CONTEMPORARY APPROACHES IN ARCHITECTURE

The Role of Architecture in the Circular Economy



Editors

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PREFACE

Cultural heritage plays a significant role in driving sustainable urban development. As both an economic and cultural asset, it stimulates economic growth, enhances urban livability, and contributes to environmental adaptability. Moreover, the reuse of abandoned or underutilized heritage buildings and cultural landscapes offers a practical alternative to demolition, bypassing the wasteful processes of destruction and new construction, and thus prolonging the lifespan of cultural assets.

The adaptive reuse of cultural heritage can be instrumental in circularizing the flows of energy, raw materials, and human and cultural capital. In this regard, it plays a vital role in the transition towards a circular economy. Beyond its environmental significance, adaptive reuse also generates substantial economic, social, and cultural benefits. Reusing historic buildings, sites, and landscapes enables diverse communities to attach new meanings and values, strengthening local identity and shared urban memory.

Recent UNESCO policy frameworks reaffirm the central role of culture in sustainability and resilience. The MONDIACULT 2022 Declaration redefines culture as a "global public good" and a fundamental dimension of sustainable development, emphasizing its relevance for climate action, digital transformation, and inclusive governance. Similarly, the Re|Shaping Policies for Creativity Global Report (2022) emphasizes the need for innovative cultural policies and cross-sectoral strategies to integrate culture into sustainable development agendas. Complementing these efforts, the UNESCO Culture|2030 Indicators framework (2019), implemented globally from 2020 onward) provides a robust evidence base for assessing the contribution of culture to the Sustainable Development Goals (SDGs), encouraging data-driven decision-making for cultural heritage management and adaptive reuse.

However, existing regulatory and planning tools are often not flexible enough to allow sustainable and circular transformation processes. Financial resources and funding schemes—largely dependent on public budgets—remain limited worldwide. Therefore, transforming cultural heritage and landscapes from being perceived as a financial burden into becoming a shared resource for collective memory, social inclusion, and sustainable growth has become an urgent necessity.

To achieve this, flexible, transparent, and participatory management tools are required to leverage the transformative potential of cultural heritage and to foster adaptive reuse practices. Cities must adopt

governance approaches that embrace complexity, encourage collaboration among diverse stakeholders, and view heritage as a dynamic infrastructure that evolves in response to societal needs and environmental imperatives.

Adopting a circular economy and sustainable development perspective, this book aims to address this critical gap in the field of architecture and the built environment. It introduces innovative economic and environmental models, as well as digital and analytical techniques, that can be effectively employed in the adaptive reuse of historic buildings. By linking theoretical perspectives with practical applications, the book demonstrates how architectural practice can contribute to the transition toward a circular, low-carbon, and culturally resilient future.

The chapters compiled within this volume explore this theme from multiple perspectives. Case studies such as Thermal Heritage in Transition: Kükürtlü Bath, Bursa, Türkiye exemplify the integration of heritage conservation with environmental performance and adaptive reuse. Methodological and technological contributions—including Circular Economy Principles in Preface

Cultural heritage is increasingly recognized as a catalyst for sustainable urban development and a cornerstone of the circular economy. As both an economic and cultural asset, it contributes to economic vitality, enhances urban livability, and supports environmental adaptability. The adaptive reuse of underutilized or abandoned heritage buildings and landscapes offers a compelling alternative to demolition, as it avoids resource-intensive construction processes while extending the lifespan, functionality, and meaning of cultural assets.

This approach resonates with the principles of the circular economy, where flows of energy, materials, and cultural capital are reconfigured to minimize waste and maximize value. Adaptive reuse not only mitigates environmental impacts but also generates significant economic, social, and cultural benefits. By reactivating heritage assets, communities can reconnect with their past, foster inclusive urban narratives, and strengthen their collective identities.

