Herança – History, Heritage and Culture Journal
2025, 8(2), 1-16
ISSN: 2184-3090
https://revistaheranca.com

Research Article

Innovative Approaches to Conservation and Regeneration of Historical Buildings: Lessons from Chengdu Taikoo Li

Zheng Zeng [1*], Suhana Binti Johar [2], Nor Zalina Harun [3]

[1] PhD Student, Engineering and Built Environment, The National University of Malaysia, Negeri Selangor, Malaysia
[2] Dr., Engineering and Built Environment, The National University of Malaysia, Negeri Selangor, Malaysia
[3] Senior Research Fellow, Institute of the Malay World and Civilization, The National University of Malaysia, Negeri Selangor, Malaysia
* **Corresponding Author:** p114853@siswa.ukm.edu.my

Citation: Zeng, Z., Johar, S. B., & Harun, N. Z. (2025). Innovative approaches to conservation and regeneration of historical buildings: Lessons from Chengdu Taikoo Li. *Herança, 8*(2), 1-16. https://doi.org/10.52152/heranca.v8i2/1048

ARTICLE INFO

Received: 31 Jul 2024
Accepted: 27 Jan 2025

ABSTRACT

This study explores the conservation and regeneration methods employed at Chengdu's Taikoo Li, focusing on how these strategies preserve historical integrity while integrating modern urban needs. A qualitative research approach was adopted, utilizing secondary data analyzed through thematic analysis. Thematic analysis was chosen to identify patterns and key themes that align with the research objectives, such as adaptive reuse, sustainable practices, and the integration of modern technology with traditional architecture. The study reveals the successful blending of contemporary features like smart systems and eco-friendly materials with heritage buildings. However, challenges such as the complexity of balancing preservation with modern urban demands are also acknowledged. This study critically examines the specific conditions necessary for replicating Taikoo Li's success in other urban settings, noting that factors such as local cultural, economic, and environmental conditions must be considered. While the study emphasizes the achievements of Taikoo Li, it underscores the need for tailored approaches to historical regeneration. The research contributes to the broader discussion of sustainable urban development, offering a nuanced perspective on integrating modernity with heritage preservation.

Keywords: Historical Buildings; Symbiosis of Old and New Buildings; Chengdu Taikoo Li; Regeneration and Renovation.

INTRODUCTION

Historical building preservation and regeneration are important initiatives in the field of cultural heritage conservation. In the modern landscape, the conservation of historical structures has become a significant element in preserving the culture of the community (Bandarin & Van Oers, 2012). In this regard, the case of Chengdu's Taikoo Li stands out as the best example that preserves the cultural heritage of the China people through its innovative strategies. Chengdu Taikoo Li demonstrates how contemporary urban features combined with ancient architectural patterns revitalize and invigorate a city's cultural texture. In this context, the study of Y. Wang (2022) assesses the specific techniques used to preserve and restore Taikoo Li, focusing on Public-Private Partnerships as well as community inclusion. Chengdu Taikoo Li's innovative conservation strategies have implications that go beyond the mere preservation of buildings because they emphasize culture and the need for identity in urban development. The study of L. Li and Ryabkova (2020) specified that Chengdu Taikoo Li can find new approaches to integrate elements from the past into modern city structures. According to Husnein (2017), in their research, the integration of cultural heritage into urban areas not only increases visual charm but also creates a connection between the past and present. Among the most defining features associated with Chengdu Taikoo Li is its ability to maintain a balance between economic progress and cultural conservation (T. Wang, 2021). The research of Said, Zainal, Thomas, and Goodey (2013) emphasized that effective heritage-led regeneration projects can boost local economies while protecting historical integrity. The outstandingly successful combination of retail, dining, and as

well cultural spaces in Taikoo Li is clear proof of the economic feasibility of design to place historical buildings into modern city planning.

Nevertheless, in describing the reconstructive use of existing buildings it readily becomes clear that the transcendence factor goes with innovative solutions regarding historical conservation. According to Liu and Shen (2018), cities can learn from Chengdu Taikoo Li which converted old buildings into commercial places. Chengdu stands for a delicate balance between meeting contemporary needs while preserving historical identity with repurposing buildings to meet current requirements. In addition, cutting-edge technology is crucial in conserving and restoring historical locations. In this respect, Albourae, Armenakis, and Kyan (2017) emphasize the need to use the power of technology on platforms such as YouTube to preserve and restore historical buildings. In this regard, Chengdu Taikoo Li's adoption of the latest digital tools for mapping, restoration, and maintenance acts as a testament to how technology can improve efficiency processes related to preservation; Thus, providing valuable lessons to other cities in need of such strategies.

Hence, the case of Chengdu Taikoo Li could be considered a guiding light in the development of innovative conservation and regeneration of historical buildings something new for cities throughout the world. Through such initiatives as adaptive reuse, public-private partnerships, and community engagement measures taken to preserve cultural heritage in Chengdu create a premise for its sustainable urban development. With cities suffering from the challenge of preserving tradition while planning for development, the Taikoo Li case becomes an inspiration on how to come up with innovative solutions that incorporate historical conservation.

Problem Statement

There are a number of studies that highlight the context of the preservation and regeneration of historical buildings. For instance, the study by Bullen and Love (2011) assesses adaptive reuse practices within urban settings. Likewise, the study by Martinez Pino (2018) provides a detailed discussion of heritage conservation in historic neighborhoods. However, these studies do not address the context of preservation and regeneration strategies regarding Chengdu Taikoo Li. Hence, there is a gap in existing literature with respect to a more detailed analysis of conservation and regeneration practices employed by Chengdu Taikoo Li to preserve its historical integrity.

Therefore, the aim of this research is to investigate and evaluate the conservative, innovative, and regeneration methods employed by the Chengdu Takioo Li to preserve its historical authenticity. This study focused on the balance between restoring historical authenticity and adopting modern functionality, and so it will be tried out to determine the performance of the implemented methods to protect the historical buildings. The research intends to pinpoint how modern strategies are embedded into the historical background of Chengdu Taikoo Li during the process of creating a harmonious blend between the past and the future. Through such analysis, the study is meant to provide more information about the sustainable preservation and adaptive reuse of historical structures which will contribute to the conservation movement and methodologies on a broader scale.

