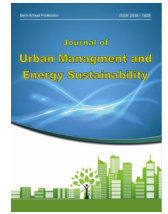


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A Comparative Analysis of Management Approaches in the Revitalization of Historical Bathhouses: Istanbul and Khorasan Razavi**

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ABSTRACT

Historical bathhouses (hammams) in Islamic lands, beyond their hygienic and ritual functions, carry dense social and cultural layers, yet the decline of their original function has turned their revitalization into a management problem rather than a purely technical one. This study compares how that problem is managed in two contrasting institutional settings and asks what each can learn from the other. The study adopts a qualitative comparative multiple-case design (Yin, 2018) following a most-different-systems logic. Ten purposively selected bathhouses five in Istanbul, Türkiye, and five in Khorasan Razavi, Iran are analyzed against six management indicators derived from conservation doctrine and the adaptive-reuse literature: institutional-social participation, functional revitalization, physical authenticity and spatial integrity, compliance with conservation standards, monitoring and control, and managerial-economic sustainability. Each case is rated on an explicit four-level rubric using triangulated documentary, technical and field evidence. Findings show, the two settings diverge systematically. The Istanbul cases score higher on functional revitalization, compliance and economic sustainability, sustained by public-private partnership finance, digital survey and modelling technologies, and integration with the tourism economy, but they carry the risk of over-commercialization. The Khorasan Razavi cases retain material authenticity through minimal intervention, vernacular materials and public stewardship, and sustain a strong cultural and ritual bond, but are constrained by financial fragility, weak monitoring and the absence of comprehensive adaptive-reuse planning. The results show transferable scoring rubric for bathhouse revitalization management and an integrated model that treats historical authenticity and economic viability as jointly binding constraints mediated by a values-based judgement, rather than as a trade-off along a single axis.

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**This article is derived from a portion of the first author's PhD dissertation, Reza Enayati, entitled "Explaining the Conceptual Model of Historical Bathhouses in Khorasan Razavi through the Identification and Evaluation of Revitalization Interventions (with a focus on the Safavid and Qajar periods)," conducted under the supervision of Dr.Mohsen Tabassi and the advisement of Dr.Hadi Sarvari at the Islamic Azad University, Mashhad Branch.

INTRODUCTION

Historical bathhouses, far beyond being merely hygienic spaces, have played multi-layered roles in social, ritual and cultural life. These structures were not only places for cleansing the body but also socio-spatial institutions that sustained local communication and social cohesion. Their broad geographical range, the diversity of their construction technologies, their complex spatial organization and their decorative values together underline the necessity of managing and revitalizing this heritage sustainably (Büyükdigan, 2003; Sibley, 2008; Sarmiento & Kazemi, 2014). The problem is acute because the hammam is a building type whose original function has largely been withdrawn by modernization: once domestic bathrooms became standard, the economic basis of public bathing collapsed, and across Anatolia and the Balkans the majority of baths lost their function, fell into ruin, or were converted – frequently into uses poorly matched to their spatial character (Büyükdigan, 2003). The same trajectory is documented in Iran, where the number of functioning hammams has fallen sharply and surviving examples are unevenly distributed between ruin, continued original use, and readjustment to new uses (Sarmiento & Kazemi, 2014). Revitalization is therefore not a matter of technical repair alone; it is a decision about function, finance, stewardship and community – that is, a management problem. Istanbul and Khorasan Razavi hold particular interest as two study contexts. Istanbul, the former Ottoman capital, possesses a dense stock of historical bathhouses in which architecture, social function and urban policy intersect. A recent systematic survey of the city's Historical Peninsula identified 81 listed historic hammams, of which 24 remain in active use and 19 survive as buildings under other uses or awaiting restoration an inventory that makes the peninsula an unusually well-documented laboratory for studying functional continuity and discontinuity (Biket, 2026). Examples such as the Çemberlitaş and Hürrem Sultan baths, with symmetrical plans, domed skylights and

refined stonework, demonstrate the maturity of Ottoman bath architecture (Cichocki, 2005; Cesur, 2026). Over the last two decades, several Istanbul baths have been returned to use through long-horizon, capital-intensive restoration coupled with contemporary cultural programming; the Zeyrek Çinili Hamam, reopened in 2023 after an extended restoration and archaeological campaign and now operating simultaneously as a bath and a museum, is the paradigmatic case (Tanrıverdi, 2025).

In contrast, Khorasan Razavi holds a rich stock of climate-adapted vernacular bathhouses whose architecture is shaped by climatic constraints, local materials and regional building traditions. The revitalization of these structures faces limited financial resources, the absence of comprehensive management planning and a shortage of sustainable investment conditions consistent with the wider picture of Iranian urban conservation, in which the rapid and largely imported adoption of the Western conservation paradigm has produced persistent tensions between doctrine and practice (Yadollahi, 2020), and in which responsibility for bath heritage is fragmented across private owners, local authorities and endowment (waqf) bodies, with no integrated restoration strategy (Sarmiento & Kazemi, 2014). Setting these two contexts side by side is analytically productive precisely because they differ on the dimensions of interest ownership regime, financing model, technological capacity and dominant conservation philosophy while sharing the same building type and a common Islamic bathing tradition. This is the logic of a most-different-systems comparison. It must, however, be stated at the outset that the two contexts are not symmetrical in scale: Istanbul is a global metropolis with a mature international tourism economy, whereas Khorasan Razavi is a province whose bath stock is dispersed across Mashhad and smaller towns. This asymmetry is a deliberate feature of the design it maximizes contrast but it also constrains interpretation, and the study returns to it explicitly in the dis-

