



Recontextualising Industrial Ruins through Visual Storytelling: A Conceptual Design Framework for Cultural Revitalisation

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ABSTRACT

Industrial ruins are increasingly recognised as culturally meaningful environments that preserve collective memory, labour identity, and material evidence of industrialisation and deindustrialisation. Nevertheless, most revitalisation projects continue to favour economic redevelopment or aesthetic reuse at the expense of the narrative of such sites. This paper suggests a conceptual design of utilizing visual story-telling to promote culturally competent regeneration of industrial ruins. The analysis was conducted on a corpus of archival photographs, documentary materials, exhibition examples, design case studies and visual models of the post-industrial heritage in order to use a qualitative, secondary visual ethnographic analysis. The analysis indicates that visual narration could mediate cultural memory by the use of narrative sequencing, material anchoring, temporal layering, symbolic contrast and aesthetic restraint. The framework is thus proposed as an idea synthesis and generalizable hypothesis and not as an empirically verified tool. Its practical implication is that it can be applied by designers, curators and heritage professionals to design interpretation in advance of physical redevelopment; it is limited by the fact that it lacks the primary fieldwork, community experimentation and validation of the site.

Keywords: Industrial Ruins, Visual Storytelling, Cultural Revitalisation, Industrial Heritage, Cultural Memory, Design Framework.

INTRODUCTION

The most conspicuous but disputed aspects of most post-industrial landscapes are industrial ruins. Many former factories, warehouses, rail yards, mines, energy plants and transport infrastructure commonly emerge as vacant spaces or underutilized spaces following the process of deindustrialisation, technology and economic restructuring. They may be read as outmoded infrastructure, yet they hold material remnants of labour, production, migration, class identity, and community formation. Recent heritage studies similarly interpret post-industrial ruins as contested cultural environments rather than neutral residues of economic decline (Kisiel, 2021; Della Lucia and Pashkevich, 2023). This is the reason why industrial ruins are not only material residues, but cultural writings that need to be read thoroughly. The principles of international industrial heritage underpin this interpretive obligation. According to the TICCIH Nizhny Tagil Charter, industrial heritage refers to the remnants of industrial culture which have historical, technological, social, architectural, and scientific significance, whereas the Joint ICOMOS-TICCIH Dublin Principles indicate that documentation, preserving meaning, communicating significance to the public, and connecting tangible remains to intangible memories are key aspects (TICCIH, 2003; ICOMOS and TICCIH, 2011).

These principles are particularly applicable to revitalisation projects, as reuse can physically conserve a site, but can also destroy its social memory where interpretive work is inadequate. Studies of adaptive reuse and

heritage revitalisation stress that conservation, public value, tourism, and sense of place must be balanced rather than reduced to commercial redevelopment (Scitaroci and Scitaroci, 2019; Suvarnananda and Kirdsiri, 2024). Visual narration presents an avenue to mediate between material traces and culture. Photographs, films, installations, archival juxtapositions, digital stories, and interpretive installations can arrange the ways people experience ruins, perceive layers of time, and relate decay to continuity and renewal. Visual storytelling, in this light, is not simply an aesthetic add-on to adaptive reuse; it can be a design approach to making industrial heritage available to view, touch, and feel socially.

The article fills a certain gap in the literature. Despite the extensive literature on industrial heritage, adaptive reuse, visual communication, and cultural memory, there are less studies that provide an integrated design focused model on how visual story telling can be systematised into cultural revitalisation practice. This article is thus aimed at synthesising secondary visual evidence and theoretical literature into a conceptual framework that can be used in future application in design, expert scrutiny and validation by communities. The article does not argue that the framework has been empirically tested; it is just a done-up hypothesis to be used and evaluated in the future.

LITERATURE REVIEW AND THEORETICAL GROUNDING

Industrial Heritage, Ruin Typologies, and Cultural Revitalisation

Industrial ruins have also been reinterpreted as a subject of heritage as a place of memory and identity, not as a place of residual spaces and eventual redevelopment. Their cultural meaning is not solely based on age or architecture but also in connection with labour history, technological systems, social organisation, and experience of community. This is the reason why international charters have been significant in the current study. The Nizhny Tagil Charter recognizes the industrial heritage in buildings, machinery, workshops, mills, mines, processing facilities and transport systems, energy infrastructures and other social spaces (TICCIH, 2003). The Dublin Principles also emphasise the fact that industrial heritage comprises of sites, structures, areas, landscapes, machinery, documentation and memories related to industrial activity (ICOMOS and TICCIH, 2011).