The objective of this research is as below:

1. To evaluate the conservation and regeneration techniques applied in Chengdu Taikoo Li, focusing on preserving the historical integrity of the buildings.

2. To analyze the incorporation of modern methods in historical areas of Chengdu Taikoo Li, aiming to achieve a balance between contemporary functionality and the preservation of architectural heritage.

Research Gap and Rationale for Study

While numerous studies explore historical building preservation, there is a notable gap in the literature regarding the specific conservation and regeneration methods employed at Chengdu's Taikoo Li. Existing research typically focuses on general approaches without providing an in-depth analysis of the balance between modern functionality and historical integrity in this unique context. The innovative methods used at Taikoo Li present a significant opportunity to explore how urban regeneration can successfully blend the old and the new. This research aims to fill this gap and provide valuable insights into sustainable conservation practices.

LITERATURE REVIEW

This section analyzes the literature related to the study objectives and aims. It analyzes the Values-Based Approach to Heritage Conservation as well as the gap in the literature. The Values-Based Approach to Heritage Conservation is a conceptual model that views heritage preservation beyond the common perception, which restricts it only to maintaining edifice structures. This approach is important in the case of Chengdu Taikoo Li, as this approach accepts the fact that heritage sites have various values cultural, social, economic, and symbolic that

play a role in determining their meaning.

Strategies of Conservation and Regeneration

The cultural and architectural value of urban spaces with a historical background in a city cannot be overemphasized as a contribution to building identity and continuity. Nevertheless, as long as urbanization and development challenges face areas highlighted in the study of Ujang and Zakariya (2015), efficient strategies for conservation and regeneration will be critical to maintaining their individuality while ensuring that they remain functional. One of the important studies in this aspect is mentioned by Rodriguez-Izquierdo, Gavin, and Macedo-Bravo (2010) who suggested that community participation also played a major role when considering what was termed as 'contiguous'. The researchers maintain that the involvement of local citizens and residents as well as businesses, in decision-making enhances ownership feeling among them. For example, the renovation of a historic market square in Barcelona was carried out in partnership with the local community, guaranteeing that the initiative maintained the district's traditional beauty while also catering to the modern-day necessities of the people living there (Degen & García, 2012). Apart from citizen participation, adaptive reuse became an efficient method to revive historical urban locations as was demonstrated by Plevoets and Sowinska-Heim (2018). Adaptive reuse of old industrial buildings is making revival of neglected areas a mixed use choice that often includes art studios, cafes and offices, proving to be very vibrant, very energetic spaces. The Shoreditch district of London is a casebook example of this, of derelict warehouses, which are converted for a burgeoning creative industry architecture, which preserves its industrial past and responds to contemporary urban needs (Hobbs, 2004).

In addition, in their publication, Elnokaly and Elseragy (2013) state that preserving historical urban areas is an important role that sustainable development plays. Greening the areas and incorporating sustainable systems are the scholars' preferred ways as they not only enhance air quality but also offer sustainability. New York has a good example of the implementation plan done it for restoration is carried out to High Line where an old urban railway line that was no longer used thus replaced by a lush green park full of diverse sustainable recreational facilities and it could benefit both local citizens and tourists (Eldredge & Horenstein, 2014). In conclusion, a comprehensive conversation and regeneration strategy should be integral when maintaining urban spaces of historical significance. This type of approach will balance preservation needs with modern requirements. The fact that these areas are revitalized using adaptive reuse and sustainable practices, accompanied by active community involvement works in preserving cultural heritage sites. This integrated approach ensures sustainable living in historic urban areas.

Preserving Architectural Heritage through Modern Functionality

The ability to combine modern technological features with the preservation of architectural objects is one of the key factors for managing historical space, including their relevance and adaptation to new demands. According to Grove (2011) Adaptive reuse strategy breathes new life into old buildings, repurposing them for different functions while preserving their historical essence. For instance, as seen in New York a city in the US, The High Line project was initially a freight rail line elevated above the streets of Manhattan's West Side, The High Line has been transformed into a public park as seen in Figure 1 below (Zuccaro, 2020). This adaptive reuse project has become a model for converting industrial infrastructure into green urban space, promoting community engagement and sustainable design.

Figure 1. The High Line Park [Source: Zuccaro (2020)]

One another example of a building that adopts such a strategy is the Tate Modern building in London (Figure 2). This building Bankside Power Station, on the banks of the River Thames has been repurposed into one of the largest museums of modern and contemporary art in the world (Rodney, 2015). The Tate Modern is a prime example of how industrial structures can be reimagined to serve cultural and educational purposes, attracting millions of visitors each year. Furthermore, the study of Guerrero Baca and Soria López (2018) indicates that the architectural heritage is specially considered by means of sustainable design concepts. What their research claims is that even if historical nature were to be lost in the end then we should not compromise with usage of ecofriendly items. The restoration of a courthouse that emphasizes the use of energy-efficient lighting and heating systems shows how ideas about contemporary sustainability can pervade traditional masterpieces (Chang et al., 2014). Therefore, the aforementioned studies taken together reflect that one of the most important elements in preserving architectural heritage is the need to introduce contemporary features into this preservation. Adaptive reuse, innovative technologies and sustainable strategies are some of the most striking aspects by which historical buildings prove they can survive—a form of the 'something old and modern'—and direct evidence of increasing something old and modern.