UNESCO's Culture: Urban Future report (2016) first emphasized that "culture is both an enabler and a driver of sustainable development," highlighting the transformative potential of heritage in shaping resilient cities. Building upon this foundation, the Policy Document on World Heritage and Sustainable Development (2015) called for heritage-based strategies that integrate environmental, economic, and social dimensions through inclusive governance and adaptive reuse. More

recently, the MONDIACULT 2022 Declaration reaffirmed culture as a global public good and a core dimension of sustainability, directly linking it to climate action, digital transformation, and social inclusion. The Re|Shaping Policies for Creativity Global Report (2022) further expanded this perspective by emphasizing the need for innovative cultural policies and cross-sectoral frameworks that integrate culture into sustainable development agendas. Complementing these policy directions, UNESCO's Culture|2030 Indicators Framework (2019–2023) provides evidence-based metrics to evaluate the contribution of culture to the Sustainable Development Goals (SDGs), promoting data-driven and accountable decision-making for cultural heritage management. Together, these instruments reaffirm that adaptive reuse—when grounded in circular and sustainable principles—can serve as a powerful mechanism for resilience, creativity, and inclusive growth.

Despite this growing recognition, regulatory frameworks and planning tools often lack the flexibility to support circular and sustainable transformation processes. Financial constraints—especially the reliance on public funding—further limit the scope of adaptive reuse initiatives. As noted in the European Commission's Horizon 2020 CLIC Project (2020), unlocking the potential of cultural heritage requires "innovative governance models, circular business strategies, and participatory financial mechanisms" that treat heritage not as a cost, but as a regenerative resource.

To reposition cultural heritage as a foundation for circular practices, cities must adopt transparent, adaptive, and engaging tools to manage change while embracing complexity. This calls for a paradigm shift that sees heritage not as static memory, but as dynamic infrastructure for sustainability.

This book, Contemporary Approaches in Architecture: The Role of Architecture in the Circular Economy, responds to this urgent need. It brings together innovative models, methodologies, and case studies that demonstrate how architectural practice can integrate circular economy principles, particularly through the adaptive reuse of historic buildings. The book bridges environmental, economic, and cultural dimensions, offering a forward-looking framework for architects, planners, and policymakers committed to shaping resilient and regenerative cities.

The volume opens with the chapter "Thermal Heritage in Transition: Kükürtlü Bath, Bursa, Türkiye," which exemplifies how the adaptive reuse of historic thermal architecture can balance conservation with

technological modernization. Subsequent chapters expand this focus to broader sustainability frameworks, such as "Circular Economy Principles in Building Construction Management: Pathways to Sustainability" and "Adaptive Re-use of Heritage Buildings: A Cornerstone for Circular Economy in the Built Environment."

The book's middle section explores the integration of BIM-based and digital LCA tools, presenting methodological frameworks and case applications, including Life Cycle Assessment of a Cultural Heritage Building in Turkey Based on Digital Modeling: Integration of ArchiCAD and One Click LCA, and The Use of Life Cycle Assessment Tools in the Restoration of Historical Buildings: The Case of OpenLCA.

Further contributions—such as Assessing Sustainability of a Turkish Cultural Heritage Building through Revit Tally-Based Life Cycle Analysis, and Comparative Analysis of Life Cycle Assessment Results Conducted Using Different Software in the Kükürtlü Historical Bath Building—critically evaluate methodological compatibilities and limitations. These analyses are complemented by discussions on integrating LCA and LCC approaches to assess alternative structural systems, as well as explorations of artificial intelligence and textile waste reuse in the context of architectural circularity.

The final chapters, including Circular Economy and Life Cycle Assessment (LCA) Based on Physico-Chemical Effects in Pneumatic (Inflatable) Structured Sports Buildings: Bursa Case Study, expand the discourse to contemporary building technologies and emerging materials, bridging heritage conservation with innovation-driven design.

Through these interdisciplinary contributions, the book positions architecture at the forefront of the circular transition—bridging environmental science, digital technology, cultural heritage management, and economic innovation. By uniting academic rigor with practical applicability, it offers scholars, practitioners, and policymakers a robust framework for rethinking how the built environment can become a regenerative agent within the circular economy paradigm.

This volume was developed within the editorial framework of the Journal of Architectural Sciences and Applications (JASA), which began its publication in 2016. Since 2021, JASA Editorial Board Members have overseen the publication of highly valuable e-books that make meaningful contributions to the architectural discipline. In 2024,

in collaboration with IKSAD Publishing House, a series of English-language, peer-reviewed international e-books will be produced to serve the evolving needs of architectural research and practice.

With this volume, we aim to deepen awareness of circular economy principles in architecture, highlight the transformative potential of adaptive reuse, and offer a concrete academic contribution to the field. The call for chapter submissions received a wide range of applications, from which 14 were critically selected through a rigorous peer-review process. We extend our sincere gratitude to all individuals and organizations who contributed to the completion of this book—including the authors, reviewers, IKSAD Publishing House, and Prof. Dr. Atila Gül, the General Coordinator of the Architectural Sciences book series.

