 4 the square root of the AVE (diagonal) is larger than the correlations of the construct with every other construct, which supports discriminant validity for all seven constructs. In

Table 5, all 21 HTMT values are below 0.85 (the highest is 0.679, between PA and ATBE), which also supports discriminant validity. Table 6 presents another validation in the form of principal component analysis based on a seven-factor structure with varimax rotation of 32 variables analyzed together. The correlation of all 32 variables with the factor that matches its construct is the highest (correlations vary between 0.545 and 0.754); cross-correlation is the highest—0.379, and seven factors explain 56.1% of variance. Table 3 represents loadings, reliability, and AVE for each composite score on one-factor solutions, while Table 6 presents whether the items are spread across the seven constructs when analyzed as a whole; both tables give the same result. Confirmatory factor analysis is not carried out.

Table 4. Fornell-Larcker Matrix (square roots of AVE on the diagonal).

Construct	IS	PUR	PA	EC	ATBE	VL	ITS
IS	0.710						
PUR	0.411	0.757					
PA	0.449	0.430	0.754				
EC	0.517	0.430	0.309	0.785			
ATBE	0.459	0.309	0.514	0.450	0.719		
VL	0.385	0.272	0.349	0.302	0.479	0.747	
ITS	0.477	0.245	0.339	0.361	0.361	0.446	0.730

Table 5. HTMT Matrix.

Construct	IS	PUR	PA	EC	ATBE	VL	ITS
IS	—						
PUR	0.545	—					
PA	0.599	0.574	—				
EC	0.669	0.556	0.401	—			
ATBE	0.604	0.406	0.679	0.577	—		
VL	0.517	0.365	0.471	0.398	0.638	—	
ITS	0.606	0.310	0.432	0.447	0.454	0.573	—

Table 6. Seven-factor principal component solution with varimax rotation, all 32 items (supplementary check).

Item	F1 (IS)	F2 (PUR)	F3 (PA)	F4 (EC)	F5 (ATBE)	F6 (VL)	F7 (ITS)
IS1	**0.640**	0.150	0.170	0.229	−0.015	0.162	0.105
IS2	**0.624**	0.111	0.324	0.155	0.053	0.138	0.100
IS3	**0.545**	0.078	0.082	0.313	0.117	0.100	0.227
IS4	**0.670**	0.061	0.068	0.118	0.243	0.035	0.147
IS5	**0.574**	0.229	0.022	0.147	0.185	0.028	0.241
PUR1	0.063	**0.697**	0.122	0.232	0.082	0.074	0.156
PUR2	0.092	**0.671**	0.184	0.205	0.015	0.135	0.034
PUR3	0.095	**0.736**	0.127	0.122	0.034	0.041	0.044
PUR4	0.138	**0.717**	0.104	0.074	0.118	0.053	−0.007
PA1	0.065	0.108	**0.711**	0.166	0.110	0.162	0.094
PA2	0.088	0.225	**0.649**	0.036	0.211	−0.047	0.133
PA3	0.176	0.227	**0.599**	−0.013	0.249	0.055	0.170
PA4	0.149	0.101	**0.725**	0.073	0.150	0.167	0.073

Table 6. *Cont.*

Item	F1 (IS)	F2 (PUR)	F3 (PA)	F4 (EC)	F5 (ATBE)	F6 (VL)	F7 (ITS)
EC1	0.064	0.090	0.147	**0.745**	0.181	0.044	0.158
EC2	0.237	0.165	0.117	**0.693**	0.061	0.082	0.047
EC3	0.199	0.140	0.031	**0.754**	0.085	0.159	0.079
EC4	0.060	0.185	−0.024	**0.706**	0.213	−0.031	0.179
ATBE1	−0.009	0.138	0.153	0.151	**0.658**	0.147	0.064
ATBE2	0.102	0.070	0.148	0.190	**0.591**	0.212	0.100
ATBE3	0.081	0.038	0.265	0.145	**0.639**	0.147	0.087
ATBE4	0.190	−0.021	0.210	0.168	**0.611**	0.100	0.111
ATBE5	0.183	0.108	0.128	0.162	**0.646**	0.109	0.111
VL1	0.084	−0.020	0.114	0.066	0.198	**0.681**	0.208
VL2	0.002	0.100	0.147	0.095	0.088	**0.726**	0.174
VL3	0.160	0.116	−0.077	0.097	0.379	**0.558**	0.179
VL4	0.132	0.112	0.106	0.050	0.068	**0.739**	0.115
ITS-E1	0.134	0.100	0.052	0.129	0.108	0.112	**0.624**
ITS-E2	0.032	0.094	0.116	0.071	0.051	0.061	**0.754**
ITS-S1	0.295	0.122	0.027	0.092	0.149	0.148	**0.577**
ITS-S2	0.174	0.008	0.076	0.101	0.086	0.125	**0.674**
ITS-N1	0.067	−0.045	0.055	0.114	0.043	0.140	**0.742**
ITS-N2	0.089	0.069	0.132	0.116	0.076	0.177	**0.726**

Note: Bold values indicate each item's loading on its intended factor; bold does not indicate statistical significance. Factors are ordered IS, PUR, PA, EC, ATBE, VL, ITS.

4.5. Common Method Bias

Because all constructs were measured with the same questionnaire at one point in time, common method bias (CMB) was assessed before the structural model, with three procedures. First, in Harman's single-factor test (Table 7), the first unrotated component accounted for 26.7% of the variance (eigenvalue = 8.53), below the 50% guideline, and six components had eigenvalues above 1 (Figure 3). Because Harman's test is a weak diagnostic [65,66], it is treated as supplementary. Second, the full collinearity VIFs, obtained by regressing each construct on the other six, ranged from 1.43 to 1.79, below the threshold of 3.3 [63]. Third, the marker-variable technique [64] was applied with an item that is not theoretically related to the model: its correlations with the seven constructs ranged from −0.11 to 0.03, and the largest absolute value (0.111) was used as a conservative estimate of method variance. After this adjustment, the correlations among the eleven pairs of constructs linked in the model fell by 0.07 on average (at most 0.077) and all remained significant (Table 8). These results indicate that common method variance is unlikely to account for the relationships reported below, but they cannot rule it out, and the single-source, single-occasion design remains a limitation (Section 7.1).

Table 7. Harman's Single-Factor Test (unrotated components).

