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#### **ARTICLE**

# Mamluk Cultural Heritage and Sustainable Tourism: The Interplay of Heritage Value, Cultural Identity, and Behavioral Intentions in Promoting Roots Tourism

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#### **ABSTRACT**

This study examines the interplay between heritage value, cultural identity, and behavioral intentions in promoting sustainable roots tourism associated with Egypt's Mamluk cultural heritage. While scholarly attention has predominantly focused on Egypt's Pharaonic legacy, Mamluk-era sites (13th–16th centuries)—noted for their synthesis of Islamic architecture and geopolitical significance—remain understudied despite their potential for diaspora engagement. Employing the Theory of Planned Behavior (TPB), this research adopts a quantitative approach to analyze survey responses from 215 international visitors with ancestral ties to Mamluk-linked regions (Central Asia, the Caucasus, and Turkey). Regression analysis explained 62.3% of the variance in sustainable tourism intentions ( $R^2 = 0.623$ ). Results revealed strong positive relationships among cultural heritage value (\*r\* = 0.730), cultural identity (\*r\* = 0.697), and sustainable behavioral intentions. Architectural aesthetics (M = 4.43/5) and emotional identity (M = 4.28/5) emerged as significant predictors, though perceived behavioral control (M = 3.98/5) suggested logistical barriers. The findings underscore the need for immersive storytelling, community-centered strategies, and policy reforms to enhance visitor experiences and

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preservation outcomes. This study promotes theoretical and practical approaches to sustainable tourism by integrating TPB with frameworks of historical values, so that Mamluk sites can be established as agents of socio-economic flexibility and cultural diplomacy. Limitations include the cross-sectional design and sampling focus, warranting longitudinal studies with broader demographic inclusion.

*Keywords:* Mamluk Heritage; Sustainable Tourism; Cultural Identity; Islamic Architecture; Planned Behavior; Cultural Diplomacy

# 1. Introduction

Heritage preservation has proven pivotal in advancing sustainable tourism that respects local cultural identity amid globalization and cultural homogenization [1]. Egypt's Mamluk legacy (1250-1517 CE) offers significant potential for roots tourism—a niche wherein travelers seek ancestral and cultural connections [2]. This heritage exemplifies a distinctive fusion of Islamic and indigenous traditions, epitomized by architectural marvels such as mosques, madrasas, and public buildings that synthesize the Turkish, Egyptian, and Central Asian influences [3,4]. Despite the well-documented economic potential of cultural tourism, scant research has explored how Mamluk narratives shape visitor behavior or reinforce cultural identity [5,6]. Challenges persist in Egypt's digital tourism infrastructure, including gaps in technological integration, resistance to adaptive management, and insufficient efforts to integrate Mamluk heritage within sustainable tourism strategies [7]. To address these gaps, this study investigates the interplay of cultural identity, heritage value, and behavioral intentions in promoting Mamluk-associated roots tourism. Social media further amplifies this dynamic, as user-generated content significantly influences travel decisions and enhances perceptions of Mamluk cultural significance [8].

Cultural heritage bridges past and present, offering tangible and intangible connections that deepen visitors' emotional engagement <sup>[1]</sup>. For descendants from regions historically linked to the Mamluks—including Central Asia, the Caucasus, and Turkey—sites like the Sultan Hassan Mosque and Qalawun Complex provide compelling narratives for roots tourism <sup>[9,10]</sup>. Yet scholarly and practical focuses disproportionately favors Pharaonic antiquities, overlooking the socio-cultural and economic potential of Islamicera heritage <sup>[11,12]</sup>. Emerging evidence suggests that strong cultural identification among local communities enhances

heritage valuation and enriches tourism experiences <sup>[5,13]</sup>. However, demographic influences (e.g., age, nationality) on these perceptions remain underexplored <sup>[14]</sup>.

The global rise of roots tourism reflects growing diaspora desires to reconnect with ancestral legacies [15,2]. Initiatives such as Egypt's Dispersed Heritage project—which uses storytelling to address the colonial histories—demonstrate efforts to revitalize cultural narratives [16]. Mamluk heritage, with its geopolitical resonance, offers a unique platform for such engagement. Nevertheless, sustainability threats persist, including political instability, environmental degradation, and cultural commodification [17,18]. Balancing economic benefits with cultural integrity necessitates community-centered models and adaptive preservation [20,21]. The Theory of Planned Behavior (TPB) provides a robust framework for understanding how attitudes, subjective norms, and perceived behavioral control shape heritage engagement [18]. Intentions driven by emotional connections to cultural narratives are critical for responsible tourism [2], while immersive experiences (e.g., guided tours along Al-Mi'izz Street or Mamluk craft workshops) enhance visitor loyalty [17,21]. Empirical research on sociocultural impacts—particularly regarding identity reinforcement and local economic equity—remains limited [14,22].

