

Beyond Adaptive Reuse: A Conceptual Framework of Retained Architectural Value

Andi Muhammad Farhan Radhi¹

¹Universitas Muslim Indonesia, Indonesia

Correspondence: amfarhanradhi@gmail.com

Article Info

Article History:

Received Aug 15th, 2026

Revised Aug 21th, 2026

Accepted Aug 30th, 2026

Keyword:

Adaptive reuse; Architectural continuity; Architectural legibility; Architectural tectonics; Retained architectural value.

ABSTRACT

Adaptive reuse was commonly identified through functional change, although projects carrying the same label retained very different degrees of pre-existing architectural order. This article developed Retained Architectural Value as a bounded conceptual construct for interpreting that difference. A qualitative conceptual design was used, supported by an integrative review of secondary scholarly literature and conceptual synthesis. The synthesis distinguished retained architectural value from heritage significance, circular value retention, building adaptability, and general project success. Three substantive domains were identified in the retained architecture. They concerned material–tectonic relations, spatial–configurational relations, and morphological organisation. Architectural legibility was treated separately as an interpretive condition through which those continuities could remain readable after transformation. The resulting framework was deliberately non-metric and did not assign weights or scores. It provided a focused vocabulary for discussing what architectural relations remained meaningful when reuse altered function, fabric, spatial order, and form, while leaving empirical validation and operational measurement to later research.



© 2026 The Authors. Published by Punggawa Legacy Center. This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>)

INTRODUCTION

Adaptive reuse has moved well beyond its earlier position as a conservation alternative to demolition. It now sits inside debates on building longevity and circular construction, while heritage management has become equally important as cities seek to keep ageing stock in use. Bullen (2007) established an early sustainability argument and Langston et al. (2008) developed reuse assessment. Later reviews by Li et al. (2021) and Vafaie et al. (2023) mapped increasingly elaborate research frameworks. That growth improved decision making, but the field is still better at explaining why reuse happens than at describing the architectural character that remains after transformation.

A reused building can keep much of its inherited order or almost erase it. Both outcomes may still be described as adaptive reuse because the category is anchored mainly in continued use and functional change. Plevoets and Van Cleempoel (2011), Bullen and Love (2011), and Arfa et al. (2022) approach reuse through transformation of an existing building rather than through a defined degree of architectural retention. The label says that transformation occurred. It says much less about what happened to the architecture through that transformation. This distinction matters when two projects share the same reuse status but retain very different structural and spatial orders. Their formal continuity and the readable relationship between old and new may differ just as sharply.

Several established literatures approach parts of the problem. Values-based conservation is concerned with significance and the cultural grounds for retaining a place (Fredheim & Khalaf, 2016). Authenticity research asks how change relates to inherited meaning and material historicity, as shown by Samadzadehyazdi et al. (2020) and Yazdani Mehr and Wilkinson (2020). Building adaptability examines whether buildings and spatial systems can accommodate change over time. Gosling et al. (2013), Conejos et al. (2014), and Mlote et al. (2024) approach that problem from different scales. Circular research instead prioritises continued utility and resource value. Foster (2020), Russell and Nasr (2019), and Lundgren et al. (2024) are used here to mark that different analytical object. These literatures are adjacent to the present problem, but none is a direct substitute for architectural continuity.

The distinction becomes clearer when physical survival is separated from architectural continuity. Retained material can lose the structural or assembly logic through which it once formed architecture. A conserved façade may remain visually prominent after the internal spatial hierarchy has been removed. The opposite can also occur. Selective replacement may leave less original matter while allowing an inherited spatial order or formal relationship to remain unusually clear. Tectonic writing in conservation similarly shows that the meaning of existing fabric depends on its constructional and structural logic. New intervention can preserve or disturb that logic, so material presence alone is insufficient (Theodossopoulos, 2022). Continuity is therefore not a simple question of how much fabric survives. It is also a question of whether inherited architectural relations remain operative in the new condition.

Recent work makes the gap harder to ignore, but it also requires a careful novelty claim. Matin et al. (2026) already use morphological continuity and selective legibility to read layered industrial heritage. Those ideas are therefore not presented here as newly invented terms. Their study is case based and documentation driven, whereas the problem addressed in this article is construct level. Across the bodies of literature examined here, continuity remains distributed among concepts with different primary objects. Some address significance or adaptability. Others are concerned with resource retention, morphology, or perception. A bounded architectural construct that integrates these relations is still useful because the analytical object is otherwise dispersed. The contribution lies in how the relations are bounded and assembled, not in claiming ownership over the vocabulary of continuity itself.

