

Retrofitting Chinese shophouses: A comparative study in Semarang and Phuket

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received June 05, 2025 Received in revised form Sept. 23, 2025 Accepted October 22, 2025 Available online December 01, 2025</p> <p><i>Keywords:</i> Chinese shophouses Phuket Retrofitting Revitalization Semarang</p> <p>*Corresponding author: Krismanto Kusbiantoro Department of Architecture, Universitas Kristen Maranatha, Bandung, Indonesia Email: krismanto.kusbiantoro@art.maranatha.edu ORCID: https://orcid.org/0000-0002-6085-3131</p>	<p><i>This study explores revitalization strategies for Chinese shophouses in the Chinatown areas of Semarang and Phuket, focusing on heritage-based tourism development. This research uses a qualitative descriptive method to examine three main aspects: revitalization, building adaptation through retrofitting, and government policies supporting these transformations. The selected case studies, Tjiang Residence in Semarang and Moh Seng Historical House in Phuket, represent different approaches to preserving cultural heritage while adapting to modern functions. The findings reveal that the Moh Seng Historic House prioritizes the authenticity of architectural and historical values supported by heritage designation. Simultaneously, the Tjiang Residence emphasizes functional optimization for economic purposes without formal heritage recognition. Both cases maintain a Chinese cultural identity through architectural elements and decorative features. The study concludes that successful revitalization strategies balance the preservation of historical character with functional adaptations, enhancing the cultural tourism appeal of heritage districts.</i></p>

Introduction

The arrival of Chinese merchants via maritime routes within the Silk Road network brought large-scale migration to Southeast Asia's coastal cities. They traveled using wooden vessels known as Chinese junks, following two main routes: the western route through the Malay Peninsula and the eastern route through the Philippines and Moluccas. Prior to the seventeenth century, these voyages were highly dependent on seasonal wind patterns (Szabo 2015). When the north monsoon winds blew between January and February, they sailed from China to Southeast Asia. Conversely,

their return journeys to China relied on the south monsoon winds from June to August (Negara 2014; Widodo 2004).

While waiting for the winds to change direction, Chinese merchants temporarily settled in port cities to repair their ships and conduct trade. Some eventually chose to settle permanently because of the profitability of regional trade, as seen along the northern coast of Java and in Semarang (Negara 2014). They established Chinese communities known as Pecinan (Chinatowns), within which various types of traditional buildings developed, most notably the Chinese shophouse (Pratiwo 2010; Tagliacozzo and Chang 2011).



Chinese shophouses became widespread throughout Southeast Asia, emerging as architectural icons that blended Chinese, Malay, and European colonial cultural elements (Zhao 2023). Their most distinctive features include narrow façades with elongated floor plans extending to the rear, typically comprising one to three stories, with the ground floor used for commercial activities and upper floors serving as residences (Fels 1994). Beyond their dual functionality, the use of construction materials such as timber, brick, and plaster endowed these buildings with architectural characteristics that reflected both local and transnational identities (Kusno 2014).

Furthermore, the Peranakan culture that flourished within these communities illustrates a deep process of assimilation between Chinese and local traditions, evident in domestic life, crafts, and social practices (Kusno 2014). In Penang, the conservation of shophouses has become an integral component of heritage preservation, with adaptive reuse approaches allowing old buildings to acquire new functions while retaining their historical values (Zubir et al. 2017).

Semarang and Phuket serve as two illustrative examples of Southeast Asian coastal cities with long-standing Chinese communities in their Pecinan districts. Semarang, which became part of Java's main trade route in the eighteenth century, developed earlier (Claver 2014), whereas Phuket grew significantly in the early nineteenth century (Audemard 1959; Negara 2014). Today, both cities have designated their Chinatown districts as heritage areas to support the tourism sector.

To sustain this role, historic urban districts require adaptive strategies for their built environments. One particularly relevant strategy is retrofitting. Retrofitting involves modifying existing buildings to enhance their performance, efficiency, functionality, and safety in accordance with contemporary needs (Zubir et al. 2017). This practice is also widely applied in the conservation of shophouses in Penang, demonstrating success in revitalizing heritage districts by repurposing buildings into boutique hotels, museums, and modern commercial spaces (KNAPP and Ong 2012).