We would like to express our sincere gratitude to all chapter authors for their intellectual contributions, dedication, and collaboration throughout the preparation of this volume. We are also indebted to the peer reviewers for their constructive feedback, which greatly enhanced the academic quality of the book. Our appreciation extends to the institutions and research centers that provided support and resources during the editorial process, as well as to the publishing team for their professionalism and patience. Any remaining shortcomings are entirely our own.

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OCTOBER, 2025

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Bibliometric Analysis of the Relationship Between the Adaptive Reuse of Cultural Heritage and the Circular Economy

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1. Introduction

Cultural heritage is not merely a matter of preserving the physical remains of the past; it has also become a dynamic field where social identity, economic vitality and environmental sustainability intersect. Over the past twenty years, the preservation of heritage sites has increasingly been addressed not only as an aesthetic or historical necessity, but also as an integral component of sustainable development policies (Throsby, 2010; Licciardi & Amirtahmasebi, 2012). In this context, the adaptive reuse approach has emerged as a multi-layered method that combines both conservation principles and economic and social sustainability goals.

Adaptive reuse is a practice that directly contributes to the circular economy concept through the reuse of the existing building stock. Converting existing buildings instead of constructing new ones both reduces resource consumption and enables the preservation of spatial and historical continuity (Bullen & Love, 2011; Foster, 2020). However, repurposing is not merely a physical transformation; it is a process of reconnecting the social, economic, and cultural values of a structure with contemporary life. In this respect, it has become an important application area for sustainable and circular economy models that balance the economic value of heritage with the production of social benefits (Foster, 2025).

The economic dimension of this transformation is supported by empirical studies on the impact of cultural heritage on regional revitalisation. Bowitz and Ibenholt (2009) classified the direct, indirect, and derivative effects of cultural heritage investments, demonstrating that heritage-based tourism and restoration activities create a multiplier effect in local economies. This

proves that cultural heritage is a tangible component of economic growth and employment. However, for this effect to be sustainable, economic growth must be carried out in a manner consistent with conservation principles, social identity, and environmental balance.

In recent years, circular business models (CBM) have emerged to explain the economic value of cultural heritage in a more holistic way. This model, developed by Saleh and Ost (2025), defines heritage sites as 'circular ecosystems' in their economic, social and environmental dimensions. The CBM approach evaluates heritage conservation not only in terms of financial return on investment but also through multi-dimensional value creation (economic, social, cultural and ecological benefits). this process as a model based on multi-stakeholder and iterative learning cycles; thus, heritage sites become a platform for community-based production, social entrepreneurship, and creative economies.

Zhang, Gruhler, and Schiller (2023) have demonstrated that the implementation of circular economy principles in the built environment is directly related to spatial characteristics. Factors such as urban density, morphology, accessibility, and resource cycles are key variables that determine the scale and effectiveness of adaptive reuse strategies. This perspective demonstrates that the repurposing of cultural heritage should be evaluated not only in terms of conservation and economics but also in the context of spatial sustainability and resource efficiency.

From an economic sustainability perspective, the re-functionalisation of cultural heritage creates new employment and investment opportunities in local economies through public-private partnerships, creative industries, social entrepreneurship, and tourism-based development models (Shipley

et al., 2006; Duxbury & Richards, 2019). However, in this process, qualitative values such as conservation ethics, authenticity, social memory, and identity must be taken into account; otherwise, approaches focused on economic benefit risk weakening the layers of meaning represented by the heritage (Rodwell, 2016).

At this point, the principle of 'heritage for people and by people' set forth in the Faro Convention (Council of Europe, 2005) emphasises that re-functionalisation processes must be addressed not only in economic terms but also in terms of participatory and democratic governance. The knowledge, experience and production capacity of communities are seen as the most important source of cultural heritage sustainability (Smith & Waterton, 2013; Logan, 2007). Consequently, the contemporary approach transforms cultural heritage into a holistic sustainability paradigm that addresses its economic, social and environmental components.