#### 1.1. Research Problem

Despite the global expansion of roots tourism, scholarly and practical discourse on Egypt's Islamic past remains disproportionately focused on Pharaonic antiquities, neglecting the sociocultural and economic potential of Mamluk-era sites [11,12]. While existing literature acknowledges the artistic and historical significance of Mamluk architecture [3], few studies examine how its heritage value interacts with cultural identity to influence traveler behavior [2]. Crucially, the potential of these sites to foster emotional connections with diaspora communities—particular-

ly from Central Asia, the Caucasus, and Turkev—has been underutilized [10,23]. Moreover, threats to authenticity and sustainability persist, including political instability, environmental degradation, and cultural commodification [17,18]. This study identifies three critical gaps: (1) insufficient empirical data on behavioral drivers of sustainable tourism in Islamic heritage contexts; (2) absence of frameworks integrating community perspectives into tourism strategies; and (3) limited understanding of how demographic variables (e.g., age, nationality) shape heritage perceptions.

#### 1.2. Research Objectives

This study aims to investigate how Mamluk cultural heritage fosters sustainable roots tourism through the interplay of heritage value, cultural identity, and behavioral intentions. Three primary objectives guide this inquiry. First, we examine how tourists' knowledge of Mamluk heritage value-including its architectural and historical significance-influences support for conservation efforts and sustainable tourism practices (H<sub>1a</sub>). Second, we analyze how cultural identity alignment among descendants from historically linked regions (e.g., Central Asia, Turkey) shapes emotional engagement with Mamluk sites as symbols of shared heritage (H<sub>1b</sub>). Third, applying the Theory of Planned Behavior (TPB), we evaluate behavioral factors that enable or hinder sustainable tourism, identifying logistical barriers and community-led solutions (H<sub>1</sub>). Collectively, these objectives advance a holistic understanding of Mamluk heritage's role in sustainable tourism development.

#### 1.3. Limitations of the Research

While this study offers valuable insights, several limitations warrant acknowledgment. First, focusing primarily on international visitors from Mamluk-associated regions may obscure nuances in domestic tourist perspectives. Second, reliance on self-reported data risks social desirability bias, particularly when measuring abstract constructs like cultural identity. Third, the cross-sectional design precludes assessment of long-term tourism impacts on heritage preservation or community well-being. Fourth, geopolitical constraints—including regional instability

diaspora groups. Finally, despite emphasizing community involvement, power dynamics among local stakeholders (often dominated by governmental or elite interests) could skew the implementation of sustainable practices. These limitations highlight avenues for future methodological refinement.

#### 1.4. Importance of the Study

This research addresses critical gaps in heritage tourism scholarship and practice, with three key contributions. Theoretically, it advances behavioral frameworks by integrating TPB with heritage value theory—an integration notably absent in Islamic cultural contexts. Practically, it addresses urgent challenges such as heritage commercialization and environmental threats through communitycentric models; for instance, adaptive preservation measures are proposed for endangered sites such as the Sultan Hassan Mosque. Geopolitically, it highlights Mamluk heritage's diplomatic potential to strengthen Egypt's ties with Eurasian nations via shared historical narratives. By positioning Mamluk sites as catalysts for socio-economic resilience and cultural diplomacy, this study offers actionable pathways for sustainable tourism aligned with UNESCO's Sustainable Development Goals.

#### 1.5. Related Terminologies

To contextualize this study, key concepts are defined with reference to established scholarship. Roots tourism denotes specialized travel in which individuals visit locations tied to ancestral heritage to reconnect with familial or communal histories [2], encompassing descendants of Mamluk-linked populations visiting medieval Egyptian sites. Cultural heritage value refers to the ascribed worth of heritage assets based on historical, artistic, and symbolic attributes [1], exemplified by Mamluk architectural masterpieces like the Al-Nasir Muhammad Mosque. Cultural identity describes a sense of belonging derived from shared customs and historical narratives [24], reinforced during the Mamluk era through linguistic preservation (e.g., the Kypchak language) and cultural hybridity. Sustainable heritage tourism balances environmental/cultural integrity with economic benefits [25], requiring communityand visa restrictions—may limit data collection from key led conservation models in Mamluk contexts. The *Theory* 

of Planned Behavior (TPB)—a psychological framework predicting human actions through attitudes, subjective norms, and perceived behavioral control [26]—clarifies how heritage narratives shape sustainable practices. Commodification of culture involves transforming cultural assets into commercial products, often compromising authenticity [37], as seen in decontextualized Mamluk artifact sales. Finally, heritage diplomacy leverages cultural heritage for international collaboration [17], using Mamluk sites to strengthen Egypt's ties with Turkic and Central Asian nations through shared historical narratives.

