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Netnography as a methodological lens for uncovering heritage ambience: A case study of the Tlemcen medina

The concept of heritage ambience reconfigures cultural preservation by prioritizing multisensory experiences and human subjectivity, transcending static architectural analysis. However, capturing these intangible dimensions – rooted in sensory engagement, memory, and local narratives – remains methodologically challenging. This study employs netnography to decode interactions between sensory atmospheres and collective memory in historic urban spaces, using the medina in Tlemcen, Algeria, as a case study. Analysis of digital narratives, social media discourses, and community-generated content reveals how nonexpert knowledge reconstructs heritage values often marginalized by traditional conservation frameworks. The results demonstrate that the medina's ambience is not merely a backdrop but a dynamic archive of lived experiences, where smells, sounds, and textures intertwine to shape cultural identity. This research advocates integrating local perspectives into protection strategies, challenging the hegemony of institutional approaches. By linking digital ethnography and sensory urbanism, it proposes a reproducible methodological framework for reimagining heritage as a living, participatory practice where the spirit of place thrives through community governance.

Keywords: atmosphere, urban heritage, netnography, spirit of place, Tlemcen medina, Algeria

1 Introduction

In its contemporary definition, urban heritage departs from a strictly material perspective. It encompasses not only prestigious monuments and ordinary architecture structures but also less tangible elements, generally collectively referred to as the atmosphere or the spirit of place (UNESCO, 2003). The Québec Declaration (ICOMOS, 2008) conceptualizes the spirit of place as a dialectical process – simultaneously constructed and reconstructed – that synthesizes tangible dimensions (built environments and landscapes) and intangible dimensions (oral histories, rituals, and artisanal practices). This interplay endows heritage sites with symbolic meaning, affective resonance, and interpretive significance.

Atmosphere, as a phenomenological construct, arises from sensory-emotional entanglement and demands corporeal engagement for its apprehension (Flécheux, 2019). Zumthor (2006: 17) epitomizes this immediacy: "I enter the building, I perceive the space, I sense the atmosphere, and in an instant, I grasp what resides there." The philosopher Gernot Böhme expands this notion, framing atmosphere as a "spatially diffused affect" that permeates the environment. It thus embodies a diffuse ineffability – a sensory singularity tethered to objects, situations, spaces, and distinct environments (Böhme, 2014; Griffero, 2014).

Building on this experiential foundation, living heritage provides a privileged observatory for studying sensory extensions, integrating built structures and social practices within an evolving dynamic. Its historical depth – the capacity to perceive a site's antiquity without specialized expertise – fosters a profound emotional bond between users and their environment (Albertsen, 2019; Böhme, 2014). This emotional connection, shaped by individual and collective memory, reveals a divergence between experts and laypeople: heritage professionals often prioritize objective criteria (such as representativeness and typicality) and seek to neutralize emotional subjectivity, whereas nonspecialists express admiration, attachment, nostalgia, or indignation, actively inhabiting and defending sites that resonate emotionally (Heinich, 2012; Parker et al., 2024). Thus, emotion transcends mere ornamentation to become a catalyst for redefining heritage practices.

Facing these challenges, conservation approaches have undergone a paradigmatic shift: in contrast to conventional methods that prioritize formal authenticity at the risk of aesthetic homogenization and erasure of historical traces (Simonnot, 2012), Brandi's (1963) critical conservation valorizes patina as a "surface of sensory inscriptions", ensuring transmission that is both faithful and meaningful. To reconcile heritage continuity and functional renewal, participatory and interdisciplinary frameworks are essential, uniting historians, architects, sociologists, and local communities around shared goals that integrate technical constraints, civic expectations, and aesthetic coherence.

Consider the Saint-Ouen Flea Market (Milliot, 2016): rather than pursuing an idealized structure, restoration prioritized preserving the site's unique ambience – valorizing patina and incorporating contemporary uses – successfully harmonizing historical remnants with present-day functions (Belakehal, 2012; Said, 2014). This approach embodies adaptive reconstruction, which mediates heritage continuity and innovation in line with the principle of "safeguarding without freezing" (Simonnot, 2012; UNESCO, 2023).

The Saint-Ouen case demonstrates that adaptive reconstruction derives legitimacy from the spirit of place. This example underscores how the vitality of heritage lies primarily in the affective bonds that individuals and communities forge with their environments, where attachment and nostalgia play pivotal roles.

1.1 Place attachment

Place attachment unfolds along a continuum of experiences, ranging from basic familiarity and passive awareness of a place to activist engagement in its preservation, encompassing visceral forms of connection (Relph, 1976; Altman & Low, 1992; Shamai, 1991; Twigger-Ross & Uzzell, 1996). It arises from the interplay of memories, social interactions, and cultural representations, intensifying through local participation and the quality of neighbourhood relationships (Lewicka, 2009; Shumaker & Taylor, 1983), while community identification strengthens with residential longevity (Twigger-Ross & Uzzell, 1996).

Topophilia (Tuan, 1988) enriches this bond with an intimate dimension, intertwining personal history and collective memory. It operates through three interdependent registers: 1) sensory: sounds, smells, and textures that immediately anchor emotion; 2) cognitive: narratives and symbols that structure a place's meaning; and 3) emotional: feelings of security, sacredness, and continuity that justify its defence (Lei et al., 2025).

At the core of this dynamic, nostalgia acts as a catalyst: it amplifies the sense of lived authenticity and identity cohesion (Slivar et al., 2024), drawing from both positive emotions (e.g., wonder and gratitude) and negative ones (e.g., guilt and disappointment), independent of visitors' origins and unrelated to perceived authenticity (Prayag & Del Chiappa, 2021).

Educational attainment influences these processes: less-educated individuals typically exhibit stronger local rootedness, whereas better-educated groups tend to extend identification beyond immediate surroundings (Rollero & De Piccoli, 2010). The lexicon register used to describe a place – rich and valorizing in cases of strong attachment, and more neutral or critical when attachment is tenuous – reflects, inversely, the intensity of this bond (Stedman, 2002).

Guided by these theoretical outputs, this study prioritizes data collection methods that make possible analysis of affective bonds, aiming to fully capture how they structure user experiences and shape living heritage.

1.2 Problem and hypothesis

Building on the principles of adaptive reconstruction and "protecting without freezing", this research focuses on illuminating the sensory dimension of living heritage. Studies by Djedi and Belakehal (2022), Alves (2016), and Said (2012) have demonstrated the critical need to integrate narratives, sensory perceptions, and daily practices to fully comprehend heritage atmospheres. These atmospheres – constructed through sounds, smells, textures, and individual memories – contribute to the construction of a place's meaning and form its essence.

To date, most research has prioritized guided tours and on-site observations to capture these atmospheres. For instance, Said (2012) illustrated how sensory traces in a Cairo neighbourhood emerged through guided walks enriched with travel narratives and films. Similarly, Djedi and Belakehal (2022) validated this method for decoding the atmospheres of the Casbah of Algiers, and Karoui and Ben Fraj (2016) relied on resident interviews to document olfactory and auditory impressions in Tunis' historic Hara district.

