

Supplementary material

Table S1. Aggregation of focused codes by stakeholder group

Stakeholder group	Most frequent focused codes	Interpreted pattern
Planners/managers, n = 6	implementation feasibility, management clarity, formal coherence, regulatory consistency, investment return	Stronger reliance on expert oriented evidence
Residents/community representatives, n = 9	living continuity, community presence, hygiene threshold, local atmosphere, cultural interaction	Stronger reliance on experience oriented evidence grounded in daily life
Visitors, n = 8	ecological integrity, commercial overexposure, local atmosphere, cultural interaction, hygiene threshold	Stronger reliance on perceptual and experiential evidence

Table S2. From raw statements to focused codes

Case site	Participant group	Raw statement	Initial code	Focused code	Higher-order domain
A. Hongcun	Residents/community operators	“What matters most here is whether local people can still be seen living their normal lives. If everything turns into a photo backdrop, it no longer feels like a village.”	everyday life still visible	living continuity	Experience-oriented evidence
A. Hongcun	Residents/community operators	“Visitors do not just look at the houses. They also notice whether people still live here and whether the place still has a lived-in atmosphere.”	local life presence	community presence	Experience-oriented evidence
A. Hongcun	Visitors	“Hongcun feels authentic to me because it does not look like a completely staged tourist site. You can still feel that people are actually living here.”	not staged, still lived in	living continuity	Experience-oriented evidence
A. Hongcun	Planners/managers	“The renovation of a traditional village must first ensure an overall unity of appearance. It cannot be too messy.”	overall village unity	formal coherence	Expert-oriented evidence
A. Hongcun	Planners/managers	“Many renewal projects still have to consider input and output, otherwise they are difficult to sustain.”	cost-return consideration	implementation feasibility	Expert-oriented evidence
B. Pingyao Ancient City	Visitors	“As soon as you enter Pingyao Ancient City, there are too many signboards and snack shops. The sense of authenticity immediately becomes weaker.”	too many ads and snack shops	commercial overexposure	Experience-oriented evidence
B. Pingyao Ancient City	Visitors	“It still has a historical feel, but some streets now look more like commercial streets than real life in an ancient city.”	historical feel weakened by commerce	historical layering under pressure	Experience-oriented evidence
B. Pingyao Ancient City	Residents/community operators	“The neighborhood life that used to be here has faded. Now there is more of an order designed for tourists.”	loss of street life	street vitality	Experience-oriented evidence
B. Pingyao Ancient City	Residents/community operators	“If hygiene is poor, visitors will not even feel like stopping to experience the culture.”	poor hygiene reduces engagement	hygiene threshold	Contextual condition

Case site	Participant group	Raw statement	Initial code	Focused code	Higher-order domain
B. Pingyao Ancient City	Planners/managers	“Visibility, consumption level, and investment return are all things that must be considered when doing a project.”	fame, spending power, return	economic orientation	Expert-oriented evidence
B. Pingyao Ancient City	Planners/managers	“Renewal in an ancient city cannot be too arbitrary. At the very least, the street interface and overall appearance must maintain regulation and order.”	interface control and order	management clarity	Expert-oriented evidence
B. Pingyao Ancient City	Planners/managers	“Cultural communication is certainly important, but there must first be an operational logic that can actually be implemented.”	culture secondary to operation	implementation feasibility	Expert-oriented evidence
C. Mount Huangshan	Visitors	“A place like Mount Huangshan feels more authentic because it has a very strong natural character.”	strong natural character	ecological integrity	Experience-oriented evidence
C. Mount Huangshan	Visitors	“When artificial facilities are too visible, they ruin the feeling of being in the mountains.”	visible facilities disturb atmosphere	infrastructure visibility	Experience-oriented evidence
C. Mount Huangshan	Visitors	“What matters most in a natural heritage site is that the environmental atmosphere remains coherent, without too many artificial traces.”	consistent environmental feeling	atmospheric consistency	Experience-oriented evidence
C. Mount Huangshan	Residents/community operators	“If visitors feel that the environment is not clean, they will not be in the mood to further experience the cultural content.”	hygiene affects cultural willingness	hygiene threshold	Contextual condition
C. Mount Huangshan	Planners/managers	“In a scenic site like Mount Huangshan, clear management, well-defined routes, and facility safety are basic prerequisites.”	clarity and control in management	management clarity	Expert-oriented evidence
C. Mount Huangshan	Planners/managers	“Protection and service need to be balanced, but service facilities must not affect the overall control of the landscape.”	balance service and landscape control	regulatory consistency	Expert-oriented evidence
Cross-site	Visitors	“If a place is too commercialized, people begin to doubt whether it still retains its original character.”	over-commercialized means less real	commercial overexposure	Experience-oriented evidence
Cross-site	Residents/community operators	“When interactive experiences are done well, such as handicrafts, light shows, or participatory activities, it becomes easier to feel that this place really has culture.”	culture through participation	cultural interaction	Experience-oriented evidence
Cross-site	Visitors	“Just looking is not enough. When a project allows me to participate, I am more likely to feel that this place has its own culture.”	engagement enhances locality	cultural interaction	Experience-oriented evidence
Cross-site	Planners/managers	“In the end, a project still has to be judged by return and subsequent operation. It is impossible to talk only about cultural ideals.”	return and operation priority	economic orientation	Expert-oriented evidence