Figure 2. Tate Modern, London [Source: Rodney (2015)]

Conservation Methods in Sustaining Historical Integrity

The conservation of historical integrity requires effective measures. In this vein, the research of Santana Quintero et al. (2012) underscores the value of documenting and monitoring the conservation of the historical integrity in the research context. Monitoring and testing of such change take place with constant and careful monitoring and continued assessment and one can see over the time how these changes changed and therefore how they could be predicted to indicate threats or to prescribe interventions timely. The preservation of Pompeii is mainly based on permanent control and constant documentation to prevent environmental and human effects to ensure the long lasting viability of this ancient structure (Hastings, 2014). In addition to this reuse strategy, adaptive reuse has become a primary method of conserving old buildings. Adapting old structures for modern use, but keeping a number of historical aspects is nearly the same strategy that is required. For instance, this was the case when Tate Modern was altered from being an industrial power station to becoming a world-renowned art gallery. The restoration in this plan is a coherent part of today's cityscape in part because the plan reforming whatever burned to ruin from within gives the building its own identity, the same.

Moreover, Hasan, Chowdhury, and Wakil's (2022) research also highlights that community engagement is an important step to successful conservation work. This socialization of the local community has the effect that there is a sense of responsibility and ownership when making decisions, and that they can, besides, more ensure that conservation practices can be maintained in the future. Additionally, as Cabeza, de Gracia, and Pisello's (2018) research suggest, the use of cutting edge technologies for the conservation of a historical building is of prime significance. Preservation experts, using 3D scanning and digital modeling, can generate precise models of historic edifices and assist in their analysis and renovation projects. Figure 3 shows, in particular, how integrating 3D technology helps one to restore the historical integrity of the building in this respect. In this sense, some

technological breakthroughs promote the maintenance of a certain site like Cambodia's Angkor Wat temple complex as they supply the documentation and restoration of its original design without distortion (Peou, Natarajan, Tianhua, & Philippe, 2016). In conclusion, conservation methods preservation helped to preserve historical integrity because of their documentation, the use of adaptive reuse, community participation and support by the use of innovative technologies. The above studies, subsequently show how different approaches can be used. With the application of these techniques, the historical sites' preservation takes the assurance that we can save history without letting the line between protecting history and integrating with modern living fade.

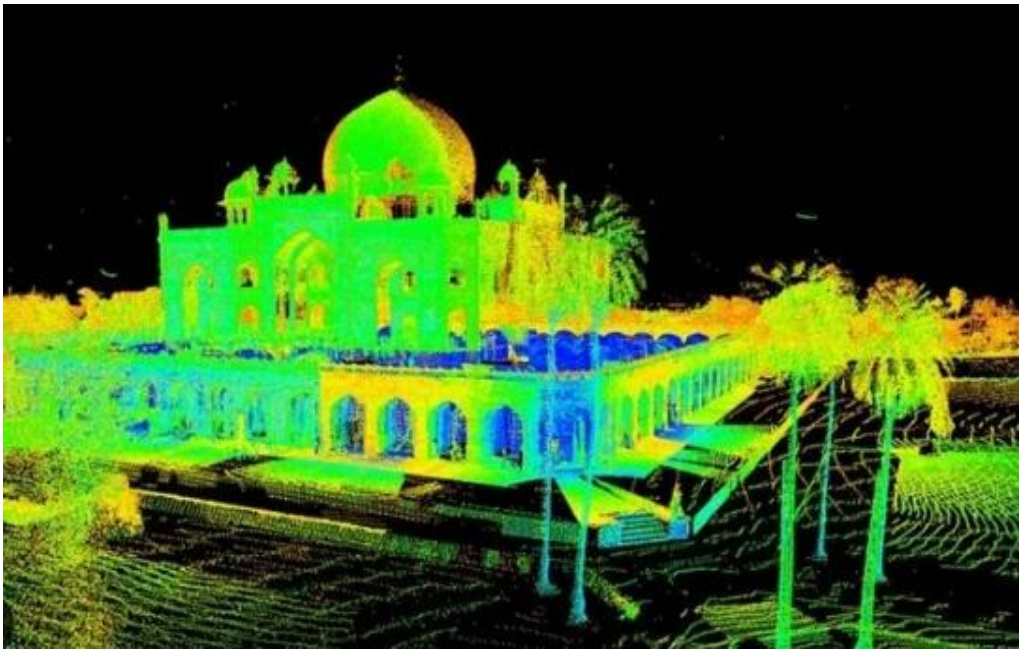

Figure 3. The Use of 3D to Preserve the Historical Buildings [Source: Sharma (2023)]

Tradition and Innovation in Urban Heritage Management

Urban heritage management is a complex, but essential task of the management of tradition and innovation. In this respect, the research of Apollonio, Gaiani, and Bertacchi (2019) focuses on the incorporation of naïve technology and urban heritage preservation. The public involvement is supported by incorporation of digital instruments like virtual or augmented reality that make the environment digitally immersive. For example, the use of augmented reality as it applies to Roman Forum renovation works in Italy provides the opportunity for people to obtain more knowledge about historical aspects of an ancient city by merging innovative technology with the past and thus creating an alliance between past and present to educate more about ancient history (Petrelli, 2019). Figure 4 illustrates how the virtual reality application aids in the reconstruction of ancient Roman structures. Furthermore, Chirikure and Pwiti (2008) note that the participation of local communities in decision-making processes ensures urban heritage management approaches are in harmony with the inhabitants of these areas, emphasizing the significance of community involvement. An example of this method can be seen in the historic district of Charleston, USA, where working together with the local residents helped to establish guidelines that protect the district's architectural legacy while also accommodating adaptive reuse to fulfil modern requirements.

Figure 4. VR App Reconstructs the Famous Rome Buildings [Source: Bond (2019)]

In addition, the research by Koohafkan and Cruz (2011) emphasizes the structural need for flexible strategies for managing interactions. Such an aspect can be justified after evaluating the current environment in cities because of its rapidly changing nature, which has necessitated the emergence of flexible heritage management plans to deal with challenges that keep on changing over time. The restoration process of Old Town Lijiang in China constitutes good practice for adaptive management the revision and adaptation to maintain cultural authenticity throughout shifts socioeconomic (Yang, 2014). This method facilitates a sensitive equilibrium between traditionalism and novelty so that the site remains up-to-date. Additionally, Guzman, Roders, and Colenbrander (2017) demonstrate the capacity of urban heritage management in terms of sustainable practice. The passage of eco-friendly initiatives is aimed at promoting environmental sustainability and waste control. The restoration project of Park Guell in Barcelona demonstrates the combination and alliance between sustainable planting designs while marrying with energy-friendly grounds by ensuring ecological awareness intersects directly at one location Antoni Gaudí's architectural conservation (Carlton, 2019). Figure 5 below depicts the Barcelona Park adaptation with regard to a sustainable landscape. To end, efficient management of urban heritage requires an intricate approach whereby the balance between tradition and formal innovation is maintained sensitively. The various methods that are used to deal with this fine balance of nature, include technological innovation, community involvement, and adaptive management. These methods not only enhance the reliability of the historical buildings but also retain the historical integrity of such buildings.