This study compares the application of retrofitting strategies in Chinese shophouses in Semarang and Phuket, focusing on their impact on tourism development and government policies that facilitate such transformations. The

discussion addresses the concepts of revitalization, retrofitting processes undertaken, and regulations enforced by local authorities. Accordingly, this study seeks to contribute to the understanding of how retrofitting strategies can be effectively implemented to support heritage-based tourism within Chinatown districts.

Chinese Shophouses and Chinatown The Typology of Chinese Shophouses

The discussion of Chinese shophouses cannot be separated from the maritime Silk Road trade, which involved the arrival of Chinese migrants, the exchange of goods and agricultural products, and cultural interaction. Rapoport (Lozar and Rapoport 1970) states that the development of dwelling forms is largely determined by two key factors: natural and cultural. Natural factors, such as climate, geographical conditions, and available materials, provide the basis for determining physical composition, while cultural factors including traditions, lifestyles, beliefs, and styles though less visible, play a crucial role in shaping the architectural form.

Chinese immigrants from southern China who arrived via the maritime Silk Road settled around port areas and brought their traditions and ways of life. According to Wang and Beisi (2015), the earliest Chinese shophouses emerged during the Song Dynasty (960–1279), in line with commercial expansion and the growth of maritime trade. In these buildings, residents operating the shop would live on the upper floor or at the rear, while the front portion functioned as a commercial space. Since the Tang Dynasty, the Maritime Silk Road has strengthened connections between China and Southeast Asia, producing a series of commercial and cultural phenomena. With the arrival of migrants from southern China who settled in coastal cities across Southeast Asia at different times, various Chinese building types including vernacular southern Chinese shophouses were introduced into new contexts. The shophouse typology reflected the lifestyle of Chinese migrants at the time, particularly as merchants, producing structures that accommodated both commercial and residential functions in the same space. By the sixteenth century, with the arrival of Western colonial powers, shophouses in Southeast Asian coastal cities became unique for their hybrid architectural style, which combined Western, local, and southern Chinese elements. By the early twentieth century, the original Chinese

shophouse style was no longer developing in China but was instead heavily influenced by the evolving shophouse architecture of Southeast Asian port cities.

Wang Han and Jia Beisi (2015) further identify three distinctive shophouse types: the *shoujinliao* (zenary bungalow) of southern Fujian, the row house of Malacca, and the *qilou* (arcade house) of Guangzhou. The urban spatial layout of the *shoujinliao* inherited the organizational mode of traditional Chinese courtyard houses, known as *siheyuan*. Each building was symmetrically arranged along an axis with multiple internal courtyards, and adjoining units shared continuous roofs and cornices. Malacca's row houses reveal stronger influences from Western traditions, particularly Dutch and Portuguese, characterized by vertical development and relatively narrow frontages that form continuous rows. Most also incorporated small internal courtyards. Meanwhile, the *qilou* type in Guangzhou resembled Malacca's row houses but was distinguished by the presence of arcades along the façade, created by recessing the ground floor wall relative to the upper stories (Zubir et al. 2017).

Shophouses in southern China represent a unique commercial building type that emerged from trade and business conditions, as well as climatic differences between the north and south. The southern region, which attracted foreign merchants from the West, encouraged the development of merchant house styles with colonnaded corridors at the front, which subsequently spread across Southeast Asia, particularly in Guangzhou, Xiamen, Hong Kong, Singapore, Manila, and Batavia (Jakarta). Over time, these traditional building forms were gradually replaced by modern construction methods in China and abroad.

The shophouse typology, which first emerged in southern Chinese port cities, began to be replicated and spread across Southeast Asia, especially during the period of European colonialism. Singapore, for instance, features long rows of shophouses along streets such as Amoy Street, distinguished by five-foot-wide covered walkways (*kaki lima*) that form part of the building's frontage. These terraced pedestrian corridors are integral to the two- or three-story shophouses that dominate the area's architectural landscape.

