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# A REVIEW OF THE INFLUENTIAL FACTORS ON THE HERITAGE SHOPHOUSES' ARCHITECTURAL DESIGN AND PLACE IDENTITY OF URBAN HISTORIC DISTRICTS IN MALAYSIA

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## *Abstract*

Heritage shophouses are the main architectural heritage that significantly characterized the place identity of the urban historic district in Malaysia since the 17th century through their unique architectural design character. Unlike the modern building design that is seen as contextually isolated from the place identity of the urban historic district, the heritage shophouses design is considered successful in intertwining with the place identity due to its architectural identity that significantly responds to contextual factors. This paper aims to systematically review the factors that influence Malaysian heritage shophouse design that contributes to its architectural identity constitution through content analysis. This paper extracts scholars' works on heritage shophouse architectural design features, heritage shophouse morpho-typologies, and the factors that influence the constitution and development of its architectural identity. Many heritage shophouse styles in Malaysia morphologically developed over time, which can be classified into the Early Heritage Shophouse styles, the Eclectic Heritage Shophouse styles, and the Non-Cultural Heritage Shophouse styles. Nevertheless, architecturally, all heritage shophouses are characterized through the articulation of the façade design elements, the interior design features including the spatial organization system, and the building construction materials which are mainly influenced by the tropical topographical climates and material sources as a basic architectural adaptation, the building development standards set by the colonial regimes for the urban and living issues solutions, the cultural assimilation through the architectural design features and programs, and the development of building construction and materials. The findings of this study could help the designer how to set a design consideration priority in developing their new architectural intervention design idea in the urban historic district to preserve its valuable historical character.

**Keywords:** *Heritage Shophouses, Architectural Design Factors, Urban Place Identity.*

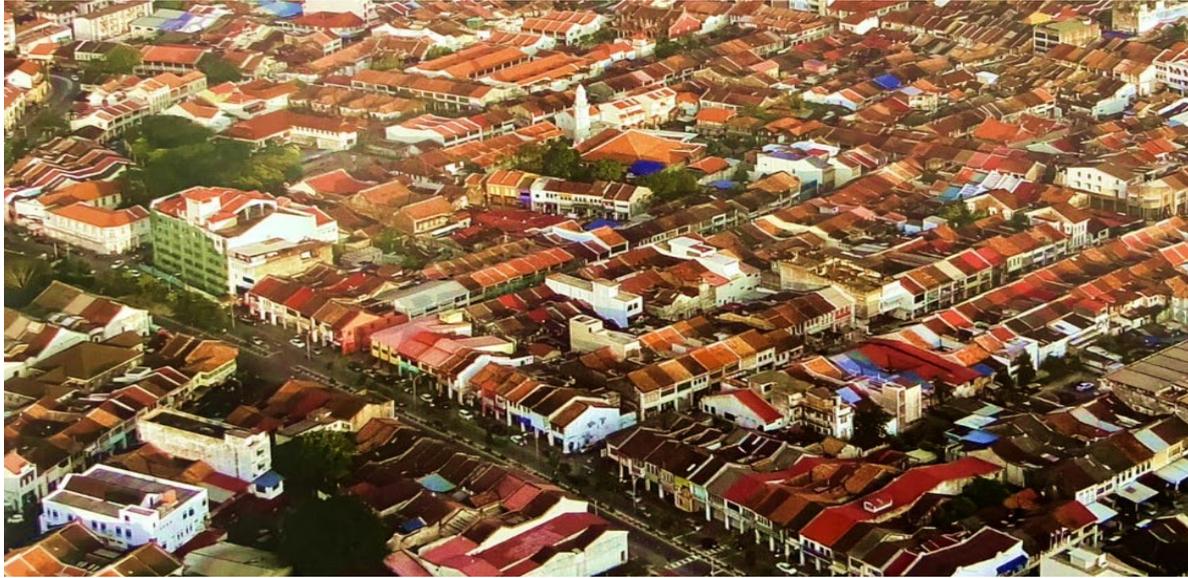
## INTRODUCTION

The urban historical district is one place that possesses strong character and urban place identity. Urban place identity or urban identity can be understood as a collective of phenomena features or characteristics in an urban place that shows continuity and distinctiveness qualities (Ujang, 2012). Schulz (1979) translates it as a "genius loci" which brings meaning to the spirit of the place that enlivens the man-made place. In Malaysia, people usually refer to George

Town and Malacca's old commercial areas as old town areas or urban historical districts with strong place identities due to their outstanding value of cultural heritage. Shamsuddin (2011) suggests that the place identity in the urban historic districts is constituted by tangible and intangible elements. The tangible elements in urban historical districts are including architectural heritages, traditional streets pattern, and urban spaces like an urban square, the 'Padang', landscapes, and spaces between buildings. Next, the intangible elements are unphysical things that exist in the place and characterize the urban identity. It comprises people's activities and the place meanings that are shaped by peoples' beliefs and perceptions of the historic components (Shamsuddin, 2011) or environmental experiences (Ujang, 2012). However, the intangible elements' attributes will still be manifested through the symbols in the tangible elements of the place. On top of that, Ujang (2012) argues that Malaysian cities are the architectural manifestation of multicultural layers over time.