Component	Eigenvalue	% Variance	Cumulative %
1	8.535	26.67	26.67
2	2.310	7.22	33.89
3	1.898	5.93	39.82
4	1.619	5.06	44.88
5	1.383	4.32	49.20
6	1.221	3.82	53.02
7	0.974	3.04	56.07
8	0.825	2.58	58.64

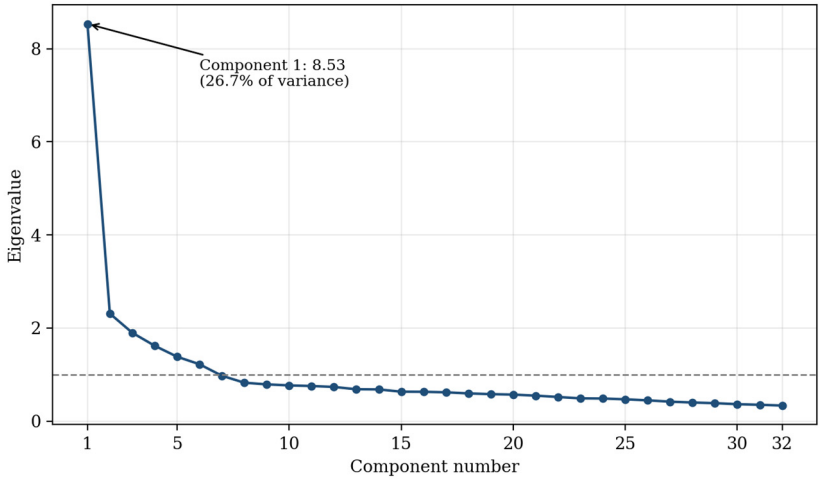


Figure 3. Scree plot of unrotated principal components across all 32 items. Note: The horizontal dashed line marks eigenvalue = 1 (Kaiser criterion), used as a reference threshold for component retention.

Table 8. Correlations among linked constructs before and after marker-variable adjustment.

Pair	Correlation (r)	Adjusted r	*p* (Adjusted)
IS—PA	0.449	0.380	<0.001
IS—EC	0.517	0.456	<0.001
IS—ATBE	0.459	0.391	<0.001
IS—VL	0.385	0.308	<0.001
IS—ITS	0.477	0.412	<0.001
PA—ATBE	0.514	0.453	<0.001
EC—ATBE	0.450	0.381	<0.001
ATBE—VL	0.479	0.413	<0.001
VL—ITS	0.446	0.377	<0.001
PUR—PA	0.430	0.358	<0.001
PUR—EC	0.430	0.358	<0.001

4.6. Structural Model Results

The structural model was estimated with Equations (5)–(9). The variance inflation factors of the predictors in each equation ranged from 1.17 to 1.56, well below 3.3, so multicollinearity did not affect the coefficients. Table 9 and Figure 4 report the standardized path coefficients. All nine direct hypotheses (H1 to H9) were supported, as were the two direct associations of perceived UNESCO recognition with perceived authenticity (H13c) and emotional connection (H13d). The model explained 27.5% of the variance in PA, 32.4% in EC, 37.5% in ATBE, 26.4% in VL, and 30.9% in ITS, which are moderate values. There was a substantial relationship between storytelling and emotional connection ($\beta = 0.41$,

$f^2 = 0.21$) as well as perceived authenticity (β = 0.33). Perceived authenticity (β = 0.36, $f^2 = 0.16$) had a stronger relationship with brand equity than the relationship that emotional connection (β = 0.25, $f^2 = 0.07$) had with it. The relationship between storytelling and brand equity lost its significance once controlling for both mediators (β = 0.17, $f^2 = 0.03$), which, in turn, were associated with loyalty (β = 0.38) and loyalty to perceived sustainability (β = 0.31). Storytelling had a significant direct relationship with both loyalty (β = 0.21) and perceived sustainability (β = 0.36). All the β coefficients show relationships based on cross-sectional data.

Table 9. Structural Path Coefficients (standardized; $n = 450$).

Hypothesis	Path	β	SE	95% CI	*t*	*p*	f^2	Decision
H1	IS → ATBE	0.167	0.047	[0.075, 0.259]	3.57	<0.001	0.029	Supported
H2	IS → PA	0.328	0.044	[0.241, 0.415]	7.42	<0.001	0.123	Supported
H3	IS → EC	0.409	0.043	[0.325, 0.493]	9.58	<0.001	0.206	Supported
H4	IS → VL	0.210	0.046	[0.120, 0.299]	4.59	<0.001	0.047	Supported
H5	IS → ITS	0.359	0.043	[0.275, 0.443]	8.42	<0.001	0.159	Supported
H6	PA → ATBE	0.361	0.042	[0.278, 0.443]	8.57	<0.001	0.165	Supported
H7	EC → ATBE	0.252	0.044	[0.166, 0.338]	5.74	<0.001	0.074	Supported
H8	ATBE → VL	0.382	0.046	[0.293, 0.472]	8.37	<0.001	0.157	Supported
H9	VL → ITS	0.308	0.043	[0.224, 0.392]	7.23	<0.001	0.117	Supported
H13c	PUR → PA	0.298	0.044	[0.211, 0.385]	6.73	<0.001	0.100	Supported
H13d	PUR → EC	0.261	0.043	[0.177, 0.345]	6.10	<0.001	0.084	Supported

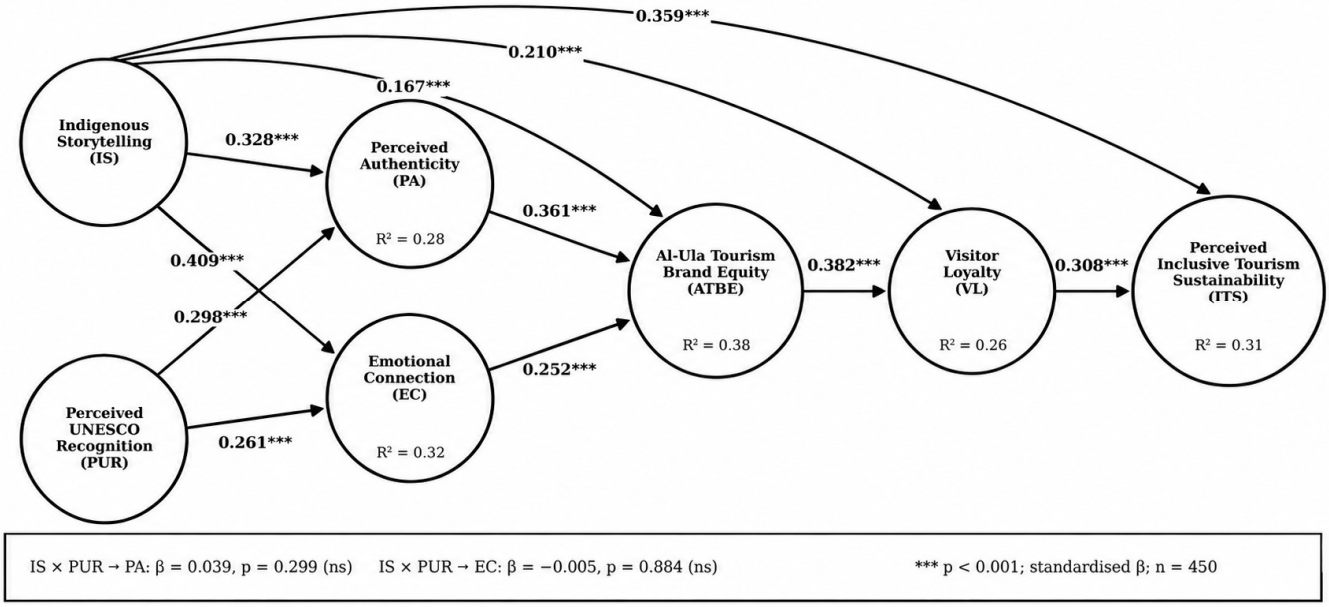


Figure 4. Estimated structural model with standardized path coefficients ($n = 450$).