Table S3. Cross-case and cross-group distribution of focused codes

Focused code	A. Hongcun	B. Pingyao Ancient City	C. Mount Huangshan	Planners/managers	Residents/community operators	Visitors	Interpretation
Living continuity	High	Medium	Low	Rare	High	Medium	Most salient in rural heritage, especially among residents and visitors
Community presence	High	Medium	Low	Rare	High	Low	Strongly tied to locality judgments in living village settings
Historical layering	Low	High	Rare	Low	Medium	Medium	Especially important in the urban heritage context
Street vitality	Low	High	Rare	Rare	High	Medium	Urban authenticity is linked to active street life rather than orderly preservation alone
Spatial readability	Low	High	Low	Medium	Medium	Medium	More frequently invoked in the urban site
Ecological integrity	Rare	Low	High	Low	Medium	High	Natural heritage is strongly associated with perceived authenticity
Infrastructure visibility	Rare	Low	High	Medium	Low	High	Most salient in the natural heritage site
Atmospheric consistency	Medium	Medium	High	Low	Medium	High	Strongly related to experiential judgments, especially in natural settings
Commercial overexposure	Low	High	Low	Rare	Medium	High	Over-commercialization was repeatedly linked to reduced authenticity, especially in Site B
Cultural interaction	Medium	Medium	Medium	Rare	High	High	Residents and visitors preferred participatory cultural experiences
Hygiene threshold	Medium	High	Medium	Rare	High	High	Hygiene emerged as a cross-cutting threshold for willingness to engage with culture
Formal coherence	Medium	Medium	Medium	High	Low	Rare	More strongly emphasized by planners and managers
Management clarity	Medium	Medium	High	High	Low	Rare	Closely related to expert-oriented judgments
Regulatory consistency	Medium	Medium	High	High	Rare	Rare	Predominantly invoked by planners/managers
Implementation feasibility	Medium	Medium	Medium	High	Rare	Rare	Stronger among planners/managers than among other groups
Economic orientation	Low	Medium	Medium	High	Rare	Rare	Planners/managers frequently referred to investment, fame, consumption level, and returns

Note: High indicates that the focused code appeared frequently and consistently in the interview materials for the corresponding case site or participant group. Medium indicates a recurring but less dominant presence. Low indicates occasional mention. Rare indicates that the code appeared only sporadically or in isolated cases. These labels are used to summarize qualitative prominence rather than precise frequency counts.

Table S4. Full questionnaire item pool and construct mapping

Block	Construct	Dimension	Item code	Item statement
Block 1	Expert-oriented evidence	Formal coherence	EOE1	The overall appearance of this site is coherent and visually well organized.
Block 1	Expert-oriented evidence	Formal coherence	EOE2	The built and environmental elements of this site are presented in a consistent way.
Block 1	Expert-oriented evidence	Management clarity	EOE3	The current presentation and management of this site appear clear and orderly.
Block 1	Expert-oriented evidence	Regulatory consistency	EOE4	The current intervention seems to follow a stable and appropriate conservation logic.
Block 1	Expert-oriented evidence	Implementation feasibility	EOE5	The current planning and display approach appears feasible in long term operation and management.
Block 2	Experience-oriented evidence	Living continuity	EXE1	This site still retains visible traces of everyday local life.
Block 2	Experience-oriented evidence	Community presence	EXE2	I can still sense the presence of a real local community here.
Block 2	Experience-oriented evidence	Cultural perceptibility	EXE3	The local culture of this place can be clearly perceived from the site environment.
Block 2	Experience-oriented evidence	Atmospheric consistency	EXE4	The atmosphere of this site feels consistent with its heritage character.
Block 2	Experience-oriented evidence	Cultural interaction	EXE5	This site provides experiences that help people engage with its local culture.
Block 3	Perceived authenticity/locality	Authenticity	PAL1	This place feels authentic rather than staged.
Block 3	Perceived authenticity/locality	Locality	PAL2	This place still feels like itself rather than a generic tourist setting.
Block 3	Perceived authenticity/locality	Distinctiveness	PAL3	This site retains distinctive local characteristics.
Block 4	Planning legitimacy/acceptance	Reasonableness	PLA1	The current planning and presentation approach of this site is reasonable.
Block 4	Planning legitimacy/acceptance	Appropriateness	PLA2	The current form of intervention is appropriate for this site.
Block 4	Planning legitimacy/acceptance	Acceptability	PLA3	I can accept the current way this site is planned and presented.
Block 5	Support intention	Protection support	SUP1	I would be willing to support the protection and future development of this site.
Block 5	Support intention	Recommendation intention	SUP2	I would be willing to recommend this site to others.
Block 5	Support intention	Continued engagement	SUP3	I would be willing to revisit, follow, or continue paying attention to this site.