Consequently, the re-functionalization of historic buildings represents a new approach to conservation that brings together the principles of spatial circularity, economic sustainability, and social participation This article examines how this transformation is reflected in the literature and evaluates the relationship between the circular use of cultural heritage and sustainable economic discourses through academic studies published between 2020 and 2025.

2. Material and Method

This study examines the effects of the sustainable reuse of cultural heritage on the curcilar economy using the bibliographic analysis method. The Web of Science database was searched using the keyword "adaptive reuse" along with the keywords "economy" and "heritage". The search was

limited to studies conducted between 2020 and 2025 on the topics of 'Environmental Studies' and 'Architecture'. Of the 33 articles obtained, one was excluded from the study as it was not relevant to the topic. The distribution of the 32 articles by year and how they addressed the relationship between heritage architecture and circular economy was determined. The articles examined were categorised into themes based on their content and interpreted.

In this study, only the WoS database was utilised in order to maintain methodological focus and data consistency. The exclusive use of WoS ensured that the data could be analysed in a consistent and comparable manner within a single indexing system. This preference is based on the principles of methodological clarity and analytical integrity rather than any qualitative difference between databases.

3. Findings and Discussion

This section presents the findings and interpretations derived from the thematic analysis of thirty-two academic articles identified from the Web of Science database. The aim is to reveal how the adaptable or circular use of cultural heritage is addressed within the context of sustainable and circular economies. First, the scope of the publications included in the analysis is summarised and the composition and characteristics of the data set are explained. Subsequently, the relationship between the thematic categories identified in the articles and the conceptual framework of the circular economy is discussed.

3.1. Publications Included in the Analysis and Examination of the Data Set

As a result of a comprehensive literature review conducted in the Web of Science database, 32 academic articles published between 2020 and 2025 were examined within the framework of the concepts of re-functionalisation of cultural heritage, circular economy, and circular development. These publications reflect current trends and paradigm shifts in the field, covering both theoretical approaches and practical examples. A significant portion of the studies show that cultural heritage is being redefined in terms of economic value creation, social participation, and environmental sustainability. The articles included in the analysis provide a rich comparative field for evaluating the multidimensional effects of adaptive reuse practices. These 32 articles, which form the core dataset of the research, reveal findings directly related to both the community-based approaches envisaged by the Faro Convention and the principles of the sustainable economy in terms of their content and thematic context. Table 1 shows a detailed list of these publications and the sample group used in the literature analysis.

Table 1. Articles Examined within The Scope of The Study (Web of Science).

Year	Author	Article Title
2020	De Gregorio, S et al.	Designing the Sustainable Adaptive Reuse of Industrial Heritage to Enhance the Local Context
2020	Cerreta, M et al.	A Creative Living Lab for the Adaptive Reuse of the Morticelli Church: The SSMOLL Project
2021	Girard, LF & Vecco, M	The Intrinsic Value of Cultural Heritage as Driver for Circular Human-Centered Adaptive Reuse
2021	Gravagnuolo, A et al.	A Participatory Approach for Circular Adaptive Reuse of Cultural Heritage. Building a Heritage Community in Salerno, Italy
2021	Dell'Ovo, M et al.	Enhancing the Cultural Heritage through Adaptive Reuse. A Multicriteria Approach to Evaluate the Castello Visconteo in Cusago (Italy)
2021	Bosone, M et al.	Indicators for Ex-Post Evaluation of Cultural Heritage Adaptive Reuse Impacts in the Perspective of the Circular Economy
2021	Pintossi, N et al.	Assessing Cultural Heritage Adaptive Reuse Practices: Multi-Scale Challenges and Solutions in Rijeka
2021	Kaya, DI et al.	An Empirical Analysis of Driving Factors and Policy Enablers of Heritage Adaptive Reuse within the Circular Economy Framework
2021	Pintossi, N et al.	Identifying Challenges and Solutions in Cultural Heritage Adaptive Reuse through the Historic Urban Landscape Approach in Amsterdam
2021	Marika, G et al.	Adaptive Reuse and Sustainability Protocols in Italy: Relationship with Circular Economy
2021	Pickerill, T	Investment Leverage for Adaptive Reuse of Cultural Heritage
2021	Giani, F	Process Proposal for Adaptive Reuse and Social Promotion of Ecclesiastical Buildings
2021	Cellucci, C	Circular economy strategies for adaptive reuse of residential building
2021	Bosone, M & Lodice, S	Strategies for the Adaptive Reuse of the Former Augustinian Monastery in Vicopelago
2021	Vythoulka, A et al.	Protection and Revealing of Traditional Settlements and Cultural Assets, as a Tool for Sustainable Development: The Case of Kythera Island in Greece
2021	Acri, M et al.	Regenerating the Historic Urban Landscape through Circular Bottom-Up Actions: The Urban Seeding Process in Rijeka
2021	Stanojev, J & Gustafsson, C	Smart Specialisation Strategies for Elevating Integration of Cultural Heritage into Circular Economy
2022	Giannakopoulos, D et al.	Reuse of Historic Buildings in the Medieval City of Rhodes to Comply with the Needs of Sustainable Urban Development