In Blair Plain, Singapore, rows of two-story shophouses mostly built of timber often include

forecourts or covered walkways for pedestrians. Roofs were generally pitched gables flanked by party walls, creating rows of uniform buildings. Many incorporated central courtyards, or *airwells*, open to sunlight, followed by rear blocks with gabled roofs, similar to the front section. The upper floors displayed various openings, such as windows, doors, and balconies.

Research on Blair Plain shophouses, spanning more than a century of design and construction development, has identified five principal architectural categories.

1. Early shophouses or early period shophouse buildings (1840–1900s).
2. Late terraced shophouses or late-period shophouse buildings (1900–1940).
3. Transitional terraced houses in the first and second phases.
4. Art Deco terraced houses.
5. Modern houses or modern-style residences.

Semarang's Chinatown

Semarang's Chinatown (Pecinan) is one of the oldest Chinese settlements in Indonesia, its origins inseparable from the voyages of Admiral Zheng He's fleet in the fifteenth century. The earliest Chinese settlement in Semarang was established in the Gedong Batu and Simongan area. This location was chosen partly because of the presence of a cave where one of Zheng He's officers, who had fallen ill, was treated; the site later became the location of the Sam Poo Kong Temple (Pratiwo 2010). In addition to its historical significance, the choice of location was influenced by fengshui considerations: its orientation toward the Garang River, the backdrop of the Simongan Hills, and its proximity to the bustling Bergota Harbor (Utama 2012).

The transformation of Semarang into an economic hub occurred in 1708 when the VOC designated the city as the center of its activities in the Mataram region (Widodo 2004). However, the 1740 Chinese Massacre (Geger Pecinan) in Batavia also shook Semarang's Chinese community. In 1741, a rebellion broke out, which VOC forces from Batavia and Makassar suppressed. Much of the Chinese settlement east of the Semarang River was destroyed (Raffles 2019).

In response, the VOC implemented the *Wijkenstelsel* policy, concentrating the Chinese community in vacant land along the western bend of the Semarang River, as depicted in a 1797 map of Semarang (Pratiwo 2010). This area came to be

known as Pecinan or *Chineeze Kamp*, and was linked with the Semarang market (Pedamaran) and the Kranggan settlement to the west, as well as Petudungan, Pandean, and Ambengan to the North (Pratiwo 2010). The houses in Pecinan were built facing the central square (*alun-alun*) of *Bale Kambang* rather than the river, reflecting the community's fengshui principles (Utama 2012).

As the population grew, the district developed a network of alleys, such as Say-kee (Gang Blumbang), Ting-ouw-kee (Gang Gambiran), and Pecinan Tengah (Gang Tengah) (Soenarto 2013). In 1815, the Dutch *passenstelsel* policy altered many kampung names in Chinatown into more generic alley names, such as Gang Pinggir, Gang Warung, Gang Baru, and Gang Mangkok (Utama 2012).

As an economic center, Pecinan flourished with the establishment of major markets, such as Johar Market in the 1860s. Initially, the market grew spontaneously as visitors waited for relatives imprisoned nearby, and later became the central hub for daily necessities (Pratiwo 2010; Utama 2012). This development eventually prompted the colonial government to merge Pedamaran and Johar into a large market complex.

By 1880, Semarang's first hotel, Tjia-Tjia Kie, was founded by Kwee Kiem Yong at the end of Gang Besen, followed by Djioe Wan Tjay in Gang Belakang, signifying Chinatown's rising importance as a destination for travelers (Utama 2012).

The architectural character of Semarang's Chinatown reflects the acculturation of Chinese and local traditions. Rows of two- to three-story shophouses (*ruko*) dominate the district, featuring pitched roofs, central ventilation, and façades adorned with traditional decorative elements (Kustedja 2017; Pratiwo 2010). Although some buildings have undergone modernization, the elongated layout with central courtyards remains a defining characteristic, even though many courtyards have since been roofed over to maximize the usable space (Widodo 2004). Today, numerous shophouses have been repurposed as cafés, restaurants, and accommodations, highlighting the district's dynamic adaptation to contemporary urban life.