cussion and limitations. Accordingly, the study addresses three questions. (1) How do the ten selected bathhouses perform across the six management indicators derived from conservation doctrine and the adaptive-reuse literature? (2) Which systematic differences and which unexpected convergences emerge between the two contexts, and how far can they be attributed to management approach rather than to context asymmetry? (3) What integrated model can be derived that reconciles authenticity-oriented and market-oriented revitalization? The remainder of the article reviews the literature and derives the indicator set, sets out the comparative design and the scoring rubric, presents the within- and cross-case findings, discusses them against the international literature, and concludes with the integrated model, its policy implications and the limitations of the study.

MATERIALS AND METHODS

The bathhouse as an architectural and social heritage type

Historical bathhouses are prominent examples of spatial management in Islamic architecture. The tripartite thermal sequence cold, intermediate and hot rooms not only produced a graduated

bodily experience but also organized the flow of users and services. In Ottoman architecture, symmetrical form, the domed skylight and restrained stone and marble surfaces express a disciplined integration of aesthetics, function and structure (Cichocki, 2005; Biket, 2026). In Khorasan Razavi, by contrast, the garmābe is organized asymmetrically and often sunk below grade, entered through a bent vestibule that simultaneously protects privacy and retains heat, and built of adobe, brick and sārūj with painted and stucco ornament an architecture of vernacular resource management and climatic adaptation rather than of imperial display. Figure 1 sets the two sequences side by side. Crucially for this study, both types share a thermal gradient that is difficult to reverse: the hot room cannot be lit, ventilated or subdivided freely without destroying the very spatial logic that makes the building significant. This is why Büyükdigan (2003) insists that new functions must derive from the specific architectural features of the bath rather than being imposed on it, and why he found that conversions to shopping use the most common Ottoman-bath reuse – frequently harmed the buildings they were meant to save. (Fig. 1)

Comparative spatial sequence of the Ottoman hammam and the Iranian garmābe

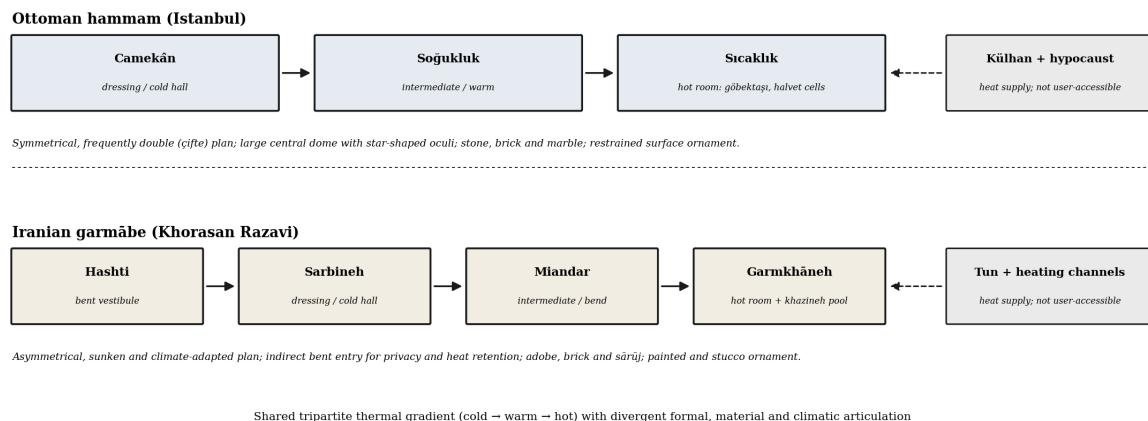


Figure 1: Comparative spatial sequence of the Ottoman hammam and the Iranian garmābe (Source: Authors)

Management and conservation approaches

Four approaches recur in the conservation and revitalization literature, and each implies a different management logic. The authenticity-oriented approach with centralized management concentrates on original material and historical integrity, and derives from the doctrinal core of the Venice Charter, with its emphasis on minimum intervention and the legibility of any addition (ICOMOS, 1964), later broadened by the Nara Document, which relativized authenticity to cultural context and admitted a wider range of evidence (ICOMOS, 1994; Jokilehto, 2018). The functional revitalization approach treats adaptive reuse as the principal instrument of survival, and has developed a substantial decision-making apparatus: Mısırlısoy and Günçe (2016) propose a holistic model in which the analysis of the existing fabric, the assessment of heritage values and the participation of users jointly determine the appropriate new function, while Plevoets and Van Cleempoel (2019) situate adaptive reuse as

an emerging discipline in its own right. The cultural sustainability approach extends the object of management beyond fabric to the continuity of social and cultural role, and connects conservation to the wider urban and environmental agenda articulated in the Historic Urban Landscape recommendation (UNESCO, 2011; Bandarin & Van Oers, 2012). Finally, the living heritage approach treats heritage as a process whose value is defined through continuing use and community association, and therefore requires flexible, participatory management rather than expert-led custodianship (Poulios, 2014). Converting historical buildings to tourism-oriented uses can generate economic prosperity while carrying the risk of excessive commercialization (Tosun & Timothy, 2020), and, at the urban scale, of gentrification and the displacement of the very communities whose practices constitute the heritage (Smith, 1996). Table 1 summarizes the four approaches and the management implication each carries for the bathhouse. (Tab. 1)