4.7. Moderation by Perceived UNESCO Recognition

Table 10 reports the tests of the moderation hypotheses. H13a and H13b were not supported. The coefficient of the interaction between storytelling and perceived UNESCO recognition was 0.039 for perceived authenticity (95% CI [−0.035, 0.113], $p = 0.299$) and −0.005 for emotional connection (95% CI [−0.077, 0.066], $p = 0.884$). Adding the interaction raised R^2 by 0.002 and less than 0.001, respectively ($f^2 = 0.002$ and less than 0.001). The simple slopes tell the same story (Figure 5): the association of storytelling with perceived authenticity was 0.29, 0.33, and 0.37 at 1 SD below the mean, at the mean, and 1 SD

above the mean of perceived UNESCO recognition, and with emotional connection it was 0.41, 0.41, and 0.40; all were significant and their confidence intervals overlapped. With 450 respondents, the power to detect an interaction of $f^2 = 0.02$ was 0.85, and the observed values of f^2 were far smaller, so the absence of moderation is not a consequence of low power for effects of conventional small size, although the upper confidence limit for perceived authenticity (0.11) does not exclude a small positive interaction. Because the inscription applies to Hegra only, the interactions were also estimated separately for respondents at Hegra ($n = 135$) and at the other sites ($n = 315$); none was significant after adjusting for four tests (the smallest unadjusted p was 0.044). In this sample, perceived UNESCO recognition is therefore associated with authenticity and emotional connection directly (Table 9) but does not change the strength of the storytelling associations.

Table 10. Moderation Tests and Simple Slopes.

Term	β	SE	95% CI	*p*	ΔR^2	f^2
Interaction terms (Equations (5) and (6))						
H13a: IS × PUR → PA	0.039	0.038	[−0.035, 0.113]	0.299	0.0018	0.0024
H13b: IS × PUR → EC	−0.005	0.036	[−0.077, 0.066]	0.884	0.0000	0.0000
Simple slopes of IS (Perceived authenticity)						
IS → PA, PUR at −1 SD	0.289	0.057	[0.176, 0.402]	<0.001	—	—
IS → PA, PUR at the mean	0.328	0.044	[0.241, 0.415]	<0.001	—	—
IS → PA, PUR at +1 SD	0.367	0.058	[0.252, 0.482]	<0.001	—	—
Simple slopes of IS (Emotional connection)						
IS → EC, PUR at −1 SD	0.414	0.056	[0.305, 0.524]	<0.001	—	—
IS → EC, PUR at the mean	0.409	0.043	[0.325, 0.493]	<0.001	—	—
IS → EC, PUR at +1 SD	0.404	0.057	[0.293, 0.515]	<0.001	—	—

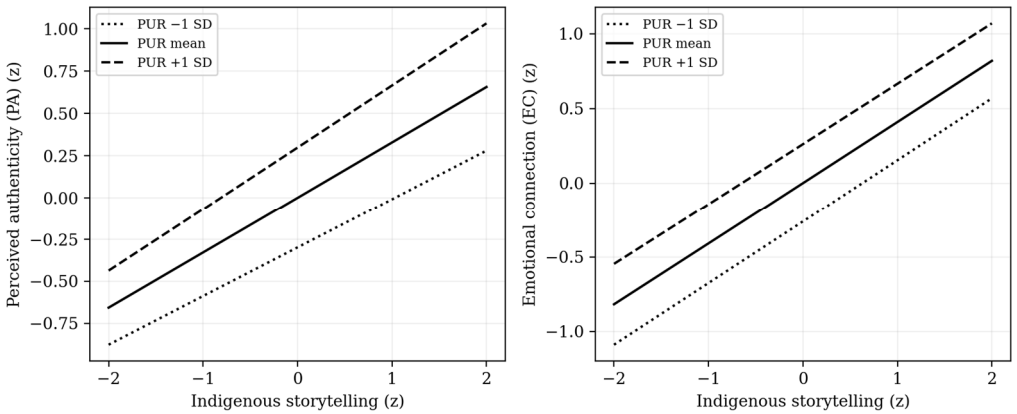


Figure 5. Simple slopes of indigenous storytelling on perceived authenticity (**left**) and emotional connection (**right**) at three levels of perceived UNESCO recognition.

4.8. Mediation Analysis

Table 11 reports the direct, indirect, and total effects, all computed from the same five equations, with bootstrap confidence intervals. None of the intervals for the indirect effects included zero, so H10, H11, H12a, and H12b were supported. The indirect effect of storytelling on brand equity through perceived authenticity (H10) was 0.118 [0.082, 0.160] and through emotional connection (H11) was 0.103 [0.066, 0.145]; the difference between the two was small (0.016, 95% CI −0.040 to 0.071), so neither route was stronger than the other. Together, the two indirect effects (0.221) accounted for about 57% of the total association

between storytelling and brand equity (0.389), and the direct association (0.167) remained significant. Because the direct and indirect effects have the same sign, the mediation is complementary (partial) in the classification of Zhao et al. [60]. The same holds for the effect of storytelling on loyalty through brand equity (H12a): the total indirect effect was 0.149 [0.106, 0.197], about 42% of the total effect (0.358), and the direct effect remained significant (0.210). For H12b, the base model (Equation (9)) does not contain a direct path from brand equity to perceived inclusive tourism sustainability, so the product of the coefficients in Table 9 (0.382 × 0.308 = 0.118) represents only an indirect association. H12b was therefore tested with Equation (10), which adds the direct path. The direct effect of brand equity was not significant (β = 0.072, 95% CI [−0.030, 0.173], $p = 0.131$), the indirect effect through loyalty was significant (0.382 × 0.282 = 0.108, 95% CI [0.067, 0.154]), and the total effect was 0.180 (95% CI [0.081, 0.280]); this corresponds to indirect-only (full) mediation [60]. All indirect effects in Table 11 are products of the estimated paths: H10 = 0.328 × 0.361 = 0.118; H11 = 0.409 × 0.252 = 0.103; and H12a = (0.167 + 0.118 + 0.103) × 0.382 = 0.149, which combines three routes from storytelling to loyalty through brand equity, namely the route through brand equity alone (0.167 × 0.382 = 0.064), the route through authenticity and brand equity (0.118 × 0.382 = 0.045), and the route through emotional connection and brand equity (0.103 × 0.382 = 0.039). The separate routes through authenticity and emotional connection to brand equity are H10 and H11, whereas H12a refers to the combined routes to loyalty. Each confidence interval in Table 11 refers to the same effect as the point estimate in its row.