Phuket's Chinatown, known today as Phuket Old Town, has a history closely tied to the migration of Chinese communities from Southeast Asia since the early nineteenth century. The initial wave of migration was driven by the growth of the tin mining industry and port trade activities with Penang, Malaysia, which was then a British colony (Khoo 2014). This migration gave rise to the Peranakan community, the result of intermarriages between Chinese male immigrants and local Malay women, producing a unique cultural synthesis known as "Straits Chinese" or Peranakan. This hybrid culture is reflected in distinctive traditions, cuisine, clothing and architecture (Eng, Collins, and Ai 2012).

Architecturally, Phuket's Chinatown is characterized by the "Sino-Colonial" or "Straits Eclectic" style, which combines Chinese and Western elements. Its defining building type is the shophouse, featuring façades adorned with Western-style plaster ornamentation while retaining the essential features of southern Chinese domestic layouts. One such feature is the *Chim Chae* a central courtyard with a rainwater well, which, according to feng shui, symbolizes prosperity. This open space also ensures natural lighting and ventilation, embodying the wisdom of Chinese architectural responses to tropical climates (Siriprasertchok 2016).

The district encompasses three main streets, each with a distinctive character: Dibuk Road, primarily residential; Thalang Road, combining residential and commercial functions; and Soi Rommanee, which is historically known as an entertainment area. Most buildings have elongated floor plans extending toward the rear, a design shaped by building tax regulations based on the façade width (Lim 2016).

In 1981, the tin mining industry declined because of falling global market prices. The Thai government subsequently shifted its economic strategy toward tourism, transforming the Chinatown area into a vibrant heritage destination. Many historic shophouses have been converted into hotels, restaurants, cafés, and commercial venues, drawing both domestic and international visitors and establishing Phuket Old Town as a cultural tourism hotspot (Khoo 2014; Lim 2016).

Retrofitting

Retrofit can be defined as the process of modifying a building to improve its performance, in terms of energy efficiency or other functions (ASHRAE 2019). In the context of preservation, retrofitting enables historic buildings to be adapted for new functions without losing their original characteristics, such as façades, exteriors, interiors, and materials. This effort ensures that these buildings remain relevant to contemporary needs and protects them from the threat of demolition or abandonment. Essentially, retrofit means “adjusting” new spaces within an old building by combining modern construction methods and materials that were not used in the original construction (Oxford Dictionaries 2012).

Retrofitting is not merely about restoring historic buildings; it also plays a crucial role in safeguarding their historical, cultural, and heritage values. Furthermore, this practice contributes significantly to environmental sustainability, in addition to its economic and social benefits.

One of the key dimensions of retrofitting is energy efficiency, particularly for historic buildings that are repurposed to support sustainable tourism. Common strategies include adding insulation, upgrading window quality, and integrating modern heating, ventilation, and air-conditioning (HVAC) systems. These approaches have proven to enhance the energy performance of buildings without compromising their architectural integrity.

For example, in the case of Chinese shophouses, the application of energy-saving technologies, such as solar panels, LED lighting, and smart energy management systems, is usually designed to remain hidden from public view, ensuring that the original façades and structures are preserved. Studies have shown that such strategies not only reduce energy consumption but also extend the lifespan of buildings by making them more adaptive to future technological advancements (ASHRAE 2019).

Case study: Tjiang Residence, Semarang and Moh Seng Historic House, Phuket

Chinese shophouses in Semarang and Phuket have undergone various adaptations aimed at enhancing their functionality, particularly in response to the demands of modern life, while retaining their fundamental typological form. Changes in function accompanied by physical

adaptations represent efforts to increase the utility and relevance of buildings.

The Moh Seng Historic House in Phuket and the Tjiang Residence in Semarang are two examples of Chinese shophouses that have undergone retrofitting. Retrofitting in these cases may involve structural upgrades, improvements in safety, or the incorporation of modern technologies to enhance energy efficiency while simultaneously preserving historical heritage. These examples illustrate how historic buildings can be preserved and adapted to remain relevant and functional in the contemporary era.