However, these conventional methods face limitations in addressing the ephemeral and subjective nature of atmospheres: such fleeting experiences often elude formal inventories and standardized protocols. A persistent gap remains between the richness of lived sensory experiences – lay knowledge embedded in gestures, sensations, and stories – and conventional research tools, which are poorly suited to capturing the fluidity of the spirit of place.

This raises the central question of this study: How can lay knowledge – narratives, affective responses, and practices – be systematically collected and integrated to enhance the conservation and valorization of heritage atmospheres?

Concurrently, in the field that explores human spatial experiences, social media has emerged as a critical tool for capturing the complexity of spatial interactions and generating multidimensional datasets (Nummi, 2018; Redi et al., 2018). User-generated content – including memorial narratives, emotional responses to places, and spontaneous critiques – offers a valuable window into social practices and intangible values tied to space.

In participatory urban planning, Nummi (2018) demonstrates how combining public participation geographic information systems (PPGIS) with Facebook posts makes possible the mapping of collective memories and civic expectations, unveiling symbolic layers often invisible to conventional approaches. Complementarily, Redi et al. (2018) leverage geotagged Flickr photos and computer vision techniques to map the ambience of London neighbourhoods, creating an original taxonomy of perceived atmospheres (e.g., artistic, traditional, or "hipster"). Their method reveals how iconic visual elements – such as a Shoreditch street art mural or a South Kensington Victorian façade – can belong to the same perceptual category while embodying distinct atmospheres shaped by collective imaginaries.

A particularly insightful contribution comes from Wight (2020), who applies critical netnography to analyse visitor perceptions at three major Holocaust heritage sites in Europe (the Anne Frank House in Amsterdam, Auschwitz-Birkenau in Poland, and the Jewish Museum in Berlin). Through a Foucaultian discourse analysis of online content, his study identifies four narrative archetypes: social memory, emotional reactions, obligation and ritual, and visitor transgressive behaviours. Wight highlights ethical tensions, such as inappropriate selfie-taking, underscoring the need for critical scrutiny of memorial consumption practices.

This approach illustrates that digital platforms, far from merely reflecting public discourse, act as spaces for the co-construction of heritage meanings by making possible the exploration and sharing of lived cultural experiences (Lian & Xie, 2024). By exposing visitors' cultural priorities and affective values, these platforms provide unprecedented insights into the emotional dynamics shaping heritage sites (Svensson & Maags, 2018).

Collectively, these studies affirm that social media now serves as a living laboratory for understanding heritage appropriation and emergent collective sentiments. Hybrid tools – semantic analysis, computer vision, and geolocation – allow researchers to map the ambience and shared memory of such spaces (Psomadaki et al., 2018).

This study builds on this foundation, proposing the following hypothesis: digital narratives disseminated on social media constitute a legitimate and rich source for identifying intangible heritage components, particularly the atmospheres

perceived and lived by ordinary users. Grounded in netnography – the qualitative analysis of online practices, discourses, and interactions within sociocultural contexts – we focus on the medina in Tlemcen, Algeria, to develop a methodological framework for decoding these sensitive expressions, often invisible to expert-driven methods. This framework integrates them into an expanded understanding of heritage rooted in collective memory and lived experience.

1.3 Case study

Located in northwestern Algeria, the Tlemcen medina bears the historical vestiges of successive dynasties, from antiquity to the medieval era. Its origins are traced to the Roman settlement of Pomaria (founded in AD 201), followed by the establishment of the Muslim city of Agadir (670–1078). The Almoravids later founded Tagrart in 1078, a site further consolidated under Almohad rule starting in 1147. The city reached its zenith as the capital of central Maghreb under the Zayyanid dynasty (1236–1517), a period marked by remarkable economic prosperity and urban development (Lagardère, 1988).

As a complex urban space, the medina holds profound social and identity significance for Tlemcen's inhabitants. Morphologically, it centres on a historic core surrounded by a multifunctional framework. Primary pedestrian pathways connect key hubs of religious, educational, and commercial activity – mosques, inns for merchants (*fondouks*), markets

Figure 1: Citizen-led rehabilitation of alleys in the Tlemcen medina (source: Tourisme Tlemcen, 2019).

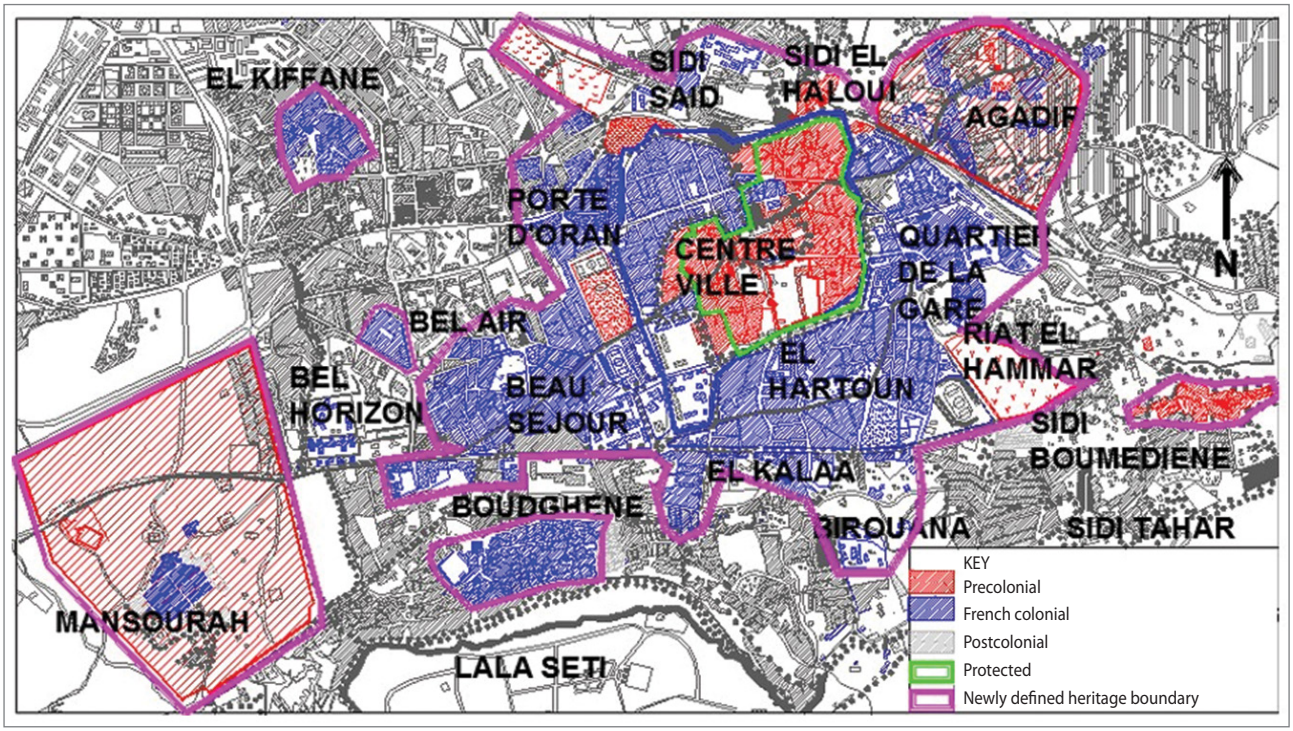

Figure 2: Location of the precolonial, colonial, and postcolonial urban fabrics in relation to the protected area of the Tlemcen medina (source: Hamma et al., 2016).