Table 1: Conservation and management approaches and their implications for bathhouse revitalization (Source: Authors)

Approach	Representative sources	Object of management	Implication for bathhouse revitalization
Authenticity-oriented, centralized	ICOMOS (1964, 1994); Jokilehto (2018)	Original fabric, material and historical integrity	Minimal intervention and expert supervision; protects significance but leaves the building functionally and financially exposed
Functional revitalization (Adaptive reuse)	Büyükdigan (2003); Mısırlısoy & Günçe (2016); Plevoets & Van Cleempoel (2019)	Fit between new function and existing spatial character	New use must derive from the bath's thermal and spatial logic; incompatible conversion damages what it purports to save
Cultural sustainability / historic urban landscape	UNESCO (2011); Bandarin & Van Oers (2012)	Continuity of social and cultural role within the urban whole	The bath is managed as part of a quarter and its economy, not as an isolated monument
Living heritage, participatory	Poulios (2014); Basha & Sağdıç (2025)	Community association and continuing practice	Bathing culture itself is the heritage; user and community consent conditions the legitimacy of reuse

2.3. Deriving the management indicators

The comparison requires indicators that are explicitly derived rather than asserted. Six indicators are used here; each is traceable to a doctrinal source and to at least one body of empirical work, and together they cover the fabric, the

function, the institutional setting and the temporal maintenance of the intervention. Table 2 states each indicator, its definition as applied in this study, and its warrant in the literature. The set is deliberately compact: it is intended to be applied consistently across ten cases with het-

erogeneous documentation, not to be exhaustive. (Tab. 2)

Table 2: The six management indicators, their operational definitions and their warrant in the literature (Source: Authors).

Indicator	Definition as applied here	Warrant in the literature
I1. Institutional–social participation	Degree to which owners, public bodies, private actors, endowment institutions, local users and NGOs are involved in decisions on the building	Poulios (2014); Macdonald & Cheong (2014); Basha & Sağdıç (2025)
I2. Functional revitalization	Extent to which the building carries an active, viable function that is compatible with its spatial and thermal character	Büyükdigan (2003); Mısırlısoy & Günçe (2016); Tanrıverdi (2025)
I3. Physical authenticity & spatial integrity	Retention of plan, thermal sequence, dome and vault system, original materials and ornament; reversibility and legibility of intervention	ICOMOS (1964, 1994); Jokilehto (2018); Cesur (2026)
I4. Compliance with conservation standards	Documented alignment of the intervention with the Venice Charter, the Nara Document and UNESCO/ICOMOS guidance	ICOMOS (1964, 1994); UNESCO (2011)
I5. Monitoring & control system	Existence of survey documentation, condition recording and periodic post-intervention evaluation, whether analogue or digital	Murphy et al. (2013); UNESCO (2011)
I6. Managerial–economic sustainability	Security and diversity of the revenue and funding base sustaining maintenance over time	Macdonald & Cheong (2014); Khalil & Üzümcüoğlu (2025)

Previous studies and the research gap

Existing scholarship on bath heritage clusters into three streams that rarely meet. The first is architectural and historical: studies of the type, its social biography and its transformation, exemplified by Cichocki's (2005) life-history of the Çemberlitaş Hamam and by the recent morphological survey of the Historical Peninsula (Biket, 2026). The second is conservation-technical: analyses of decay mechanisms, property disputes and inappropriate reuse in individual baths (Cesur, 2026), and evaluations of specific restoration and re-functioning projects (Tanrıverdi, 2025). The third is managerial and economic, but is developed almost entirely outside the bath literature on partnership models (Macdonald & Cheong, 2014), on adaptive-reuse decision frameworks (Mısırlısoy & Günçe, 2016), and on sustainability frameworks for vernacular heritage (Khalil & Üzümcüoğlu, 2025). Only Büyükdigan (2003)

and Sarmiento and Kazemi (2014) explicitly connect the architectural specificity of the bath to the question of what may legitimately be done with it, and both are single-country studies. Table 3 summarizes the studies on which the present work builds and the gap each leaves open. The gap addressed here is therefore a cross-contextual one: no study applies a common, explicit set of management indicators to bathhouses in two institutionally contrasting settings, and none derives from such a comparison a model capable of guiding practice in either. (Tab. 3)

Research design

The study is designed as a qualitative comparative multiple-case study (Yin, 2018), in which each bathhouse constitutes a case and the two provinces constitute the contrasting contexts. A multiple-case design is appropriate because the phenomenon of interest how management

approach shapes revitalization outcomes cannot be separated from its institutional context, and because replication across cases, rather than statistical sampling, is the basis of inference. The comparison follows a most-different-systems logic: the two settings differ on ownership regime, financing model, technological capacity and dominant conservation philosophy, while

sharing the building type, the thermal-spatial logic and a common Islamic bathing tradition. Differences in outcome can therefore be provisionally related to the differing management systems, subject to the scale-asymmetry caveat set out in Section 3.6. The design proceeds through five phases (Fig. 2).