These principles also explain why a general framework must remain sensitive to different types of ruins. Examples of foregrounding include mining sites, environmental scarring, and workers' settlements; manufacturing plants, machinery, production processes, and labour organisation; transport ruins, mobility networks, and regional connectivity; and energy or utility plants, technological modernity, and public infrastructure (Carmona, 2021; Lian, 2023; Grazuleviciute-Vileniske and Zmejauskaite, 2025). Visual storytelling is not limited to one universal style because every typology has different material and symbolic implications. It necessitates an adaptable approach to determining what needs to be revealed, what needs to be viewed critically, and whose memory needs to be embodied. Cultural revitalisation is different from redevelopment because it concerns how a site can reclaim social purpose rather than merely economic purpose. Adaptive reuse may create tourism, leisure or commercial value; however, cultural revitalisation relies on whether new uses maintain memory, identity and public interpretation (Otis, 2024). This difference lies at the core of the article. The proposed framework is not aimed at taking over conservation, planning regulation, technical feasibility investigations, or community consultation, but rather at assisting interpretation-based design decisions.

Visual Storytelling in Post-Industrial Interpretation

Industrial ruins can be re-told through visual storytelling where images, symbols, spaces, and sequences are organised to create a narrative experience. Instead of treating a ruin as a lifeless object, visual narration places it in a dynamic relationship between past industrial life, present abandonment or repurposing, and potential cultural futures. Design research on cultural heritage further shows that embodied, interactive, and inclusive narrative practices can support public engagement with difficult or intangible heritage (Chu and Mazalek, 2019; Denni, 2024; Melis et al., 2024). Spiegel (2020) insists that visual storytelling has the potential to create socio-environmental knowledge by focusing attention and emotion. Garruccio (2020) also demonstrates the potential to convert deindustrial ruins into communicative memory spaces through the association of images with oral histories and social narratives.

Visual narratives can be created in a design context through archival exhibits, before-and-after image series, guided walking tours, graphic signs, film, illustration, projection, augmented reality, or spatial installation. These media render intangible heritage more visible as memory, emotion, and symbolic value are translated into visible forms that can be shared. Visual culture research also indicates that photographs, architectural images, and inclusive visual communication shape how audiences perceive authenticity, realism, and public meaning (Frosh, 2020; Bergera and de Esteban, 2022; Portugal et al., 2025). Nonetheless, there are dangers of visual storytelling as well. Romanticised figures of ruination can aestheticise abandonment in the absence of references to labour

exploitation, economic displacement, environmental destruction, or ownership contention.

Narrative Theory and Cultural Memory Theory

Narrative Theory clarifies why industrial ruins can be understood as more than physical artefacts. According to Ricoeur (1984), narrative coordinates temporal experience by connecting events into coherent patterns. Bruner (1991) further contributes that narrative is a cultural form of meaning-making through which people make sense of reality, identity, and social experience. Visual narrative scholarship similarly suggests that narrative comprehension depends on sequence, framing, and culturally learned visual conventions (Cohn, 2020; Martsin, 2018). Narratives may also be spatialised through paths, openings, imagery, comparisons, and signs that lead observers through time and meaning (Ryan et al., 2016). About industrial ruins, this implies that the presentation of visual elements to a visitor can influence perception: for example, whether the narrative starts with labour history, technological achievement, abandonment, environmental damage, or modern reuse.

Cultural Memory Theory explains the significance of these narratives to society. Assmann (1995) refers to cultural memory as a system of symbolic forms by which communities stabilise and pass on collective pasts. Nora's (1989) idea of lieux de memoire demonstrates how memory may attach to physical locations when living memory is at risk or has been altered. Erll (2011) also notes that cultural memory circulation is mainly centred on media and representation, while cultural semiotics highlights the relationship between memory, history, and symbolic systems (Lotman and Tamm, 2019). Industrial ruins can therefore carry memory; however, they do not speak spontaneously. They need interpretive mediation to relate material traces to collective meanings. Collectively, these theories underpin the key hypothesis of the article that visual storytelling can bridge industrial materiality and cultural memory through the organisation of time, symbolic resonance, and audience interpretation. They also prevent the framework from becoming a merely formal design tool. A story is not simply a series of attractive images, but a culturally enfranchised arrangement of memory, identity, struggle, and definition (O'Toole, 2018).

Conceptual Framework and Literature Gap

The new conceptual framework is proposed in Figure 1. Industrial ruins offer material traces, historical layers and typological identity as sources of narrative content. Visual storytelling acts as the meaning-making machine that deciphers the traces into forms of communication. Evidence and intervention are mediated by the design process via sequencing, material anchoring, curatorial decision and reflective revision. The cultural revitalisation is indeed seen as the desired end result, and here, part of it involves reconstruction of memory, identity, and communal cultural participation.