Figure 5. Barcelona Park [Source: Cuesta (2022)]

Values-based Framework to Heritage Conservation

The Values-Based Approach to Heritage Conservation is a conceptual model that views heritage preservation beyond the common perception which restricts it only to maintaining edifice structures. According to Poulios (2010), this approach accepts the fact that heritage sites have various values cultural, social, economic, and symbolic that play a role in determining their meaning. Instead of just looking at the architectural or historic value of a building, this focus emphasizes capturing and conserving various values related to heritage. Fundamentally, as Mason and Avrami noted (2002) the notion of VBA supports a wider inclusive view in conservation. It prompts various interest groups to have a more in-depth analysis of the general societal, cultural, and community values associated with historical buildings. These refer to the inclusion of local communities, recognition of intangible cultural elements, and consideration of economic potentials arising from heritage sites.

Using the Values-Based Approach to preserving and renewing historical architecture leads us to recognize the multi-perspective values that historical buildings contain. The study conducted by Amato, Andreoli, and Rovai (2021) emphasized that the Values-Based Approach assumes particular significance when innovative methods of heritage conservation, such as renovation and restoration of historical structures are taken into account. The study conducted by Olukoya (2021) supported the importance of using a Values-Based Approach that encourages stakeholders to consider how adaptive reuse not only helps to restore architectural integrity but also enhances and maintains inherited social and cultural values associated with these historically significant locations. By incorporating this approach into conservation plans, the practitioners will be able to develop a more integrated and community-based model for preserving cultural heritages in an ever-changing world of urbanization.

Literature Gap

Even though the literature on conservation and regeneration strategies in historic urban centers provides significant findings it also points out important deficiencies. Although the importance of community involvement, especially by Hasan et al. (2022), is engaged in its examination depth of issues and merits that arise from involving communities based on cultural backgrounds remains unexplored. Moreover, the current literature focuses on winning options only which leaves a space for capturing failed variants and obstacles in implementing strategies such as adaptive reuse more extensively. In addition, a critical analysis is missing in discussions to support the incorporation of contemporary functions into architectural heritage conservation regarding clashes between modern insertions and integrity with the history that calls for caution when developing effective strategies. Finally, although it has been identified that preserving historical integrity is crucial for sustaining conservation approaches there seems to be a clear lack of an overall strategy embracing documentation, public involvement, and the state-of-the-art technological breakthroughs in one comprehensive body. Attempts to fill these gaps will allow the preservation and restoration of historic urban areas to be treated more complexly, reasonably, and holistically.

METHODOLOGY

Research Method

This study employs a qualitative research method to analyze secondary data related to the conservation and regeneration strategies used in Chengdu Taikoo Li. The goal is to explore how these strategies maintain the historical integrity of the buildings while integrating modern functionality. Qualitative methods are chosen to gain a deep understanding of how innovative approaches, such as adaptive reuse and sustainability practices, contribute to the preservation of architectural heritage. This approach enables a comprehensive examination of how modern techniques blend with the cultural and architectural conservation of historical spaces.

Rationale for Database Selection

Secondary data for this study were gathered from reputable academic databases: Google Scholar, Scopus, Web of Science (WoS), and JSTOR. These databases were selected due to their comprehensive coverage of scholarly articles, historical documents, and resources relevant to the study of historical preservation and regeneration practices. They offer a broad range of peer-reviewed papers that are essential for an in-depth analysis of the subject. While other databases may exist, these sources were prioritized for their credibility, relevance, and access to high-quality, academic material.

Keywords and Search Parameters

The study utilized specific keywords to gather articles and resources. These keywords were designed to ensure comprehensive coverage of the topic and focus on the research objectives. Table 1 below lists the key terms used

during the search process.

Table 1. Keywords

Keywords	Purpose
"Chengdu Taikoo Li"	To locate studies and data on the specific case of Taikoo Li in Chengdu.
"Conservation strategies"	To identify articles focused on conservation approaches in urban settings.
"Regeneration of historical buildings"	To find research on the regeneration techniques applied to historical sites.
"Adaptive reuse"	To explore methods of reusing historic buildings for modern purposes.
"Cultural Heritage Preservation"	To gather studies on the cultural and social aspects of heritage conservation.
"Sustainability in historical restoration"	To identify sustainable practices in preserving historic architecture.
"Architectural heritage and modern functionality"	To understand the balance between maintaining historical integrity and integrating modern functions.

Source: Author

Research Sampling Technique

The purposive sampling technique was used to select Chengdu Taikoo Li as the case study. This method was chosen to focus on a site that exemplifies innovative conservation and regeneration strategies. By using purposive sampling, the research focuses specifically on the unique aspects of Chengdu Taikoo Li's preservation and how modern interventions have been implemented while preserving historical authenticity. This approach facilitates a detailed examination of the conservation techniques employed at the site and their impact on the local community.

Data Analysis

The thematic analysis was employed to evaluate the secondary data gathered from the selected databases. This approach allowed for the identification and analysis of key themes such as "Conservation and Regeneration Methods in Chengdu Taikoo Li," "Modern Functionality with Architectural Heritage," and "Bridging Historical Spaces with Contemporary Functionality." These themes were derived from the research objectives to systematically analyze conservation methods, assess the integration of modern technologies, and evaluate the success of these strategies in preserving both the historical and functional aspects of the site. The thematic analysis provides a structured framework for understanding how modern techniques align with the goals of preserving cultural and architectural heritage.