(*souks)*, Islamic schools (*médersas*), Sufi shrines (*zaouïas*), and Quranic schools – and secondary roads branch into residential quarters, cul-de-sacs, and dead ends (Tahar, 2018). This spatial hierarchy transitions from public zones (economic and administrative districts) to private residential areas, mediated by public squares (*tathata*) – spaces that serve as sites of social interaction, cultural expression, and shared heritage.

In 2009, Algeria's Decree no. 09-403 (Fr. *Décret nº 09-403*, JORA, no. 71/2009) formally established the protected area of Tlemcen's old town, protecting architectural remnants from the Almoravid, Zianid, and Ottoman eras and demarcating the boundaries of the ancient Almoravid city of Tagrart (*Décret nº 09-403*, JORA, no. 71/2009). Historically, Tlemcen's status as a crossroads of Arab, Turkish, and French influences forged a cosmopolitan identity (Ghoumari, 2009), reflected in its layered urban fabric and architectural eclecticism. This amalgamation of cultures has endowed the medina with exceptional heritage value, blending Maghrebin, Andalusian, and Ottoman motifs into a unique built environment.

The protected area of Tlemcen's old town covers fifty-one hectares (*Décret nº 09-403*, JORA, no. 71/2009). Elevations range from 817 meters at Bab el Hadid to 769 meters at Bab Zir. The elevation difference between these two points is forty-eight meters over a distance of 1,300 metres, with a slope of 3.6%. The site of the medina is an inclined plane from south to north.

2 Methodology

2.1 Procedure

This study employs passive netnography, an interpretive methodology derived from digital ethnography that involves unobtrusive observation of organic content (texts, images, and videos) generated by online communities, ensuring non-intrusive data collection and preserving discourse authenticity (Kozinets, 2015). Eschewing active netnography mitigates social desirability bias and ensures that the posts analysed reflect users' spontaneous heritage experiences (Wight, 2020). Focusing on digital narratives bridges the gap between intangible heritage and lived experiences, illuminating how atmospheres are constructed, debated, and conserved online.

"Deterritorialized" data (i.e., devoid of geolocation) was deliberately prioritized to overcome limitations inherent to approaches dependent on geotagging or tourist traffic (Redi et al., 2018; Bassols-Gardella & Coromina, 2022). Spontaneous images of the Tlemcen medina – carved doors, shaded alleys, and architectural details – provide rich material for capturing emotional and symbolic attachments to space, independent of precise location (Svensson & Maags, 2018; Laaksonen & Varga, 2023).

These photographs function as photo-elicitation tools (Du & Meyer, 2008; Riom et al., 2018), activating users' affective and multisensory memories: a single image of an inner courtyard may evoke recollections of aromas of spices, murmuring water, or plant-cooled air, revealing latent emotions – nostalgia and sacralization – often inaccessible to in-situ ethnography, even when enriched with tactile or olfactory perceptions (Hammersley & Atkinson, 2007).

Thematic content analysis constitutes the final and pivotal phase of the methodology, systematically structuring and interpreting the collected netnographic corpus. Informed by Bardin's (1977) foundational work – defining this method as a rigorous procedure to extract latent meaning from messages – and guided by Charmaz's (2006) grounded theory principles, this approach merges methodological objectivity with interpretive depth. Leveraging the atmospheric coding technique (ACT), validated in heritage ambience studies (Belakehal & Farhi, 2008; Said, 2014; Zidelman & Belakehal, 2016), sensory and emotional experiences emerging from online discourse were faithfully reconstructed through three iterative phases: 1) pre-analysis: defining recording units and thematic categories; 2) analysis: data collection (aggregating digital narratives), filtering (removing irrelevant content), and coding (identifying patterns); and 3) synthesis: classifying results into categories that reflect collective perceptions of ambience.

This method aligns with our goal of decoding intangible heritage values embedded in community narratives, bridging the gap between expert-driven preservation frameworks and lived sensory experiences.

2.2 Pre-analysis

In investigating the correlation between atmospheric perception and the medina's spatial configuration, architectural and urban typologies emerge as critical parameters for establishing affective relationships. Drawing from Tlemcen's land use plan (ANAT, 2001), spaces within the medina were categorized into seven types: 1) heritage-value structures (e.g., El Mechouar Palace, the Grand Mosque, and Sidi Belahcen Mosque); 2) minor heritage structures (e.g., traditional houses, communal ovens, and small public baths); 3) non-heritage structures (post–French colonial additions); 4) urban spatial design (alleys and cul-de-sacs); 5) urban amenities (public squares and markets); 6) environmental amenities (gardens and water systems); and 7) extra muros heritage (structures outside the protected perimeter).

This intentionally flexible classification acknowledges that certain sites span multiple categories. It establishes a clear conceptual framework for coding subsequent digital content and analysing how spatial configurations shape inhabitants' sensory-emotional narratives.

To operationalize the concept of "ambience" within this thematic analysis, we adopted a deductive approach synthesizing interdisciplinary theoretical frameworks. Augoyard (1998) defines ambience as the product of interactions between a site's materiality (spatial configurations, fixed and mobile structures) and its interiority (personal affect, collective emotions). Building on this, Bott (2000) proposes four interdependent domains to characterize the "spirit of place": physical framework (site morphology), cultural framework (beliefs and rituals), affective domain (emotional attachments), and functional domain (practices and uses). Belakehal and Farhi (2008) emphasize plural influences, including context (climate, culture, and society), architectural space (configurations and uses), sensory environment (thermal, olfactory, auditory, and visual stimuli), and users (perception and behaviour). Amphoux et al. (1998) further highlight the interplay between built environments, social practices, and ambient factors in shaping the sensory lived experience of heritage sites.

From these foundations, four analytical dimensions were derived: 1) tangible factors: built forms, spatial hierarchies, geometry, materials, furnishings, and objects – aligning with Augoyard's (1998) theoretical constructs; 2) sociocultural factors: beliefs, oral traditions, rituals, artisanal knowledge, personal narratives, memories, and periodic uses (celebrations, events) – resonating with Bott's (2000) cultural and functional domains; 3) sensory factors: visual, luminous, tactile, thermal, auditory, olfactory, and kinaesthetic phenomena, as identified by Belakehal and Farhi (2008) in their studies of medina atmospheres; and 4) contextual factors: climatic conditions, temporalities (seasonality, festivals), and historical evolution – consistent with the "context" dimension outlined by Belakehal and Farhi (2008) and by Amphoux et al. (1998).