Among the elements, Shamsuddin (2011) suggests the architectural heritage through its architectural attributes is seen as the main element constituting the urban historic district. Architectural heritage is considered as an architectural work either a historic monument or a group of historic heritage buildings that helps us to understand the relevance of the past to contemporary life (Council of Europe, 1975). It characterizes the urban historic district through spatial and visual attributes (Soosani, 2013; Semes, 2009; Ismail & Shamsuddin, 2005). In Malaysian old towns especially in urban historic districts, even though many iconic historic buildings are in the place, the heritage shophouses are still considered the main architectural heritage that significantly characterizes the place. It is due to its development approach where the building organization is set in the form of clusters with identical architectural features in all heritage shophouses that reflect its community's way of life (Ali et al, 2015; Elnokaly & Wong, 2015; Chiong, 2014). Moreover, it is found that the heritage shophouse characterizes the urban historic districts of the old towns since the 1600s due to its unique architectural identity (Baroldin & Din, 2012). Shamsuddin (2011) highlights, unlike the modern buildings' design that focuses only on individuality and identity isolation from the place character, the heritage shophouse architectural identity constitution is a result of its responsive architectural design toward the context factors which makes it successfully associated with and strengthen the identity of the place. In other words, heritage shophouses' design is significantly influenced by the local context. Even though there are many styles of a heritage shophouse that morphologically developed over times in urban historic districts, their design juxtaposition is found fit to each other harmoniously and constitutes a unique townscape and urban identity. It could be a good example to design a new building in urban historic districts to preserve its place identity. Therefore, this paper aims to make a systematic review upon the studies of the factors that influence Malaysian heritage shophouses design studies that contribute to its architectural identity constitution.

**Figure 1**  
*George Town historic district aerial view*



*(Source: Tan, 2015)*

## **METHODOLOGY**

The study is conducted through the literature review over the published online databases and books study to gather the secondary data for this research, focusing on the heritage shophouse design in Malaysia. The relevant materials are identified using the keywords; heritage shophouse, traditional shophouse, and Malaysian traditional architecture. The study explores the architectural features of heritage shophouses, the typologies of heritage shophouses, and the factors that influence their architectural development. Using the content analysis method, the study process is carried out in 3 stages. In stage 1, the relevant literature is identified and reviewed to get an overview of the research topic. Next, in stage 2, the reviewed content is categorised and organised in the table form according to the sub-topic and research questions set. Lastly, in stage 3, the evidence for each category is extracted and analysed toward finding the factors that influence the architectural design of heritage shophouses. The study's objective is to expand the understanding and illustrate the breadth of knowledge available on the architectural design of heritage shophouses and how it responds to the surrounding context to build its architectural identity and contribute to the place identity in the urban historic districts.

## **RESULTS**

This section covers the findings and discussion on the heritage shophouse background, its typical architectural design features, the heritage shophouse styles, and the factors that influence their architectural design.

## What is a heritage shophouse?

**Figure 2**

*Heritage Shophouses in Kuala Lumpur (Photograph by author)*



A heritage shophouse or a vernacular shop-house is the main architectural heritage type that spread and dominated the major towns in South Asia, especially Malaysian old towns before World War II (Ali et al, 2015; Shamsuddin, 2011; Khoo & Berbar, 2009; Sabah & Abdul Samad, 2009; Chen, 2007; Ismail & Shamsuddin, 2005). It is a building type with mixed-use residential and business programs that are built in the elongated form or narrow width of the front façade and deep longitudinal rear (Tan, 2015; Chen, 2007). As recorded by Chiong (2014) and Shamsuddin (2011), in Malaysia, heritage shophouses can be found in many old towns like Malacca, Kuala Lumpur, George Town, Johor Bahru, Muar, Batu Pahat, Alor Setar, Ipoh, Taiping, Kuala Terengganu, Kuantan, and Kuching. It is also known as “Rumah kedai” in the Malay language (Zwain & Bahauddin, 2021; Ng, 2020) and “Tiamchhu” in the Hookean term (Khoo & Berbar, 2009). On the other hand, a heritage shophouse is also known as a long row of queer little Malay and Chinese cottages, row house, terrace house, and attached house as it is attached and linked to one another in one row via 5 footways (Tan, 2015; Shamsuddin, 2011; Ismail, 2005; Ismail & Shamsuddin, 2005). Although the terminology of “shop and house” has been used by Francis Light in 1793, it was officially applied in the 1946 Annual Report on Singapore (Savage, 2001). Ismail (2005) and Khoo & Berbar (2009) also suggest that the heritage shophouse is one of the Chinese traditional house types that is strongly associated with Chinese traders and shopkeepers who took the business advantages in the town. Han & Beisi (2015) add their finding that the emergence of business activities in the town occurred due to the trade and cultural exchange on the maritime silk road. The Chinese immigrants brought the building style of their homeland to the Malaysian states but assimilated with the environmental particulars, local culture, and colonial regulation that morphed to create a truly unique vernacular architecture (Wagner, 2017, Elnokaly & Wong, 2015, Hashim & Ghafar, 2005). Although it was initially built with a single-story building, a heritage shophouse is known as a type of building with archetypal 2 - 3 stories with mixed-multifunction programs as it is a home for the traders or shopkeepers and their families to run their business, or a family-operated business building (Ali et al, 2005; Tan, 2015; Davison & Invernizzi, 2010; Khoo & Berbar, 2009; Chen, 2007). Moreover, Chun et al (2005) add the 3 stories of heritage shophouses