The Tjiang Residence Hotel is located in the Chinatown district of Semarang, specifically on Gang Pinggir, approximately 50 m from the Tay Kak Sie Temple. (See figure 1) This unique accommodation is designed in the traditional Chinese architectural style and comprises only 24 rooms. Selected paintings are displayed as decorative ornaments along the corridors, illuminated by spotlights, further accentuating the Chinese atmosphere within the hotel. The chosen themes included mountain landscapes, bamboo, roosters, grapes, and peony. The interior ornaments in the guest rooms reflect the same motifs as those found in the corridors. This distinctive design is one of the features that makes visitors feel comfortable and drawn to the residence. The ornaments within the Tjiang Residence Hotel embody the contributions of local developers and cultural preservationists in integrating art and heritage into the hospitality industry.

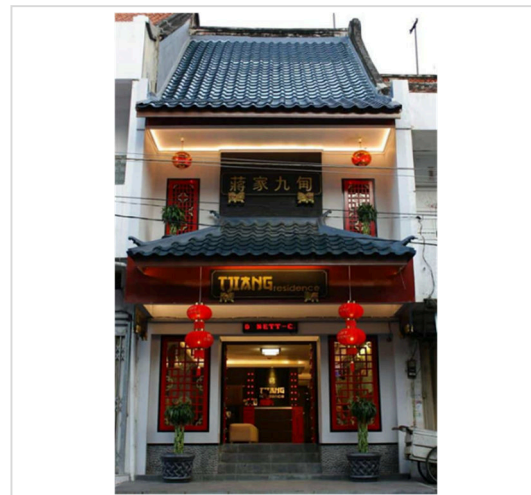


Figure 1. The front elevation of Tjiang Residence Hotel in Semarang’s Chinatown

The Moh Seng Historic House is located at 78 Thalang Road, Phuket, and today functions as the Woo Gallery & Boutique Hotel (figure 2). This house stands as a witness to the city's historical life, having once operated as a shop that sold and repaired imported watches. Its owner was Mr. Ngor Liat Chan, a Hokkien Chinese immigrant from Fujian Province, China, who came in search of a better livelihood. After passing through Singapore and Penang, he eventually settled in Phuket, where he worked as a watchmaker. He later married Mrs. Tan Sew Hong, the daughter of the owner of "Moh Guan," a household goods shop located at number 64. After their marriage, the couple purchased the property at number 78 and established a retail and watch repair business there.

The enterprise continued until after World War II, when Phuket's economy experienced a downturn, forcing the family to close the shop. The house at 78 also served as the family residence. Following the couple's passing and their children's relocation, the building was rented out as a textile shop until 2016.

In 2016, the grandson of Mr. Ngor Liat Chan, Mr. Padet Wuthicharn, together with his wife Mrs. Nawaporn Wuthicharn, returned to the family house to carry out restoration works on the deteriorating building. The restoration process lasted over two years, and the Woo Gallery & Boutique Hotel officially opened to the public in February 2019. According to a historic land deed issued on May 4, 1915, during the reign of King Rama VI, the house has a history of over 103 years.

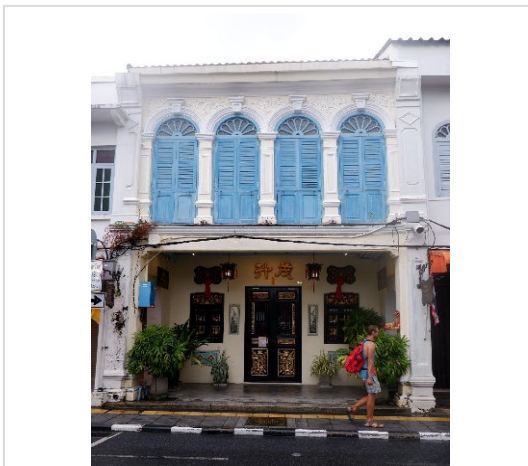


Figure 2. The front elevation of Moh Seng Historic House in Phuket's Chinatown

The couple carefully studied the restoration of various architectural structures, consulted numerous experts, and combined the knowledge and experience gained to restore the grandeur of the house. Inside, the Woo Gallery narrates the stories of Chinese migrants who settled in Phuket and the ingenuity of their ancestors. The Woo Boutique Hotel also welcomes visitors who wish to experience the historical architecture of this heritage home while enjoying it as a place of residence for a few nights.