Ethical Considerations

This study adheres to ethical guidelines in conducting research. As secondary data was used, there were no concerns regarding informed consent, privacy, or confidentiality. The research ensured proper citation and acknowledgement of all sources to avoid plagiarism. Additionally, the findings and interpretations were presented objectively, maintaining transparency and accuracy in reporting the data gathered from the selected academic databases.

RESULTS

Chengdu Taikoo Li

Yin, Feng, Li, and Wang (2023) note that the district of Taikoo Li in Chengdu China is a good example of modernity and historical conservation at the same time and proposes preserving heritage. Chengdu Taikoo Li is a good case study of combining a conservation approach to heritage structures within the context of urban regeneration (L. Li & Ryabkova, 2020). Yeung (2020) points out that the Taikoo Li represents an obvious departure from the usual ways of preservation of architectural heritage throughout past times. Concretely, this project by Swire makes the historical sites seem not merely new but well embedded into modern life (Huang & Gu, 2023). This case of Chengdu Taikoo Li informs the world who are looking for novel ideas in conservation, showing preservation can be used as a blueprint scheme to generate economy and improve culture-building individuals (Figure 6 & Figure 7).

Figure 6. Chengdu Taikoo Li View

Figure 7. Shopping Malls in Chengdu Taikoo Li [Source: Tripadvisor (2021)]

Theme 1: Conservation and Regeneration Methods in Chengdu Taikoo Li

The conservation and regeneration strategies implemented in Chengdu Taikoo Li show how to retain the historical authenticity of the buildings. For example, the study of Liu and Shen (2018) considers the restoration of elaborated architectural elements decoration carvings as well as traditional roofing techniques that not only keep the historical look but also retain the cultural identity of Chengdu Taikoo Li. As can be observed in Figures 8 and 9 below. That not only increases its attraction as an area but also adds to the visual and cultural value of Chengdu Taikoo Li through originality prevention. In addition, the incorporation of contemporary technologies in the historical background is a manifestation of successful regeneration. Meanwhile, Sun and Manfredini (2020) focus on sustainable regeneration practices such as energy-efficient systems or the use of environmentally friendly construction materials. These approaches not only enhance environmental sustainability but also portray a progressive attitude in the direction of preserving Chengdu Taikoo Li's charm. Such a double orientation both to the historical roots and modern sustainable values allows for these two principles' harmonious existence.

Figure 8. Traditional Roof Style in Chengdu [Source: Lily Sun China Tours (n.d.)]

Figure 9. Chengdu Taikoo Li [Source: Swire Properties (2021)]

In addition, Chengdu Taikoo Li's conservation success also comes out in adaptive reuse tactics. For instance, the change of ancient architecture into functional spaces, however, this change does not damage their cultural identity. For example, in Chengdu Taikoo LI the transformation of forgotten warehouses into lively centers for culture or small exclusive shops will not only revive buildings but also maintain cultural values (Y. Wang, 2022). The restoration approach, the region harbors in Chengdu Taikoo Li is holistic and takes into account attention to detail, sustainability practices as well as adaptive reuse all of which guarantee peaceful coexistence between historically with modern-day sustenance. These varied strategies together solidify the cultural value of the site, ensuring a vibrant legacy that long outlasts them.

Theme 2: Modern Functionality with Architectural Heritage in Chengdu Taikoo Li

The concept of the Integration of Modern Functionality with Architectural Heritage in Chengdu Taikoo Li reflects on this balance in obtaining the preservation of historical aspects and making it possible to accommodate modern functionalities. Modern and innovative technologies at Chengdu Taikoo Li go beyond conservation and aim for practical functions of historical spaces (T. Wang, 2021). Some of the notable cases include the integration of smart technology in the architectural landscape besides embracing sustainable design principles. For example, the implementation of energy-saving lighting and climate control systems maintains the integrity of old structures while acquiring modern state-of-art quality in terms of energy standards. In addition, modern application of past

buildings for other uses such as turning old courtyards into fashionable coffee shops or cultural centers is a sign of adaptive reuse. As seen in Figure 10 below through the adaptive re-use strategy the old courtyards are transferred into the Modern Coffee shop. This approach ensures the architectural past and guarantees its relevancy with the local community. In this regard, the research of Bertolin and Loli (2018) underscores the importance of sustainable architecture interventions in achieving a well-balanced integration between the old order and changes. In conclusion, the commitment and investment demonstrated by Chengdu Taikoo Li towards a complex relationship between the conservation of heritage features coupled with modern-day uses results in an evolving environment that insinuates culture whilst assimilating both historical facets as well as contemporary aspects.

Figure 10. Modern Coffee Shop at Chengdu Taikoo Li [Source: Levy (2022)]

Theme 3: Chengdu Taikoo Li: Bridging Historical Spaces with Contemporary Functionality

Chengdu Taikoo Li employs an innovative approach to harmonically integrate modern functions without demolishing its historical spaces which are rich in history (Liu & Shen, 2018). This is even more highlighted through dynamic synergy in which the technology incorporated reflects a high level of advancement from a historical perspective. Thus, the new functionality is optimized in Chengdu Taikoo Li through the utilization of smart technologies for lighting, climate control, and security systems without undermining the historical value (Y. Li & Hu 2023). Such technological innovations do not only provide people with unique experiences but also help to preserve architectural heritage making them suitable for modern life. Also, sustainable design practices are another presentation of a fusion between historical and modern aspects in Chengdu Taikoo Li (Jiang, Liu, & Li, 2020). Using sustainable resources and practices, such as eco-friendly materials or energy-efficient systems plus the use of green spaces not only allows them to provide their services through an ecological perspective but also maintains the whole originality of how old this historical space is. Research conducted by Ferretti, Bottero, and Mondini (2014) illustrates the importance of sustainable design in conservation and preservation reconstruction methods, indicating its significance for historical heritage sites not only through theoretical means but also due to beneficial effects on the environment as well as structural conditions affecting old buildings. Hence, the efforts of Chengdu Taikoo Li to incorporate modernized techniques into historical landscapes, in the best possible way exemplify an achievement of a new and old state.