Retained Architectural Value is proposed for that purpose. RAV concerns the extent and manner in which pre-existing architectural qualities remain meaningful through adaptive transformation. The term value is not used as a market measure or as a universal hierarchy of importance. It refers to the continuing architectural relevance of relations that survive, change, or become difficult to read after intervention. This usage keeps RAV distinct from heritage valuation and from circular value retention. It also prevents the concept from becoming another general assessment of whether a reuse project is successful.

Two questions guide the article. How can RAV be distinguished from adaptive reuse and heritage value, and from the neighbouring concerns of circular value retention and building adaptability. What aspects of architectural continuity are required for a parsimonious framework that does not pretend to be a validated index. The argument developed below treats material–tectonic, spatial–configurational, and morphological continuity as substantive domains. Architectural legibility is positioned differently. It is the interpretive condition through which those continuities remain readable within the transformed building.

RESEARCH METHODS

The study used qualitative conceptual research supported by an integrative literature review and conceptual synthesis. This design suits a paper whose main task is construct clarification rather than effect estimation or empirical testing. Conceptual research can produce a defensible contribution when existing ideas are differentiated and recombined through an explicit chain of reasoning (Jaakkola, 2020). Integrative reviewing is similarly appropriate when relevant knowledge is dispersed across literatures that use different terms and analytical purposes (Torraco, 2005). The literature therefore served as secondary conceptual evidence rather than as a dataset for statistical aggregation.

Scopus and Web of Science were used as the main discovery sources, with the search updated through September 2026. Literature was selected purposively when it clarified the boundary between adaptive reuse and architectural conservation or between circular value retention and building adaptability. Architecture-specific work was added where tectonics, spatial configuration, morphology, or legibility required a stronger theoretical basis. Foundational studies were retained where they established durable concepts, while recent reviews and empirical papers were used to check whether the proposed boundaries remained defensible. Backward citation tracing added relevant earlier work. The procedure was intentionally not designed as a PRISMA review and no claim of exhaustive coverage is made.

Analysis moved from differentiation to synthesis. Definitions and explanatory claims were first compared according to what each concept treats as its primary object. The review then examined which architectural relations can persist despite functional change. Concerns that merely described project success were excluded from construct development. Material and constructional relations, spatial

organisation, and formal organisation emerged as substantive continuity domains. Literature on perception and legibility was considered separately because it addresses whether an order can be read rather than what physical or configurational order survives. That distinction became important in the final framework.

The resulting framework is interpretive. It does not assign weights, thresholds, or numerical scores to the domains. No claim is made that RAV predicts sustainability or heritage outcomes. User satisfaction and economic performance also remain outside the construct. The discussion is limited to conceptual distinctions and theoretically plausible relations supported by the secondary literature. Empirical operationalisation remains a later task. This boundary keeps the method light while allowing every claim in the discussion to be paid for by the type of evidence actually used.

RESULTS AND DISCUSSION

Conceptual Boundaries of Retained Architectural Value

Adaptive reuse and RAV describe different things. Adaptive reuse identifies a condition of transformation. It becomes relevant when an existing building is continued or converted for a renewed use, even though definitions vary around the extent of intervention. Bullen and Love (2010), Misirlisoy and Günçe (2016), and Arfa et al. (2022) all describe reuse through intervention in existing fabric rather than through a prescribed amount of continuity. RAV begins after that condition is accepted. Its object is the continuity of architecture within the transformed work. A project may therefore qualify as adaptive reuse while retaining little of the earlier spatial or tectonic order. Reuse status alone cannot be used as evidence that inherited architecture remains meaningfully present.

Heritage value sits closer to RAV but should not be merged with it. Values-based conservation asks why a place matters and whose meanings deserve recognition (Fredheim & Khalaf, 2016). Authenticity adds questions of historical credibility and the relation between inherited fabric and cultural meaning (Samadzadehyazdi et al., 2020). RAV does not decide whether a building is significant. It can instead describe weak or strong continuity in a building of high significance, and it can identify substantial architectural continuity in an ordinary building that carries little formal heritage designation. The analytical objects are different even when they overlap in practice.