2022	Nocca, F & Angrisano, M	The Multidimensional Evaluation of Cultural Heritage Regeneration Projects: A Proposal for Integrating Level(s) Tool-The Case Study of Villa Vannucchi in San Giorgio a Cremano (Italy)
2023	Pintossi, N et al.	Challenges of cultural heritage adaptive reuse: A stakeholders-based comparative study in three European cities
2023	Vardopoulos, I et al.	Urban buildings sustainable adaptive reuse into tourism accommodation establishments: a SOAR analysis
2023	Della Spina, L	A Prefeasibility Study for the Adaptive Reuse of Cultural Historical Landscapes as Drivers and Enablers of Sustainable Development
2023	Valdiviezo, AC	Adaptive reuse: Its potential role in sustainable architecture and its relationship with restoration and rehabilitation
2023	Mazzetto, S & Vanini, F	Urban Heritage in Saudi Arabia: Comparison and Assessment of Sustainable Reuses
2024	Angrisano, M et al.	Multidimensional Evaluation Framework for Assessing Cultural Heritage Adaptive Reuse Projects: The Case of the Seminary in Sant'Agata de' Goti (Italy)
2024	Andrade, MJ et al.	Reuse of port industrial heritage in tourist cities: Shipyards as case studies
2024	Della Spina, L	A Decision Support Evaluation Framework for Community-Based Collaborative Urban Regeneration Processes
2025	Margono, RB et al.	Revitalizing Japan's Vacant Houses: A Sustainable Approach Through Adaptive Reuse
2025	Alraouf, AA	Msheıreb, Doha: The Urban Regeneration Ofa Deteriorated Herat.Authentic Contemporary And Cultural Localism
2025	Ghoz, L	A multidisciplinary categorization of challenges of reuse of residential buildings
2025	Barelles-Vicente, E et al.	From Ruin to Resource: The Role of Heritage and Structural Rehabilitation in the Economic and Territorial Regeneration of Rural Areas
2025	Xiong, JY et al.	A Study on the Defensive Characteristics and Sustainable Conservation Strategies of Ming Dynasty Coastal Defence Settlements in Fujian

Articles published between 2020 and 2025 that addressed the relationship between the circular use of cultural heritage were found to focus on four distinct themes. These themes are: “Examples of religious/industrial/rural heritage”’, “Economic sustainability and investment models”,

"Community-based/social economy models", and "Tourism-based adaptive reuse" (Figure 1).

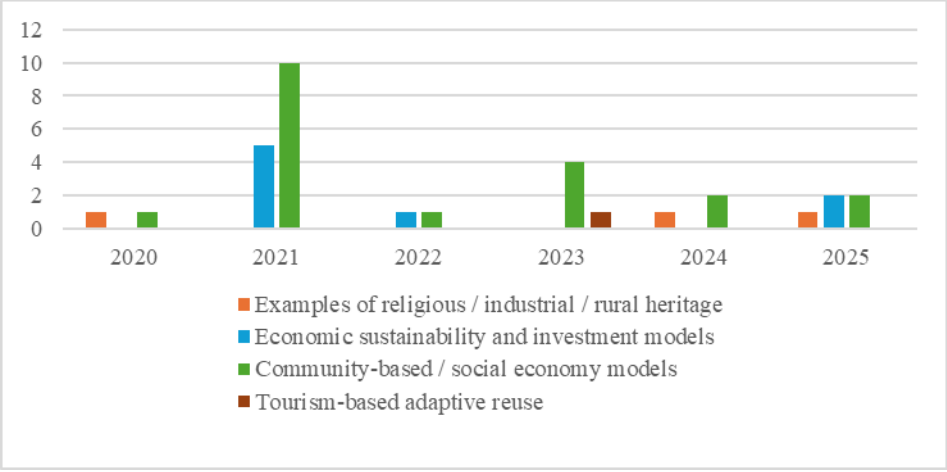


Figure 1. Distribution of the articles examined by year and theme (Created by author)