# 2. Literature Review

This review synthesizes scholarship on behavioral psychology, sustainable tourism, and cultural heritage, focusing on four themes: (1) Mamluk architectural legacy, (2) cultural identity's role in tourism motivations, (3) TPB in sustainable tourism, and (4) challenges/opportunities in heritage tourism. Critical analysis identifies gaps and positions this study within broader academic discourse.

# 2.1. The Legacy and Value of Mamluk Architectural and Cultural Achievements

The Mamluk Sultanate (1250-1517 CE) marked a zenith of Islamic art and architecture in Egypt, characterized by monumental structures that integrated Turkic, Central Asian, and indigenous influences [3,24]. Among their key innovations were architectural techniques such as mugarnas (stalactite vaulting), intricately carved stone facades, and grand iwans (vaulted halls) [28,39]. Iconic examples of Mamluk architecture include the Sultan Hassan Mosque, a Bahri Mamluk masterpiece renowned for its towering 81.6-meter minaret and harmonious spatial design [40,41]. Another significant structure is the Qalawun Complex, which combined a mausoleum, madrasa, and hospital in a single multifunctional hub, exemplifying the Mamluks' commitment to public welfare [42]. The Al-Zahir Baybars Mosque represents an early synthesis of Turkic militarism and Islamic aesthetics, evident in its ribbed dome and Quranic inscriptions [43]. Despite restoration efforts, this mosque's tourism potential remains largely underexploited [9].

socio-symbolic role of Mamluk heritage. Conservation challenges remain pressing, as environmental stressors such as humidity and pollution continue to threaten key sites like the Khangah of Al-Nasir Faraj Ibn Barquq, highlighting the need for advanced preservation techniques [31,32]. Additionally, Mamluk architecture serves as a *lieu* de mémoire (site of memory), anchoring modern Egyptian identity in shared historical narratives [44,45]. The neo-Mamluk architectural revival in 19th-century Cairo, for instance, emerged as a symbolic form of resistance during the colonial period [46].

While Ammar et al. [9] explored Mamluk sites' marketing potential, empirical data on visitor perceptions remain scarce. Elassal and Ismael [10] examined "Alwization" (Islamic aesthetic adaptation) but neglected to link these changes to measurable engagement metrics. This underscores the need for studies quantifying heritage value through behavioral outcomes.

# 2.2. Roots Tourism and Cultural Identity as **Motivations for Travel**

Roots tourism—defined as travel motivated by ancestral or cultural reconnection—has emerged as a significant niche in global tourism [2]. Heritage sites function as identity anchors for diaspora communities, enabling psychological and emotional returns to ancestral homelands [15,47]. For descendants of Turkic, Circassian, and Central Asian groups linked to the Mamluk Sultanate, Egypt's Mamluk legacy holds particular resonance [4,23]. For instance, Jubatova et al. [4] demonstrated how the preservation of the Kypchak language among Mamluk elites fosters transnational identity among contemporary Kazakh and Uzbek visitors.

Intangible heritage, including traditional crafts (e.g., Mamluk-era board games like al-jughrafiyya), festivals, and culinary traditions, further reinforces cultural identity [29]. Storytelling initiatives, such as the Egypt's Dispersed Heritage project, have proven effective in reframing colonial narratives and cultivating pride in Islamic heritage [16]. These findings align with broader theories of nostalgia tourism, where travelers seek to reconstruct individual or collective memories tied to historical sites [48,49].

While existing studies highlight cultural identity's role, they often neglect demographic variations. Sebastián Recent scholarship has increasingly emphasized the Poch et al. [13] examined cultural landscapes in Spain without addressing generational differences in heritage perception. Similarly, Alana et al. [14] advocated for community-centric frameworks but overlooked the diasporic identity dynamics. This study addresses these gaps by analyzing how cultural identity manifests across demographic groups, particularly Central Asian and Turkish tourists.

# 2.3. The Theory of Planned Behavior (TPB) and Behavioral Intentions

The TPB <sup>[25]</sup>—which posits that attitudes, subjective norms, and perceived behavioral control shape actions—has been widely applied in sustainable tourism research. In heritage contexts, it explains how engagement with cultural narratives influences conservation intentions <sup>[5,17]</sup>. For example, emotional connections to Mamluk history significantly predicted preservation support at Cairo's Ibn Ṭūlūn Mosque <sup>[17]</sup>, while community involvement reduced vandalism in Fuwah City's Islamic monuments <sup>[12]</sup>.