Methods

This qualitative study employs a descriptive method to examine three aspects of revitalization programs: revitalization (design), retrofitting (implementation of new functions), and public policy from local governments. This approach enables the identification of best practices and challenges in revitalization within two different cultural and governance contexts. For comparison, this study also investigates Chinese shophouses in Phuket's tourist district, encompassing the same three aspects. This comparison aims to explore the patterns of transformation that emerge through the revitalization process.

Previous studies have largely discussed shophouse conservation in heritage cities such as George Town, Penang (Zubir et al. 2017), and the adaptation of shophouses into accommodation spaces and galleries (KNAPP and Ong 2012). However, most of these studies have focused on cities that have already obtained UNESCO World Heritage status. In this context, the present research offers the following contributions:

1. Conducting a cross-national comparison between two non-UNESCO cities (Semarang and Phuket).
2. This study examines private interventions in buildings not entirely designated as heritage properties, an area that has received limited attention in mainstream conservation studies.
3. Emphasizing the adaptation of heritage buildings to support cultural tourism, using retrofitting as both an architectural and socio-economic solution.

Thus, this study contributes to the conservation literature by highlighting a hybrid approach that bridges preservation and

modernization of historic buildings within Chinese enclaves in Southeast Asia.

Conceptual framework

The conceptual framework is constructed from the interrelationship among three main variables that mutually influence each other.

1. Revitalization concept (design), which shapes the physical form of adaptation outcomes:
2. The retrofitting process (technical implementation of adaptation) determines the level of compromise between preservation and new functionality.
3. Government policy and community support are external factors that either facilitate or hinder revitalization success.

These three elements were analyzed in an integrated manner to assess whether the final outcomes could accommodate historical values and enhance tourism appeal.

The research process began with a literature review related to the old town areas of both cities, as well as government policies closely linked to the development of tourism potential in these areas. Through this literature review, a general understanding is expected to be obtained regarding the value of the districts-historical, physical, and economic-in relation to tourism.

The second stage was field research, which included mapping the districts, determining the study objects, and conducting observations of these objects. At this stage, the research focuses on significant Chinese shophouses in both cities, with a comprehensive observation of the three aspects.

The third stage is analysis, which aims to compare and evaluate the potential development of study objects as tourist destinations. In this comparative process, the three aspects previously outlined serve as the main factors explored to identify both success stories and challenges in the revitalization process.

In this study, a comparison is made between two case studies from two cities: the Moh Seng Historic House and the Tjiang Residence. These two objects were selected based on the following criteria.

1. Both retain the basic structure of Chinese shophouses.
2. Both buildings consist of two floors.
3. The adaptations in both include the addition of accommodation functions to the shophouse structure.

Results and discussion

This analysis provides a comprehensive examination of the transformation of two Chinese shophouses, the Moh Seng Historic House in Phuket and the Tjiang Residence in Semarang. The primary focus is on three critical aspects: revitalization, building adaptation, and government policy support in the revitalization process.

1. Revitalization idea aspect: Physical transformation of the buildings
 - a. Building Mass Transformation

The Moh Seng Historic House retains the elongated shophouse typology with a division of three building masses separated by two courtyards. These courtyards are utilized as gardens, with one of them adapted into a seating area, creating a balance between the preservation of open spaces and the provision of new functions for building users (figure 3).

In contrast, at the Tjiang Residence, the courtyard was removed to maximize the space for the addition of bedrooms. This decision appears to have been driven by economic considerations, aiming to increase capacity without significant physical expansion (figure 4).



Figure 3. Courtyard of Moh Seng Historic House that adapted into a seating area

- b. Façade elements

The Moh Seng Historic House preserves the authenticity of its façade, including the double-leaf main door, two symmetrical wooden windows, and organically shaped ventilation openings that are characteristic of shophouses in Phuket (see figure 2). The arcade with arched wall openings, along with Sino-Portuguese ornamental details on the second-floor walls, has been restored carefully.