Table 3: Prior studies on which this research builds, and the gap addressed (Source: Authors)

Author(s) / Year	Focus	Context	Key contribution	Gap addressed here
Büyükdigan (2003)	New functions of Ottoman baths	Anatolia, Balkans	Classification of baths by functional state; argues new use must derive from architectural specificity	Single-country; no management or institutional dimension
Cichocki (2005)	Social biography of a bath	Istanbul	Traces the shift from communal institution to tourist attraction	Historical, not managerial; single case
Sarmiento & Kazemi (2014)	Hammams and the contemporary city	Isfahan, Iran	Applies Büyükdigan's categories to Iran; documents fragmented ownership and absence of strategy	Iran only; no comparison with a contrasting institutional setting
Mısırlısoy & Günçe (2016)	Adaptive reuse decision-making	Generic heritage	Holistic model linking fabric analysis, values and user participation	Not applied to the bath type or to comparative settings
Poulios (2014)	Living heritage strategy	Generic heritage	Reframes conservation around continuing community association	No empirical application to bath heritage
Macdonald & Cheong (2014)	PPP and the third sector in conservation	International	Typology of partnership models and their conservation outcomes and risks	Not building-type specific; no Iranian evidence
Yadollahi (2020)	Urban conservation paradigm in Iran	Iran	Explains the tension between imported doctrine and local practice	Macro-level; no building-scale evidence
Tanrıverdi (2025)	Zeyrek Tiled Bath and Museum	Istanbul	Documents integration of original bathing function with new cultural functions	Single successful case; no cross-case comparison
Biket (2026)	Functional continuity of 81 hammams	Istanbul Historical Peninsula	Systematic inventory and typology of current functional states	Descriptive inventory; no management-indicator assessment
Cesur (2026)	Conservation challenges of Sinan-era baths	Istanbul	Compares abandoned, reused and operational baths and their conservation issues	Türkiye only; no scoring framework

Research design: comparative multiple-case study

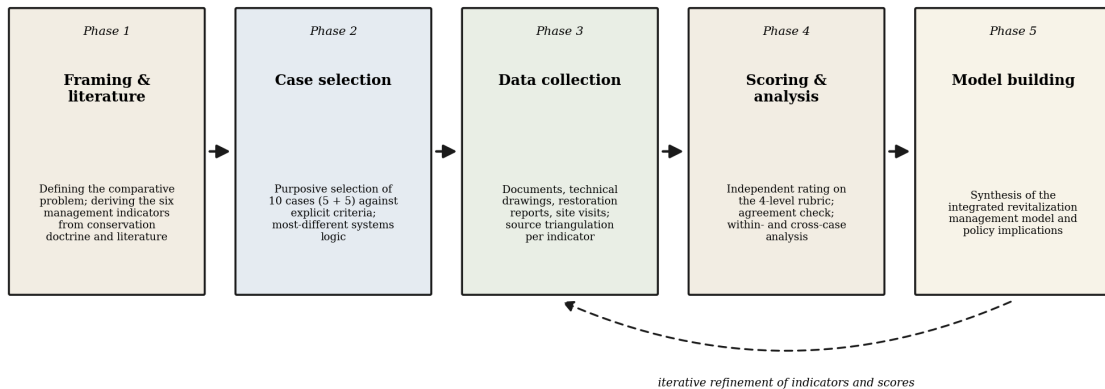


Figure 2: Research design: a five-phase comparative multiple-case study (Source: Authors)

Case selection

Ten cases were selected purposively five per context against four criteria: (a) historical and architectural significance and formal heritage registration; (b) availability of sufficient documentation on the restoration and revitalization process to permit rating on all six indicators; (c) diversity of current functional state, so that the sample spans continued original use, adaptive reuse and awaiting or incomplete restoration, following Büyükdigan's (2003) categories as adapted by Sarmento and Kazemi (2014); and (d) accessibility of management and financial information. Within each context the five cases were chosen to maximize internal variation across periods and functional states rather than to represent the population statistically; the sample is illustrative, not representative, and no claim of generalization to Türkiye or Iran as a whole is made. Table 4 profiles the selected cases.

Data sources and triangulation

Three complementary source types were used, and each indicator was rated only where at least two independent source types converged. Documentary and library sources comprised peer-reviewed articles, theses and technical publications retrieved from Scopus, Web of Sci-

ence and Google Scholar. Technical documentation comprised measured drawings, restoration project documents, pre- and post-intervention photography and official reports of the responsible institutions – in Istanbul the metropolitan municipality and the regional conservation council, and in Khorasan Razavi the provincial directorate of the Ministry of Cultural Heritage, Tourism and Handicrafts. Field sources comprised site observation and consultation with practitioners involved in the projects. Triangulation is essential here because the two contexts differ markedly in reporting standards and data accessibility, and because reliance on a single source type would systematically favor the better-documented context a bias that would masquerade as a substantive finding.

The scoring rubric

The central methodological addition of this study is an explicit rubric. In the absence of stated criteria, ordinal ratings such as “high” or “medium” are unfalsifiable and cannot be replicated by another researcher. Table 5 therefore defines, for each of the six indicators, what distinguishes the four levels. The levels are treated as ordinal: they support ranking and profile comparison but not arithmetic, and the regional means reported in Figure 6 are presented as de-

scriptive summaries of profile shape rather than as measurements on an interval scale.