This multidimensional framework allows the coding of textual or visual data extracts into one or more domains, providing a deductive yet flexible tool for thematic analysis. By allowing code co-occurrence (e.g., a site coded as both "sensory" and "functional"), this approach ensures methodological coherence while preserving the interpretive depth required to capture heritage atmospheres.

2.3 Analysis

2.3.1 Data collection

The private Facebook group *S.O.S l'antiquité Tlemcen l'authenticité* (S.O.S Antiquity Tlemcen Authenticity), with approximately 100,500 members, is a dedicated platform for sharing and discussing all heritage-related topics concerning the Tlemcen medina. This community brings together current residents, former residents, and urban history enthusiasts that actively exchange personal memories, historical anecdotes, and archival photographs, and engage in detailed discussions on topics ranging from vernacular architecture to the city's urban evolution.

Analysis of posts reveals significant linguistic and stylistic diversity, oscillating between colloquial language, poetic expressions, scholarly references, and specialized terminology. This discursive richness reflects the plurality of local voices and memories, offering fertile ground for exploring identity construction dynamics and the transmission of heritage knowledge.

For this study, data were collected from May 2021 to May 2022 through passive observation of publicly accessible posts. To ensure transparency, we obtained consent from the group administrator, disclosed our researcher identity, anonymized all data, and excluded private content.

2.3.2 Data filtering

Given the substantial volume of raw data collected (over three hundred posts and four thousand comments), a rigorous filtering stage was essential. This iterative process involved meticulously reviewing each entry, removing redundancies and irrelevant content, and retaining only material directly pertinent to the research objectives.

Following this filtering, the refined dataset – comprising 138 posts and 1,325 comments – was subjected to in-depth analysis to address the study's core questions. These selected entries were systematically coded to identify patterns, themes, and affective responses tied to the medina's ambience.

2.3.3 Data coding

Coding and categorization formed the foundational phase of analysis, allowing the systematic organization of data into coherent themes. As Dey (1999, cited in Saldaña, 2013: 95) observes: "With categories, we impute meanings; with coding, we calculate them."

Categories and codes	Typology of places						
	Buildings with heritage value	Minor heritage	Structures without real heritage value	Design of urban space	Urban amenities	Environmental amenities	Structures on outskirts of medina
Tangible factors: geometry, structure, materials, volume, distribution, furnishings, objects present in the space, etc.							
Sociocultural factors: beliefs, opinions, stories, rituals, skills, personal background such as subjective memories, emotions and behaviours of the individual, etc.							
Sensory factors: visual, light, tactile, thermal, sound, olfactory, kinaesthetic, etc.							
Functional factors: periodic celebrations and events, or primary or secondary permanent activities							
Context: climate, historical period, culture, temporality							

Figure 3: Blank analysis grid to capture affective relationships with places (source: authors).

This study employed a priori (provisional) coding (Miles & Huberman, 1994: 58), predetermining codes during pre-analysis to align with the research objectives. However, following Miles and Huberman's (1994) emphasis on flexibility, codes were iteratively refined as new insights emerged from the dataset.

The coding framework comprised five primary categories, subdivided into twenty-eight distinct codes. These categories were cross-referenced with the typology of places (the analysis grid is shown in Figure 3), allowing an exploration of how spatial configurations intersect with atmospheric elements (e.g., sensory stimuli and sociocultural practices). This intersectional approach facilitated a theoretical reconstruction of the affective relationship between individuals and heritage spaces, revealing how tangible and intangible factors collectively shape ambience.

The following examples illustrate the application of topic coding to a representative sample of comments. Descriptive codes (single words or short phrases) summarize each excerpt's dominant theme, whether manifest (explicit) or latent (implied). For each comment, the most relevant code was assigned based on its primary theme or sub-theme (see Figure 3). This method streamlined data analysis by rapidly identifying key topics. Below are translated excerpts with their corresponding codes.

Example 1, comment 81.E: "I lived in Derb Sidi Hamed (an alley in the medina) and passed through this square daily to go to high school. I remember the birds chirping[1] and the shadows of the trees.[2]" Codes: [1]sound, [2]light.

Example 2, comment 169.F: "It's sad to see the disappearance of the cobblestones[1] that gave the pretty appearance[2] to the city of art and history." Codes: [1]materiality, [2]aesthetics.

Example 3, comment 45.B: "You remind me of the wonderful smells[1] of stews cooked on braziers in front of doors on the street or alley. It was the charm of good neighbours.[2] Alas, it's gone like a dream." Codes: [1]olfactory, [2]social bonds.

Example 4, comment 74.B: "She found herself in her native alley, overwhelmed by a sense of belonging: the universe of stamped breads,[1] the district of Andalusian singers where the traditional lute echoes,[1] elders resting on doorsteps watching grandchildren play,[2] and the communal oven continuing its work.[3]" Codes: [1]craftsmanship, [2]intergenerationality, [3]daily rituals.

As shown above, some data units are inherently complex, containing multiple dimensions or overlapping themes that resist reduction to a single code. This complexity arises from contextual diversity and interpretive variability (Saldaña, 2013). By allowing multi-code assignments, this approach captures the richness of user-generated narratives while maintaining analytical rigor.

3 Results

The study's results reveal deeply contrasted dynamics within the Tlemcen medina. Traditional neighbourhoods – characterized by organic urban fabric (narrow alleys, spatial hierarchies) – emerge as hubs of social interaction, accounting for 29% of posts and 25.8% of comments (Table 1). In contrast, recently developed urban amenities (public squares and modern infrastructure) and structures on the outskirts of the medina remain underrepresented, reflecting limited community engagement with these zones.

However, Table 1 confirms a strong relationship between post frequency and comment volume for four types of places: structures without real heritage value, the design of urban space, environmental amenities, and structures on the outskirts of the medina. This relationship suggests that increased media visibility of a site systematically amplifies public reactions,

Table 1: Distribution of data analysed by type of place.

	Typology of places							
	Buildings with heritage value	Minor heritage	Structures without real heritage value	Design of urban space	Urban amenities	Environmental amenities	Structures on outskirts of medina	Total
Posts collected and analysed	23	20	16	40	23	10	6	138
	(16.7%)	(14.5%)	(11.6%)	(29.0%)	(16.7%)	(7.2%)	(4.3%)	(100%)
Coded comments	153	281	134	342	277	81	57	1,325
	(11.5%)	(20.2%)	(10.1%)	(25.8%)	(20.9%)	(6.1%)	(4.3%)	(100%)

Source: authors.

Table 2: Results of thematic data analysis.