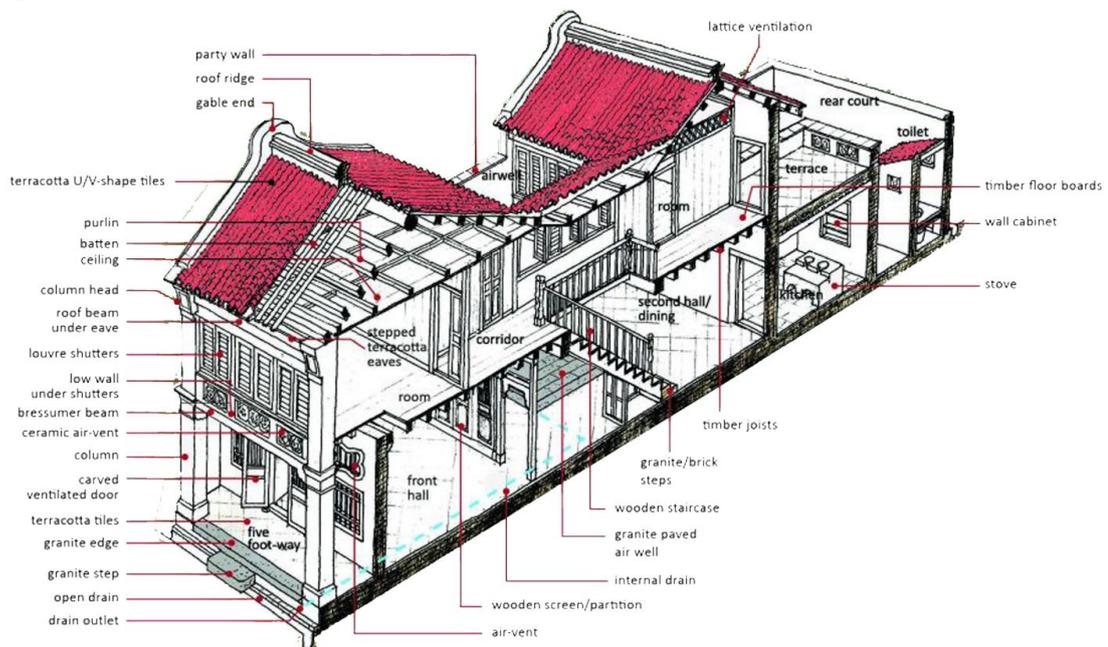
development are more popular in Kuala Lumpur due to the economic and population growth in its urban area around the early 20th century. Every housing unit has 2 types of zones: the business operating area and the family accommodation area. For a single-story heritage shophouse, the zones are divided horizontally. The business area is located at the front and the family area is at the rear of the house. Next, for a multi-story heritage shophouse, the business area is located at the ground floor level whilst the family or accommodation area is located on the upper floors (Sabah & Abdul Samad, 2016; Malaysia, 2009; Chen, 2007).

### Heritage Shophouse's Typical Architectural Features

The heritage shophouses have a strong architectural identity due to their unique architectural design features. Regardless of the heritage shophouse styles, common architectural design features are applied in all heritage shophouses in Malaysia that set their typical architectural identity in urban heritage districts (Chen, 2007; Ng, 2020).

**Figure 3**

*The heritage shophouse's typical architectural features (Source: <https://gtwhi.com.my/our-work/shophouses/>)*



The heritage shophouse architectural features can be described through 3 main sections: the façade, interior design, its spatial organization, and building materials. Tan (2015), Davison & Invernizzi (2010), and Chen (2007) describe heritage or traditional shophouses are normally built in a narrow rectangular floor plan or narrow frontage which is around 6 - 7 meters wide and 30 meters deep. Chen (2007) adds that sometimes the depth of the shophouse could reach 60 meters. It is due to the colonial authority's taxation approach, which is based on the width of the premise lot (Davison & Invernizzi, 2010). Physically, the heritage shophouses are organized side by side, forming a linear organization composition and attached by a sharing party wall between shophouse units (Tan, 2015; Davison & Invernizzi, 2010; Chen, 2007). Then, the rows of shophouses are organized in a grid-iron pattern of the streets where the shophouses' main façade is facing the main road to optimize the valuable commercial frontage in taking advantage of the business opportunities in the town. (Ismail, 2015; Khoo, 2009).

The front façade is one of the iconic architectural features of heritage shophouses design in Malaysia which is rhythmically articulated by a 5-foot walkway and the recessed front wall at the ground floor level, an upper floor façade, and the roof. Tan (2015), and Tan & Fujita (2014) emphasize that the front façade is the most important part of the heritage shophouse design as well as the streetscape character as it can be perceived from the street view. Ismail & Ching (2016) adds that design attention is given to the front façade design due to its location as a space for formal and trading activities and to show the wealth of the premise owner. Moreover, the design style of the heritage shophouses is also determined by the front façade design (Tan, 2015). On the ground floor level, there is a 5-foot walkway which is an important design feature of the façade design as well as the spatial organization of this heritage building (Ismail, 2005). It is a public covered walkway in the front area of the heritage shophouses that faces the main street to link all premises in a row (Ng, 2020; Tan, 2015; Khoo & Berbar, 2009). This area is created by shifting the external wall backward from the street and bounded by the columns so that the created area is covered by the projected upper floor structure (Sabah & Abdul Samad, 2016; Khoo & Berbar, 2009; Chen, 2007). The 5-foot walkway is also called a *kaki lima* (Ng, 2020), 5-footway (Khoo & Berbar, 2009; Chen, 2007), *verandah way* (Ismail & Shamsuddin 2005), covered arcaded way, and sidewalk way (Ismail, 2005) where it allows people to be shaded from the rain and the heat of the sun as well as walk and browse the items in the shops (Shamsuddin, 2011). Nevertheless, even though Chen (2007) mentions the minimum width of a 5-foot walkway is 5 feet, more commonly the width of the walkway is 6 - 7 feet (Davison & Invernizzi, 2010). The idea of a 5-foot walkway was introduced by Stamford Raffles in Singapore in 1822 and followed to be applied in Malaya Straits Settlements' towns later (Awang & Denan, 2017; Shamsuddin, 2011; Khoo & Berbar, 2009; Ismail, 2005). It is considered an architectural design innovation of the colonial power to architecturally adapt to the local environment condition (Hashim & Ghafar, 2005). In addition, the main entrance, openings, signage, and wall finishes in the external wall are articulated symmetrically as a response to the feng shui requirements (Ismail, 2005).