Circular value retention has another object. Circular economy research seeks to keep utility and created value in use for longer through value-retention processes (Kirchherr et al., 2017) and Russell and Nasr (2019) develop that logic directly. Adaptive reuse can support the same agenda because structures and components remain in service, as Foster (2020) and Lundgren et al. (2024) show in building contexts. The retained value is not necessarily architectural. Resource value can persist when spatial order disappears. Architectural continuity can also remain legible after selective replacement of original material. Material persistence and architectural persistence should therefore be treated as related but non-equivalent outcomes.

Building adaptability is also temporally different from RAV. Adaptability research examines the capacity of a building to accommodate future change with limited disruption. This concern appears in the systems approach of Gosling et al. (2013), the adaptability models discussed by Conejos et al. (2014), and the broader review by Mlote et al. (2024). RAV reads a building after change has occurred. It asks what inherited architectural relations remain available in the transformed condition. This distinction matters because a highly adaptable building might permit extensive reconfiguration precisely by loosening the permanence of its internal order. Adaptability may help a building survive, but survival and architectural continuity are not the same construct.

Architectural Continuity and the Status of Value

The word value requires a narrower meaning than it carried in the earlier version of the framework. Continuity alone does not establish that every surviving feature is important, and RAV does not claim to rank the cultural worth of retained elements. Value refers here to the continued architectural relevance of relations that still organise or explain the transformed work. An inherited column grid, for example, matters to RAV when it continues to structure space or makes the constructional order intelligible. Its mere survival as detached fabric would provide weaker evidence. The construct is therefore relational before it is quantitative.

This position avoids a common slippage between survival, significance, and value. Heritage significance may justify why an element should be protected, but RAV is concerned with whether the

architectural relation carried by that element remains operative or readable after intervention. Conversely, a relation can remain architecturally coherent without being the most culturally significant feature of a site. RAV does not replace heritage assessment. It narrows attention to continuity within architectural organisation, leaving questions of cultural importance to the evaluative frameworks developed for heritage conservation.

Table 1 sets out these boundaries. The table is intentionally spare. It does not imply that the neighbouring constructs are internally uniform, nor that they never intersect. Its purpose is to keep the object of RAV from expanding into everything that may be considered valuable in adaptive reuse. That restraint is necessary because the reviews by Vafaie et al. (2023) and Zhang et al. (2025) show how easily adaptive reuse research becomes a broad inventory of concerns. RAV addresses only architectural continuity under transformation.

Table 1 Conceptual Boundaries of Retained Architectural Value

Construct	Primary object	Main question	Boundary from RAV
Adaptive reuse	Functional transformation and continued use	Has an existing building been adapted for renewed use?	Reuse status does not describe how much architectural order remains.
Heritage value	Cultural and historical significance	What is significant and why does it matter?	Significance can remain high even where a particular intervention retains little architectural continuity.
Circular value retention	Continued utility and resource value	How can existing value remain in use for longer?	Resource persistence does not require continuity of architectural relations.
Building adaptability	Capacity to accommodate future change	How readily can a building accept later change?	RAV reads continuity after transformation rather than capacity before it.
Retained Architectural Value	Architectural continuity under transformation	What pre-existing architectural relations remain meaningful and readable?	RAV is not a general measure of project success or heritage significance.

Substantive Domains of Architectural Continuity

Material–tectonic continuity concerns fabric together with the constructive relations that make fabric architecturally intelligible. Tectonics is useful here because material is understood through structural form and assembly rather than as an inventory. Architectural expression emerges from that constructional relation. Kim (2009) shows how structural appearance and materiality can define architectural space, while Theodossopoulos (2022) brings tectonic reasoning directly into conservation by examining the dialogue between old and new construction. Within RAV, the question is not how many original components remain. It is whether inherited constructional relationships still participate in the architectural order after adaptation. This makes the domain sensitive to how things are joined and organised, not only to whether the old material can still be found on site.