Category	Code	No. of occurrences	Code frequency (%)	Category frequency (%)
Tangible factors	Geometry and volume	70	3.90%	22.0%
	Distribution	42	2.40%	
	Materials	37	2.10%	
	Furnishings, objects present in the space	135	7.60%	
	Structure	29	1.60%	
	Landmark	79	4.40%	
Sociocultural factors	Beliefs and opinions	34	1.90%	26.2%
	Stories	246	13.80%	
	Rituals and skills	38	2.10%	
	Personal background such as subjective memories	78	4.40%	
	Positive feelings	66	3.70%	
	Negative feelings	5	0.30%	
Sensory factors	Visual	103	5.80%	16.9%
	Light	8	0.40%	
	Tactile	16	0.90%	
	Thermal	15	0.80%	
	Sound	29	1.60%	
	Olfactory	26	1.50%	
	Kinaesthetic	44	2.50%	
	Taste	27	1.50%	
	Negative sensation	34	1.90%	
Functional factors	Periodic celebrations	26	1.50%	16.2%
	Primary permanent activities	130	7.30%	
	Secondary permanent activities	132	7.40%	
Context	Negative context	25	1.40%	18.5%
	Temporality	17	1.00%	
	Culture	59	3.30%	
	Historical period	207	11.60%	
	Climate	21	1.20%	

Source: authors.

underscoring visibility's catalytic role in mobilizing civic engagement around urban heritage.

Several categories deviate from this pattern. Minor heritage and urban amenities have a low post frequency (14.5% and 7.2%), but these spaces generate high comment volumes (20.2% and 6.1%), indicating sustained community reactivity or polarized debates (e.g., discussions about the functions of traditional ovens). Buildings with heritage value generate 16.7% of posts, but they account for only 11.45% of com-

ments, suggesting formal or institutional interest rather than genuine emotional attachment.

Thematic analysis derived from the coding framework (see Table 2) reveals a broadly diversified distribution of ambience perceptions in the Tlemcen medina, structured into five conceptual categories: sociocultural (26.2%), tangible (22%), contextual (18.5%), sensory (16.9%), and functional (16.2%). A 10% frequency gap between the most represented (sociocultural) and least represented (functional) categories indicates a moderately balanced distribution, in which no single dimension dominates, underscoring the plurality of factors shaping heritage ambience.

The sociocultural category (26.2%) is dominated by narratives, beliefs, and emotions. The most frequent code, "space-related narratives", highlights the symbolic and narrative weight of sites in collective memory. Tangible factors (22%) focus on the physical environment and objects. The dominant code, "furnishings and objects", reflects the role of material elements as visual anchors for spatial appropriation. Contextual factors (18.5%) encompass historical, climatic, and cultural dimensions. The prevalent code, "historical period", emphasizes temporal depth in ambience perception. Sensory factors (16.9%) capture users' multisensory engagement. The codes rank as follows: visual (dominant), auditory, kinaesthetic, and olfactory, revealing heightened sensitivity to visible morphology while acknowledging contributions from other sensory modalities. Functional factors (16.2%) relate to spatial uses and occupancy dynamics. Two primary codes emerge: "primary permanent activities" and "secondary permanent activities", with a near-equal distribution illustrating the diversity of daily practices.

4 Discussion

The concept of place attachment, defined in the literature as the affective and identity-based bond linking individuals to their built environment (Altman & Low, 1992), is reaffirmed and nuanced in our findings. These reveal a spatial variability of attachment, manifesting differently across types of places – from institutional monuments to quotidian settings.

Thematic analysis highlights a balanced distribution of perceptual registers (material, sensory, and social), demonstrating that heritage ambience is not reducible to a singular dimension but emerges from a sensory and cultural palimpsest. This plurality confirms the evolution of heritage toward a holistic approach, integrating the spirit of place beyond architectural objects to encompass intangible and multisensory dimensions.

By intersecting types of places (monumental, peripheral, and colonial) with thematic categories (sociocultural, tangible, and contextual), the analysis underscores three key insights into the expanded conceptualization of heritage: 1) the affective disjuncture between monumental heritage and minor spaces: influenced by ambient composition (e.g., density of social rituals in traditional neighbourhoods); 2) the revalorization of urban margins: peripheral zones and colonial legacies act as vectors of living heritage, bridging collective memory and artisanal practices; and 3) the methodological contribution of netnography: this captures micro-narratives of ambience, which are often absent from traditional heritage frameworks.

4.1 The role of minor heritage spaces in constructing heritage ambience

The results highlight a pronounced focus on minor spaces – such as alleys, courtyard houses, traditional ovens, and public baths – which generate disproportionate comment volumes relative to their limited representation in posts (14.5% of posts vs. 20.2% of comments for minor heritage). These spaces, although marginalized in institutional discourse, emerge as hubs of social interaction where narratives and daily practices amplify their mnemonic significance.

With regard to traditional ovens, user comments emphasize childhood memories, communal baking rituals, and intergenerational exchanges, illustrating how heritage ambience extends intangible heritage. These sites are perceived not merely as physical artifacts but as emotional anchors, sustaining practices that endure despite urban transformations. The following ethnographic excerpts illustrate this interplay.

241-B. The vanishing tradition of communal bread-making at Etterah ovens epitomizes a lost sensory ritual. At dawn, women orchestrated the process while children shaped dough into symbolic forms. The climax – a golden, crackling loaf emerging from wood-fired heat – created an olfactory and tactile spectacle inseparable from familial bonds. Today, these ovens survive only as relics in Tlemcen's aging quarters.

170-E. The removal of the wrought-iron kiosk – a bandstand hosting Sunday brass ensembles – erased not just a structure but a sonic and social anchor for square gatherings.

These observations align with the argument by Heinich (2012, cited in Ungan, 2014) that "minor heritage", although rarely valorized by institutions, constitutes a vital component of living heritage, deriving value from the constant reactivation of memorial practices. Thus, diverging from monumental criteria, heritage ambience here manifests through ordinary spaces bearing invisible yet deeply rooted collective memories.

4.2 Heritage structures between institutional symbolism and affective distance

In contrast to minor spaces, high-value heritage buildings – such as the El Mechouar Palace – generate relatively few comments. This dissociation between institutional visibility and affective engagement suggests that such emblematic sites, although they are central to official heritage, struggle to foster meaningful community interactions.

This finding resonates with the distinction between "monumental heritage" (tied to conservation policies) and "lived heritage" (embedded in daily practices) made by Heinich (2012, cited in Ungan, 2014). Tlemcen's monumental heritage, although aesthetically valorized, appears partially disconnected from residents' sensory and narrative experiences, underscoring a paradox in heritage ambience perception.

4.3 Peripheral significance and the ambiguity of colonial heritage

The examination of spaces beyond the official protected heritage boundaries reveals that they do not weaken place attachment but instead reinforce its cognitive and spatial dimensions (Lewicka, 2011). Functioning as socioeconomic nodes and reservoirs of artisanal knowledge, these sites act as critical identity markers, expanding the notion of heritage beyond formal limits. This observation calls for rethinking conservation frameworks: How can these "living zones" be integrated into holistic heritage policies?