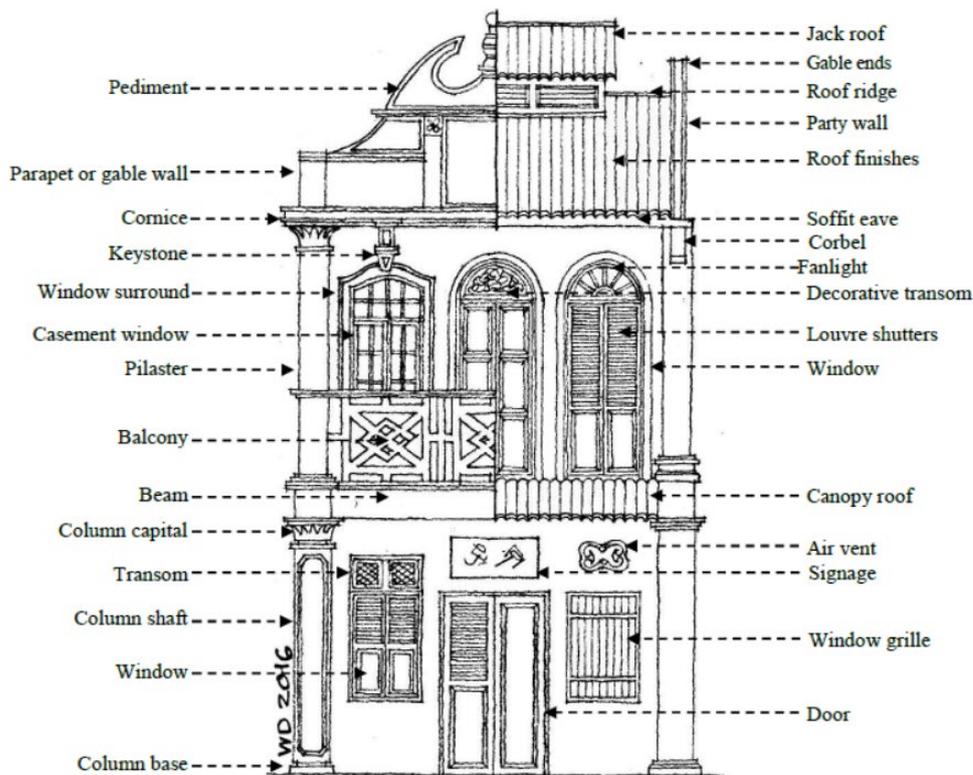
On the top floor main façade, normally, the articulation of the wall is enriched by a series of shuttered windows, air vents, cultural-based decoration motifs and details, popped-up pilaster and other structures, and parapet or gable walls. The upper wall of the façade is dominated by shuttered windows which are normally composed either in a continuous full-width window composition or in a tripartite composition with a door height size (Tan, 2015). In addition, in the early version of the heritage shophouses, the openings in the wall are just shuttered windows with less cultural-based decorations and details as a response mainly to the local climate (Ismail, 2005). Then, as time goes by, the air vents as well as the other architectural detailing and ornamentation are added due to the cultural influences, and the building construction technology evolution (Tan, 2015; Chen, 2007). There are many carvings and ornamentations on walls that are mainly influenced by Chinese culture, and later it is intertwined with other cultures' motifs including European classical and Malay Motifs due to the interest of Chinese people toward the western styles and assimilation to the local Malay cultures (Tan, 2015; Ismail, 2005). There is a motif of a Chinese coin, a 5-blessing sign, the *pakua*, animals, fruits, and flowers that bring positive meanings to the house (Tan, 2015; Khoo & Berbar, 2009; Malaysia, 2009; Chen, 2007; Ismail, 2005) as well as western ornamentation like an ornamented column capitals and arches (Malaysia, 2009; Ismail, 2005). Other than that, Ali & Ahmad (2020), Zwain & Bahauddin (2017), and Teuling (2010) highlight the complex ornamentation expression on the front façade is also due to the purpose of the owner to show off their wealth and status in their community. The more intricate the ornamentation, the wealthier the owner.

Tan (2015) and Chen (2007) explain that the roof design of heritage shophouses is mainly a pitched roof, but some units have a jack roof on top of the main roof and a flat roof

that shelter the rear part of the house. Initially, the roof design is exposed which can be perceived from the street level, but then it has been hidden by a parapet or gable wall for decoration expansion or advertisement, or signage placement. Besides fulfilling its function as a shelter, the roof design is also complemented by many cultural-based architectural ornaments and detailing to enrich its architectural character, especially at the gable, gable ends and roof ridge (Tan, 2015). On top of that, as highlighted by Chen (2007), and Chun et al. (2005) that the usage of parapet or gable walls together with other western elements in façade design is more popular in Federated Malay States' towns than in Straits Settlement's towns which are much more alike the European architecture. Therefore, it can be seen that all façade elements of the heritage shophouses are composed by responding to the local climate conditions, socio-culture, regulations set, construction technology, and building materials.