The research gap in those is thus an integrative and methodological gap. Most of the literature tends to discuss single projects, described as visual approaches, or isolation of heritage values, as compared to discussion of design processes. The missing element is an open-minded design-based synthesis bridging the principles of industrial heritage, visual storytelling methods and results of cultural revitalisation and the recognition of secondary evidence constraints. The article fills that gap by presenting a conceptual framework to be used and validated in future.

Conceptual Framework for Cultural Revitalisation

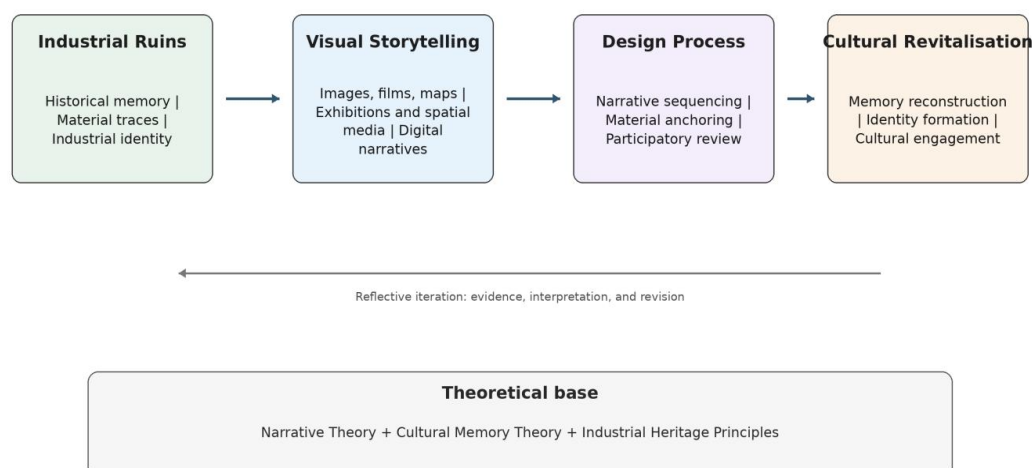


Figure 1. Conceptual Framework Linking Industrial Ruins, Visual Storytelling, Design Process, and Cultural Revitalisation

METHODOLOGY

Research Design and Article Scope

A qualitative secondary visual ethnographic design is employed in the research. Secondary visual ethnography is the systematic analysis of existing visual and documentary resources to analyze cultural meaning, representational practices and narrative forms. The approach best suits an exploratory article since most industrial heritage sites are already covered with archival photographs, documentary images, exhibition catalogues, architectural visualisations and design case studies. It is through these materials that the researcher will be able to make comparisons on how various sources understand industrial ruins in a time and place based on the culture.

The research also sets boundaries of the study. Secondary visual ethnography is able to determine recurring visual patterns and help synthesise ideas, but alone it cannot legitimate an operational design framework. To this end, the reformatted paper introduces the framework as a theoretical concept and relocatable hypothesis. Future research should test it through case studies, expert review, participatory workshops, visitor-response studies, or prototype-based research. This is especially important because participatory and inclusive heritage methods demonstrate that community interpretation cannot be inferred from images alone (Hamzaki, 2023; Nikolakopoulou and Koutsabasis, 2025).

Corpus Construction and Selection Criteria

In order to enhance the level of methodological transparency, the visual corpus was built using publicly available and scholarly referred secondary sources. To be included, sources had to meet five criteria: (1) they had to display industrial ruins or post-industrial heritage (visually); (2) they had to contain archival, documentary, exhibition, architectural, diagrammatic, or design-case content; (3) they had to deal with memory, narrative, adaptive reuse, industrial identity, or cultural revitalisation; (4) they had to provide sufficient contextual information to critically interpret the visual material; and (5) they had to be typologically and/or methodologically diverse. Sources were discounted when they were either purely technical redevelopment reports, anonymous internet pictures, promotional pictures which lacked any contextual description or even sources not directly related to industrial heritage. The corpus was not meant to be statistically representative. It was constructed as a purposive interpretive sample that could be used to support cross-source comparison, and design synthesis. Section 4.1 reports the analysed sources explicitly with their context, type of source, and analysis purpose.