Authenticity plays a pivotal role: interactive experiences (e.g., traditional craft workshops) resonate more with roots tourists than commercialized attractions <sup>[50]</sup>. This mirrors findings from Cheer and Reeves <sup>[51]</sup> on South Sea Islander diaspora tourism, where grassroots-led tours were preferred over packaged excursions. However, commercialization remains a challenge; mass-produced replicas of Mamluk artifacts on Cairo's Al-Muizz Street often undermine cultural significance <sup>[11]</sup>.

The literature scarcely addresses how logistical barriers (e.g., language barriers, limited genealogical resources) affect perceived behavioral control in roots tourism. While Huang et al. [27] studied diaspora motivations broadly, they omitted the specific challenges faced by Central Asian tourists face in Egypt. This study integrates TPB variables to examine how attitudes, norms, and control mechanisms collectively foster sustainable behaviors.

# 2.4. Opportunities and Challenges in Sustainable Heritage Tourism

Sustainable heritage tourism necessitates a careful balance between economic benefits and the preservation of environmental and cultural integrity [36]. Mamluk sites, in particular, face three major challenges in this regard. Environmental risks, such as pollution and high humidity, have

accelerated the degradation of limestone and marble structures that define much of Mamluk architecture [31,32]. Overtourism also poses a significant threat, with high visitor volumes leading to the deterioration of delicate elements like the intricate tilework at the Sultan Hassan Mosque [43]. Furthermore, political and economic instability—exemplified by events such as the Arab Spring and the COVID-19 pandemic—continues to disrupt the continuity and security of long-term conservation funding [52,53].

To address these issues, several innovative solutions have emerged. Adaptive reuse has gained traction, with historic *wikalas* (merchant inns) being transformed into vibrant cultural centers that retain their historical essence while serving contemporary needs <sup>[19]</sup>. Digital tools, such as virtual tours, have also proven effective in broadening global engagement, particularly among younger demographics <sup>[54]</sup>. Community participation has shown promise as well, with co-designed heritage initiatives in Fuwah City enhancing local ownership and reducing acts of vandalism <sup>[12]</sup>. Despite these advancements, structural challenges remain. Top-down governance models frequently marginalize local voices, reflecting broader critiques of neo-patrimonialism in tourism development frameworks <sup>[29,30]</sup>.

# 2.5. Gaps in the Literature

Despite increased scholarly interest, four critical gaps continue to limit the scope and impact of current heritage tourism research. First, demographic nuances remain underexplored, with minimal attention given to how variables such as age, nationality, or generational ties influence perceptions of Mamluk heritage [14]. Second, there is a scarcity of behavioral frameworks—particularly the application of the Theory of Planned Behavior (TPB)—to Islamic heritage and diaspora tourism [17]. Third, the potential for leveraging Mamluk heritage in cultural diplomacy with Central Asia and Turkey has not been fully realized, despite shared historical ties [24,33]. Finally, there is a notable absence of standardized metrics to evaluate the socio-cultural impacts of sustainable tourism initiatives, limiting the ability to assess effectiveness or scalability [12].

# 2.6. Theoretical and Practical Contributions

This study addresses these gaps by:

- 1. Integrating TPB with heritage value and cultural identity theories to create a holistic framework for sustainable roots tourism.
- 2. Empirically testing how demographic factors moderate tourists' behavioral intentions.
- 3. Proposing community-led conservation strategies that align with UNESCO's Sustainable Development Goals (SDGs).

Building on the insights from the theoretical framework and literature review, this study proposes the Mamluk Heritage Tourism Model (MHTM) as a structured approach to understanding the key factors influencing sustainable heritage tourism. The model in **Figure 1** highlights the relationships between cultural heritage value, cultural identity, and behavioral factors in promoting heritage tourism development.

Framework for Sustainable Heritage Tourism Development.

The MHTM model provides a structured framework to understand and promote sustainable heritage tourism by highlighting the key factors influencing visitors' engagement with Mamluk heritage sites. This model identifies three primary dimensions that have direct and statistically significant relationships with the enhancement of sustainable heritage tourism. The model illustrates the direct, statistically significant relationships between Cultural Heritage Value, Cultural Identity Value, and Behavioral Factors with the promotion of sustainable heritage tourism.