The graph shows thematic trends in the repurposing of historic buildings in studies published between 2020 and 2025. According to the data, the most significant increase during this period occurred in 2021 under the heading 'community-based/social economy models'. This year, it stands out by a wide margin compared to all other themes, indicating an intense debate in the literature centred on the participation of local communities and social solidarity economies. This is particularly significant as it coincides with a period when the concepts of community solidarity and local development have been brought back to the agenda, especially due to the impact of the COVID-19 pandemic. The Faro Convention emphasises that heritage is not merely an object to be preserved, but a vehicle for human rights, democratic participation and social well-being. Accordingly, cultural heritage is not an element of property but a 'living resource' that strengthens communities' identities, values, and sense of

belonging (Council of Europe, 2005; Logan, 2007). The intensity of 2021 in the graph points to a period when this paradigm matured in the academic sphere. Post-pandemic themes of increased solidarity, local production, and the ‘commons’ have led to a re-examination of Faro's community-centred definition of heritage in the current context (Smith & Waterton, 2013; Sofaer et al., 2021).

Looking at 2020, it is seen that the themes were addressed in a very limited number of studies, with ‘religious/industrial/rural heritage examples’ and ‘community-based models’ being explored at a rudimentary level. In 2022, a significant decline was observed across all themes; this year can be interpreted as a transitional period marked by a general weakening of academic output.

A renewed dynamism is noticeable in 2023 and 2024, with ‘community-based/social economy models’ as well as ‘tourism-based re-functionalisation’ and ‘religious/industrial/rural heritage examples’ gaining particular momentum. This trend indicates that the topics of sustainable tourism and the multifunctional use of cultural heritage are being revisited in the literature.

By 2025, it can be said that the thematic distribution has achieved a more balanced structure. The renewed prominence of ‘economic sustainability and investment models’ signals that the financial sustainability dimension of conservation policies is back on the agenda. The continued presence of ‘community-based’ and ‘tourism-focused’ approaches during the same period indicates that re-functionalisation practices have entered a multidimensional paradigm shift.

Ultimately, the graph reveals a general trend towards social-economic participation models in 2021, followed by a transition to a balanced approach incorporating economic, tourist and typological diversity. This finding points to a holistic transformation process in which community participation, economic sustainability and tourism-based strategies are addressed in a complementary manner in the re-functionalisation of cultural heritage.

3.2. The Relationship Between Themes and Circular Economy

This section analyses the methodological approaches developed by the examined articles to increase the contribution of the reuse of cultural heritage to a sustainable economy. Although these studies can be conceptually linked to one another, the recommendations have been categorised under four main themes and addressed within a thematic framework to enable a detailed assessment.

3.2.1. Community-based and social economy models

The theme consists of studies focusing on the active engagement of local communities in heritage conservation and the production of social value. These studies argue that community ownership of heritage, as envisaged by the Faro Convention (2005), increases conservation success. Defined by concepts such as ‘heritage commons,’ ‘participatory governance,’ and ‘social innovation,’ these approaches aim to involve local communities in decision-making processes and enable them to benefit directly from economic gains. Thus, conservation moves beyond mere physical intervention to become part of processes of social solidarity, identity building, and inclusive development.

3.2.2. Economic sustainability and investment models

Articles highlighted in the second theme reveal that economic sustainability is a decisive factor in the success of repurposing projects. Models proposed in this context include public-private partnerships (PPPs), social entrepreneurship approaches, heritage funds, and micro-investment mechanisms. The studies indicate that traditional public funding is insufficient for the preservation of heritage sites, and therefore multi-source financial models (e.g. EU funds, local development agencies, private sponsorships) have become important. This finding shows that the economic value of cultural heritage is increasingly recognised, but that it must be managed within a framework that respects preservation principles and ethics.