Visual Narrative and Thematic Analysis

The analysis was based on visual narrative analysis and thematic coding. Both sources were assessed in terms of visual composition, framing, sequencing, temporal juxtaposition, symbolism, treatment of material traces, treatment of human presence, and relation between ruin and reuse. Thematic codes were memory, labour, decay, continuity, transformation, identity, authenticity, participation, and future orientation. The sequences of beginning-middle-end, archival/contemporary comparison, route-based interpretation, symbolic contrasting, and the past-present-future layering were used as examples of narrative codes. Patterns were compared after the first round of coding throughout the corpus and repeated strategies were extracted, which would become transferable design principles. It was a process that was abductive and not confirmatory: theory informed interpretation but the scheme was modified in reaction to recurring visual patterns in the corpus.

Framework Synthesis

The development of the framework was based on translating repeated visual patterns into design principles and arranging those principles into an operational sequence. Synthesis shifted from source audit to memory mapping, narrative sequencing, visual-spatial translation, participatory review, and analysis. These actions are not shown as an accomplished validation cycle. Rather, they outline how the model can be used in the future by designers and researchers in planning or testing a revitalisation project. This difference should not be ignored, since design-based research usually entails iteration, prototyping, feedback, and collaborative visual methods (Gaete Cruz et al., 2022). The present article only conducts the conceptual and analytical steps of that process. It is therefore a basis for future design-based research and not an ultimate tested tool.

Ethics, Reflexivity, and Source Bias

Ethical issues were those related to responsible use, attribution, and interpretation of secondary visual material. To reduce reliance on reproduced third-party figures, the revised manuscript incorporates author-created figures into the presentation of the conceptual and design frameworks. Published visual sources are considered and tabulated as analytical evidence, but original ownership remains with the authors or institutions cited. Reflexivity is required since visual sources are not objective records. Archival photographs may favour

institutional viewpoints; some design case studies may highlight positive results; exhibition materials may select emotionally affirmative images; and modern photographs may idealise decline. Studies of heritage authenticity, materiality, image-making, and industrial visual methods similarly warn that images can persuade, exclude, or simplify contested social realities (Van de Port and Meyer, 2018; Panetsos, 2024; Smith, 2024; Walby and Davis, 2024). This discrimination may exclude marginalised workers, residents, displaced communities, or environmental conflict. The analysis therefore treats all visual sources as mediated cultural artefacts rather than direct evidence of lived experience. This is also why the framework incorporates participatory review as a future requirement before any claim of cultural revitalisation can be advanced.

RESULTS: SECONDARY VISUAL ETHNOGRAPHIC ANALYSIS

Overview of the Analysed Visual Corpus

To make the evidentiary basis of the analysis transparent, the corpus was organised by source, industrial context or typology, source type, recurring visual patterns, and analytical contribution. As shown in Table 1, the corpus combines oral-history-based visual interpretation, adaptive-reuse and design research, architectural and art-historical image analysis, diagrammatic heritage models, comparative post-industrial case material, and systematic image-storytelling scholarship. This range enabled the study to compare how labour memory, material traces, temporal sequencing, symbolic contrast, spatial narrative, realism, and intangible cultural values are represented across different visual formats. The corpus was therefore used as a purposive interpretive sample to support thematic coding, cross-case comparison, and the development of the subsequent design principles and conceptual framework.

Table 1. Lays Out the Corpus Used for the Secondary Visual Ethnographic Analysis. This Addition Clarifies What Was Analysed and How Each Source Contributed to the Development of the Conceptual Framework

Source	Context / typology	Source type	Key visual patterns examined	Analytical role
Sattler (2015); Garruccio (2020)	Deindustrialising communities and Sesto San Giovanni; manufacturing/urban industrial landscape	Storytelling and oral-history based visual interpretation	Labour memory, deindustrialisation, image sequencing, social identity	Informed coding of industrial ruins as memory environments
Guidetti and Robiglio (2021)	Adaptive reuse of ruins; mixed industrial typologies	Design research and case-based visual discussion	Nonlinear reuse, ruin transformation, layered materiality	Supported the logic of iterative and nonlinear interpretation
Bergera and de Esteban (2022)	Architectural representation and realism; built environment imagery	Visual culture and architectural image analysis	Realism, abstraction, historical/contemporary representation	Used to interpret how architectural images mediate memory and perception
Art UK (2016)	Hubert Robert and ruin imagery; historical ruin representation	Curated art-historical visual source	Ruin aesthetics, human presence, labour, movement, narrative landscape	Provided a comparative historical precedent for ruins as narrative images
Tao et al. (2025)	Industrial heritage protection and spatial narrative; industrial heritage landscapes	Published diagrammatic model and case discussion	Past-present-future sequence, authenticity, renewal, digital heritage	Supported temporal layering and spatial narrative coding
Wang and Hou (2024)	Post-industrial heritage landscape design; Shougang and comparative projects; manufacturing/steel heritage	Published design case analysis and comparative visual material	Preserved structures, new cultural use, landscape routes, visual cognitive schemas	Informed cross-case synthesis and illustrative framework application
Lotfi et al. (2023)	Image-data storytelling methods; cross-domain visual narrative systems	Systematic review and workflow model	Image sequencing, storytelling pipeline, human assessment	Supported the translation of visual patterns into procedural steps
Peng et al. (2025)	Architectural images and community-built environments	Diagrammatic model of visual and non-visual architectural meanings	Building form, colour, scale, texture, aesthetic, artistic, spiritual, regional, and historical values	Informed coding of visual attributes as carriers of intangible cultural value