In contrast, the Tjiang Residence introduced modifications to the façade while maintaining the position and proportion of its doors and windows. The second-floor balcony was removed and replaced with a terrace roof, accentuating the expression of the main entrance (see figure 1).

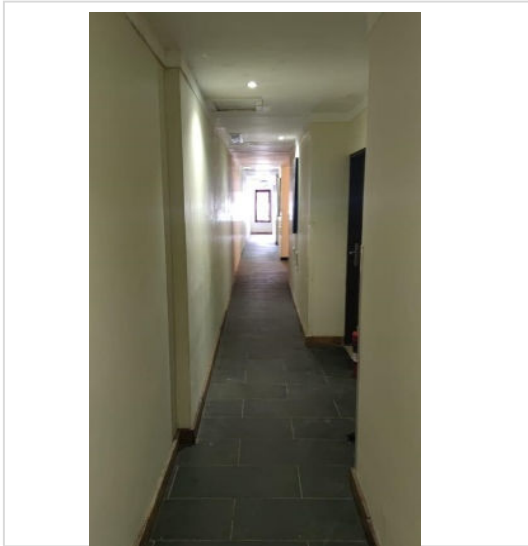


Figure 4. The long corridor on the second floor of Tjiang Residence indicates the absence of a courtyard

c. Decoratives elements

The Moh Seng Historic House restored distinctive Sino-Portuguese decorative elements that reinforce the historical character of the building (figure 5). In contrast, the Tjiang Residence introduced additional Chinese-style decorative elements to preserve the cultural atmosphere, despite modifications made to accommodate its new function as lodging (figure 6).

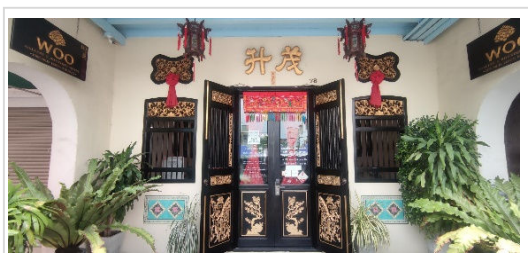


Figure 5. Distinctive Sino-Portuguese decorative elements are found on the façade openings of the building



Figure 6. The additional Chinese decorative elements at Tjiang Residence include patterned windows and red-painted door leaves

2. Building adaptation aspect: Integration of a new function

Moh Seng Historic House integrates two new functions: a lodging facility complete with a dining area (figure 7), and a museum space that presents the history of the building (figure 8). This initiative was undertaken by the third generation of the building's original owners, reflecting a family-based approach to heritage preservation.



Figure 7. A restaurant was integrated into Moh Seng Historic House to serve lodging guests

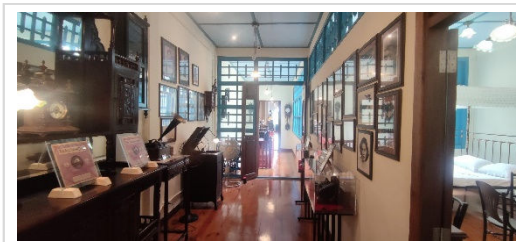


Figure 8. A section of the house was converted into a museum displaying the building's history

On the other hand, Tjiang Residence also functions as a guesthouse, providing 24 small rooms, all adorned with Chinese-themed ornaments, thereby preserving cultural identity

while accommodating the needs of modern visitors (figure 9).