Table 11. Direct, Indirect, and Total Effects (bootstrap, 10,000 resamples; 95% percentile CI).

Hypothesis	Path	Indirect Effect	95% CI	Direct Effect	Total Effect	Mediation Type
H10	IS → PA → ATBE	0.118	[0.082, 0.160]	0.167	0.389	Complementary (partial)
H11	IS → EC → ATBE	0.103	[0.066, 0.145]	0.167	0.389	Complementary (partial)
H12a	IS → ATBE → VL (all routes through ATBE)	0.149	[0.106, 0.197]	0.210	0.358	Complementary (partial)
	via IS → ATBE → VL only	0.064	[0.028, 0.103]			
	via IS → PA → ATBE → VL	0.045	[0.029, 0.066]			
	via IS → EC → ATBE → VL	0.039	[0.024, 0.058]			
H12b	ATBE → VL → ITS (Equation (10))	0.108	[0.067, 0.154]	0.072 [−0.030, 0.173]	0.180 [0.081, 0.280]	Indirect-only (full)
Additional	IS → VL → ITS (all routes through VL)	0.110	[0.072, 0.155]	0.359	0.469	Complementary (partial)
Additional	IS → ATBE → VL → ITS (serial)	0.046	[0.028, 0.068]			

4.9. Robustness Checks

Three checks were carried out (Appendix D). First, the five regressions were re-run by taking gender, age group, education level, nationality, kind of visitor (new or repeat), and language of the survey as control variables. The direct effect was still statistically significant; the coefficient values did not change for any of those above 0.015; all interactions were insignificant (see Table A13). Since the kind of visitor is a control variable, this difference could not have been due to new vs. repeat visitors. Second, the three dimension scores of perceived inclusive tourism sustainability (economic, social, and environmental) were analyzed separately, and both storytelling and loyalty were significant predictors of each dimension (Table A14), so the direction of the associations is the same for all three dimensions. The overall score is interpreted as perceived inclusive tourism sustainability;

aggregating the dimensions may still conceal differences in the strength of economic, social, and environmental perceptions, and the dimension-level results should be read together with the overall result. Third, the interaction models were re-estimated separately for Hegra and the other sites, as described in Section 4.7.

4.10. Qualitative Findings and Integration

The interview material was organized under the eight topics of the interview guide and coded against the model constructs. Table 12 sets each structural result beside the interview evidence on the same relationship. Counts show how many of the 24 interviews addressed a theme and are given as officials/guides/community members; they describe coverage and are not statistical results. Four patterns emerged.

Table 12. Joint Display of Quantitative Results and Interview Evidence (interview counts: officials/guides/community members).

Hypotheses	Quantitative Result (Standardized β)	Interview Evidence	Integration
H1, H4, H8: storytelling, brand equity, loyalty	IS → ATBE 0.17; IS → VL 0.21; ATBE → VL 0.38	Stories seen as the main competitive advantage; repeat visits and recommendation linked to storytelling (24/24; 8/8/8)	Confirmed
H2, H6, H10: authenticity route	IS → PA 0.33; PA → ATBE 0.36; indirect 0.12	Authenticity from unscripted, community-presented, verifiable stories (24/24; 8/8/8)	Confirmed; interviews add the conditions (visible community voice, reliable content)
H3, H7, H11: emotional route	IS → EC 0.41; EC → ATBE 0.25; indirect 0.10	Hospitality, family anecdotes, and shared human experience move visitors (24/24; 8/8/8)	Confirmed
H13c, H13d: UNESCO, direct	PUR → PA 0.30; PUR → EC 0.26	Inscription adds credibility and prestige (24/24; 8/8/8)	Confirmed
H13a, H13b: UNESCO, moderation	IS × PUR → PA 0.04 (ns); → EC −0.01 (ns)	Inscription described as initial validation, not as changing responses to stories	Not supported; interviews suggest an additive, entry-level role
H5, H9: perceived sustainability	IS → ITS 0.36; VL → ITS 0.31	Benefit distribution and consultation named as challenges (17/24; 5/5/7)	Qualified; visitor and community views differ

Locally rooted stories and authenticity. In all 24 interviews, participants described the stories told to visitors as rooted in oral history, family traditions, and the life of the oasis, and linked authenticity to unscripted delivery by people from the place. The destination marketing specialist said that local stories "provide our main competitive advantage" and that authenticity is kept by featuring real residents instead of actors (INT_003). A guesthouse owner said that staying in a restored family home with local hosts "delivers the ultimate perceived authenticity" (INT_021), and a craft guide described authenticity as visitors seeing local women "actively crafting and teaching rather than acting" (INT_013). There are two interviewees who identified the new criteria: the guide emphasized the importance of keeping a clear distinction between well-established archaeological facts and folklore (INT_011), and a quality control manager highlighted the significance of keeping the spontaneity of the narrative for every individual firm (INT_008). This perfectly matches the hypotheses H2, H6, and H10, and suggests that there must be a community voice in order to make authenticity workable.

Emotional connection. All participants linked stories to emotional engagement, through hospitality, family anecdotes, or shared human experience. A guide reported that visitors are moved when they realize that ancient people "shared the same hopes and prayers"

as they do (INT_011), and a guesthouse owner said that guests sometimes cry or write emotional letters when they leave (INT_021). This agrees with H3, H7, and H11, and with the finding that storytelling was most strongly associated with emotional connection.

UNESCO recognition. All participants described the inscription as adding credibility or prestige. The marketing specialist called it an "umbrella of trust" that gives international visitors the initial validation to explore (INT_003), and the quality director described it as a major driver of initial destination choice among long-haul travelers (INT_008). A craft guide said it explains to visitors why intangible crafts matter (INT_013). However, neither of the two participants touched upon the influence that the inscription could have on the reaction of visitors to the stories once at the site. Further, the guide mentioned that there are also some other sites, such as those in the canyons, that do not have an inscription, but are also located close to Hegra and hence prestigious (INT_016). It is totally in line with the association between recognition and authenticity/emotions (H13c and H13d) without any moderator (H13a and H13b). Interaction is not discussed in the interview guide.

Benefit-sharing, consultation, and pressure on heritage. Seventeen participants (5/5/7) named the equitable distribution of economic benefits and the balance between rapid growth and heritage protection as the main challenges, and the same participants called for wider community consultation, support for local artisans, and standards for storytelling. On an individual participant basis, further issues such as the line between private and commercial interests (INT_003), groundwater and animal migration (INT_005), craft materials and safeguarding of the oasis (INT_013), "leave no trace" in canyon ecology (INT_016), and restoration guidelines and costs of privately owned guest houses (INT_021) were pointed out by participants. The recommendations made include joint workshops for young people (INT_003), mentorship for young women (INT_013), guided trails that serve isolated families (INT_016), and low-cost heritage loans (INT_021). It should be noted that the above evidence serves to demonstrate the difference between a positive perception of visitors regarding sustainability (mean = 3.90, the highest among seven constructs) and the issues of distribution and consultation among community participants.