Source: Author, based on the cited secondary corpus.

Industrial Ruins as Carriers of Cultural Memory

The initial repeating pattern was the characterisation of industrial ruins as cultural memory bearers. Throughout the corpus, the gaze was repeatedly drawn towards machinery, structural scars, weathered surfaces, production spaces, thresholds, and marks of human use. These elements served as narrative anchors: they connected the modern audience with past labour, technological systems, and modes of collective identity. This aspect upholds Cultural Memory Theory in that material remains gain significance when they are interpreted as mnemonic evidence rather than merely as wear and tear. The analysis also suggests that visual proximity matters. Close-ups of deteriorated surfaces, abandoned equipment, markings, or broken buildings are more likely to render the past of work physical, whereas panoramic shots at a distance tend to project the site as an abstract terrain. Visual methods research on mining and industrial ruins confirms that both views can be analytically useful, but each carries different ethical and interpretive limits (Walby and Davis, 2024). The two modes are helpful, but they yield divergent memory. The choice of whether to begin a visual sequence with the whole landscape, the system of production, the trace of the worker, or the path of the contemporary visitor should therefore be made purposefully within a culturally sensitive design process.

Temporality and Narrative Sequencing

The second arrangement was the laying down over time. The past, present, and future often stand in relation to each other in the context of archival photographs, comparative imagery, spatial narrative models, and adaptive reuse case studies. In this sequencing, the audience is stimulated to realize the industrial heritage as a process, not an historical event. One example is Tao et al. (2025), who frame industrial heritage by use of spatial narrative phases that relate authenticity, city renewal and digital heritage. In the current analysis such temporal organisation guided the principle of narrative sequencing. Narrative sequencing can be spatial, visual, or curatorial.

One pathway through an old factory could start with the entrance of raw material, operate through manufacturing machinery, and finally, the reuse by the community. An exhibition of photos can be initiated with labour photos, and continue with abandonment and finally contemporary cultural programming. A digital layer can be superimposed over lost industrial functions of current architecture. The order of time in both instances provides meaning to the sequence. This analysis thus indicates that sequencing is not just a presentational device; it is also a fundamental interpretive choice.

Symbolism, Identity, and Transformation

The third trend was symbolic contrast which was used to convey identity and change. Where there can be a contrast between decay and renewal, darkness and light, old-fashioned machineries and new cultural utilization, industrial weightiness and ease of access by the populace, and so on in visual sources. Such contrasts may convey the messages of resilience and transition, but should be applied prudently. By making the idea of renewal too celebratory, it can drown out a history of joblessness, ecological harm, displacement, or contentious redevelopment. Razed industrial ruins also act as a local identifying factor. Manufacturing sites can be symbolic of working-class organisation and production pride; mining sites can be symbolic of extraction, danger and change to the environment; transport facilities can be symbolic of movement and of regional interconnectedness; energy facilities can be symbolic of technological modernity and of state infrastructure. The identical visual approach can thus result in various meanings in typologies. These differences should have prompts to interpret to give, instead of a prescription of a specific narrative template.

Cross-Case Synthesis and Typological Limits

The repeated patterns in visuals identified in the corpus have been summarised in [Table 2](#) and have elucidated how each pattern differs in the various typologies of industrial ruin. This addition is in response to the desire to differentiate mining and manufacturing landscapes and transport, energy, and mixed industrial landscapes than perceiving all industrial ruins in the same way.