Table 4: Profile of the ten selected cases (Source: Authors).

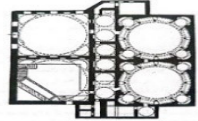
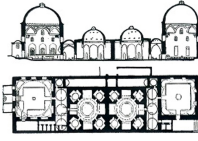
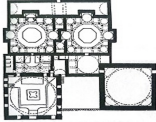
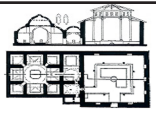
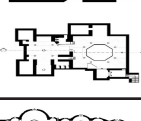
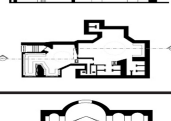
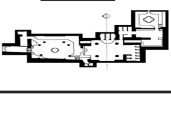
Context	Bathhouse	Date	Period / style	Current functional state	Büyükdigan category	Plan, Elevation - Section
İstanbul	Çemberlitaş	1584	Classical Ottoman	Operating as a traditional bath serving tourists and residents	Continuing original function	
	Hürrem Sultan	1556	Classical Ottoman	Restored and operating as a high-end spa and tourism facility	Continuing original function, commercially intensified	
	Cağaloğlu	1741	Late Ottoman	Restored; bathing function combined with commercial programme	Continuing original function	
	Ağa	15th c.	Early Ottoman	Surviving fabric; limited and intermittent use	Awaiting / partial intervention	
	Bayezid	16th c.	Classical Ottoman	Adapted to cultural and museum use within the historic fabric	Readjusted for a new use	
Khorasan Razavi	Mehdi Qoli Beyk, Mashhad	1027 AH	Safavid	Converted to an anthropology museum	Readjusted for a new use	
	Pa Derakht, Sabzevar	First Pahlavi	Vernacular, pointed dome	Partially restored; no stable function	Awaiting / partial intervention	
	Haji Reis, Torbat-e Heydarieh	1272 SH	Qajar	Twin structure; under restoration, function undecided	Awaiting / partial intervention	
	Momtaż, Dargaz	Late Qajar	Qajar	Largely unused; local social significance retained	Awaiting / partial intervention	
	Qeysarieh, Sabzevar	Qajar	Qajar	Incomplete restoration; limited cultural activity	Awaiting / partial intervention	

Table 5: Four-level rubric defining the ordinal levels of each management indicator (Source: Authors)

Indicator	1 – Low	2 – Medium	3 – High	4 – Very high
I1. Institutional–social participation	Single actor decides; no consultation	Two actors involved; consultation ad hoc	Multiple actors with defined roles; users consulted	Formalized multi-actor arrangement with documented community involvement
I2. Functional revitalization	No active function, or function incompatible with the fabric	Function present but intermittent or marginal	Stable, compatible function in continuous operation	Stable compatible function plus complementary programme extending public reach
I3. Physical authenticity & spatial integrity	Thermal sequence or structural system substantially lost	Sequence legible but with significant unreversed alteration	Sequence, structure and principal materials retained; interventions legible	As level 3, plus documented reversibility and recovery of lost original features
I4. Compliance with conservation standards	No documented reference to conservation doctrine	Doctrine referenced but not evidenced in the work	Documented compliance with charter principles	Documented compliance plus external review or supervisory approval
I5. Monitoring & control system	No systematic record of condition or change	Records exist but are partial or discontinuous	Systematic documentation with periodic review	Continuous, instrumented monitoring integrated with a digital model
I6. Managerial–economic sustainability	No secure funding; maintenance deferred	Funding intermittent; dependent on a single source	Recurrent funding covering maintenance	Diversified, self-sustaining revenue with surplus for reinvestment

Rating procedure and validation

Each case was rated independently against the rubric, and divergences were resolved by returning to the evidence rather than by averaging. Agreement between raters prior to reconciliation is reported below as a measure of the reliability of the instrument; for ordinal categories, weighted Cohen's kappa is the appropriate statistic, interpreted against conventional benchmarks (Landis & Koch, 1977). Validity is supported by source triangulation, by the explicit audit trail from indicator to rubric level to evidence, and by the use of a rubric that was fixed before the cases were rated.

Design limitations acknowledged in advance

Three limitations are intrinsic to the design and

are stated here so that the findings are read appropriately. First, the two contexts are asymmetric in scale and in tourism exposure: comparing a global metropolis with a province means that some of the observed divergence in economic sustainability is attributable to market position rather than to management approach, and the study cannot fully separate the two. Second, the Istanbul cases are concentrated in the Historical Peninsula, on a dense tourist circuit, whereas the Khorasan Razavi cases are dispersed across Mashhad, Sabzevar, Torbat-e Heydarieh and Dargaz; case-selection contrast therefore compounds context contrast. Third, documentation density differs systematically between the contexts, which risks penalizing the less-documented cases on the monitoring indicator for reasons

of archival practice rather than of conservation practice. These limitations do not invalidate the comparison, but they bound its claims: the findings describe how these ten buildings are managed, and support analytical rather than statistical generalization.