#### 2.7. Study Hypotheses

Three sub-hypotheses drawn from the Mamluk Heritage Tourism Model (MHTM) and a fundamental hypoth-

esis direct this investigation. These hypotheses seek to statistically support the links among cultural heritage value, cultural identification, behavioral elements, and aspirations of sustainable heritage tourism.

Main Hypothesis (*H*):

There is a statistically significant relationship between the research sample's perceptions of the Role of Islamic Cultural Heritage in Promoting Sustainable Heritage Tourism

Sub-Hypotheses:

**Ha.** There is a statistically significant relationship between knowledge of Cultural Heritage Value and promoting Sustainable Heritage Tourism.

Rooted in heritage value theory, this hypothesis holds that visitors' intents to support sustainable tourism practices directly reflect their understanding and appreciation of the historical and aesthetic relevance of Mamluk legacy.

**Hb.** There is a statistically significant relationship between Cultural Identity Value and promoting Sustainable Heritage Tourism

Inspired by cultural identity theory, this hypothesis holds that visitors' feeling of pride, belonging, and active participation with Mamluk legacy enhances their will to protect it by means of environmentally friendly travel practices.

**Hc.** There is a statistically significant relationship between Behavioral Factors (Theory of Planned Behavior) and promoting Sustainable Heritage Tourism.

Aligned with TPB, this hypothesis tests how tourists' attitudes, social influences, and perceived ease of engagement shape their intentions to participate in sustainable heritage tourism.

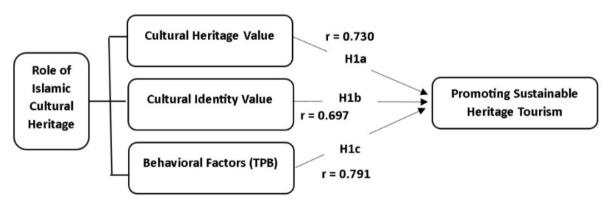


Figure 1. Mamluk Heritage Tourism Model (MHTM): A

# 3. Methodology

This study employed a quantitative cross-sectional survey design to examine the interplay between Mamluk cultural heritage perceptions, cultural identity, behavioral factors derived from the Theory of Planned Behavior (TPB), and sustainable tourism intentions. Data collection occurred at a single time point among tourists visiting prominent Mamluk heritage sites in Egypt, enabling correlational and regression analyses to test our hypotheses. The target population comprised international visitors with ancestral or cultural connections to regions historically linked to the Mamluk Sultanate (1250-1517 CE), specifically including respondents from Central Asia (Kazakhstan, Uzbekistan), the Caucasus (Armenia, Georgia), Turkey, and regions of the Russian Federation (North Caucasus). Domestic Egyptian tourists and visitors from Russian Federation regions were additionally incorporated to facilitate comparative analysis.

Using purposive sampling to ensure demographic representation, we recruited 215 participants—a sample size determined through statistical power analysis. Employing G\*Power software (version 3.1), we calculated that 215 respondents would provide 95% power to detect medium effect sizes (Cohen's  $f^2 = 0.15$ ) in multiple regression models at  $\alpha = 0.05$  significance level, ensuring robust detection of meaningful relationships. Data collection utilized a structured questionnaire containing six integrated sections: (1) Demographic characteristics (age, gender, nationality, education, prior visitation experience); (2) Cultural heritage value assessment through eight 5-point Likert items evaluating historical, artistic, and symbolic dimensions; (3) Cultural identity measurement via six items capturing cognitive, emotional, and behavioral components; (4) TPB behavioral factors assessed through six items examining attitudes, subjective norms, and perceived control; (5) Sustainable tourism intentions gauged by four items concerning revisit and recommendation likelihood; and (6) Open-ended questions exploring heritage uniqueness and promotion strategies. The full instrument is available in Supplement 1 for transparency.

Key variables included three independent constructs: cultural heritage value (represented by historical significance and artistic merit), cultural identity (manifested

through cognitive awareness, emotional attachment, and behavioral engagement), and TPB factors (attitudes, subjective norms, perceived behavioral control). The dependent variable—sustainable heritage tourism intentions operationalized through revisit and recommendation intentions. Statistical analysis using SPSS v.28 featured descriptive statistics (frequencies, percentages, means, standard deviations) to profile the sample and variable distributions. Scale reliability proved excellent (Cronbach's  $\alpha = 0.973$  for full instrument; subscales  $\alpha > 0.85$ ), with construct validity confirmed through high convergent validity ( $\sqrt{\alpha} = 0.986$ ). Hypothesis testing involved Pearson correlations to examine variable relationships and linear regression to predict sustainable intentions from TPB antecedents. Group differences based on nationality and prior visitation were assessed via t-tests and ANOVA.