DISCUSSION

It is evident from the above findings that Chengdu Taikoo Li demonstrates innovative approaches to urban conservation and regeneration methods to keep its historical integrity within this modern landscape. It is one of the exemplary cases for the whole world that demonstrates how to keep a balance between modernity and preserving Chinese culture. In regard to the case study analysis on Chengdu Taikoo Li, different strategies of conservation and regeneration consistently feature instated as part of a multi-faceted practice. Plaiphum and Tansuchat (2023) point out that in the preservation of historical beauty, detailed restoration efforts are given

emphasis as reflected here. This also involves restorations of precision complex architectural artworks, including detailed carvings and roofing which not only preserves historical integrity but resonates the cultural value. It is clear from the findings of this study that all these architectural ornamentations play a significant role in preserving and sustaining cultural identity. Moreover, joining established technologies with other new ones that are congruent in harmony with the historical legacy is undoubtedly an essential part of successful regeneration. The results of this research were highlighted using Akpan, Wetzel, and Friedrich's (2021) comments, the use of sustainable regeneration techniques; eco-friendly materials, and an efficient system. Through these results one can conclude that Chengdu Taikoo Li's heritage is being saved with perceptiveness, the practices mentioned above preserve the historical integrity. Chengdu Taikoo Li is also characterized by reuse principles, which complement the conservation success. The reengineering of historical buildings into working zones, while keeping its word appearance by revitalizing unredeemed warehouses as viable cultural centers or boutique shops moves like a spark to the preservation and heritage worth preserving. Meanwhile, energy-saving lighting installations and climate control equipment that are implemented during the restoration of historical sites alongside reservation management allow for availing of the coveted sites. Similarly, the research results of Khalaf (2015) indicated distinguished touches of both technological and sustainable adaptation approaches that emerged closely in all projects on the sites possessing heritages.

Furthermore, the study spotlights sustainable design philosophy as the backbone of its historical attributes as experienced in the Chengdu Taikoo Li where it values the distinct part of the environment yet all-time preservation. The use of eco-friendly materials, renewable energy systems, and green areas is a direct indication that Chengdu Taikoo Li is a leading example of how sustainable design achieves the goals of both preserving the historic look of the area and helping the environment as stated in the research of L. Li and Ryabkova (2015). In addition, the incorporation of a digital interpretive component deepens engagement with historical places for strolling-in folk. The aspect of digital interactive portrays, seen in this research, is not only improving the visitors' experience but also developing cultural consciousness. Chengdu Taikoo Li's, the creation of a space, not just for real estate but also for communication opportunities and historical understanding. Furthermore, this concept explores the "culture versus development" dilemma, emphasizing the harmonious interplay of these factors such that a livable and functional city can be built with a rich cultural diversity. According to the findings, municipal authorities and policy-makers should assess their conventional methods of implementation in the framework of innovative alternative approaches where the preservation of historical sites becomes a part of modern city planning. In conclusion, this study fulfils all of its objectives by thoroughly analyzing the conservation and regeneration techniques used in Chengdu Taikoo Li. The findings highlight the balance between preserving historical authenticity and integrating modern functionality, contributing valuable insights to the field of urban conservation and regeneration.

CONCLUSION

In this study, the modes of innovative conservation and regeneration of historical integrity within contextual elements of modern urban functionality are explored at Chengdu's Taikoo Li. The study was conducted using the qualitative research approach and analyzed secondary data in terms of credible academic sources such as Google Scholar, Scopus, Web of Science, and JSTOR. In order to identify these key themes, a thematic analysis was done focusing on conservation strategies, sustainable design and the use of modern technologies. Results indicated that Taikoo Li is a good case of how historical preservation and contemporary urban needs can be balanced. Taikoo Li managed to preserve its cultural heritage through adaptive reuse and integration of energy efficient systems, eco-friendly materials and smart technologies to meet the demands of the modern society. The case shows how urban regeneration can lead to economic development without destroying the historical value.

The research also highlighted the critical role of public-private partnerships and community involvement in the regeneration process. The collaboration between local authorities, private developers, and the local community was essential in ensuring that the project not only preserved historical architecture but also contributed to the vibrancy and cultural identity of the area. The use of innovative technologies, such as digital interpretive tools and eco-friendly building materials, played a significant role in making the site both sustainable and functional. The successful preservation of Chengdu Taikoo Li underscores the importance of implementing strategies that maintain the authenticity of historical spaces while ensuring their relevance in the modern urban environment. Moreover, the findings suggest that similar conservation strategies could be applied to other historical sites around the world, contributing to the global discourse on sustainable urban development and heritage conservation. By analyzing the conservation and regeneration methods at Taikoo Li, this study has provided valuable insights into how cities can balance the preservation of cultural heritage with the need for urban modernization. Overall, the study fulfilled its objectives by offering a comprehensive analysis of the

practices used at Chengdu Taikoo Li and their broader implications for the field of urban conservation and regeneration.

LIMITATIONS

One limitation of this study is the reliance on secondary data, which may not fully capture the on-the-ground challenges faced during the preservation and regeneration processes. Additionally, the study focused solely on Chengdu Taikoo Li, making the findings specific to this case and limiting their applicability to other cultural or urban contexts. Future research could expand the scope by incorporating primary data and comparing multiple case studies to offer a more comprehensive perspective.

FUTURE DIRECTIONS

Future studies could explore the long-term impacts of conservation and regeneration efforts on local communities, economies, and cultural identity. Additionally, it would be valuable to examine the application of the strategies employed at Chengdu Taikoo Li in other regions with different cultural and urban dynamics. Such research could help refine conservation methods and offer more universally applicable strategies for preserving historical heritage in modern urban contexts.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to all those who contributed to this study. Special thanks to my supervisor for their valuable guidance and feedback. I also appreciate the authors and researchers whose work informed this study. Finally, I thank the academic databases (Google Scholar, Scopus, Web of Science, and JSTOR) for providing access to essential resources.