Table 2. Cross-Case Visual Patterns and Typological Considerations

Visual pattern	Design meaning	Relevant ruin typologies	Caution / limitation
Material traces as narrative anchors	Machinery, scars, surfaces, and structural remnants connect visual interpretation to labour and production history.	Manufacturing, mining, energy, transport, utilities	Material traces may be over-aestheticised or detached from worker experience.
Temporal juxtaposition	Archival and contemporary images connect abandonment, adaptation, and possible futures.	All typologies, especially sites with documented change over time	Before-and-after narratives may simplify conflict or present redevelopment as inevitable progress.
Spatial sequencing	Routes, image order, and exhibition design structure how audiences encounter memory.	Factories, rail yards, power stations, warehouses, mines open to visitors	The sequence can privilege institutional narratives unless community review is included.
Symbolic contrast	Decay/renewal and industrial/cultural contrasts communicate transformation.	Manufacturing and urban industrial landscapes; also extractive sites	Symbolic renewal may obscure environmental damage, displacement, or job loss.
Aesthetic restraint	Retaining roughness and incompleteness can protect authenticity.	Sites where original fabric remains visible	Too much restraint may reduce accessibility or safety; too much polishing may erase significance.

Source: Author, synthesised from the corpus listed in Table 1.

From Visual Patterns To Design Principles

The cross-case synthesis yields five transferable design principles: narrative sequencing, material anchoring, temporal integration, symbolic resonance, and aesthetic restraint. As detailed in Table 3, each principle is translated into a definition, a practical design question, and a potential output. These principles should be understood as analytical propositions derived from secondary visual evidence, not as empirically confirmed rules; they are intended to help designers formulate more precise questions before developing visual or spatial interventions.

Table 3. Revised Design Principles Derived from Secondary Visual Ethnography.

Principle	Definition	Design question	Potential output
Narrative sequencing	Ordering images, spaces, and media so that audiences can follow a meaningful temporal and spatial story.	What should the visitor/viewer understand first, next, and last?	Story route, exhibition sequence, storyboard, digital timeline
Material anchoring	Using retained industrial fabric as the primary evidence base for interpretation.	Which traces should remain visible because they carry labour, technological, or social memory?	Material inventory, photographic atlas, interpretive signage
Temporal integration	Connecting past industrial use, present condition, and future cultural use.	How can redevelopment be shown as continuity rather than erasure?	Before/after overlays, archive-present projections, layered maps
Symbolic resonance	Using visual metaphor carefully to connect local identity with wider cultural meanings.	Which symbols communicate renewal without romanticising loss?	Visual identity system, curated images, public artwork
Aesthetic restraint	Avoiding excessive polishing or spectacle that removes evidence of industrial life.	How much roughness should be retained for authenticity while ensuring access and safety?	Conservation brief, display guidelines, material treatment plan

Proposed Conceptual Design Framework

As illustrated in Figure 2, the framework begins with a source audit and proceeds through memory mapping, narrative sequencing, visual-spatial translation, participatory review, and evaluation. It is deliberately cyclical, because feedback should inform revision before implementation or publication. The framework should therefore be understood as a conceptual design tool: it can guide practitioners in organising evidence and planning interpretation, but it has not yet been tested through a real-site intervention. The proposed evaluation criteria identify the issues to be examined in future testing, including material authenticity, the visibility of labour and local memory, the inclusion of community voices, the readability of the temporal sequence, and the balance between commercial reuse and cultural interpretation.