FINDINGS AND DISCUSSION

Architectural and material comparison

The Istanbul cases are characterized by symmetrical plans, large central domes and light admitted through star-shaped oculi; they are built of stone, brick and marble with restrained ornament, and served by hypocaust heating and integrated water supply. The Khorasan Razavi cases are characterized by asymmetrical, climate-adapted and often sunken plans entered through a bent vestibule; they are built of adobe, brick and sārīj, ornamented with wall painting and coloured stucco, and heated by a furnace and sub-floor channels. The consequence for management is direct rather than merely descriptive. The Ottoman cases are structurally robust and dimensionally generous, which widens the range of functions they can absorb without irreversible

loss; the Khorasan cases combine earth-based materials with painted surfaces of high sensitivity to humidity, which narrows that range sharply and raises the technical threshold for any reuse involving water or large visitor numbers. Part of what appears in the findings below as a difference in managerial ambition is therefore, in part, a difference in what the fabric will tolerate a point the comparative literature on bath reuse tends to underplay (Büyükdigan, 2003).

Indicator profile of the ten cases

Table 6 reports the rating of each case against each indicator, and Figure 5 renders the same matrix as a profile map. Reading across the rows shows that no case scores uniformly: Hürrem Sultan, the strongest performer overall, does not reach the top level on authenticity, while Ağa reaches the top level on authenticity and compliance precisely because so little has been done to it an inertial authenticity that its low scores on function and economic sustainability show to be fragile rather than secure. Reading down the columns shows where the two contexts diverge and, more instructively, where they do not.

Table 6: Rating of the ten cases against the six management indicators, applying the rubric in Table 5 (Source: Authors)

Case	11	12	13	14	15	16
	Participation	Functional revitalization	Authenticity & integrity	Standards compliance	Monitoring	Economic sustainability
Çemberlitaş (Istanbul)	Low	Medium	High	High	High	Medium
Hürrem Sultan (Istanbul)	High	Very high	High	Very high	Very high	Very high
Cağaloğlu (Istanbul)	Medium	High	High	High	Medium	High
Ağa (Istanbul)	Low	Low	Very high	Very high	Medium	Low
Bayezid (Istanbul)	High	High	High	High	Medium	Medium
Mehdi Qoli Beyk (Mashhad)	High	High	High	High	Medium	Medium
Pa Derakht (Sabzevar)	Medium	Low	Medium	Medium	Low	Low
Haji Reis (Torbat-e Heydarieh)	High	High	Medium	Medium	Medium	Medium
Momtaż (Dargaz)	Low	Low	Medium	Medium	Low	Low
Qeysarieh (Sabzevar)	Medium	Medium	Medium	Medium	Low	Medium

Management indicator profile of the ten cases (L = low, M = medium, H = high, VH = very high)

Çemberlitaş (IST)	L	M	H	H	H	M	Istanbul
Hürrem Sultan (IST)	H	VH	H	VH	VH	VH	
Cağaloğlu (IST)	M	H	H	H	M	H	
Ağa (IST)	L	L	VH	VH	M	L	
Bayezid (IST)	H	H	H	H	M	M	
Mehdi Qoli Beyk (KR)	H	H	H	H	M	M	Khorasan Razavi
Pa Derakht (KR)	M	L	M	M	L	L	
Haji Reis (KR)	H	H	M	M	M	M	
Momtaz (KR)	L	L	M	M	L	L	
Qeysarieh (KR)	M	M	M	M	L	M	
	Institutional-social participation	Functional revitalization	Physical authenticity & spatial integrity	Compliance with conservation standards	Monitoring & control system	Managerial-economic sustainability	

Figure 3: Management indicator profile of the ten cases (Source: Authors)

Cross-case patterns

Figure 6 summarizes the mean profile of each context. Three patterns emerge, and the third is the most interesting because it runs against the study's initial expectation. (Fig. 6)

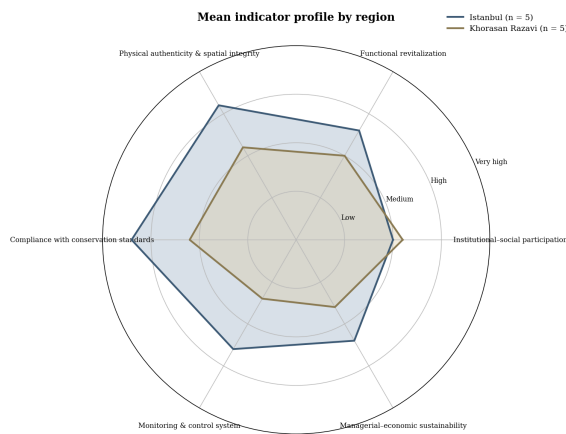


Figure 4: Mean indicator profile by context (Source: Authors). Levels are ordinal; means are descriptive summaries of profile shape.

•First, the Istanbul cases lead clearly on the indicators that depend on institutional capacity and capital: compliance with conservation standards, physical authenticity and spatial integrity, monitoring, functional revitalization and economic sustainability. The gap is widest on monitoring, where the Khorasan cases cluster at the lowest level and no case reaches the top level. This is consistent with the argument that digital survey and modelling do not merely record a building but restructure the management process around a maintained information base (Murphy et al., 2013), and with the observation that in Iran responsibility for bath heritage is divided among actors with no shared record (Sarmiento & Kazemi, 2014).