REFERENCES

Akpan, E. I., Wetzel, B., & Friedrich, K. (2021). Eco-friendly and sustainable processing of wood-based materials. *Green Chemistry*, *23*(6), 2198-2232.

Albourae, A. T., Armenakis, C., & Kyan, M. (2017). Architectural heritage visualization using interactive technologies. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, *42*, 7-13.

Amato, A., Andreoli, M., & Rovai, M. (2021). Adaptive reuse of a historic building by introducing new functions: A scenario evaluation based on participatory MCA applied to a former Carthusian Monastery in Tuscany, Italy. *Sustainability*, *13*(4), 2335.

Apollonio, F. I., Gaiani, M., & Bertacchi, S. (2019). Managing cultural heritage with integrated services platform. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, *42*, 91-98.

Bandarin, F., & Van Oers, R. (2012). *The historic urban landscape: Managing heritage in an urban century*. Hoboken, NJ: John Wiley & Sons.

Bertolin, C., & Loli, A. (2018). Sustainable interventions in historic buildings: A developing decision making tool. *Journal of Cultural Heritage*, *34*, 291-302.

Bond, S. E. (2019). A virtual reality app that reconstructs ancient Rome may have exploited its developers. Retrieved from https://hyperallergic.com/480239/a-virtual-reality-app-that-reconstructs-ancient-rome-may-have-exploited-its-developers/

Bullen, P. A., & Love, P. E. (2011). Adaptive reuse of heritage buildings. *Structural Survey*, *29*(5), 411-421.

Cabeza, L. F., de Gracia, A., & Pisello, A. L. (2018). Integration of renewable technologies in historical and heritage buildings: A review. *Energy and Buildings*, *177*, 96-111.

Carlton, S. (2019). *City not for sale: Reclaiming Barcelona in the wake of tourism massification* (Bachelor's thesis, Ohio University, Athens, OH). Retrieved from https://etd.ohiolink.edu/acprod/odb_etd/ws/send_file/send?accession=ouhonors1556298520667533&disposition=inline

Chang, R., Hayter, S., Hotchkiss, E., Pless, S., Sielcken, J., & Smith-Larney, C. (2014). *Aspinall courthouse: GSA's historic preservation and net-zero renovation: Case study*. Retrieved from https://www.energy.gov/sites/prod/files/2014/10/f19/aspinall_courthouse.pdf

Chirikure, S., & Pwiti, G. (2008). Community involvement in archaeology and cultural heritage management: An assessment from case studies in Southern Africa and elsewhere. *Current Anthropology*, *49*(3), 467-485.

Degen, M., & García, M. (2012). The transformation of the 'Barcelona model': An analysis of culture, urban regeneration and governance. *International Journal of Urban and Regional Research*, *36*(5), 1022-1038.

Eldredge, N., & Horenstein, S. (2014). *Concrete jungle: New York City and our last best hope for a sustainable future*. Oakland, CA: University of California Press.

Elnokaly, A., & Elseragy, A. (2013). Sustainable heritage development: Learning from urban conservation of heritage projects in nonwestern contexts. *European Journal of Sustainable Development*, *2*(1), 31-31.

Ferretti, V., Bottero, M., & Mondini, G. (2014). Decision making and cultural heritage: An application of the multi-attribute value theory for the reuse of historical buildings. *Journal of Cultural Heritage*, *15*(6), 644-655.

Grove, C. (2011). *Redesigning the Kress Building in Tampa, Florida: A study of hotel branding, sustainable adaptive reuse, and historic preservation* (Master's thesis, Florida State University, Tallahassee, FL). Retrieved from http://purl.flvc.org/fsu/fd/FSU_migr_etd-3946

Guerrero Baca, L. F., & Soria López, F. J. (2018). Traditional architecture and sustainable conservation. *Journal of Cultural Heritage Management and Sustainable Development*, *8*(2), 194-206.

Guzman, P. C., Roders, A. P., & Colenbrander, B. J. F. (2017). Measuring links between cultural heritage management and sustainable urban development: An overview of global monitoring tools. *Cities*, *60*, 192-201.

Hasan, M. H., Chowdhury, M. A., & Wakil, M. A. (2022). Community engagement and public education in Northwestern part of Bangladesh: A study regarding heritage conservation. *Heliyon*, *8*(3). https://doi.org/10.1016/j.heliyon.2022.e09005

Hastings, D. L. (2014). *Combating visitor pressure: Impact of tourism on the conservation of world heritage sites* (Master's thesis, University of Washington, Washington, DC). Retrieved from https://digital.lib.washington.edu/server/api/core/bitstreams/9bc6d256-0944-40a9-902a-72136699b36f/content

Hobbs, D. (2004). The history of East London. *Urban Culture: Critical Concepts in Literary and Cultural Studies*, *4*, 135.

Huang, X., & Gu, H. (2024). Expanding frontiers of commercial gentrification: Rent gap and sequential gentrification in Taikoo Li of Chengdu, China. *Tijdschrift voor Economische en Sociale Geografie*, *115*(1), 81-95.

Husnein, A. (2017). The evolving role of modern urbanistic heritage in shaping sustainable public realm: The case of Abu Dhabi. *International Review for Spatial Planning and Sustainable Development*, *5*(3), 5-24.

Jiang, X., Liu, R., & Li, Y. (2020). Research on behavior distribution of small-scale commercial public space based on space syntax—Taking the Taikoo Li commercial street in Daci Temple Area, Chengdu as an example. In *Proceedings of the 12th Space Syntax Symposium* (pp. 1-18). Retrieved from http://www.spacesyntaxchina.com/file/upload/202101/06/16341318181.pdf

Khalaf, R. W. (2015). The reconciliation of heritage conservation and development: The success of criteria in guiding the design and assessment of contemporary interventions in historic places. *Archnet-IJAR: International Journal of Architectural Research*, *9*(1), 77.

Koohafkan, P., & Cruz, M. J. D. (2011). Conservation and adaptive management of globally important agricultural heritage systems (GIAHS). *Journal of Resources and Ecology*, *2*(1), 22-28.

