Supplementary Table S1. Full codebook and distribution of the 28 axial concepts

Note. The table reports the full list of 28 axial concepts generated from 10,561 valid initial coding labels. Cases A1 and A2 constitute the museum and heritage institution group; Case B represents the emerging public cultural space group; and Case C represents the commercial venue group. Counts refer to coded references. Percentages refer to the proportion of each axial concept within all coded references (n = 10,561).

S1a. Codebook of the 28 axial concepts

No.	Coding dimension	Axial concept	Operational definition
1	Operational service and platform communication	Platform check-in, recommendation, and sharing behavior	Platform-based recommendation or discouragement, check-in, photogenic output, posting, and sharing behavior.
2	Narrative involvement and plot experience	Emotional response and intensity of involvement	Evaluations of emotional responses and intensity of involvement triggered by the work or plot, such as shock, being moved, boredom, or fear.
3	Spatial practice and bodily experience	Sensory environment and immersive atmosphere	Sensory conditions including visual clarity, sound and lighting effects, spatial atmosphere, and perceived immersion.
4	Operational service and platform communication	Reservation, ticketing, and entry process	Convenience and reasonableness of reservation, ticket purchase, ticket verification, session arrangement, and time rules.
5	Spirit of place and consumption positioning cognition	Site-type judgment and boundary negotiation	User judgments that classify the project as a museum exhibition, entertainment attraction, commercial check-in site, or other spatial type.
6	Narrative involvement and plot experience	Cognitive gain and historical understanding	Knowledge gains, historical understanding, and thematic learning effects expressed in user comments.
7	Operational service and platform communication	Price and value-for-money judgment	Judgments about ticket price, value for money, discounts, packages, and the relationship between price and perceived experience value.
8	Narrative involvement and plot experience	Character construction and perspective-taking	Perceptions and evaluations of role or NPC design, narrative viewpoint, perspective-taking mode, and guide-like interaction.
9	Operational service and platform communication	Low-information responses and affective symbols	Low-information interactions such as emojis, laughter, brief affective responses, or symbolic emotional reactions.
10	Operational service and platform communication	Visit guidance and audience-specific information	Guidance, practical suggestions, and suitability information for different audience groups, such as families, couples, children, or older visitors.
11	Narrative involvement and plot experience	Narrative structure and rhythm evaluation	Evaluations of plot structure, narrative pace, logical coherence, and information organization.
12	Operational service and platform communication	Staff service and interpretive guidance	Evaluations of staff attitude, interpretive quality, on-site guidance, and service management.
13	Spatial practice and bodily experience	Device fit and wearing comfort	Experience related to headset or eyewear fit, wearing comfort, device adjustment, hygiene, and sanitation.
14	Spirit of place and consumption positioning cognition	Institutional brand and city image connection	Evaluations that connect the experience with institutional brand, city image, or public cultural identity.
15	Spatial practice and bodily experience	Queuing and order experience	Experience of waiting time, queue order, fairness, and crowd arrangement before or during entry.
16	Narrative involvement and plot experience	Plot memory and detail recall	Recall, retelling, or citation of specific plots, scenes, and details, indicating narrative memorability.
17	Spatial practice and bodily experience	Route organization and collision avoidance	Experience related to walking routes, spatial organization, collision avoidance, safety, and crowd control.
18	Spirit of place and consumption positioning cognition	Use-scenario imagination and audience suitability	Imaginations and suggestions about who the space is suitable for and how the site can be used socially.
19	Spatial practice and bodily experience	VR discomfort and bodily load	Bodily discomfort and load during the experience, including dizziness, nausea, fatigue, or physical strain.
20	Spirit of place and consumption positioning cognition	Historical stance and civilizational narrative negotiation	Negotiations or disputes concerning civilizational comparison, historical perspective, cultural confidence, or broader cultural narratives.
21	Narrative involvement and plot experience	Time-space travel and presence imagination	Expressions of time-space travel, presence, or the feeling of being transported into a past or imagined scene.