Ethical protocols included obtaining verbal informed consent after comprehensive study briefing, ensuring participant anonymity through complete de-identification of responses, and securing data on encrypted devices. Methodological limitations warrant acknowledgment: sampling imbalances emerged with male overrepresentation (65.6%) and disproportionate inclusion of Russian Federation visitors (20.4%); self-report measures risked social desirability bias; geographic focus on Central Asian/Turkish tourists constrained generalizability; and the cross-sectional design precluded causal inference. These limitations are partially mitigated by the statistically powered sample and instrument validation, though future research should address these constraints through longitudinal designs and stratified sampling.

# 4. Results

The analysis revealed significant relationships between Mamluk heritage perceptions and sustainable tourism intentions. Participants (N = 215) demonstrated strong recognition of heritage value (Total M = 4.27/5), with architectural aesthetics (M = 4.43) and symbolic Islamic identity (M = 4.42) rated highest. Cultural identity manifested strongly in cognitive (M = 4.35) and emotional dimensions (M = 4.28), though behavioral engagement was comparatively lower (M = 3.92).

#### Hypothesis testing confirmed:

The analysis revealed strong positive correlations

between sustainable tourism intentions and cultural heritage value, cultural identity, and TPB behavioral factors, all statistically significant as shown in the following and in Table 1.

- Cultural heritage value correlated strongly with sustainable intentions (r = 0.730, p < 0.01)
- Cultural identity showed significant positive relationships (r = 0.697, p < 0.01)
- TPB behavioral factors correlated substantially (r = 0.628, p < 0.01)

Table 1. Key Correlations.

Variable	r	p-Value	
Cultural Heritage Value	0.730	0.000	
Cultural Identity	0.697	0.000	
Behavioral Factors (TPB)	0.628	0.000	

Multiple regression As shown in Table 2 explained 62.3% of variance in sustainable intentions ( $R^2 = 0.623$ , F(3,211) = 117.34, p < 0.001). Heritage value ( $\beta = 0.401$ , p < 0.001) and cultural identity ( $\beta = 0.318, p < 0.001$ ) were the strongest predictors, followed by TPB factors  $(\beta = 0.227, p = 0.003).$ 

Table 2. Regression Model.

Predictor	β	SE	t-Value	<i>p</i> -Value
Cultural Heritage Value	0.401	0.048	8.35	0.000
Cultural Identity	0.318	0.052	6.12	0.000
Behavioral Factors (TPB)	0.227	0.061	3.72	0.003

Notable demographic differences emerged: Russian Federation visitors reported stronger emotional identity (M = 4.50 vs. 4.20, p = 0.004) and recommendation intentions (M = 4.45 vs. 4.10, p = 0.003) than other nationalities. Prior visitors scored significantly higher on heritage value (M = 4.35 vs. 3.98, p = 0.001) and revisit intentions (M = 4.35 vs. 3.98, p = 0.001)4.40 vs. 3.85, p < 0.001).

#### 5. Discussion

The findings robustly confirm that Mamluk cultural heritage serves as a significant catalyst for sustainable tourism through three interconnected mechanisms. First, the strong correlation between heritage value and behavioral intentions (\*r\* = 0.730) underscores how architectural mastery and historical symbolism function as emotional anchors for visitors. Participants' exceptional valuation of aesthetic elements (M > 4.40) aligns with Behrens- with socioeconomic vitality when community agency and

Abouseif's characterization of Mamluk monuments as embodiments of Islamic identity, where visual grandeur simultaneously educates and inspires. However, the relatively lower appreciation for intangible aspects suggests interpretive gaps in conveying sociocultural narratives—a concern echoing Elassal et al.'s call for targeted strategies to showcase linguistic traditions and artisanal practices.

Second, cultural identity emerged as a pivotal driver of engagement (\*r\* = 0.697), substantiating Basu's theory that roots tourism addresses identity fragmentation. The pronounced cognitive and emotional connections (M >4.28) position Mamluk sites as lieux de mémoire, bridging diaspora communities to shared historical narratives. Geopolitically, the heightened affinity among Russian Federation visitors (M = 4.50 emotional identity) reveals this heritage's potential as a diplomatic instrument-strengthening Egypt's ties with Eurasian nations through collective memory, as envisioned by Petry.

Third, the TPB framework effectively explained behavioral intentions ( $R^2 = 0.623$ ), with attitudes and subjective norms outweighing perceived control. This imbalance exposes critical logistical barriers—multilingual resource gaps and visa restrictions—that hinder ancestral engagement. The regression results (heritage value  $\beta = 0.401$ ; identity  $\beta = 0.318$ ) further demonstrate how emotional connections transcend practical constraints in motivating conservation support.