5. Discussion

This study examined how community-led storytelling is related to the brand equity of Al-Ula, a new heritage destination in the Gulf. Storytelling was associated with brand equity both directly ($\beta = 0.17$) and through perceived authenticity (indirect effect = 0.12) and emotional connection (0.10); together the indirect routes account for about 57% of the total association (0.39). This pattern agrees with the consumer-based model of authenticity of Kolar and Zabkar [23] and with studies of heritage destination brands in which brand authenticity was linked to credibility and equity [21,22]. The study draws from the above frameworks in emphasizing the significance of the source of the narrative, as the storytelling framework is a construct of stories that are perceived by the tourists to be narrated by the local communities, as opposed to the narratives of the destination itself. Both the tourism routes had nearly the same distance (difference = 0.02, 95% CI −0.04 to 0.07). Storytelling is more related to emotional connection ($\beta = 0.41$) than authenticity ($\beta = 0.33$), whereas authenticity is more related to brand equity ($\beta = 0.36$ vs. 0.25) than storytelling. The emotional route agrees with evidence that attachment and emotional experiences shape destination evaluations and loyalty [24–26] and with research showing that stories make experiences extraordinary [8]. The interviews explain why both routes appear: participants tied authenticity to unscripted, community-presented stories and emotion to hospitality and family anecdotes.

The outcome chain shows that brand equity is related to loyalty ($\beta = 0.38$) and loyalty to perceived inclusive sustainability ($\beta = 0.31$). The first link is well established in destina-

tion research [42,44]. The second link should be read with care. Storytelling also kept a direct association with perceived sustainability ($\beta = 0.36$), and only about 23% of its total association (0.47) ran through loyalty. A plausible reading is that perceived sustainability, the construct with the highest mean, partly reflects visitors' general favorable view of Al-Ula and not a separate judgment about who benefits. The interviews support this caution: community participants described unresolved concerns about the distribution of income and about consultation on how their heritage is presented. Similar concerns have been reported in studies of indigenous tourism, which show that visitor demand for indigenous experiences does not by itself ensure that communities control or benefit from them [15,16]. The results therefore support the view that branding can be associated with visitor support for sustainability goals [36,37], but not the stronger claim that branding achieves inclusive outcomes. This difference between visitor and community evidence is one of the main reasons for using a mixed-methods design. When the direct path from brand equity to perceived sustainability was added (Equation (10)), only the indirect association through loyalty was significant, which indicates that brand equity is associated with perceived sustainability through loyalty in this model. The sustainability measure captures visitors' perceptions, and the economic, social, and environmental results (Appendix D) refer to perceived rather than actual sustainability performance.

The result for perceived UNESCO recognition differs from the hypothesis. Recognition was positively associated with perceived authenticity ($\beta = 0.30$) and emotional connection ($\beta = 0.26$), but the study did not find statistically significant evidence that perceived recognition moderates the storytelling relationships (H13a and H13b). This agrees with studies that found the World Heritage label to have limited independent influence on visitors [27,28], and it does not support the expectation from legitimacy theory that endorsement by a credible third party makes local stories more believable and more moving [39,40]. Below, some of the possible reasons can be provided. To start with, the objects that should be recognized are related to trustworthiness, credibility, and attractiveness; thus, the perception of recognition is yet another positive perception of the destination that could explain why only direct relationships are identified, not conditional. It has been demonstrated that the uniqueness of the constructs is empirically proven using HTMT (0.57 and 0.56 with PA and EC). Second, the inscription applies to Hegra only, and visitors elsewhere may connect it less to the stories they hear, although the separate estimates for Hegra and other sites gave no clear pattern. Third, the interviews describe the inscription as an initial signal of validation that attracts and reassures visitors, which is an entry effect, not an effect on how stories are received. Taken together, the label and the community stories appear to contribute separately to the destination's image, and the results do not show that the label amplifies the stories. Because the study measured visitors' perceptions of recognition, these results do not show that World Heritage designation has no moderating effect in other settings, and they should not be read as evidence about the objective effects of designation, which would require comparing sites or periods with and without inscription.

Contextual aspects of Al-Ula may also be useful in relation to the existing situation. What needs to be mentioned is the fact that this destination is relatively new in terms of tourism since there are few tourists who have knowledge about the history of this place. In this regard, stories told by tour guides and the local community become the major means of interpretation. Studies of Saudi tourism show that the sector is developing rapidly under Vision 2030 and that visitor experiences at religious and heritage sites depend on how information is delivered to them [2,67], and research on Egypt shows how much heritage-based tourism contributes to national economies in the region [68]. These conditions are likely to differ from those in European or East Asian heritage destinations, where most previous studies were conducted.

Nevertheless, the interviews place some limitations on the survey results. The officials and the guides note that the stories are based on living community traditions and historical records, which indicates that the stories of Al-Ula are genuine because the community members participate in the process. Nevertheless, the guide emphasizes that there is a need to strike a balance between technical information and narrative (INT_011); the official notes that it is hard to ensure consistency of the narrative with independent operators (INT_008); while the marketing expert discusses the sensitivity of the relation between privacy and commercial interests (INT_003).

Integration of the two strands. The interviews support the survey results in three respects: officials, guides, and community members described stories as rooted in community traditions, which is consistent with the associations of storytelling with perceived authenticity (H2) and emotional connection (H3), and guides described visitors' emotional responses to personal and family narratives, which complements the mediating role of emotional connection (H11). The interviews complement the moderation results, since informants referred to UNESCO recognition mainly as background legitimacy rather than as something that changes how stories are received, which is consistent with the non-significant interactions (H13a, H13b). The interviews qualify the sustainability results. Community members' accounts of benefits concern the actual distribution of jobs, income, and participation, and several expressed concern about consultation and control; these accounts are different from the survey measure, which captures visitors' perceptions of inclusive tourism sustainability. The positive associations with perceived sustainability (H5, H9) should therefore not be read as evidence that benefits are shared equitably in practice.

However, there are a number of things that cannot be proven by the results of the research conducted. First, because of the cross-sectional research design, it will be impossible to prove that there is a cause-and-effect relationship between the usage of stories and higher brand equity, while people with a positive attitude toward Al-Ula might rate stories higher. The storytelling variable is used to examine whether visitors perceive the stories as part of the community, not as something owned by them or something approved by them. Perceived sustainability is not a real indicator, while loyalty intentions can show visitors' satisfaction in general but do not indicate sustainable tourism. Satisfaction levels, perceived service quality, previous expectations, or general attitudes toward heritage conservation were not controlled, while destination familiarity was controlled by visit type (Appendix D).