A masonry wall can survive while losing its structural role and its relation to the surrounding assembly. A steel frame can remain fully visible yet be detached from the spatial hierarchy it once generated. Such conditions should not be read in the same way as fabric whose constructional logic remains understandable as part of a continuing system. Circular studies on component reuse remain relevant because they document physical persistence. Foster (2020) and Sanchez et al. (2020) are useful examples. RAV adds a different requirement. Matter becomes architecturally retained when its constructive relations remain meaningful, not simply when material mass is conserved.

Spatial–configurational continuity shifts attention from objects to relations among spaces. Configurational theories of architecture treat spatial order as more than a collection of rooms. They examine the relational structure through which movement and adjacency are organised. Depth and perception are also shaped by that configuration (Rashid, 2012). Adaptive reuse often alters that structure because new programmes demand new circulation or subdivisions. RAV does not resist such alteration. It asks whether enough of the inherited relational order remains to participate in the new building. This makes the domain different from adaptability, which is concerned with the capacity to change rather than with the continuity observed after change.

Exterior conservation can conceal substantial configurational loss. A retained shell may preserve recognisable elevations while the internal spatial order is reorganised beyond recognition. The opposite condition is possible as well. A building may accept visible additions yet keep a strong internal hierarchy and sequence. These differences explain why façade preservation cannot stand as a proxy for

architectural retention. The spatial domain also helps avoid a material bias. Architecture can persist through patterns of relation even when some of the physical elements that once formed those patterns have been replaced.

Morphological continuity concerns the formal organisation of the building as an architectural object. It includes the relationship between mass and volume as well as the order of the envelope. Proportion and the disposition of major solids and voids also matter. Morphology is not the same as stylistic resemblance. Historic motifs can be copied onto a building whose underlying formal grammar has been substantially changed. A contemporary intervention may look deliberately new while leaving the inherited massing and volumetric hierarchy clear. Matin et al. (2026) demonstrate how morphological continuity can be traced across scales in adaptive reuse, which gives strong support to the domain while also showing that the concept itself predates RAV. The present framework therefore borrows an established architectural concern and gives it a more specific place inside a wider construct of retention.

The three substantive domains are not independent variables. Material changes can alter spatial organisation, and a reworked spatial hierarchy can change the perception of the whole form. Their separation is analytical rather than ontological. It allows uneven transformations to be described without pretending that architecture can be decomposed into isolated scores. A project may preserve massing but lose the internal order that once gave that massing meaning. Another may replace parts of the envelope while maintaining a clear structural and spatial logic. RAV is useful precisely because such combinations are common and are poorly described by a single statement that a building was retained.

Table 2 Analytical Structure of Retained Architectural Value

Analytical status	Domain or condition	Conceptual focus	Boundary condition
Substantive continuity domain	Material–tectonic continuity	Persistence of fabric together with constructional and structural relations.	Not equivalent to the amount of material reused.
Substantive continuity domain	Spatial–configurational continuity	Persistence of the relational organisation of space after functional change.	Not reducible to retained rooms, floor area, or façade.
Substantive continuity domain	Morphological continuity	Persistence of formal organisation across massing, volume, and envelope order.	Not synonymous with stylistic imitation or visual similarity.
Interpretive condition	Architectural legibility	Readability of retained material, spatial, and morphological relations within the transformed work.	Not a fourth additive variable and not mere visibility of old fabric.

Architectural Legibility as an Interpretive Condition

Architectural legibility should not sit beside the three continuity domains as if it were a fourth type of surviving substance. It concerns interpretation. O'Neill (1991) defines architectural legibility through the capacity of environmental features and spatial relations to support an intelligible mental representation of a building. RAV uses the term more narrowly, but the underlying distinction is valuable. A relation may physically survive yet become difficult to understand after intervention. Legibility therefore asks whether material, spatial, and morphological continuities can still be read as a coherent part of the transformed architecture.

This formulation also clarifies the relation with authenticity. Authenticity is culturally and historically wider than perceptual readability. A reconstructed element may be highly legible while raising difficult questions about authenticity. Original fabric may be authentic but so fragmented that its former architectural order is no longer clear. Conservation research has long warned against reducing historic buildings to detached objects or surfaces (Yazdani Mehr & Wilkinson, 2020). RAV keeps that caution but gives legibility a specific role. It works across the substantive domains and indicates whether continuity remains interpretable rather than merely present.