**Figure 4**

*The heritage shophouse façade elements. (Source: Ali et al, 2016)*

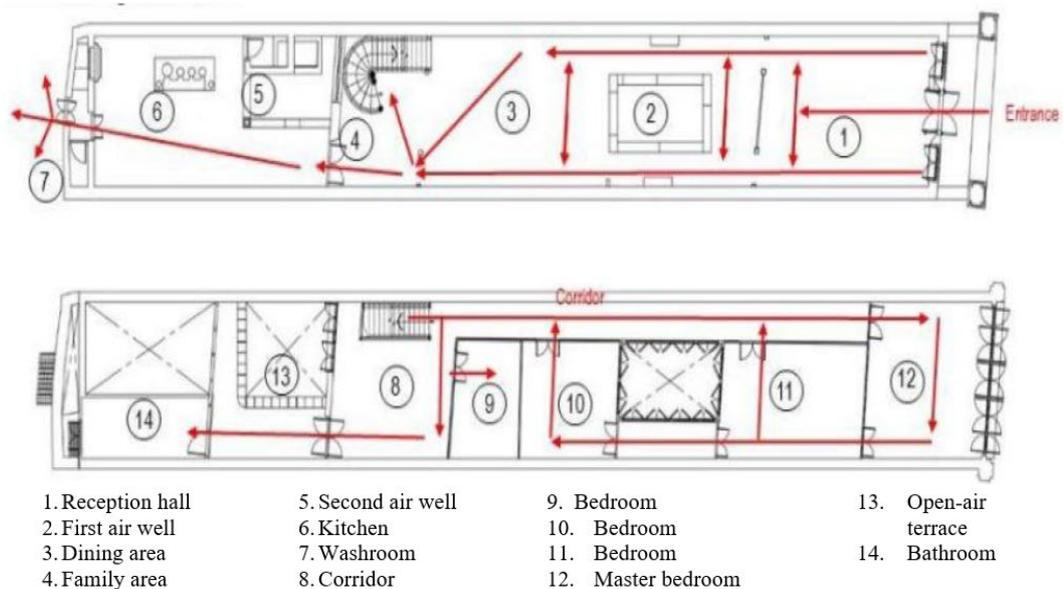


Inside the heritage shophouse, its architectural identity can be perceived through the interior design features including the spatial organization system, and the small courtyard or air well. Although Ismail & Ching (2016), Chen (2007), and Chun et al. (2005) say the elongated form of the heritage shophouse layout is governed by the urban grid and streets pattern as required by the regulations, Zwain & Bahauddin (2020) emphasize that the interior design features are significantly influenced by the cultural mixture of Malay, Chinese and European. The spatial organization system in heritage shophouses is based on privacy preference, which is very synonym to the Asian culture, especially the Chinese where the area for business and accommodation are segregated either horizontally via internal partitions or vertically via floor level (Teuling, 2010; Ismail, 2005). For single-story heritage shophouses, the front area is for commercial or business activities whilst the rear part of the house is the family area (George Town World Heritage Incorporated, 2017). Next, for 2 stories or multi-stories heritage shophouses, the zoning system is organized vertically where the business activities are mainly conducted at the ground floor level while the accommodation or family

living area is on the upper floor (Zwain & Bahauddin, 2021; Harding, 2018; Han & Beisi, 2015; Chen, 2007). Following this, the spaces provided in the heritage shophouse usually are the main hall to receive a visitor or to run businesses, a small courtyard, an informal living area like an ancestral hall, a dining area, a kitchen, toilet, and bedrooms (Zwain & Bahauddin, 2020; Khoo & Berbar, 2009; Chen, 2007; Ismail, 2005). Savage (2001) exemplifies the type of business run in heritage shophouses including lodgings, retails, wholesales, offices, storage, tea and coffee houses, prostitution, and pawnshops, some of them still in operation to this day.

**Figure 5**

*The heritage shophouse internal layout example. (Source: Zwain & Bahauddin, 2017)*



Furthermore, Zwain & Bahauddin (2021) emphasizes one of the important architectural design features in the internal space of this heritage building is the air well or the small courtyard. The uniqueness of this space lies in its design influence and functions. The design of the courtyard is based on Chinese culture and beliefs where it is to bring luck, wealth, and health into the house. Its function is as a transition space between the business and accommodation area as well as at the same time to provide natural ventilation and lighting into the house for ‘chi energy’ flow as well as to collect rainwater to be drained off to the street (Zwain & Bahauddin, 2020; Zwain & Bahauddin, 2018; Tan, 2015; Khoo & Berbar, 2009). In addition, the location of the courtyard between the heritage shophouses in the Federated Malay States and the Straits Settlements is different where the Federated Malay States’ shophouses courtyard is located at the sideways, while the Strait Settlements’ shophouses courtyard is at the centre (Ng, 2020; Zwain & Bahauddin, 2017). Next, at the rear part of the house, there is a rear court, kitchen, and storage bounded by the rear façade and connected to the back lanes (Singapore Urban Redevelopment Authority, 2022; Wagner, 2017; Chun et al, 2005). However, this area including the rear façade is considered less important and receives less conservation attention even though historically it contributes to the development of the shophouse’s daily and socio-culture activities which are prone to a big alteration (Ismail & Ching, 2016). In addition, unlike the building’s front façade which morphologically transforms over time, the floor layout remains almost unchanged or just has a very minimal alteration due to the people’s activities in the premise remaining the same and governed by the urban layout pattern. (Awang & Denan, 2017; Tan & Fujita, 2014; Chun et al, 2005; Hashim & Ghafar, 2005; Fels, 1994).