6. Implementation Challenges and Recommendations

6.1. Implementation Challenges

There are four primary implementation challenges that have been identified based on the results. Firstly, there is a difference between indigenous storytelling and destination storytelling. Indigenous storytelling is viewed as the type of storytelling whose origin may be attributed to the local communities, where the story is told by locals or licensed tour guides. In contrast to indigenous storytelling, destination storytelling refers to storytelling performed by means of texts developed by the interpretation and marketing specialists for a larger audience. Since many stories in Al-Ula are provided by licensed tour guides and interpreted with the help of devices, the community origin of the story becomes less obvious. Another challenge that has been identified by 17 out of 24 interviewed individuals is benefit-sharing, which might negatively affect the acceptance of storytelling. Lastly, the fourth challenge is related to narrative control, since it is important to differentiate private information from public and promote the story without the permission of the community. This action might result in the commercialization of cultural heritage rather than its preservation. Finally, the last challenge is UNESCO recognition, which is relevant to Hegra only.

6.2. Recommendations

Recommendations will be based on the results of the study and represent implications that follow from the results of the research rather than interventions that were proven to be effective. First of all, recommendations may be provided in consideration of the high correlation between authenticity perception and brand equity ($\beta = 0.36$) and the indirect effect of 0.12; in other words, the Royal Commission for AlUla may draw attention to the origins of the story community by mentioning the family or a group of people who owned the story and the involvement of the community members in telling the story. Secondly, recommendations may be suggested due to the high correlation between storytelling and emotional connection ($\beta = 0.41$). Lastly, since there is an interconnection between the perception of recognition by UNESCO and authenticity and emotions, but no correlation with the storytelling relations, any promotional strategy must differentiate the inscription from the community stories. It means that the interpretation of the inscription itself should be provided independently of the expectation that the inscription will replace a bad story. Finally, due to the presence of such terms as benefit-sharing, consultations, and narrative control, any storytelling initiative must include community consultation and a revenue-sharing process, the informed consent and authorization of the communities of the narrative, as well as compensation for the knowledge owners, the sensitive oral traditions, and economic and environmental impact assessment. The stakeholders' recommendations are summarized in Table 13.

Table 13. Strategic Recommendations to Stakeholders.

Stakeholder Group	Strategic Recommendation	Suggested Priority	Key Actions	Intended Outcomes (Proposed, Not Tested)
Royal Commission for AlUla	Institutionalize community-vetted storytelling standards across all heritage sites.	Very High	Establish a community-narrative review board; document the provenance and community authorization of each story; train guides to distinguish community-transmitted from destination-authored content; set consent and compensation rules for knowledge holders.	Stronger perceived authenticity; more defensible brand-equity claims; community authority over narratives is documented.
Local tour guides	Preserve and communicate community-origin narratives rather than standardized scripts.	High	Participate in oral-history documentation; receive training on UNESCO-significance messaging; gather visitor feedback on emotional engagement.	Higher emotional-connection scores; stronger visitor loyalty and advocacy.
Marketing and destination-branding managers	Position UNESCO World Heritage status as an independent credibility signal, not only a storytelling amplifier.	High	Establish consultation channels with the Royal Commission; agree consent and attribution for stories; monitor the distribution of tourism revenue and employment; take part in periodic satisfaction interviews.	More balanced inclusive tourism sustainability outcomes; a narrower gap between visitor-perceived and community-perceived benefits.
Local community representatives	Secure equitable participation in narrative co-creation and benefit-sharing.	Very High	Establish consultation channels with the Royal Commission; monitor the distribution of tourism revenue and employment; take part in periodic satisfaction interviews.	More balanced inclusive tourism sustainability outcomes; a narrower gap between visitor-perceived and resident-perceived benefits.

Table 13. *Cont.*

Stakeholder Group	Strategic Recommendation	Suggested Priority	Key Actions	Intended Outcomes (Proposed, Not Tested)
Policy makers (Ministry of Tourism/Vision 2030 planners)	Align heritage-storytelling investment with Saudi Vision 2030 sustainability indicators.	High	Explain what the inscription means in campaigns; pair it with authentic community narratives in digital content; do not rely on the label to compensate for weak storytelling.	Visitors who understand the inscription; separate, mutually reinforcing contributions of the label and the stories to authenticity and emotional connection.
Hospitality and hotel operators	Extend the storytelling and authenticity strategy into the on-site guest experience.	Medium	Train front-line staff in heritage-narrative delivery; integrate local storytelling into guest touchpoints; track guest satisfaction alongside brand-equity indicators.	Reinforced brand equity beyond the heritage sites themselves; higher repeat-visitation intentions.

Table 13 translates these recommendations into a stakeholder-specific action plan, summarizing the strategic priority and key actions for the main stakeholders. The recommendations differ in their evidence base. Those concerning the quality of interpretation, the authenticity of stories, emotional engagement, and the communication of UNESCO recognition follow from the visitor survey. Those concerning community consultation, authorization procedures, revenue-sharing, and compensation for knowledge holders arise mainly from the interviews and the ethical literature; they are normative proposals and were not tested in the quantitative model. Recommendations on community ownership, authority, and control are framed as proposed governance principles, since the survey measured visitors' perceptions that stories originate from the community and not verified ownership or control. The intended outcomes in Table 13 are expected results to be evaluated, not effects demonstrated by this study.

7. Limitations and Future Research

7.1. Limitations

Limitations for the study can be categorized into two groups. The first group is the limitations that limit the extent to which the research results can bring to light certain facts despite the analyses being carried out. This is because the research involves the use of a cross-sectional research design, whereby the relationship brought about by the research results would only show correlations to the model used and not cause and effect. This is because there would be reverse relationships; for instance, people visiting Al-Ula having a positive attitude towards Al-Ula would rate it highly regarding storytelling. Satisfaction, knowledge, and motivation are some of the other variables affecting the construct. It is a quota sample from a single destination and so lacks generalizability, while the short time period in the fieldwork should be noted. Sustainability tourism inclusion and UNESCO listing are perceived by the tourists and do not mean there is any effect of such things on the economy, employment, participation, environment, or inscriptions themselves, and interaction outcomes do not necessarily imply anything about the effects of destination designation. The construct of sustainability consists of two variables for each dimension. The construct of storytelling relates to the community origin but not the ownership. The qualitative sample was small (eight for each group). For this reason, the findings and conclusions are stated for Al-Ula and its visitors during the survey period only, and they should not be extended to other destinations without studies conducted there.

This second one is linked to the estimation problem and is solved in this version via the re-estimation of the data. Ordinary least squares regression of standardized composite variables has been used to estimate the structural model as opposed to using latent variables through PLS-SEM and covariance-based SEM. Composite variables do not take into account

measurement error, which normally weakens the estimated paths; hence, the coefficients are not PLS-SEM coefficients. There was no confirmatory factor analysis performed. The indirect effects have been calculated using the same equations used for the direct effects, while interaction terms are fully defined in Equations (5) and (6). Confidence intervals are provided, but the findings require replication using latent variable models.