Furthermore, colonial-era buildings exemplify the inherent complexity of attachment: their hybrid aesthetics evoke mnemonic ambivalence, rooted in both historical value and the rupture caused by episodes of dispossession. Although their exclusion from official frameworks fragments the urban cultural ecosystem, their reintegration could forge an urban palimpsest, where colonial past and present coexist in layered continuity.

4.4 Netnography as a tool for accessing collective memory and ambience perceptions

Netnographic analysis allowed an in-depth exploration of online perceptions expressed by local communities, particularly revealing the richness of micro-narratives tied to minor heritage spaces – narrow alleys, communal ovens, and public baths – that often evade traditional surveys. By systematically examining posts and comments, this method reconstructs memories, emotions, and daily practices that neither questionnaires nor formal interviews can fully capture. This unfiltered view of lived experience confirms the centrality of these spaces in collective memory and highlights the sensory and affective dimensions underpinning the spirit of place.

Online discourse also reveals significant tensions around the patrimonialization of colonial structures, which are perceived alternately as intrusive architectural impositions or vessels of shared memory. This paradox, absent from institutional archives, emerges clearly in digital narratives, illustrating postcolonial ambivalences and semantic conflicts shaping the urban landscape. By amplifying residents' voices, netnography illuminates these heritage dissonances and equips researchers with tools to decode tensions invisible to formal methodologies.

Integrating such data into heritage work allows scholars and practitioners to co-design conservation strategies attuned to real-world ambiences. Moving beyond monuments, they can now account for ordinary practices and collective emotions, expanding heritage toward a "living heritage" paradigm centred on user experiences. This participatory approach, grounded in direct community engagement, fosters projects that respect the spirit of place and strengthen the bond between past and present.

Finally, adopting an intergenerational lens is critical to enriching this framework. Younger generations' heritage expectations and interaction modes – shaped by digital and cultural practices – may profoundly differ from those of older cohorts. Involving researchers, artists, and residents in co-constructing heritage narratives will unveil new facets of place attachment and perpetually enrich urban storytelling.

5 Conclusion

This study demonstrates the potential of netnography as a key method for decoding the intangible dynamics of urban heritage. Although it is limited to a single qualitative approach, it reveals how online interactions – reflections of daily practices and collective memories – contribute to the construction of lived heritage. Focused on the Tlemcen medina, this research highlights transferable mechanisms applicable to other historic cities, where marginal spaces and ambivalent legacies (e.g., colonialism) remain understudied despite their role in shaping local identity.

Future research would benefit from integrating these findings with computational methods (e.g., automated analysis of iconographic corpora) to systematically analyse sensory dimensions. Similarly, mixed-method approaches (field surveys combined with social network analysis) could triangulate data, enhancing interpretive robustness while including voices often

excluded here (non-connected elderly individuals, minority groups, or youth demonstrating no attachment).

Conceptually, this study urges a reimagining of heritage as a living ecosystem, perpetually reconfigured through negotiations between historical layers, ambient materialities, and contemporary adaptations. Community bread ovens or street vendors' calls are not mere "local curiosities" – they are key actors in a heritage scenography where the mundane gains symbolic density through repetition and sharing.

These findings advocate for adaptive governance, in which planners and residents co-construct conservation tools that integrate both tangible structures and intangible practices. Such an approach, rooted in dialogue and experimentation, could reconcile preservation with urban vitality, transforming heritage from a museumified object into a collective, resilient process.

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Špela KRYŽANOWSKI

ARCH-E project: A view into the European competition landscape

Introduction

(ARCH-E, 2025)

ARCH-E is a project on architectural design competitions (ADCs) co-funded by the European Union under the Creative Europe framework (CREA). It started in February 2023 and will last for three years. ARCH-e is composed of ten European partner organizations – the Austrian Federal Chamber of Civil Engineers (BKZT), the Architects' Council of Europe (ACE), the Croatian Chamber of Architects (CCA), the Chamber of Architecture and Spatial Planning of Slovenia (ZAPS), the Association of Architects of Cyprus (CAA), the Federal Chamber of German Architects (BAK), Eindhoven University of Technology (TU/e), the Polytechnic University of Valencia (UPV), Sepa Engineering GmbH (SEPA), and the Chamber of Hungarian Architects (MÉK) – with the Chamber of Architecture and Spatial Planning among them, and five cooperation partners: the Czech Chamber of Architects (ČKA), the French National Chamber of Architects (CNOA), the Chamber of Architects of the Province of Bozen, the Swiss Society of Engineers and Architects (SIA), and the International Union of Architects (UIA). ARCH-E recognizes the crucial role of ADCs in the creation of a safe, fair, sustainable, inclusive, and beautiful built environment. Its main objective is to promote high-quality architectural solutions for the built environment by increasing the use of ADCs in Europe. To achieve this, it has developed several strategies. ARCH-e intends to enhance cross-border collaboration among various architecture professionals through the use of the ARCH-E platform and network, services, and digital solutions. It aims to raise awareness and facilitate learning processes among stakeholders, architects, policymakers, and ADC procurers, leading to new ways of thinking about architectural challenges and promoting long-term innovation strategies. ARCH-E seeks to create a transnational competition culture through the circulation and exchange of ideas.

Figure 1: Meeting of the ARCH-E consortium at ZAPS in Ljubljana in 2023 (photo: ZAPS).

Because ADC procedures are determined by national frameworks and traditions and due to a lack of information exchange, there is very low transnational participation. This information lack excludes many architects from participating in the (cross-border) market and thus hinders competition. Small or micro-enterprises – with an above-average proportion of female and/or young architects – are particularly affected, which has a detrimental effect on their professional career. Promoting ADCs will lead to better implementation of the Davos Declaration for Baukultur and of the New European Bauhaus in European planning and building pro-

jects on a daily basis, and it will help to meet the climate challenge and improve the quality of the built environment.

The newly developed ARCH-E online platform (https://arch-e.eu) provides a wide range information on ADC systems (with a special focus on consideration of Baukultur und New Bauhaus standards), and it facilitates transnational participation. Its core element is a network of over five hundred architects from more than twenty countries, from which transnational working groups can be quickly recruited for participation in ADCs. This is especially important for women and young professionals, who usually have fewer transnational business contacts. The ARCH-E consortium reaches over 560,000 architects across Europe that benefit from the project results.

The main outputs of the project are the ARCH-E ADC Map, a comparative description of national ADC systems, the multilingual ARCH-E Glossary with technical terms, and the ARCH-E Architects' Needs Report. In addition, the ARCH-E webpage provides a SWOT analysis tool, and one of the final ARCH-E outputs will be the ARCH-E White Paper, in which we will inform policymakers about the project results and provide recommendations on how the internationalization of careers, equal treatment, and green deal goals can best be achieved in architecture.