Proposed Conceptual Design Framework through Visual Storytelling

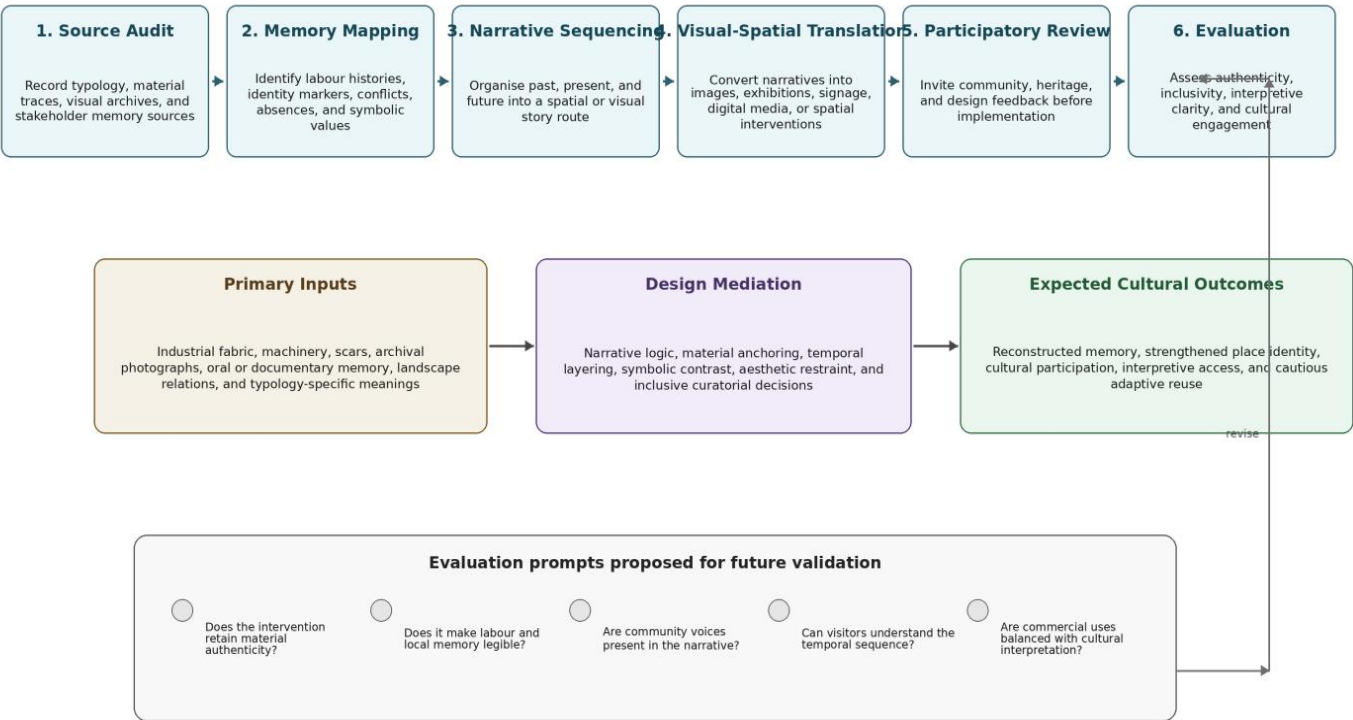


Figure 2. Proposed Conceptual Design Framework for Cultural Revitalisation through Visual Storytelling

Illustrative Desk-Based Application to a Manufacturing Heritage Site

In order to bring the conceptual framework to a more pragmatic level without overemphasizing empirical validation, the Table 4 shows an illustrative application of the concept to a manufacturing-typical industrial heritage setting in a desk-based manner. The example is based on the published discussion of post-industrial heritage landscape design and Shougang Industrial Cultural Heritage Site in Wang and Hou (2024). It is not a case study that has undergone field testing but rather an organized demonstration of how the framework may be applied in a future design exercise.

Table 4. Illustrative Use of the Framework for a Manufacturing-Type Post-Industrial Site

Framework stage	Application to manufacturing heritage	Example output	Evaluation question
Source audit	Identify preserved furnaces, machinery, workshops, transport links, worker routes, archival photographs, and redevelopment documents.	Visual inventory and heritage evidence sheet	Which material traces best represent the industrial process and labour memory?
Memory mapping	Map relationships among production, workers, surrounding neighbourhoods, environmental change, and contemporary cultural use.	Memory map linking site zones to social meanings	Whose memories are represented, and whose are absent?
Narrative sequencing	Organise a route from industrial production to abandonment, adaptation, and current cultural programming.	Storyboard or visitor route	Does the sequence clarify time without simplifying loss or conflict?
Visual-spatial translation	Use signage, archival overlays, exhibition graphics, retained machinery, projection, or digital media to interpret each route section.	Interpretive design package	Are visual interventions anchored in evidence rather than decorative branding?
Participatory review	Invite former workers, local residents, curators, designers, and heritage professionals to review the proposed narrative.	Feedback log and revised narrative plan	Does the narrative have local legitimacy?
Evaluation	Assess visitor understanding, authenticity, inclusivity, and balance between cultural interpretation and commercial reuse.	Evaluation checklist and reception study	What evidence shows that cultural revitalisation has occurred?

Source: Author, using the framework proposed in Figure 2 and the manufacturing heritage context discussed by Wang and Hou (2024).

DISCUSSION

According to the revised analysis, an analysis of industrial ruins is more fruitfully carried out as a narrative environment rather than independent and physically determined artefact. Visual storytelling can trigger cultural memory through foregrounding material traces, spatial sequence, and linking the past industrial life with the current and future cultural utilisation. This observation is in line with Narrative Theory, which stresses the temporal and event organisation into meaning, and Cultural Memory Theory, which describes the way in which material and symbolic media assist collective memory. The article also explains how there is a distinction between a proposed framework and a validated design tool. The secondary corpus helps to identify regular visual patterns, yet it does not indicate the framework is going to be successful in practice. Assertions have thus been toned down across the amended text. The framework emerges as a methodical conceptual synthesis that can be used in designing subsequent design-based research, expert review or participatory testing. It is valuable in that the logic of its design can be made explicit: when redeveloping a ruin, rebranding it, or simply displaying it, designers are expected to recognize material traces, memory stories, time series, symbolic threats and criteria of measurement.