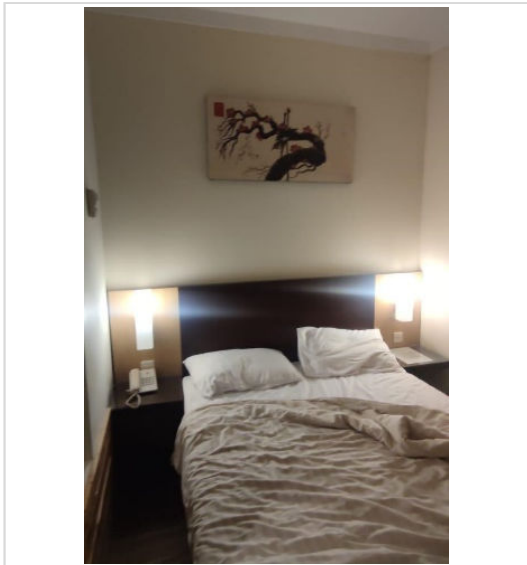


Figure 9. Guest room at Tjiang Residence Hotel

3. Government's policy aspect: Roles and support

Interviews with the owner of Moh Seng Historic House revealed that the Phuket City Government did not provide financial assistance for the restoration. However, the government supported the project by designating the building as a heritage site and granting awards. The Thai Association of Architects also contributed technical support during the revitalization process. In contrast, Tjiang Residence is not listed as a heritage building by the Semarang City Government due to extensive structural alterations. The retrofitting process was carried out entirely by the owner without government involvement, although the property is still promoted as accommodation with distinctive Chinese architectural features.

Synthesis of findings

The comparative study of Moh Seng Historic House in Phuket and Tjiang Residence in Semarang demonstrates two distinct yet complementary approaches to the revitalization of Chinese shophouses. Moh Seng Historic House prioritizes the preservation of architectural authenticity and historical narratives, supported by cultural recognition and technical expertise from professional associations. Its revitalization highlights the role of family-led initiatives in safeguarding heritage through careful restoration

and integration of new functions, such as a museum and boutique accommodation, that enhance both cultural appreciation and visitor experience.

By contrast, Tjiang Residence reflects a more pragmatic strategy, focusing on spatial optimization to expand accommodation capacity while retaining selective Chinese decorative elements. Despite the absence of government recognition as a heritage site, the building continues to project cultural identity while meeting the demands of the hospitality market. Taken together, these cases reveal that the revitalization of Chinese shophouses in Southeast Asia must negotiate between conservation and commercial imperatives, offering flexible models that preserve cultural significance while ensuring economic sustainability in the modern urban context.

Table 1. Table of comparative analysis results

Aspects	Element	Difference		Similarities
		Moh Seng Historic House	Tjiang Residence	
Revitalization Ideas Aspects	Form of the	preserving courtyard	Eliminating courtyard due to economical reason	Both preserve the typological form of the Chinese shophouse
	Facade	Preserve façade elements authentically, including their position, proportion, and form.	Maintain the position and proportion, but alter the form by removing the balcony.	Both preserve the façade proportions.
	Decorative	Preserve distinctive Sino-Portuguese decorative elements.	Add decorative elements with additional Chinese features.	Both preserve the party walls, roof, and decorative wall elements.
Building Adaptation Aspect	New Function	Museum and Guesthouse	Guesthouse	Function as Guesthouse /Lodging Facilities

Aspects	Element	Difference		Similarities
		Moh Seng Historic House	Tjiang Residence	
Government's Policy Aspect	Support Policy	Heritage Building	Not a Heritage Building	Promoted as unique guesthouse

Conclusions

Based on the analysis of Moh Seng Historic House in Phuket and Tjiang Residence in Semarang, this study concludes that the revitalization of Chinese shophouses can be carried out through diverse approaches while still prioritizing the preservation of cultural identity. Moh Seng Historic House demonstrates success in maintaining original physical elements and integrating new functions as both a guesthouse and a museum, supported by government policy through its designation as a heritage building. In contrast, Tjiang Residence emphasizes functional adaptation to increase accommodation capacity, despite the absence of direct government preservation support.

These two case studies provide valuable insights into retrofitting practices in support of cultural heritage sustainability. The combination of preserving traditional architectural elements and adapting to modern needs has proven effective in enhancing tourism appeal while safeguarding local cultural heritage. Thus, retrofit-based revitalization strategies can be recommended as adaptive approaches to managing heritage areas, particularly within the context of cultural tourism development in Southeast Asia.

Acknowledgments

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Author(s) contribution

Krismanto Kusbiantoro contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

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