7.2. Directions for Future Research

Some potential directions for future research in consideration of the above-mentioned limitations should be pointed out. First of all, a longitudinal or multi-wave research design can be used to explore the order of relations, such as, for example, checking the effect of storytelling exposure during the visit on loyalty after several months. Experiments with different sources of storytelling, like community members, tour guides, and digital media, can be used to explore whether being of community origin influences the perception of storytelling as an authentic experience. Future research can include both visitor survey data and objective data on the benefits for the community through tourism activities in terms of employment and income to understand if there is any connection between perceived and objective inclusiveness. The use of latent variable modeling will make it clear if the paths and non-moderation are robust to measurement errors. Comparative research, including Saudi and regional heritage sites, with and without World Heritage designation, will show if the results are unique for the recently developed site like Al-Ula and what the role of recognition is there.

8. Conclusions

In this paper, we examined the links between indigenous storytelling and brand equity of Al-Ula as far as their authenticity and emotional attachment are concerned, between brand equity and loyalty as well as sustainable tourism, and the influence of perceived UNESCO recognition on these links. As a result, it was found that storytelling has a positive association with brand equity ($\beta = 0.17$), either directly or indirectly, depending on psychological links, such as authenticity ($\beta = 0.12$) and emotional attachment ($\beta = 0.10$). Brand equity, in turn, is positively associated with loyalty ($\beta = 0.38$), which, in turn, is positively related to sustainable tourism ($\beta = 0.31$). Lastly, perceived UNESCO recognition has a positive association with authenticity ($\beta = 0.30$) and emotional attachment ($\beta = 0.26$). Theoretically, the paper contributes to the field of customer-based brand equity research by revealing the connection between the community origin of the story and brand value, as well as by questioning legitimacy-based expectations via separating the independent contributions of World Heritage status and local stories to brand value. In practice, the implications include that the potential of storytelling projects can be reached when the community origin of stories is clear, recognition is achieved rather than signaled, and consultation, benefit-sharing and control of the narrative by the community are guaranteed. Another implication raised by interviews is that the positive perception of sustainability by visitors does not always match the reality that the community has to face and that benefit-sharing is a key factor for sustainable storytelling in Al-Ula. All conclusions are cross-sectional associations based on visitors' perceptions, and a longitudinal study is needed for validation of the results. Brand equity was associated with perceived inclusive tourism sustainability only indirectly, through loyalty (H12b), and the study found no statistically significant evidence that perceived UNESCO recognition moderates the storytelling relationships; this finding concerns perceived recognition among visitors to Al-Ula and does not establish the absence of a designation effect elsewhere. These conclusions refer to Al-Ula, the only destination examined in this study.

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Institutional Review Board Statement: This study was conducted in accordance with the Declaration of Helsinki and approved by the Standing Committee for Research Ethics at Princess Nourah bint Abdulrahman University (IRB Log No. 25-0669), date of approval 4 November 2025, before the main distribution of the questionnaires and conduct of the interviews.

Informed Consent Statement: Informed consent was obtained from all subjects involved in this study.

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Abbreviations

The following abbreviations are used in this manuscript:

IS	Indigenous Storytelling
PUR	Perceived UNESCO Recognition
PA	Perceived Authenticity
EC	Emotional Connection
ATBE	Al-Ula Tourism Brand Equity
VL	Visitor Loyalty
ITS	Inclusive Tourism Sustainability
PLS-SEM	Partial Least Squares Structural Equation Modeling
CR	Composite Reliability
AVE	Average Variance Extracted
HTMT	Heterotrait-Monotrait Ratio
VIF	Variance Inflation Factor

Appendix A

This questionnaire was administered to tourists and visitors to Al-Ula. Part A collected background information; Part B measured perceptions on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Table A1. Background Information.

No.	Question	Response Options
1	Gender	Male/Female
2	Age group	18–24/25–34/35–44/45–54/55 or above
3	Nationality	Saudi/Non-Saudi (please specify)
4	Educational level	Secondary or below/Bachelor's/Postgraduate

Table A1. *Cont.*

No.	Question	Response Options
5	Is this your first time visiting Al-Ula?	Yes, first visit/No, repeat visit
6	Number of previous visits (if repeat visitor)	1/2–3/4 or more
7	Where did you mainly hear about Al-Ula?	Social media/Travel agency/Friends-family/Official tourism website/Other
8	Purpose of visit	Cultural-heritage tourism/Leisure/Business/Event-festival/Other

Table A2. Indigenous Storytelling (IS).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
IS1	When I went on tours in Al-Ula, the stories I heard felt like they came straight from the local community, not from a script.
IS2	During my visit, local guides and hosts told me traditional legends and passed-down oral history.
IS3	Hearing these stories in Al-Ula helped me feel connected to the history of the region's indigenous people.
IS4	Al-Ula's tourism experiences let local community members tell their own stories in their own words.
IS5	What I heard about Al-Ula's heritage sites felt rooted in real local tradition, not a generic tourist script.

Table A3. Perceived UNESCO Recognition (PUR).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
PUR1	Once I knew a site in Al-Ula held UNESCO World Heritage status, I trusted its cultural value more.
PUR2	Because of the UNESCO World Heritage designation, the stories told about the site felt more credible to me.
PUR3	Heritage sites with international recognition, such as UNESCO status, tend to draw me in more emotionally.
PUR4	The UNESCO World Heritage label was part of why I chose to visit Al-Ula.

Table A4. Perceived Authenticity (PA).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
PA1	The cultural experiences on offer in Al-Ula feel genuine and true to the region's heritage.
PA2	Al-Ula's heritage sites are presented in a way that keeps their original character intact.
PA3	To me, the tourism activities in Al-Ula come across as an authentic slice of local culture, not a staged performance.
PA4	What visitors are shown in Al-Ula, the artifacts, sites, and traditions, reflects real historical and cultural practices.

Table A5. Emotional Connection (EC).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
EC1	My visit to Al-Ula left me with a strong emotional bond to the destination.
EC2	The stories and heritage I experienced in Al-Ula moved me personally.
EC3	Al-Ula's cultural heritage resonates with me on a personal level.
EC4	I feel attached to Al-Ula because of the experiences I had there.

Table A6. Al-Ula Tourism Brand Equity (ATBE).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
ATBE1	Compared with other heritage destinations I know, Al-Ula has a distinctive image.
ATBE2	When I think of Al-Ula, I associate it with high-quality, meaningful cultural tourism.
ATBE3	If I think of heritage destinations in Saudi Arabia, Al-Ula is one of the first that comes to mind.
ATBE4	I consider Al-Ula to be a strong and credible tourism brand.
ATBE5	Overall, Al-Ula's reputation as a tourism destination is a positive one.

Table A7. Visitor Loyalty (VL).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
VL1	I intend to revisit Al-Ula in the future.
VL2	I would recommend Al-Ula to family and friends as a travel destination.
VL3	I would speak positively about Al-Ula to other people.
VL4	Al-Ula would be my first choice among heritage destinations for a future visit.