Physical presence without architectural relation is therefore partial retention. The claim is modest. It does not mean that every historic layer must be immediately visible, nor that ambiguity is a design failure. Buildings can contain deliberate complexity and layered readings. What matters is that RAV should not infer continuity simply from surviving objects. Where continuity in a substantive domain can no longer be related to an inherited architectural order, the evidentiary basis becomes weaker. This is why legibility belongs as an interpretive condition rather than as an additive component of a score.

The RAV Framework and Its Limits

Picture 1 places the three continuity domains below the process of adaptive transformation and treats legibility as the interpretive layer through which they are read. Retention, modification, and replacement are not categories assigned to whole buildings. They describe the kinds of change that may occur within each domain. RAV emerges from the relations among these conditions rather than from arithmetic addition. The framework can therefore accommodate a building with strong morphological continuity and weak spatial continuity without forcing the difference into a numerical average.

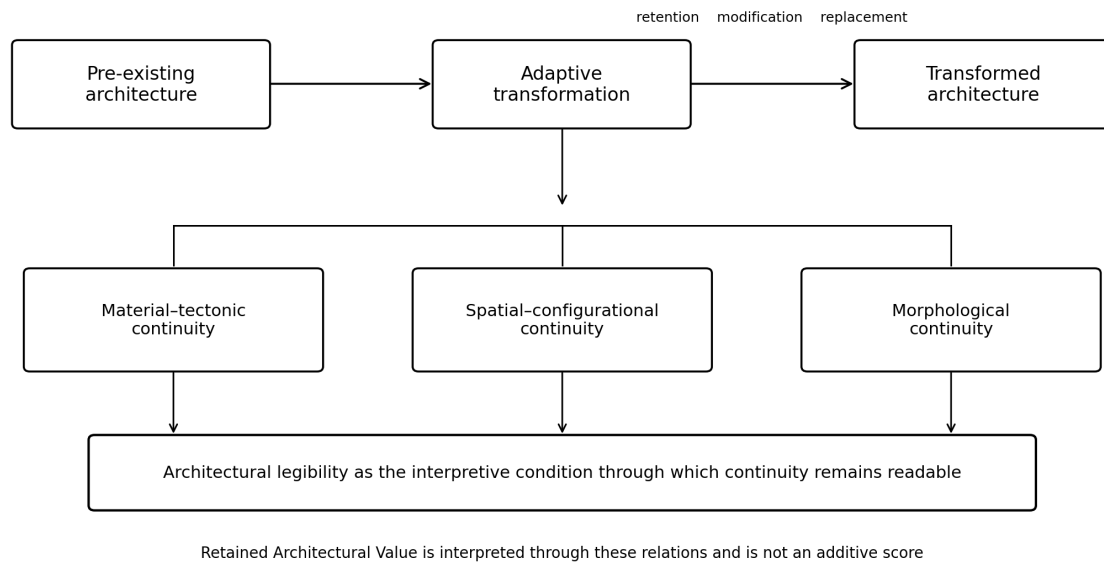


Figure 1 Retained Architectural Value Conceptual Framework

An index would be premature. Adaptive reuse already has scoring systems for reuse potential and decision support, and those tools are useful when the constructs being measured have operational definitions suited to comparison (Langston et al., 2008). RAV has not reached that stage. Equal weighting would imply a commensurability that has not been demonstrated, while context-specific weighting would immediately require another layer of validation. Keeping the framework non-metric avoids false precision. It also leaves room for later empirical work to determine whether particular building types or research questions require different forms of operationalisation.

The same restraint applies to practical claims. RAV may provide a vocabulary for design critique and comparative case reading. It could also inform conservation briefs, although this article does not demonstrate that practitioners will use it consistently. Its immediate use is analytical. It can make façade-centred retention easier to distinguish from continuity in spatial or tectonic order, and it can describe cases where selective new work helps inherited relationships remain readable. Those possibilities follow from the framework, although their reliability in practice still needs empirical examination.

RAV is compatible with circular thinking without becoming a circularity measure. Circular research has shown why extending the life of buildings and components can retain resource value and reduce pressure for replacement. Foster (2020) develops this argument for cultural heritage buildings, while Lundgren et al. (2024) examine value capture in adaptive reuse. Architectural continuity asks a different question about the order that remains within that continued use. The distinction prevents two opposite errors. A project should not be assumed to retain architecture simply because it retains matter, and a project should not be dismissed as architecturally discontinuous simply because carefully chosen new material has been introduced.