ARCH-E ADC Map

(Bekkering et al., 2025)

The ARCH-E ADC Map provides directions to architects and other experts in architecture on where to find procurement platforms, information on national regulations, chambers representing architects, and other helpful resources helping people orient themselves in the international ADC landscape. ARCH-E is an ongoing project involving partners and related projects

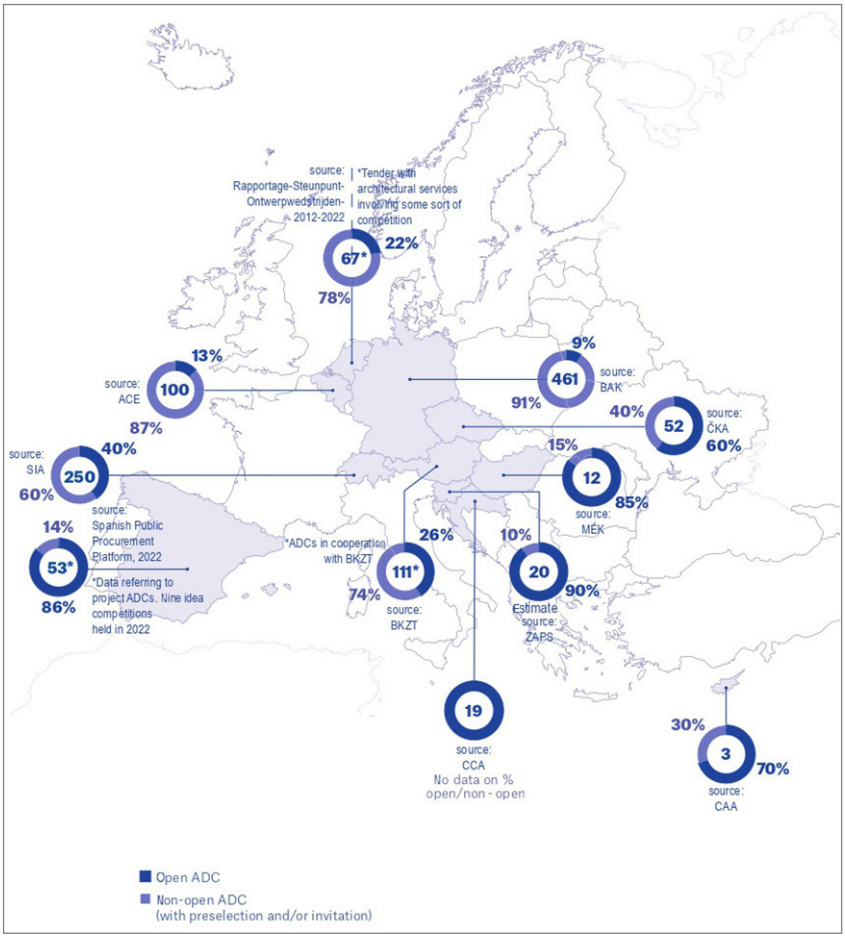

Figure 2: Map of the average number and types of ADCs per year in selected EU countries. (image: ARCH-E).

all over Europe. Therefore, the ARCH-E ADC Map is growing and is gradually incorporating more information. The ARCH-E ADC Map is now already available in pdf and print form in English (https://www.arch-e.eu/maps-on-adcs) and in the national languages of the partners (the Slovenian version is available at https://www.arch-e.eu/files/maps-on-adcs/ARCH-E_MapOnADCs_SL_web_v1.pdf). It contains four chapters: Mapping the European Landscape of ADCs, Five Parameters for a European Debate on ADCs, Good Practices in European ADCs, and Conclusion.

Chapter 1 presents an overview of the European context of ADCs. It has two main parts: 1) the graphic visualization of national data on ADCs and the architecture profession in comparative maps and 2) eleven country profiles with a textual and infographic description of their national competition systems. Chapter 2 focuses on the European dimension of ADCs. Structured on the basis of the five parameters (regulations, accessibility, quality, transparency, and stakeholders' benefits), the second chapter brings to the fore challenges and opportunities for an EU market of architectural services. Through the experiences and voices of interview participants, this chapter seeks to stimulate reflection and discussion, emphasizing the subjective quality of ADC participation, implementation, and results. Chapter 3 is a collection of selected national cases that represent successful practice in the organization and implementation of ADCs. It is important to stress that the qualification as a "successful practice" always refers to specific contextual conditions and

should be understood in relative terms. For this reason, the examples in this chapter are proposed as "good" practices instead of "best" practices in absolute terms. The focus of the examples presented in Chapter 3 is on how the selected competition procedure addresses a given challenge and positively relates to one or more of the five parameters (regulations, accessibility, quality, transparency, and benefits for stakeholders). The quality of the selected cases is not on the architectural outcome, but rather on the competition process itself. Finally, the conclusion summarizes the lessons learned from the first year of the ARCH-E experience and research activities, providing suggestions for the future implementation and expansion of the study on ADCs.

The ARCH-E ADC Map shows that, at the national level, country-specific frameworks and traditions contribute to the uniqueness of local ADC systems. These reflect the richness and variety of architectural cultures and heritages across Europe. In a committed effort at knowledge dissemination, it is important to translate these differences into learning opportunities. Moreover, a long-term strategy for collecting and sharing ADC data across Europe is missing. Through its research initiatives, the ARCH-E project addresses the problems related to knowledge and information exchange that are faced by European architects, their chambers, and professional associations.