•Second, the divergence is not uniform across the two groups. Mehdi Qoli Beyk in Mashhad matches the mid-range Istanbul cases on five of six indicators, and Haji Reis is not far behind; conversely Ağa in Istanbul scores at or below the Khorasan mean on participation, function and economic sustainability. The variation within

each context is therefore comparable to the variation between them. This substantially qualifies any claim that one national system outperforms another: what separates the strong from the weak cases in both contexts is whether a specific building has an actor with both a mandate and a revenue stream, not which country it stands in.

•Third, and contrary to the expectation stated in the original framing of this research, the two contexts do not differ on institutional–social participation; on the ratings recorded here the Khorasan Razavi cases sit marginally above the Istanbul cases. Inspection of the individual cases explains why: participation in Istanbul is concentrated in commercially driven cases such as Hürrem Sultan and Bayezid, while Çemberlitaş

and Ağa score at the lowest level, whereas in Khorasan Razavi the museum and community-linked cases ([Mehdi Qoli Beyk](#), [Haji Reis](#)) score highly. This finding is reported rather than suppressed because it is the single most theoretically interesting result in the dataset: it suggests that participation follows the presence of a community with a continuing association with the building the mechanism Poullos (2014) identifies as constitutive of living heritage rather than following institutional wealth or technological capacity. It also warns against the assumption, implicit in much of the comparative literature, that market-led revitalization is inherently more participatory.

Table 7: Cross-case synthesis of the two contexts (Source: Authors)

Dimension	Istanbul cases	Khorasan Razavi cases	Interpretation
Dominant restoration philosophy	Comprehensive revitalization; recovery of lost components	Consolidation and minimal intervention	Two defensible readings of the same charters, not a right and a wrong one
Survey and monitoring technology	Digital survey and modelling; continuous condition recording	Predominantly traditional survey; discontinuous recording	The clearest and least ambiguous gap in the dataset
Post-intervention use	Bathing, spa, tourism, museum and event programming	Museum, teahouse, gallery; frequently no stable use	Reflects market depth as much as managerial choice
Financing and stewardship	Public–private partnership; active private and institutional investors	Predominantly public budget; limited private participation	Determines whether maintenance is recurrent or deferred
Participation	Uneven: high in commercial cases, low in others	Uneven: high where community association persists	No systematic difference; contrary to the initial expectation
Principal risk	Over-commercialization; erosion of intangible bath culture; displacement of local users	Financial fragility; stalled projects; slow functional obsolescence	Symmetrical rather than hierarchical: each system fails differently

RESULTS AND DISCUSSION

The findings support a more qualified conclusion than the one usually drawn from Turkish–Iranian comparisons. It is tempting to read the profile in Figure 6 as demonstrating the superiority of a partnership-based, technologically equipped model. Three considerations resist that reading. The first is the scale asymmetry acknowledged in Section 3.6: Hürrem Sultan stands beside Hagia Sophia in one of the world's most visited

tourist districts, and Momtaz stands in Dargaz. A substantial part of the difference in economic sustainability is a difference in footfall, and no managerial reform in Dargaz will produce the revenue base available in Sultanahmet. The second is that the within-context variation is as large as the between-context variation, which points to building-level agency and revenue rather than to national system. The third is that the two contexts fail in different directions rather

than at different levels: Istanbul's risk is that the bath survives as fabric while its intangible practice is displaced the trajectory Cichocki (2005) traces from communal institution to tourist attraction and Khorasan's risk is that authenticity is preserved until the building is lost. Neither is success. Read against the literature, three points follow. First, the results corroborate Büyükdigan's (2003) central claim, from a second cultural context: the cases that perform well on both function and authenticity are those whose new use derives from the bath's own spatial logic bathing, bathing-plus-museum, or interpretation of bath culture while cases converted to uses indifferent to that logic score well on neither. Tanrıverdi's (2025) account of the Zeyrek Tiled Bath, where the original function was retained and a museum added rather than substituted, is the clearest illustration, and the Mehdi Qoli Beyk anthropology museum is its Iranian analogue. Second, the participation finding qualifies the partnership literature: Macdonald and Cheong (2014) note that partnership models can shift conservation from retaining significance towards selling an image, and the low participation scores of the commercially strongest Istanbul cases are consistent with that warning. Third, the Iranian pattern is intelligible in the terms Yadollahi (2020) proposes: where conservation doctrine has been adopted rapidly and from outside, compliance tends to be asserted at the level of principle while the institutional machinery for monitoring and financing it lags which is precisely the shape of the Khorasan profile, with mid-range compliance scores and uniformly low monitoring scores.