The construct is also deliberately orthogonal to project success. Adaptive reuse frameworks often bring many performance and governance concerns into one evaluative field. That tendency is visible in the review by Li et al. (2021), the methodological synthesis of Ma et al. (2025), and the framework developed by Zhang et al. (2025). RAV does not add another item to that inventory. A financially successful project may retain little inherited architecture. A project with strong architectural

continuity may still fail economically or environmentally. Keeping those outcomes separate gives the construct a clearer theoretical boundary and makes later empirical testing easier rather than harder.

CONCLUSION

Adaptive reuse becomes conceptually thin when functional transformation is allowed to stand in for the architectural character of that transformation. RAV addresses that problem by focusing on the continuity of pre-existing architectural relations within a changed building. It is distinct from heritage value because heritage value concerns significance. Circular value retention concerns continued utility and resources, while adaptability concerns capacity for future change. The construct does not decide whether reuse is good. It asks what architecture remains meaningful after reuse has occurred. Three substantive domains support that reading. Material–tectonic continuity concerns constructional relations, spatial–configurational continuity concerns the relational order of space, and morphological continuity concerns formal organisation. Architectural legibility has a different status because it indicates whether those continuities remain readable within the transformed work. The distinction matters more than a neat four-part diagram. It avoids treating physical survival as sufficient evidence and removes the false symmetry created when an interpretive condition is presented as though it were another kind of surviving architectural substance.

RAV remains a conceptual framework and should be judged at that level. It has not been validated as a metric and it does not predict sustainability, heritage outcomes, or project performance. Later studies can test how the domains behave in drawings, documented cases, or comparative building analysis. The present contribution is narrower. It establishes a bounded vocabulary for discussing continuity under transformation without turning adaptive reuse into another long list of success factors.

REFERENCES

- Arfa, F. H., Zijlstra, H., Lubelli, B., & Quist, W. (2022). Adaptive reuse of heritage buildings: From a literature review to a model of practice. *The Historic Environment: Policy & Practice*, 13(2), 148–170. <https://doi.org/10.1080/17567505.2022.2058551>
- Bullen, P. A. (2007). Adaptive reuse and sustainability of commercial buildings. *Facilities*, 25(1/2), 20–31. <https://doi.org/10.1108/02632770710716911>
- Bullen, P. A., & Love, P. E. D. (2010). The rhetoric of adaptive reuse or reality of demolition: Views from the field. *Cities*, 27(4), 215–224. <https://doi.org/10.1016/j.cities.2009.12.005>
- Bullen, P. A., & Love, P. E. D. (2011). Adaptive reuse of heritage buildings. *Structural Survey*, 29(5), 411–421. <https://doi.org/10.1108/02630801111182439>
- Conejos, S., Langston, C., & Smith, J. (2014). Designing for better building adaptability: A comparison of adaptSTAR and ARP models. *Habitat International*, 41, 85–91. <https://doi.org/10.1016/j.habitatint.2013.07.002>
- Foster, G. (2020). Circular economy strategies for adaptive reuse of cultural heritage buildings to reduce environmental impacts. *Resources, Conservation and Recycling*, 152, 104507. <https://doi.org/10.1016/j.resconrec.2019.104507>
- Fredheim, L. H., & Khalaf, M. (2016). The significance of values: Heritage value typologies re-examined. *International Journal of Heritage Studies*, 22(6), 466–481. <https://doi.org/10.1080/13527258.2016.1171247>
- Gosling, J., Sassi, P., Naim, M., & Lark, R. (2013). Adaptable buildings: A systems approach. *Sustainable Cities and Society*, 7, 44–51. <https://doi.org/10.1016/j.scs.2012.11.002>
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 10, 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Kim, R. (2009). The tectonically defining space of Mies van der Rohe. *arq: Architectural Research Quarterly*, 13(3–4), 251–260. <https://doi.org/10.1017/S1359135510000102>
- Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127, 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>
- Langston, C., Wong, F. K. W., Hui, E. C. M., & Shen, L.-Y. (2008). Strategic assessment of building adaptive reuse opportunities in Hong Kong. *Building and Environment*, 43(10), 1709–1718. <https://doi.org/10.1016/j.buildenv.2007.10.017>