3.2.3. Examples of religious, industrial and rural heritage

This group includes studies that comparatively examine the processes of re-functionalising heritage sites of different typologies. Concepts such as identity, sanctity and belonging come to the fore in the re-functionalisation of religious structures (e.g. churches, monasteries), while in industrial heritage examples, spatial transformation is observed to be integrated with cultural production, museology and creative industries. In the context of rural heritage, agricultural production, ecotourism, and local craft practices are instrumentalised in preserving heritage. This theme generally reveals that typological diversity enriches adaptive reuse approaches and that each type of structure requires its own unique socio-cultural sensitivities.

3.2.4. Tourism-based adaptive reuse

The studies included in this theme emphasise that cultural heritage structures can integrate with the tourism sector to bring together the goals

of economic vitality, identity representation, and sustainable conservation. It is stated that, particularly in urban centres and coastal areas, tourism-focused re-functions directly contribute to the conservation of structures, but that excessive commercialisation can weaken their authenticity and memory values. The studies suggest that experience-based tourism, cultural routes, and management models that prioritise local participation produce sustainable results in tourism-focused adaptive reuse. Thus, tourism is positioned not merely as an economic tool but as a 'living' part of heritage.

4. Conclusion and Suggestions

This study thematically analysed thirty-two academic publications published between 2020 and 2025, demonstrating how the re-functionalisation of cultural heritage has been reconceptualised through the lens of the circular economy paradigm. The findings indicate that cultural heritage has evolved beyond a mere focus on preservation, becoming increasingly intertwined with the principles of community well-being, economic resilience, and environmental circularity.

Thematic distributions reveal that the theme of 'community-based/social economy models,' which rose significantly in 2021, has strengthened the academic counterpart of the 'producing heritage for people and by people' paradigm envisaged by the Faro Convention (Council of Europe, 2005) in cultural heritage management. This trend has redefined heritage preservation around the axes of human rights, democratic participation, and social welfare, making participatory governance a central principle in heritage management (Smith & Waterton, 2013; Logan, 2007). In the post-pandemic period, increased global solidarity, local production, and the

influence of ‘commons’ practices have transformed heritage sites into collective production areas that enhance the economic and social resilience of communities.

After 2023, the resurgence of the themes of ‘economic sustainability and investment models’ and ‘tourism-based adaptive reuse’ signals a new phase of integration in the literature. Accordingly, adaptive reuse ensures the physical continuity of heritage while creating circular economic ecosystems through local entrepreneurship, creative industries, and social cooperatives.

These findings also deepen classical approaches to the economic impacts of cultural heritage. While Bowitz and Ibenholt (2009) reveal the direct, indirect, and derivative economic impacts of heritage investments, the thematic analysis of this study shows that these impacts are not only financial but also vary in terms of participatory and circular production forms. This situation reveals that cultural heritage has the potential to generate social capital and a solidarity economy beyond being an ‘economic asset.’

On the other hand, the principles of spatial circularity emphasised by Zhang, Gruhler, and Schiller (2023) remind us of the importance of local context and the built environment in the re-functionalisation of heritage. The findings show that tourism-based approaches concentrated in urban areas are integrated with ‘slow loop’ (reuse, repair) strategies, while ‘close loop’ (material recycling, local resource use) strategies are integrated in rural and industrial areas. Thus, cultural heritage has become a cyclical economic practice sensitive to spatial scale.

Overall, the literature from the 2020–2025 period points to a paradigm shift centred on three main axes regarding the repurposing of cultural heritage:

1. The rise of participatory social models (Faro principles and community-centred governance),
2. The strengthening of economic sustainability and investment-focused approaches (CBM and creative economy),
3. The redefinition of heritage as a living, productive ecosystem through tourism and spatial circularity.

This transformation clearly demonstrates that cultural heritage is not merely a value to be preserved, but a resource at the heart of social, economic and ecological reproduction. Cultural heritage therefore plays a strategic role in building the low-carbon, inclusive and resilient economic systems of the future.

A comprehensive assessment of the findings indicates that future research should particularly focus on deepening the following aspects: (i) measuring the effectiveness of community-based financial models (e.g. social cooperatives and community investment funds), (ii) analysing how circular strategies vary in local contexts at the spatial level, and (iii) developing interdisciplinary models for assessing the economic value of heritage alongside social welfare indicators.

Consequently, the re-functionalisation of cultural heritage, as an emerging paradigm at the intersection of conservation, development, and circular economy policies, is poised to become one of the main axes of sustainable urban and regional transformation in the future.

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The article complies with national and international research and publication ethics.

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