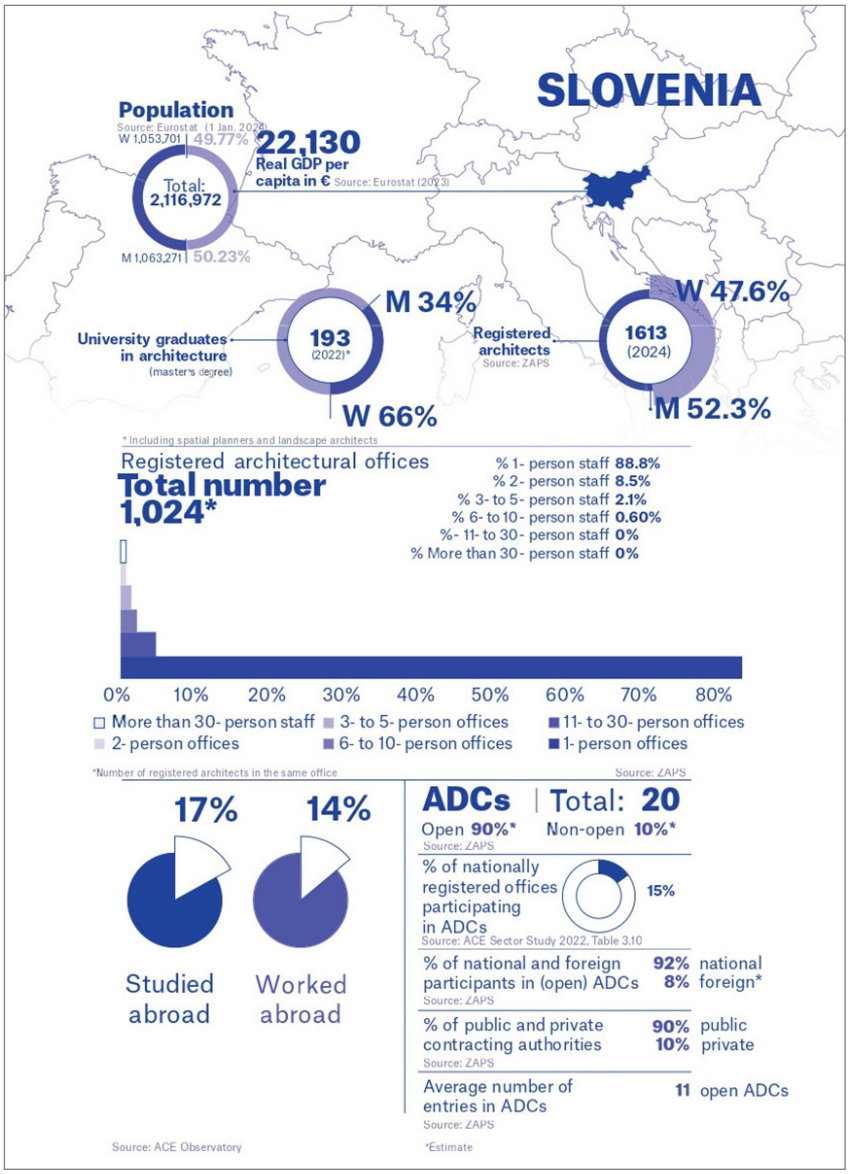

Figure 3: ADCs in Slovenia in numbers (image: ARCH-E).

ARCH-E Glossary
(ARCH-E, 2025)

The ARCH-E Glossary brings together eleven country-specific perspectives on architectural competition procedures in Europe. A total of 190 terms explain the regional characteristics of competition culture. Because the language variations are not mere translations, but original descriptions of the local practice in the subject areas, the terms can be compared with each other and examined for similarities and differences. This compendium currently contains around a thousand definitions. A comment function invites users to suggest changes to the definitions and practical reports on the topics, thus allowing the ARCH-E Glossary to grow continuously. ARCH-E is a multifaceted project that will be carried out until 2026. As the project (including its studies, collaboration between the partners involved, and transfer of know-how to other cooperation partners and projects) evolves, the online tools are also continually being refined. For this reason, the ARCH-E Glossary is work in progress.

ARCH-E Architects' Needs Report
(Alvarez Isidro et al., 2025)

The ARCH-E Architects' Needs Report focuses on providing a structured analysis of architects' engagement with transnational ADCs and identifying challenges, motivations, and potential areas for improvement within the existing framework. To achieve the goal, an extensive multilingual survey was

conducted among architects and other ADC stakeholders. The survey reached 1,290 respondents in more than twenty countries. The main lines of inquiry addressed in the survey were architects' interest in transnational ADCs; the knowledge, skill gaps, and barriers they face; their level of international networking; and how the ARCH-E project can support their professional growth and development. The primary objective of the survey was to highlight the challenges architects encounter when participating in ADCs in other countries. The findings will serve as a foundation for developing targeted recommendations for chambers and associations of architects, helping them provide better support for cross-border participation. They will contribute to a broader understanding of ADCs across Europe, highlighting key trends, challenges, and opportunities for improvement.

The results show that regulatory challenges such as complex bureaucratic requirements and country-specific regulations hinder international ADC participation. Ten per cent of respondents cited a lack of familiarity with foreign legal frameworks, and 6.6% reported being unable to meet financial turnover requirements. Regarding accessibility, only 25% of respondents participated in international ADCs, compared to 69% in national competitions. Financial constraints (12.5%), language barriers (11.3%), and perceived low success rates (9.8%) were major deterrents. Although it is not considered an issue to worry about by respondents, the reality is that only 18% of female architects participated in international ADCs, compared to 27% of men. Men were also twice as likely to receive direct invitations to ADCs (22% vs. 11%). The economic benefits of ADCs were limited. Seventy-one per cent of firms reported earning no revenue from international ADCs, and only 2% of firms generated more than 60% of their income from such competitions. Many architects felt that ADC selection processes favoured well-established firms. National chambers of architects played a key role in providing ADC information, but the Architects' Council of Europe (ACE) was perceived as less impactful. Private-led ADCs were seen as more flexible and innovative, but these raised concerns about transparency and reliability. Public ADCs, although structured, were often bureaucratically rigid. Winning an ADC did not always guarantee a contract for preparing project documentation. Only 35% of female winners (of the 18% that took part in international ADCs) and 34% of male winners (of the 17% that took part in international ADCs) secured a commission, highlighting the need for reforms. Although 40% (of around 35% of participants in international ADCs) cooperated with local bureaus in the preparation phase of the competition solution, only 31% did so during construction, indicating challenges in sustaining partnerships. No need for further education was seen by 31.1% of respondents, whereas 30% considered training "helpful indeed", and 10.2% saw it as "an absolute must". Language skills and legal knowledge were among the most significant gaps. Swiss and Austrian competitions were praised for their transparency and efficiency.

Conclusion

(Bekkering et al., 2025)

The research activity undertaken with the ARCH-E project on ADCs should be seen as an ongoing endeavour rather than a completed task. Currently, the project encompasses the countries associated with ARCH-E partners and cooperation partners. However, to create a more comprehensive picture of European design competitions, it is essential to expand the research to include a broader range of countries and their ADC systems. This expansion would not only provide a more complete picture but also reveal new opportunities for cross-border collaboration and participation. Moreover, expanding the types of data collected and involving a wider range of stakeholders in data provision are crucial areas for further research. The current state of the project offers a preliminary overview of European ADCs, emphasizing the opportunities and challenges within the EU market. However, future research should focus on the roles of various actors from a practical perspective, with an eye toward implementing concrete interventions through pilot projects and collaborative activities. In this regard, the ARCH-E platform and its digital tools (the ARCH-E Glossary, the online ARCH-E ADC Map, and the network) serve as valuable resources to facilitate research expansion.

In conclusion, the initiatives and research outcomes of ARCH-E underscore the benefits of a cross-border collaborative approach in addressing the complexities of ADCs in Europe. The involvement of diverse stakeholders and experts within the architectural profession (including representatives from chambers, policy experts, designers, managers, clients, and academics) highlights that a comprehensive understanding of the multifaceted nature of ADCs requires sustained cooperation, exchange, and dialogue. Therefore, it is crucial to broaden the network of interested parties and promote experimental methods of collaboration to challenge traditional competition models and foster innovation. By recognizing the pivotal role of competitions in achieving architectural excellence, the ARCH-E project opens up the arena for a committed discussion on design competitions and invites new participants into the ongoing conversation about the proactive improvement of Europe's living environment.

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