Levy, N. (2022). Chengdu's % Arabica cafe is designed to feel like "a small neighbourhood". Retrieved from https://www.dezeen.com/2022/01/30/arabica-blue-architecture-studio-chengdu-interiors/

Li, L., & Ryabkova, E. B. (2020). New exploration of urban cultural and commercial districts based on historical background: A case study of Sino-Ocean Taikoo Li Chengdu. In *Новые идеи нового века: материалы международной научной конференции ФАД ТОГУ* (Vol. 1, pp. 251-258). Khabarovsk, Russia: Pacific State University.

Li, Y., & Hu, M. (2023). Study on urban renewal strategy of Chengdu—Take the MENGZHUIWAN renewal project as an example. *Academic Journal of Management and Social Sciences*, *3*(2), 110-113.

Lily Sun China Tours. (n.d.). Traditional Chinese roof. Retrieved from https://www.lilysunchinatours.com/Ancient-Architecture/Traditional-Chinese-Roof.html

Liu, Y., & Shen, Z. (2018). Spatial integration design of Sino-Ocean Taikoo Li Chengdu recreational business district. *Journal of Landscape Research*, *10*(1), 33-36.

Martinez Pino, J. (2018). The new holistic paradigm and the sustainability of historic cities in Spain: An approach based on the world heritage cities. *Sustainability*, *10*(7), 2301.

Mason, R., & Avrami, E. (2002). Heritage values and challenges of conservation planning. *Management Planning for Archaeological Sites*, 13-26.

Olukoya, O. A. (2021). Framing the values of vernacular architecture for a value-based conservation: A conceptual framework. *Sustainability*, *13*(9), 4974.

Peou, H., Natarajan, I., Tianhua, H., & Philippe, D. (2016). From conservation to sustainable development—A case study of Angkor World Heritage Site, Cambodia. *Journal of Environmental Science and Engineering A*, *5*(3), 141-155.

Petrelli, D. (2019). Making virtual reconstructions part of the visit: An exploratory study. *Digital Applications in Archaeology and Cultural Heritage*, *15*, 123.

Plaiphum, S., & Tansuchat, R. (2023). Cultural capital of sea salt farming in Ban Laem District of Phetchaburi Province as per the Globally Important Agricultural Heritage Systems (GIAHS). *Sustainability*, *15*(15), 11947.

Plevoets, B., & Sowińska-Heim, J. (2018). Community initiatives as a catalyst for regeneration of heritage sites: Vernacular transformation and its influence on the formal adaptive reuse practice. *Cities*, *78*, 128-139.

Poulios, I. (2010). Moving beyond a values-based approach to heritage conservation. *Conservation and management of Archaeological Sites*, *12*(2), 170-185.

Rodney, S. (2015). *Museums, discourse, and visitors: The case of London's Tate Modern*s (Unpublished doctoral thesis). Birkbeck, University of London, London, UK. https://doi.org/10.18743/PUB.00040165

Rodriguez-Izquierdo, E., Gavin, M. C., & Macedo-Bravo, M. O. (2010). Barriers and triggers to community participation across different stages of conservation management. *Environmental Conservation*, *37*(3), 239-249.

Said, S. Y., Zainal, S. S., Thomas, M. G., & Goodey, B. (2013). Sustaining old historic cities through heritage-led regeneration. *WIT Transactions on Ecology and the Environment*, *179*, 267-278.

Santana Quintero, M., Cesaro, G., Ishakat, F., Vandesande, A., Vileikis, O., Vadafari, A., & Fakhoury, L. (2012). Protecting UNESCO World Heritage properties's integrity: The role of recording and documentation in risk management for Petra. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, *39*, 121-126.

Sharma, P. (2023). The use of 3D laser scanning for heritage documentation. Retrieved from https://www.novatr.com/blog/3d-laser-scanning-for-heritage-documentation

Sun, R., & Manfredini, M. (2020). The death and life of the great global "malled" centres: A case study of shopping malls in China based on the theory of the production of space. In *13th International Forum of Urbanism (IFoU) Congress* (pp. 271-284). Retrieved from https://hdl.handle.net/2292/57128

Swire Properties. (2021). Taikoo Li Chengdu. Retrieved from https://www.swireproperties.com/en/about-us/50th-anniversary/community/02-taikoo-li-chengdu/

Tripadvisor. (n.d.). Taikoo Li. Retrieved from https://www.tripadvisor.com/Attraction_Review-g297463-d15671160-Reviews-Taikoo_Li-Chengdu_Sichuan.html

Ujang, N., & Zakariya, K. (2015). The notion of place, place meaning and identity in urban regeneration. *Procedia-social and behavioral sciences*, *170*, 709-717.

Wang, Y. (2022). *Building the temple, building the boutique: The logic behind Daci temple-commerce agglomeration* (Master's thesis). Available from ProQuest Dissertations and Theses database. (UMI No. 30347043)

Yang, C. (2014). *Cultural resilience in Asia: A comparative study of heritage conservation in Lijiang and Bagan* (Doctoral dissertation, University of Washington, Washington, DC). Retrieved from http://hdl.handle.net/1773/26240

Yeung, W. T. E. (2020). *Sustainable conservation-cum-development: The hidden cost and benefit analysis of a new-and-old integration project, the case of Sino-Ocean Taikoo Li Chengdu* (Master's thesis, The University of Hong Kong, Hong Kong, China). Retrieved from http://hdl.handle.net/10722/297524

Yin, J., Feng, J., Li, Z., & Wang, X. (2023). Study on the design of architectural renovations in historical districts based on the architecture of local schema—Huaxing Street in Chengdu as an example. *Buildings*, *13*(2), 549.

Zuccaro, M. (2020). The high line: Decay and rebirth in Manhattan. In M. D. Goggin & U. Marinšek (Eds.), *Meditating and mediating change: State–Society–Religio* (pp. 205-213). Brooklyn, NY: Leykam

ETHICAL DECLARATION

Conflict of interest: No declaration required. **Financing:** No reporting required. **Peer review:** Double anonymous peer review.