Practical implications emerge in three domains:

- 1. Immersive interpretation through augmented reality could vitalize intangible heritage (e.g., Kypchak linguistic elements), countering current aesthetic-centric narratives.
- 2. Community co-design of artisan workshops and adaptive reuse projects (e.g., historic wikalas) would enhance authenticity while generating local livelihoods.
- 3. Policy reforms streamlining visa processes and digital resources (e.g., virtual pre-tours) could mitigate TPB's behavioral control gaps.

Limitations of sampling bias and cross-sectional design necessitate future longitudinal studies with broader demographic representation. Nevertheless, this research establishes Mamluk heritage as a dynamic catalyst for sustainable development—one that balances preservation

policy frameworks align.

# 6. Conclusions

This study has illuminated the complex interplay between Mamluk cultural heritage, cultural identity, behavioral factors, and sustainable tourism intentions, offering significant insights into how heritage valuation and emotional connections foster responsible tourism practices. Our findings position Egypt's Mamluk-era monuments as both cultural landmarks and catalysts for sustainable development, aligning with global heritage preservation efforts that seek to balance economic benefits with social equity [1,36].

#### 6.1. Key Findings

Three key findings emerge from this research:

- Heritage Value and Visitor Engagement

Participants ascribed exceptionally high value to Mamluk heritage (M = 4.27/5), particularly its architectural aesthetics (M = 4.43) and symbolic representation of Islamic identity (M = 4.42). These results corroborate Behrens-Abouseif's  $^{[3]}$  characterization of Mamluk architecture as both an aesthetic marvel and historical anchor. The Sultan Hassan Mosque and Qalawun Complex exemplify this dual role, embodying the geopolitical and cultural synthesis of Central Asian, Turkic, and Egyptian traditions. However, the relatively lower valuation of intangible heritage aspects (M = 4.12) underscores the need for enhanced interpretive strategies to showcase linguistic traditions like Kypchak  $^{[4]}$  and artisanal crafts  $^{[17]}$ .

- Cultural Identity as a Driver

The strong predictive relationship between cultural identity and sustainable intentions (r = 0.697, p < 0.01) supports Basu's <sup>[47]</sup> identity-reclamation theory. Notably:

Diaspora communities from historically linked regions (Central Asia, Caucasus, Turkey) demonstrated profound connections to Mamluk heritage [23]

Russian Federation Regions participants showed particularly strong emotional ties (M = 4.50), highlighting the geopolitical potential of Mamluk heritage to foster transnational solidarity  $^{[33,24]}$ 

- Behavioral Factors and TPB Validation

The TPB  $^{[25]}$  effectively explained 62.3% of variance advocacy for narrative-based approaches to combat culturin sustainable intentions ( $R^2 = 0.623$ ), confirming its utilal commodification, exemplified by the Egypt's Dispersed

ity in Islamic heritage contexts. While attitudes (M = 4.40) and subjective norms (M = 4.12) were strong predictors, perceived behavioral control lagged (M = 3.98), revealing persistent logistical barriers <sup>[27]</sup> that mirror broader challenges in diaspora tourism <sup>[15]</sup>.

#### **6.2.** Theoretical Contributions

This study advances heritage tourism literature through three significant contributions. First, it validates Ajzen's Theory of Planned Behavior (TPB) [25] in a Mamluk context, demonstrating its applicability beyond Western settings for predicting revisit and recommendation intentions. While prior studies like Elassal et al.'s [17] examination of Cairo's Ibn Tūlūn Mosque focused narrowly on visitor loyalty, our research expands the TPB framework to incorporate socio-cultural and geopolitical dimensions. Second, the strong relationship between cultural identity and behavioral intentions ( $\beta = 0.318$ ) extends Hall and Du Gay's [34] identity theories, conceptualizing heritage as a dynamic instrument for identity construction. This aligns with Basu's [47] notion of heritage as "identity anchors," where sites such as the Khangah of Al-Nasir Faraj Ibn Barquq serve as tangible embodiments of collective memory. Third, the study reveals the geopolitical significance of Mamluk heritage in fostering connections between Egypt and Central Asian/Gulf states [24], highlighting its soft power potential through Winter's [33] lens of heritage diplomacy. Collaborative preservation initiatives between Egypt and Kazakhstan, for instance, could leverage shared historical narratives to facilitate cross-cultural dialogue.