Other than that, the selection of building construction materials also significantly contributes to the heritage shophouse architectural identity development, which is influenced by the tropical climate, the regulations set, as well as the building construction technology and materials. Even though many authors mention the heritage shophouse’s common building materials are mainly incorporating masonry, timber, limestone, and clay tile materials, Dai & Zhou (2019), Chen (2007) and Ismail & Shamsuddin (2005) highlight that historically its construction was started with timber construction which mainly uses timber materials due to its availability. The changes in building materials to masonry-based construction type are due to the safety and health solution through new regulations upon big tragedies occurred like big fires, floods, and diseases in many British governed towns including Singapore in 1880 to 1890 (Khoo & Berbar, 2009; Chen, 2007; Ismail, 2005; Chun et al., 2005). In addition, the establishment of building material requirements are also set together with other guidelines for town roads and sanitary, 5-foot walkways, and party walls (Chen, 2007, Ismail & Shamsuddin, 2005, Savage, 2001). Generally, Tan (2015) and Tan & Fujita (2014) describe the plastered clay brick which later evolved into cement brick mainly applied for party walls and external walls through a load-bearing construction system whilst the clay tiles panels application is a roof finish. Then, it is finished with either normal paint, or ornamented by a mural, stuccoworks, and decorated tiles or dado panels. Besides that, George Town World Heritage Incorporated (2017) and Tan (2015) add that masonry materials are also applied in other places such as the roof ridge, pilasters, the column head, and parapet walls. Furthermore, the timber materials are commonly used for upper flooring components as well as the bressummer beam, internal wall partitions, staircases, roofing components, doors, windows, and decorations which are suitable for tropical climate conditions (Singapore Urban Redevelopment Authority, 2022; Zwain & Bahauddin, 2018; Tan, 2015). Then, started around 1910 concrete and rolled steel are introduced which affected the heritage shophouses’ height and their structural span (Baroldin, & Din 2018; Tan, 2015; Teuling, 2010). Wegner (2017), Tan (2015), Teuling (2010), and Hashim & Ghafar (2005) describe the concrete application is to reduce the usage of timber and lime mortar as well as to increase the climatic response that is applied in the ground floor structure, air vent fabrication, horizontal structures, and architectural decorations. The introduction of new finishing materials for building façades also affected the appearance and architectural style of heritage shophouses which included the glasses, grilles, Shanghai plaster, and mosaic (Ng, 2020; Tan, 2015).

**Table 1**

*The influence factors in heritage shophouse architectural design summary*

Heritage shophouses’ architectural	Structural components	Finishes	/	/	/	/	/	/	/	/	/	
		Roofing	/	/	/	/	/	/	/	/	/	/
		Floor numbers			/	/			/			/
		Staircase						/		/		/
		Flooring	/					/	/			
		Openings			/	/		/	/	/	/	
		Main structures			/	/	/	/	/	/	/	/
		Internal walls & partitions	/					/		/		
		External walls	/	/			/	/	/	/	/	/
		Party wall		/			/	/		/	/	



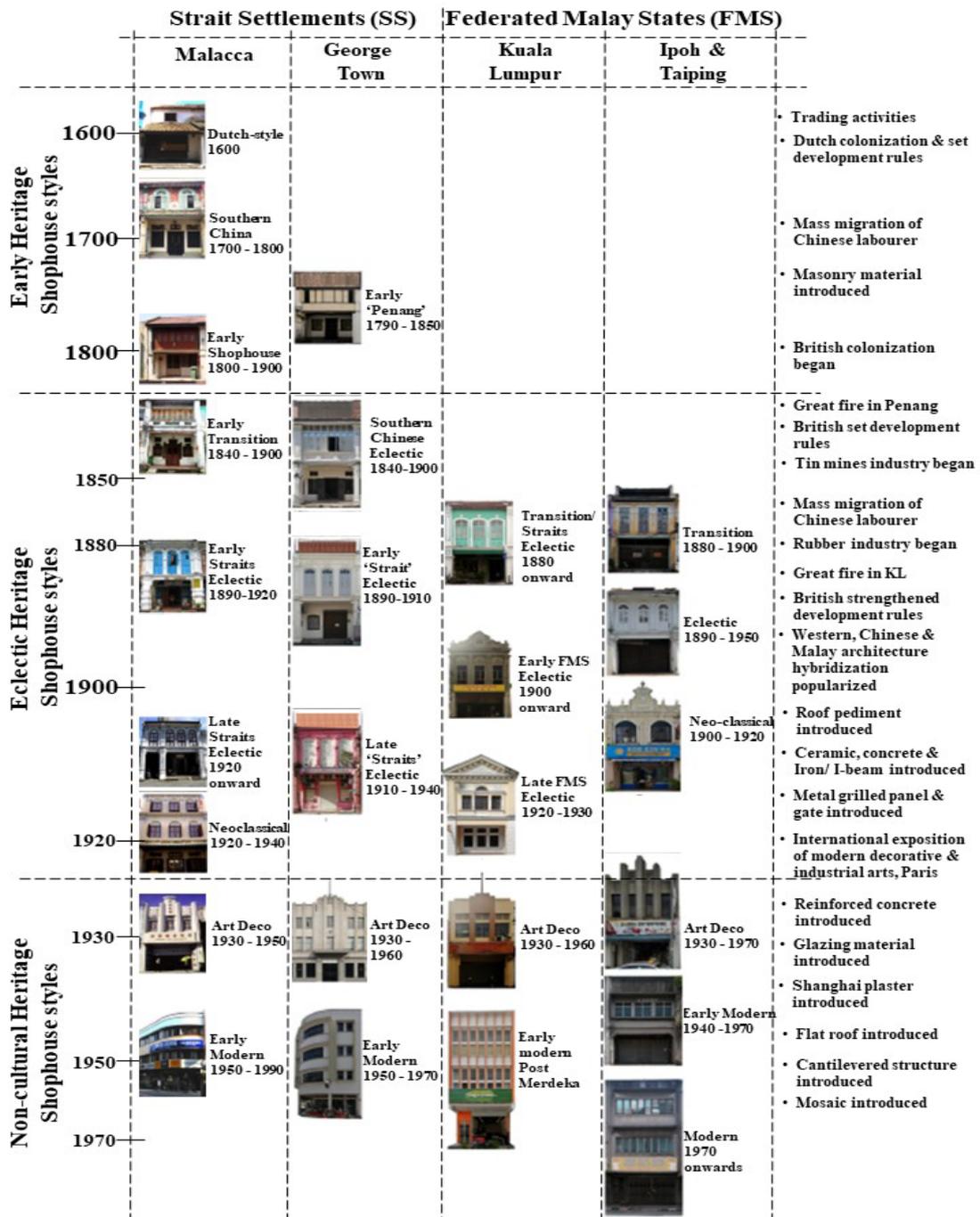
Table 1 shows the summary of the factors that influence the heritage shophouse architectural design in the Malaysian urban historic district. Overall, there are 5 main influential factors in the heritage shophouse architectural design development including the tropical climate, socio-culture, building construction technology and material resources, building development standards, and urban design. All these factors have given an impact on the heritage shophouse façade and roof design, spatial organization and environment setting as well as the building's structural components. Among the main factors, the socio-culture is the most influential factor that significantly affected heritage shophouse architectural design development and it is followed by the building construction technology and material resources as well as the tropical climate. These 3 factors influence the heritage shophouses' design almost in all levels of detail which is from the formal attributes to the small components in the building. This finding is parallel with the idea by Ismail (2018) and Torabi & Brahman (2013) that architectural identity is the manifestation of how people live and their responses to local regionalism character. The manifestation of socio-culture mostly can be found in the building façade and roof design which could be perceived and experienced by people from the street view. Furthermore, the development of technology in building construction and the availability of the materials impact the heritage shophouse's building height, flooring numbers, mass, and visual attributes such as the building façade and roof. The introduction of masonry-based and steel construction methods makes the building form and structure span wider and taller. On top of that, the articulation of the building façade also became more complex which was in line with the preferences of people at that time. To continue, the building development standards and urban design only influence the formal attributes of heritage shophouses such as the main types of building materials to be used in the construction, the general shape, organization, and orientation of the heritage shophouses', and the application of 5-foot walkway.