Table A8. Inclusive Tourism Sustainability (ITS).

Code	Statement (1 = Strongly Disagree ... 5 = Strongly Agree)
ITS-E1	Tourism in Al-Ula creates economic benefits for the local community.
ITS-E2	Tourism development in Al-Ula supports local businesses and employment opportunities.
ITS-S1	Tourism in Al-Ula respects and preserves the social fabric and traditions of the local community.
ITS-S2	Local residents are meaningfully included in the tourism activities taking place in Al-Ula.
ITS-N1	Tourism activities in Al-Ula are managed in a way that protects the natural environment.
ITS-N2	I believe Al-Ula's approach to tourism balances the visitor experience with environmental preservation.

Appendix B

Three tailored guides were used for the qualitative strand, corresponding to the three key-informant groups. The interviews lasted between 38 and 58 min (mean = 46.9 min).

Table A9. Tourism Officials and Destination Managers.

No.	Interview Question
1	Tell me a bit about your role in managing or developing tourism here in Al-Ula.
2	How does indigenous storytelling currently fit into Al-Ula's tourism offerings and marketing?
3	What's being done to make sure the stories and heritage shown to visitors stay authentic to the local community?
4	In your view, has the UNESCO World Heritage designation changed how Al-Ula is perceived and promoted, and if so, how?
5	What is Al-Ula's tourism strategy doing, if anything, to build an emotional connection between visitors and the destination?
6	What's the hardest part of balancing tourism growth with keeping the heritage authentic?
7	What role, if any, do local community members play in shaping Al-Ula's tourism brand?
8	How does current planning address inclusive and sustainable tourism, economically, socially, and environmentally?
9	What would you recommend to strengthen Al-Ula's tourism brand equity and its long-term sustainability?

Table A10. Local Tour Guides.

No.	Interview Question
1	How long have you been a tour guide in Al-Ula, and how were you trained to present its heritage?
2	What stories or oral traditions do you find yourself sharing most with visitors, and where did you learn them?
3	How do visitors usually react when they hear the traditional stories and legends about Al-Ula?
4	Would you say the stories you tell are your own community's, or are they scripted by the tourism authority?
5	Have you noticed mentioning the UNESCO World Heritage status change how visitors engage with a site?
6	Can you recall a moment when you saw a visitor become emotionally connected to a site or story?
7	What's difficult about keeping the storytelling authentic while still meeting what visitors expect?
8	In your view, how is tourism in Al-Ula benefiting or affecting your local community?

Table A11. Local Community Members.

No.	Interview Question
1	How long have you lived in Al-Ula, and what changes has tourism brought to the area in recent years?
2	Would you say the stories and traditions shared with tourists reflect your community's actual heritage?
3	Have you or members of your community helped shape how Al-Ula's heritage is presented to visitors?
4	Has the UNESCO World Heritage designation meant anything for your community, and if so, what?
5	Has tourism development brought any economic benefits to your household or community, and if so, which ones?
6	Would you say tourism development has respected your community's social traditions and way of life?
7	Have you noticed any environmental changes in Al-Ula since tourism activity picked up?
8	Going forward, what would you like to see improved in how tourism is managed in Al-Ula?

Appendix C

This appendix maps each hypothesis to its structural equation, its role in the model, and the table in which its result is reported.

Table A12. Hypotheses, Equations, and Results Tables.

Hypothesis	Relationship	Equation	Role in the Model	Results Table
H1	IS to ATBE	(7)	Direct	Table 9
H2	IS to PA	(5)	Direct	Table 9
H3	IS to EC	(6)	Direct	Table 9
H4	IS to VL	(8)	Direct	Table 9
H5	IS to ITS	(9)	Direct	Table 9
H6	PA to ATBE	(7)	Direct	Table 9
H7	EC to ATBE	(7)	Direct	Table 9
H8	ATBE to VL	(8)	Direct	Table 9
H9	VL to ITS	(9)	Direct	Table 9
H10	IS to PA to ATBE	(5), (7), (10)	Specific indirect	Table 11

Table A12. *Cont.*

Hypothesis	Relationship	Equation	Role in the Model	Results Table
H11	IS to EC to ATBE	(6), (7), (10)	Specific indirect	Table 11
H12a	IS to ATBE to VL (all routes)	(7), (8), (10)	Specific indirect	Table 11
H12b	ATBE to VL to ITS	(8), (10), (11)	Indirect, direct, and total effects (conventional mediation)	Table 11
H13a	IS × PUR to PA	(5), (12)	Moderation	Table 10
H13b	IS × PUR to EC	(6), (12)	Moderation	Table 10
H13c	PUR to PA	(5)	Direct	Table 9
H13d	PUR to EC	(6)	Direct	Table 9

Source: authors' specification. IS = indigenous storytelling; PUR = perceived UNESCO recognition; PA = perceived authenticity; EC = emotional connection; ATBE = tourism brand equity; VL = visitor loyalty; ITS = perceived inclusive tourism sustainability.

Appendix D

This appendix reports the robustness checks described in Section 4.9.

Table A13 compares the standardized coefficients of the base model with those of the model that adds gender, age group, education, nationality, visit type, and questionnaire language as controls.

Table A13. Base-Model Coefficients and Coefficients with Control Variables.

Path	Base Model β	β with Controls	Difference	*p* (with Controls)
IS → PA	0.328	0.326	−0.002	<0.001
PUR → PA	0.298	0.296	−0.002	<0.001
IS × PUR → PA	0.039	0.040	0.001	0.285
IS → EC	0.409	0.420	0.011	<0.001
PUR → EC	0.261	0.266	0.005	<0.001
IS × PUR → EC	−0.005	0.002	0.008	0.950
IS → ATBE	0.167	0.157	−0.010	0.001
PA → ATBE	0.361	0.365	0.005	<0.001
EC → ATBE	0.252	0.257	0.005	<0.001
IS → VL	0.210	0.212	0.003	<0.001
ATBE → VL	0.382	0.379	−0.004	<0.001
IS → ITS	0.359	0.358	−0.000	<0.001
VL → ITS	0.308	0.323	0.015	<0.001

Table A14 reports regressions of the three dimension scores of perceived inclusive tourism sustainability on storytelling and loyalty (the predictors in Equation (9)). The dimension scores correlate at 0.59 to 0.60, and the first eigenvalue of the six items is 3.20 (second = 0.68).

Table A14. Dimension-Level Models for Perceived Inclusive Tourism Sustainability.

Dimension Score	β (IS)	*p*	β (VL)	*p*	R^2
Economic (ITS-E1, E2)	0.279	<0.001	0.250	<0.001	0.194
Social (ITS-S1, S2)	0.377	<0.001	0.252	<0.001	0.279
Environmental (ITS-N1, N2)	0.268	<0.001	0.284	<0.001	0.211

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