Note: This item pool represents the draft questionnaire structure developed from the qualitative phase. Final item retention was subject to pilot testing, wording refinement, and construct validation.

Table S5. Vignette attributes and site-specific scenario structure

Site type / case code	Scenario attribute	Low-condition description	High-condition description	Role in vignette design
A. Hongcun	Living continuity	Few visible signs of daily local life; the site appears mainly arranged for tourists	Visible household activity, everyday use, and signs of ordinary village life remain present	Tests whether judgments of authenticity/locality increase when living continuity is visible
	Community presence	Local residents appear absent or marginal in the site environment	Local residents and community-based activities remain perceptible in the site environment	Tests the role of community presence in rural heritage judgments
	Cultural interaction	Cultural content is mainly displayed passively through viewing	Visitors can engage through craft making, guided interaction, or place-based interpretive activities	Tests whether participatory experience strengthens locality perception
B. Pingyao Ancient City	Historical layering	Historical traces appear flattened or visually simplified	Multiple historical traces remain readable in streets, buildings, and spatial detail	Tests the role of historical layering in urban heritage judgments
	Street vitality	Streets appear orderly but socially thin, with limited everyday activity	Streets retain visible everyday activity, mixed uses, and lived urban rhythm	Tests whether vitality contributes to authenticity beyond visual order
	Spatial readability	Street structure and site logic are difficult to interpret as a historic urban environment	Spatial organization remains legible and supports understanding of the historic setting	Tests the role of spatial readability in urban heritage understanding
	Commercial overexposure	Commercial signage, snack shops, and tourist-oriented business are highly visible and dense	Commercial elements are controlled and do not dominate the heritage scene	Tests whether over-commercialization reduces authenticity/locality judgments
C. Mount Huangshan	Ecological integrity	Strong traces of human intervention reduce the sense of natural continuity	Natural features remain dominant and the environment feels minimally disturbed	Tests the role of ecological integrity in natural heritage judgments
	Infrastructure visibility	Service facilities, routes, and artificial elements are highly visible	Facilities are present but visually unobtrusive within the landscape	Tests whether visible intervention weakens perceived authenticity
	Atmospheric consistency	The environmental atmosphere feels fragmented or overly artificial	The atmosphere feels coherent with the site's natural heritage character	Tests the role of atmospheric consistency in natural site perception
Cross-cutting	Hygiene threshold	The environment appears dirty, disordered, or poorly maintained	The environment appears clean, orderly, and comfortable for continued engagement	Tests whether hygiene functions as a threshold condition for cultural willingness
	Cultural interaction	Visitors mainly observe with limited engagement opportunities	Visitors can participate in interpretive, interactive, or culturally guided activities	Tests whether interaction strengthens cultural understanding across site types

Table S6. Distribution of valid questionnaires by case site and participant group

Case site	Distributed questionnaires	Valid questionnaires	Valid rate	Planners/managers	Residents/community operators	Visitors
A. Hongcun	620	273	44.0%	27	66	180
B. Pingyao Ancient City	760	308	40.5%	32	76	200
C. Mount Huangshan	584	212	36.3%	24	48	140
Total	1964	793	40.4%	83	190	520

Table S7. Reliability and measurement adequacy results

Section	Construct / Index	Number of items	Value
Reliability	Expert-oriented evidence	4	$\alpha=0.883$
	Experience-oriented evidence	5	$\alpha=0.898$
	Perceived authenticity/locality	3	$\alpha=0.860$
	Planning legitimacy/acceptance	3	$\alpha=0.798$
	Support intention	3	$\alpha=0.820$
	Overall scale	18	$\alpha=0.803$
Measurement adequacy	KMO	—	0.933
	Bartlett's χ^2	—	8297.656
	Bartlett's df	—	153
	Bartlett's p	—	< 0.001
	CFA χ^2	—	247.318
	CFA df	—	125
	χ^2/df	—	1.979
	CFI	—	0.972
	TLI	—	0.966
	RMSEA	—	0.035