Next, analysing from the other angle of view, the main part of the heritage shophouse that is responsive the most to the context is the building façade and roof. It matches the idea of many scholars that the building facade is the main part of the building that manifests the building design responses to be perceived and enjoyed by people from the street view. It is mainly influenced by socio-culture, building construction technology as well as material resources, and tropical climates. As explained in the previous section, the heritage shophouse façade design started with a simple design and less decoration due to the simple people's lifestyle in responding to the local topographical character and the limitation of the material availability. Then, it evolved to become more complicated due to the impact of people's activities and lifestyles, social culture assimilation, and the introduction of new building architectural styles as well as construction materials over times. Next, other than the building façade and roof, the spatial organization and environmental setting especially in the internal part of the heritage shophouse also strongly influenced by the socio-culture factor besides responding to the tropical climate and urban design. However, it does not receive a clear impact from the development of building construction technology which makes the layout remains almost unchanged. Furthermore, generally, the heritage shophouses' building materials are domineering by clay, lime, and timber due to the availability of these materials in the local places which are applied in almost all parts of the building. It is also influenced by the building development standard set by the colonial government to overcome the fire hazardous, health, and safety issues in their time. Then cement, concrete, steel, and glazes material are introduced to replace those previous materials in building construction to show technological advancement and cultural assimilation symbols expression, especially in the building facade.

## Heritage Shophouse styles

Figure 6

The summary of heritage shophouses' morphological architectural styles in Malaysia



The study also makes a comparison with the architectural style evolution of heritage shophouses' facades in Malaysia. It is because this is the most affected part by the changes of the context factors over time as well as the place for the owner to express their identity and status (Ali & Ahmad, 2020; Chiong, 2014; Li, 2007). Then, this situation has created many heritage shophouse styles that developed morphologically over times (Wegner, 2017). Figure 6 shows the summary of the heritage shophouses styles in the old towns of Straits Settlements and the Federated Malay States that have been commonly studied by previous scholars. Malaysian old towns own many collections of heritage shophouse styles that are

morphologically developed over time and distributed in their urban historic districts. The morphological transformation of heritage shophouses' style is due to its design adaptation toward the changes of influential context factors over times (Ng, 2020; Zwain & Bahauddin, 2017). Although the heritage shophouse architectural style classifications in all Malaysian old towns are varied, they can be grouped into 3 main categories of heritage shophouse styles which morphologically transformed. There are the Early Heritage Shophouse styles, the Eclectic Heritage Shophouse styles, and the Non-Cultural Heritage Shophouse styles.

Historically, the heritage shophouses that have been built in the Straits Settlements are much earlier than the Federated Malay States and other old towns (Ng, 2020; Malaysia, 2009). The early heritage shophouse styles category comprises the Dutch shophouse style, the Southern China shophouse style, and the Early shophouses of Malacca and Georgetown. The earliest shophouse in Malaysia was built by the Chinese traders in Malacca around the 1600s even before the Dutch colonization that came for the maritime trading activities (Weebers et al., 2015; Teuling, 2010; Malaysia, 2009; Chun et al., 2005). Then, in George Town, the construction of the heritage shophouse started in the 1790s (George Town World Heritage Incorporated, 2017; Tan, 2015). Baroldin & Din (2018), Tan (2015) and Weebers et al. (2015) explain the architectural design of the early heritage shophouses in both Straits Settlements is simple. They are built in a modest height which is either in a single or 2 stories floor level as well as has a symmetrical fenestration and a porch or 5-foot walkways at the front. The plastered brick wall, lime mortar, timber-based framing, openings, and roof structures as well as interlocking roof clay tiles are the main building materials. Then, Teuling (2010) adds the application of more feng shui principles and Chinese ornamentations were started around the 1700s in the Southern China shophouse style due to more Chinese migration into the lands. Other than that, the building program started with only residential and later around the 1700s the commercial was added.