22	Spirit of place and consumption positioning cognition	Theme-content matching and representational plausibility	Judgments or questions about whether the title, theme, and content are consistent and whether the presentation is sufficient.
23	Operational service and platform communication	Refund/change rules and market order	Issues related to refund and rescheduling rules, ticket scalping, consumer rights, and market order.
24	Operational service and platform communication	Supporting commerce and surrounding consumption	Experience related to supporting facilities and surrounding consumption, including transport, catering, merchandise, and nearby services.
25	Spatial practice and bodily experience	Free exploration and accessibility	Perceived freedom of movement, route choice, walkable range, and accessibility within the experience space.
26	Spirit of place and consumption positioning cognition	Collection value and exhibition legitimacy	Judgments about whether the display form appropriately matches the cultural value of collections, key objects, or important artifacts.
27	Spirit of place and consumption positioning cognition	Institutional professionalism and cultural authority expectations	Expectations or doubts concerning professional gatekeeping, historical respect, and cultural authority of museums, producers, or organizers.
28	Spatial practice and bodily experience	Multi-user collaboration and interaction mode	Influence of companion participation, group experience, collaboration, and multi-user interaction on the overall experience.

Supplementary Table S1. Full codebook and distribution of the 28 axial concepts (continued)

S1b. Distribution of the 28 axial concepts by case

No.	Coding dimension	Axial concept	A1	A2	Case B	Case C	Total	Overall %
1	Operational service and platform communication	Platform check-in, recommendation, and sharing behavior	838	421	228	1205	2692	25.49
2	Narrative involvement and plot experience	Emotional response and intensity of involvement	601	234	151	562	1548	14.66
3	Spatial practice and bodily experience	Sensory environment and immersive atmosphere	240	187	117	658	1202	11.38
4	Operational service and platform communication	Reservation, ticketing, and entry process	251	213	10	460	934	8.84
5	Spirit of place and consumption positioning cognition	Site-type judgment and boundary negotiation	406	126	37	248	817	7.74
6	Narrative involvement and plot experience	Cognitive gain and historical understanding	146	50	121	79	396	3.75
7	Operational service and platform communication	Price and value-for-money judgment	67	57	26	234	384	3.64
8	Narrative involvement and plot experience	Character construction and perspective-taking	77	201	9	65	352	3.33
9	Operational service and platform communication	Low-information responses and affective symbols	25	114	43	167	349	3.30
10	Operational service and platform communication	Visit guidance and audience-specific information	55	69	40	76	240	2.27
11	Narrative involvement and plot experience	Narrative structure and rhythm evaluation	32	175	5	15	227	2.15
12	Operational service and platform communication	Staff service and interpretive guidance	47	24	8	136	215	2.04
13	Spatial practice and bodily experience	Device fit and wearing comfort	22	23	9	138	192	1.82
14	Spirit of place and consumption positioning cognition	Institutional brand and city image connection	61	48	2	28	139	1.32
15	Spatial practice and bodily experience	Queuing and order experience	45	30	0	60	135	1.28
16	Narrative involvement and plot experience	Plot memory and detail recall	61	23	13	31	128	1.21
17	Spatial practice and bodily experience	Route organization and collision avoidance	19	18	3	57	97	0.92
18	Spirit of place and consumption positioning cognition	Use-scenario imagination and audience suitability	34	10	12	39	95	0.90
19	Spatial practice and bodily experience	VR discomfort and bodily load	20	20	1	51	92	0.87
20	Spirit of place and consumption positioning cognition	Historical stance and civilizational narrative negotiation	57	0	0	2	59	0.56
21	Narrative involvement and plot experience	Time-space travel and presence imagination	27	5	4	21	57	0.54
22	Spirit of place and consumption positioning cognition	Theme-content matching and representational plausibility	8	8	2	21	39	0.37

23	Operational service and platform communication	Refund/change rules and market order	13	1	0	25	39	0.37
24	Operational service and platform communication	Supporting commerce and surrounding consumption	7	7	2	19	35	0.33
25	Spatial practice and bodily experience	Free exploration and accessibility	16	3	5	6	30	0.28
26	Spirit of place and consumption positioning cognition	Collection value and exhibition legitimacy	3	26	0	1	30	0.28
27	Spirit of place and consumption positioning cognition	Institutional professionalism and cultural authority expectations	9	5	4	6	24	0.23
28	Spatial practice and bodily experience	Multi-user collaboration and interaction mode	1	2	1	10	14	0.13
	Total		**3188**	**2100**	**853**	**4420**	**10561**	**100.00**