These considerations motivate the model in Figure 7. Rather than positioning the two systems on a single axis running from 'traditional' to 'advanced', the model treats them as two poles, each internally coherent and each carrying a characteristic failure mode. Between them sits a values-based judgement how far use may change before significance is lost which is the question the Venice Charter and the Nara Document pose but do not answer for any particular building,

and which Büyükdigan (2003) operationalizes as a test of compatibility between new function and architectural specificity. Four mechanisms make that judgement implementable: diversified governance, blended finance, technology coupled to indigenous craft knowledge, and community co-decision. The outcome is not a compromise between authenticity and viability but their joint satisfaction, monitored over time and re-calibrated as conditions change. The model's claim is falsifiable: it predicts that cases scoring highly on all four mechanisms will score highly on both I2 and I3, and that cases scoring highly on only one pole will exhibit the corresponding failure mode. (Fig. 7)

This study compared the management of bathhouse revitalization in ten cases across two institutionally contrasting contexts, using six indicators derived from conservation doctrine and rated against an explicit rubric. The Istanbul cases lead on the indicators that depend on capital and institutional capacity most clearly on monitoring, where the gap is unambiguous while the Khorasan Razavi cases retain material authenticity and, contrary to expectation, match or exceed Istanbul on institutional-social participation wherever a community association with the building persists. Variation within each context proved comparable to variation between them, which locates the decisive factor at the level of the individual building's stewardship and revenue rather than at the level of the national system. The study's contribution is twofold. Methodologically, it offers an explicit and transferable rubric for rating bathhouse revitalization management, which makes ordinal judgements replicable and open to challenge a precondition for cumulative comparative work on this building type. Theoretically, it offers a model in which authenticity and viability are jointly binding constraints mediated by a values-based judgement and delivered through four enabling mechanisms, rather than opposing ends of a single scale.

Five practical implications follow. (1) Technology transfer should target monitoring first:

digital survey and a maintained condition record are the lowest-cost, highest-leverage intervention for Khorasan Razavi, and matter more than any single restoration project because they restructure maintenance as a continuing process (Murphy et al., 2013). (2) Financing reform should aim at diversification rather than privatization: endowment income, concessional lending and tax relief can be combined with limited private participation without importing the displacement risks that accompany full market delivery (Macdonald & Cheong, 2014). (3) New uses should be selected by compatibility with the thermal-spatial sequence, not by revenue potential alone; the bathing-plus-interpretation model is the best-evidenced template in both contexts. (4) Participation should be treated as an asset to be protected where it already exists in Khorasan Razavi it is a strength, not a deficit and as a deficit to be remedied in commercially intensive projects. (5) Intangible bath culture requires an explicit safeguarding instrument in its own right; fabric-focused management will not preserve it.

The limitations are those stated in Section 3.6 and should be read as bounding every claim

above: the two contexts are asymmetric in scale and tourism exposure, so part of the economic divergence is market position rather than management; case selection compounds context contrast; documentation density differs systematically and may depress the Khorasan monitoring scores for archival rather than conservation reasons; the sample is illustrative and supports analytical, not statistical, generalization; and the ratings, being ordinal, permit ranking but not measurement. Four lines of future work follow directly. First, a scale-matched replication Mashhad against a comparable Anatolian provincial city, or Istanbul against Tehran would isolate management effects from market effects. Second, expert validation of the rubric through a Delphi procedure would strengthen the instrument before wider application. Third, post-occupancy and visitor-experience research in the reused cases would test whether the intangible practice survives the intervention, which fabric-based indicators cannot detect. Fourth, longitudinal tracking of the cases currently awaiting intervention would convert this cross-sectional comparison into evidence about trajectories.

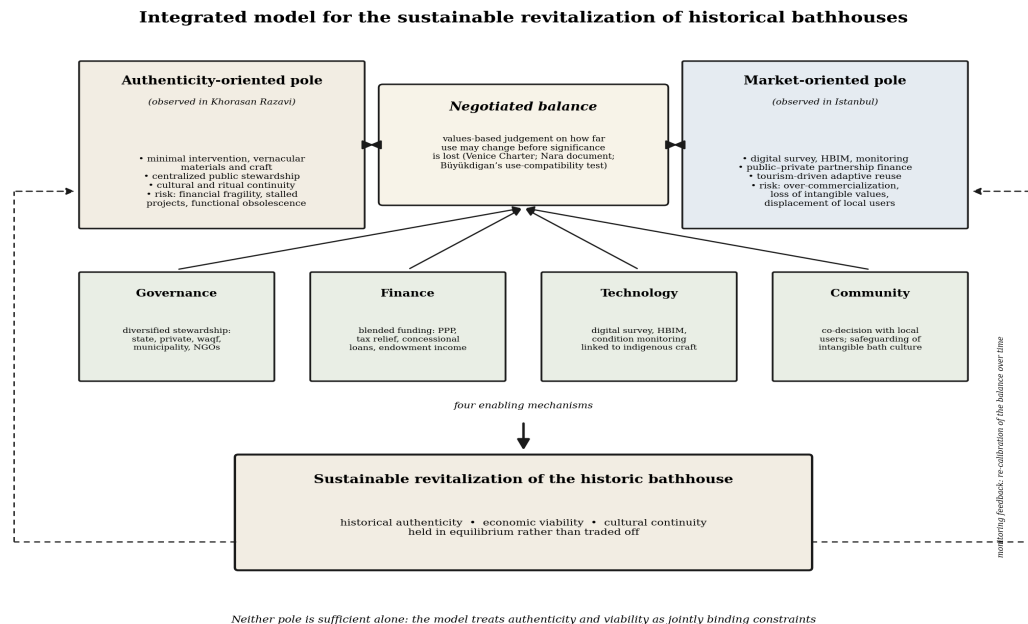


Figure 5: Integrated model for the sustainable revitalization of historical bathhouses (Source: Authors)

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