Then, after the land was colonized by the British, the design of heritage shophouses continued to evolve to the eclectic shophouse styles category as a result of the introduction of new building by-laws to overcome the safety and health issues, the introduction of western architecture styles and the mass migration of the Chinese labour to the towns for business and job opportunities (Ng, 2020; Zwain & Bahauddin, 2018; Tan, 2015; Chen, 2007; Ismail, 2005). On top of that, Chiong (2014) and Ismail (2005) highlight the transformation of heritage shophouses design, especially at the front façade due to the improvement in living standards and wealth of the middle-class citizen group around the 1900s. It is the manifestation of the community in expressing their cultural identity and celebrating the eclecticism and hybridity with others in the pluralistic Malayan milieu. In this Eclectic Shophouse Styles category, the heritage shophouse design especially the building façade became more complex where the cultural influences of Chinese, Western and Malay are hybridized morphologically (Ng, 2020; Zwain & Bahauddin, 2017; Elnokaly & Wong; 2015). Mamat & Aziz (2020), Zwain & Bahauddin (2020), Tan (2015) and Chiong (2014) explain that the Chinese culture and beliefs are the main influence on the façade that has been applied in ornamentations and signs, symmetrical composition, column head, roof ridge and gable end which represent the prayer for luck, fortunes, and prosperity. Next, windows and shutters, timber materials use, roofing, carvings, and the verandah way are influenced by the Malay architecture which is the practicality to adapt to tropical climates. Then, the western architectural elements such as the pediment, parapet wall, French window, tripartite windows composition, keystone, and pilasters represent the grandeur, status, and power. In Malacca, the heritage shophouse styles under this category are including the Early Transition Shophouse, the Early Straits Eclectic Shophouse, the Late Straits Eclectic Shophouse, and the Neo-Classical Shophouse (Baroldin & Din, 2012; Teuling, 2010; Malaysia, 2009). While in George Town, there is the Southern Chinese Eclectic Shophouse, the Early Straits Eclectic Shophouse and the Late Straits Eclectic

Shophouse (George Town World Heritage Incorporated, 2017; Tan, 2015; Malaysia, 2009). Furthermore, during this period, the development of heritage shophouses also flourished in the Federated Malay States' main towns such as Kuala Lumpur, Ipoh, and Taiping due to the mines and rubber industries activity (Harding, 2018; Ali et al, 2015; Chen, 2007). In Kuala Lumpur, there are the Straits Eclectic Shophouse, the Early FMS Shophouse and the Late FMS Shophouse (Ng, 2020; Chun et al., 2005). While in Ipoh, there are the Transitional Shophouse, the Eclectic Shophouse and the Neo-Classical Shophouse (Ali et al., 2015).

Thereafter, the last heritage shophouses category is the Non-Cultural Heritage Shophouse style which comprises the Art Deco Shophouses style and the Early Modern Shophouse style. Even though this category is included in the heritage shophouses category, Ali & Ahmad (2020) and Elnokaly & Wong (2015) consider it non-cultural heritage shophouses because many cultural-based elements have been removed. Chen (2007) records that around the 1930s, the Art Deco Shophouse style took place in all Malaysian old towns and continued with the Early Modern Shophouse style after Malaysia's independence. Tan (2015), Chen (2007) and Li (2007) explain the Art Deco architectural style can be considered a precursor to the Modernism architectural style which was mainly influenced by the International Exposition of Modern Decorative and Industrial Art in Paris in the 1925s. Other than a heritage shophouse, this architectural style also influenced other buildings' designs including the institution buildings, villas, and monuments. In the Art Deco architectural style, all cultural ornamentations are removed and replaced with clean surfaces with Shanghai plaster, emphasizing geometrical and parallel vertical and horizontal lines elements, stepped parapet wall and a coloured glass window with steel frames (Ng, 2020; Ali et al., 2015; Tan, 2015; Chen, 2007). Tan (2015) and Chen (2007) add in some Art Deco buildings, there is a flagpole with a simple decorative motif, and the signage of the year built and the business name. Next, from the impact of the international modernism movement, the Early Modern Shophouse style offered simpler architectural design features by emphasizing the rectilinear form, free ornamentation, and new construction materials application which constructed only for functional reasons (Baroldin & Din, 2018; Tan, 2015; Teuling, 2010).

## CONCLUSION

The heritage shophouse is the main type of architectural heritage that significantly characterises the urban historic district in Malaysian old towns through its strong architectural identity. Unlike the modern building design that's seen contextually isolated from the urban historic district, the heritage shophouses' design is considered successful in intertwined with the place identity due to its architectural identity that significantly responds to the context influence factors. The contextual factors that influence the heritage shophouses' architectural design are including the tropical climate, which is also a basic consideration in architectural design, the socio-culture of the place as the major factor, building construction as well as material resources, building development standards, and the urban design. Furthermore, the architectural adaptation of heritage shophouses design to the context factors has morphologically created various heritage shophouses styles that can be classified into the Early Heritage Shophouse styles, the Eclectic Heritage Shophouse styles, and the Non-Cultural Heritage Shophouse styles. The findings of this study could help the designer to get aware of the factors that influence the architectural design in the urban historic district and how to set a design consideration priority in developing their new architectural intervention design idea to smoothly continue the architectural transformation in the place while preserving its valuable historical character.

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