#### 6.3. Practical Implications

The findings yield actionable strategies for heritage stakeholders. Immersive technologies like augmented reality (AR) tours could enhance interpretation of intangible heritage elements. AR applications at the Al-Nasir Muhammad Mosque, for example, might visualize historical ceremonies or Kypchak linguistic features, counterbalancing the current emphasis on tangible aesthetics <sup>[29]</sup>. Such innovations respond to Abd el-Gawad and Stevenson's <sup>[16]</sup> advocacy for narrative-based approaches to combat cultural commodification, exemplified by the Egypt's Dispersed

Heritage project's use of comic art to reclaim colonial histories.

Community-centric models that integrate local residents into heritage management offer another crucial pathway. Artisan workshops led by Cairo's communities could simultaneously deepen tourist engagement and generate income [12], while the adaptive reuse of historic wikalas as cultural centers [19] demonstrates how economic benefits can align with preservation goals. Policy reforms, including streamlined visa processes and improved multilingual resources, would address critical TPB [25] factors by enhancing perceived behavioral control. Expanding Egypt's digital tourism infrastructure to include virtual pre-visit guides could mitigate on-site logistical challenges [7], though such initiatives must address current training deficiencies [7].

Culturally tailored social media campaigns present additional opportunities to strengthen diaspora connections. As Abdelghani et al. [8] demonstrate, user-generated content significantly influences travel decisions. Platforms like Instagram and TikTok could showcase personal narratives of descendants reconnecting with Mamluk heritage, while partnerships with influencers from Turkic and Central Asian nations might amplify reach, capitalizing on the emotive power of roots tourism [2].

#### 6.4. Limitations and Future Research

Several methodological constraints warrant consideration. The overrepresentation of male participants (65.6%) and visitors from Russian Federation regions (20.4%) limits generalizability, suggesting the need for more balanced sampling that includes underrepresented groups like Circassian descendants. Self-report biases inherent in survey-based research could be mitigated through observational methods such as behavioral tracking or post-visit interviews. Longitudinal studies are necessary to assess the enduring impacts of tourism on both cultural preservation and community well-being, potentially through decadelong evaluations of community-led initiatives<sup>[12]</sup>.

Future research should investigate digital tools like istration: virtual reality (VR) for heritage interpretation, building on Yalin's [54] preliminary work with Mamluk mosque tours A.A.A.A, while addressing scalability challenges. Comparative draft: A.A studies between Mamluk sites and other Islamic heritage H.A.M.A.

locations (e.g., Ottoman mosques in Turkey or Safavid complexes in Iran) could identify both universal principles and context-specific factors in sustainable tourism. Shared challenges such as urban encroachment [31] may yield transferable preservation strategies despite architectural distinctions

#### 6.5. Final Thoughts

Mamluk heritage stands as a living testament to Islamic artistic achievement and historical resilience, with Cairo's mosques and madrasas serving as bridges between medieval legacy and contemporary global challenges. By harnessing its aesthetic, historical, and symbolic capital, stakeholders can transform these sites into catalysts for sustainable tourism that honors cultural identity while fostering socio-economic development. The urgency of this endeavor is underscored by environmental threats [31,32] and political instabilities that demand both global frameworks like UNESCO's SDGs [36] and localized solutions such as humidity-resistant materials.

Ultimately, this study positions Mamluk heritage not as a static relic but as a dynamic resource for cross-cultural understanding and economic resilience. As Egypt navigates modernization, policies must balance preservation with progress, ensuring these sites remain vital sources of identity and connection. The interplay of heritage value, cultural identity, and behavioral factors outlined here offers a replicable model for sustainable tourism worldwide - one where community agency and cultural narratives combine to create enduring, meaningful legacies.

# **Author Contributions**

Conceptualization: H.A.M.A., M.A., A.A.A.A., G.A.S.; Data curation: A.A.A.A., M.A., H.A.M.A., G.A.S.; Formal analysis: M.A., G.A.S.; Funding acquisition: A.A.A.A, H.A.M.A.; Investigation: A.A.A.A., M.A., H.A.M.A.; Methodology: A.A.A.A., M.A.,; Project administration: A.A.A.A., M.A.; Resources: A.A.A.A., M.A.,; Software: M.A., H.A.M.A.; Supervision: M.A.; Validation: A.A.A.A, M.A.; Visualization: G.A.S.; Writing—original draft: A.A.A.A.,; Writing—review & editing: A.A.A.A., H.A.M.A.

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# **Institutional Review Board Statement**

The study was conducted in accordance with the Declaration of Helsinki.

#### **Informed Consent Statement**

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

# **Data Availability Statement**

The information provided in this research can be obtained by contacting the corresponding author.

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# **Conflict of Interest**

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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