- Li, Y., Zhao, L., Huang, J., & Law, A. (2021). Research frameworks, methodologies, and assessment methods concerning the adaptive reuse of architectural heritage: A review. *Built Heritage*, 5, 6. <https://doi.org/10.1186/s43238-021-00025-x>
- Lundgren, R., Kyrö, R., & Olander, S. (2024). The lifecycle impact and value capture of circular business models in the built environment. *Construction Management and Economics*, 42(6), 527–544. <https://doi.org/10.1080/01446193.2023.2279743>
- Ma, Y., Roosli, R., Cao, Z., Zhang, X., Gai, Y., & Ma, Z. (2025). From isolation to integration: A methodological review of adaptive reuse in industrial heritage buildings. *Energy and Buildings*, 348, 116474. <https://doi.org/10.1016/j.enbuild.2025.116474>
- Matin, S., Yasar, D., Kucukali, U. F., Kaymak Heinz, G., & Rezaeifam, S. (2026). Reading layered industrial heritage through graphic documentation: Adaptive reuse, morphological continuity, and selective legibility at Cibali. *Buildings*, 16(11), 2254. <https://doi.org/10.3390/buildings16112254>
- Misirlisoy, D., & Günçe, K. (2016). Adaptive reuse strategies for heritage buildings: A holistic approach. *Sustainable Cities and Society*, 26, 91–98. <https://doi.org/10.1016/j.scs.2016.05.017>
- Mlote, D. S., Budig, M., & Cheah, L. (2024). Adaptability of buildings: A systematic review of current research. *Frontiers in Built Environment*, 10, 1376759. <https://doi.org/10.3389/fbuil.2024.1376759>
- O'Neill, M. J. (1991). Evaluation of a conceptual model of architectural legibility. *Environment and Behavior*, 23(3), 259–284. <https://doi.org/10.1177/0013916591233001>
- Plevoets, B., & Van Cleempoel, K. (2011). Adaptive reuse as a strategy towards conservation of cultural heritage: A literature review. *WIT Transactions on the Built Environment*, 118, 155–164. <https://doi.org/10.2495/STR110131>
- Rashid, M. (2012). On space syntax as a configurational theory of architecture from a situated observer's viewpoint. *Environment and Planning B: Planning and Design*, 39(4), 732–754. <https://doi.org/10.1068/b37071>
- Russell, J., & Nasr, N. (2019). Value-retention processes within the circular economy. In N. Nasr (Ed.), *Remanufacturing in the Circular Economy* (pp. 1–29). Wiley. <https://doi.org/10.1002/9781119664383.ch1>
- Samadzadehyazdi, S., Ansari, M., Mahdaveinejad, M., & Bemaninan, M. (2020). Significance of authenticity: Learning from best practice of adaptive reuse in the industrial heritage of Iran. *International Journal of Architectural Heritage*, 14(3), 329–344. <https://doi.org/10.1080/15583058.2018.1542466>
- Sanchez, B., Rausch, C., Haas, C., & Saari, R. (2020). A selective disassembly multi-objective optimization approach for adaptive reuse of building components. *Resources, Conservation and Recycling*, 154, 104605. <https://doi.org/10.1016/j.resconrec.2019.104605>
- Theodossopoulos, D. (2022). Tectonics of conservation technology. *Architecture, Structures and Construction*, 2, 629–636. <https://doi.org/10.1007/s44150-022-00070-9>
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356–367. <https://doi.org/10.1177/1534484305278283>
- Vafaie, F., Remøy, H., & Gruis, V. (2023). Adaptive reuse of heritage buildings: A systematic literature review of success factors. *Habitat International*, 142, 102926. <https://doi.org/10.1016/j.habitatint.2023.102926>
- Yazdani Mehr, S., & Wilkinson, S. (2020). The importance of place and authenticity in adaptive reuse of heritage buildings. *International Journal of Building Pathology and Adaptation*, 38(5), 689–701. <https://doi.org/10.1108/IJBPA-01-2020-0005>
- Zhang, Q., Ali, Z. M., & Abidin, N. Z. (2025). Sustainable adaptive reuse of historic buildings: Development of a framework from systematic review. *npj Heritage Science*, 13, 619. <https://doi.org/10.1038/s40494-025-02155-2>