It is also mentioned in the discussion that the issue of community participation should not be a marginal suggestion. Industrial heritage is a way of living or inherited memories of employment, social class, displacement and environmental transformation. These experiences cannot be wholly expressed in secondary images. Participatory review is thus incorporated in the new structure as the required next step. Without it, visual storytelling can recreate institutional or commercial narratives and it might seem culturally sensitive. Lastly, the updated article makes the industrial heritage principles one of the ethical backgrounds of the framework. Nizhny Tagil Charter as well as the Dublin Principles dwell upon documentation, its meaning and awareness in the community. These objectives can be achieved with visual storytelling that is evidence-based, typology-sensitive, and revised. But when pictures are applied in the name of atmosphere, spectacle, or place branding, it may as well go to waste. The suggested principles of material anchoring and aesthetic restraint will be used to minimize this risk.

CONCLUSION, RECOMMENDATIONS, LIMITATIONS, AND FUTURE RESEARCH

This paper has explored the potential use of visual storytelling in the process of cultural revitalisation of industrial ruins. It conducted secondary visual ethnography and theoretical synthesis to find common patterns in visual representations associated with aspects of memory, time, identity, change, and authenticity. These tendencies were translated into five design principles namely narrative sequencing, material anchoring, temporal integration, symbolic resonance and aesthetic restraint. The article next put forward a conceptual design framework that summarises these principles in to a sequential process between source audit and evaluation. The article is not empirically validated but rather conceptually elucidated. It redefines visual storytelling as a potential interpretive design approach to industrial heritage, although it makes clear that experimental work in the future is necessary. The framework can assist designers, curators, planners, and heritage practitioners in organizing initial thinking, juxtaposing aesthetic approaches, and creating more culturally responsible interpretation. Nonetheless, it cannot be considered an exhaustive tool before it is put into practice and in actual environments.

Recommendations

To start with, visual storytelling must be a part and parcel of revitalisation projects as opposed to being introduced at a later stage when architectural or commercial decisions have already been reached. It can be achieved through early integration to synchronize redevelopment with cultural memory and heritage meaning.

Second, designers need to emphasise the authenticity of materials by preserving and explaining machinery, textures, structural scars, route systems, and other site-specific traces, links new uses to industrial history.

Third, time legibility should be achieved through narrative sequencing by revitalisation teams. The presence of routes, exhibitions, image series or digital layers should make people realise how the site transitioned between industrial production and abandonment, adaptation and reinterpretation of the site by new cultural uses.

Fourth, the participatory review must be integrated into the design process. They should invite former workers, the local community, community organizations, curators, conservation experts, and designers to try to determine whether the proposed visual narratives are factual, comprehensive, and make sense to the locals.

Fifth, an implementation must be planned prior to evaluation. Future developments are also to evaluate interpretive clarity, material authenticity, representation of the community, visitor comprehension, and tradeoffs between culture and commercial.

Limitations

The principal limitation is the use of secondary visual ethnography without primary fieldwork. The analysis will be able to tell trends of what has been published visually, but not how the local communities, visitors, former employees or heritage professionals will react to a planned intervention. Neither can it prove that the framework enhances cultural revitalisation in practice. The second weakness is source bias. Published design cases showcase successful or aesthetically attractive projects, and archival and institutional photographs might exclude daily labour, violence, displacement, or environmental destruction. Corpus also pays more consideration to the manufacturing and urban post-industrial landscapes rather than to mining, extractive, transport or utility ruins. Typology specific testing is therefore needed to use the framework widely. The third limitation is related to visual reproduction. Since some of the pertinent materials are covered by copyright or institutional ownership, the rewritten manuscript will utilize the diagrams and tabulated analysis created by the author instead of copying images created by third parties. Future submissions with external figures must seek permission or provide relevant copyright documents.

Future Research

The framework should be tested by future research based on at least one actual post-industrial location. Appropriate approaches include professional assessment, pilot design workshops with designers and heritage experts, participatory mapping with local communities, prototype exhibitions, visitor-response research, or a case-study implementation using mixed methods. This kind of work would enable the conceptual framework to be updated, confirmed, or challenged based on evidence. Digital and immersive storytelling, including augmented reality, virtual reconstruction, locative media, interactive documentary, digital interpretation of intangible heritage, and first-person immersive narrative, should also be discussed in further research (Giovannini et al., 2021; Ding, 2024; Hamzaki, 2023). Such technologies can widen access to lost industrial processes, although they must be considered critically so that they enhance rather than displace material authenticity and community memory.

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ETHICAL DECLARATION

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