TOURIST-DEPENDENT ADAPTIVE REUSE IN THE OLD RESIDENTIAL QUARTER OF MELAKA CITY, MALAYSIA

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This paper presents findings from the study of tourist-dependent adaptive reuse in the old residential quarter of Melaka City. Two surveys have been conducted in this study. The first survey involves the collection of building and land use data via non-participatory observation method. While the second survey uses a questionnaire to measure the perceptions of different users of the old quarter, namely local community which consist of residents and business owners, and also domestic and international tourists, on the effects of adaptive reuse. Findings show that almost 25 percent of the actively used buildings are housing tourist-dependent uses (TDUs), which are concentrated mainly on Jonker Street and its surrounding area. A number of streets have more TDUs buildings than non-TDUs, and some are dominated by one type of TDU only. This shows that tourist-dependent reuse activity in the old quarter needs to be checked to minimise future negative implications. This study first classifies adaptive reuse approaches in the old quarter and relates them to the different effects they bring to the old quarter. Then the concerns and expectations of different user groups in the old quarter towards the physical, social, economical and tourism effects of adaptive reuse are identified. Finally, this paper proposes planning and area management measures to regulate adaptive reuse in the old residential quarter.

Keywords: World heritage, Revitalization, Urban tourism, Conversion, Colonial city

1. INTRODUCTION

Adaptive reuse, which is also called 'creative re-use'1), ‘refurbishment’2), ‘conversion’3) or ‘rehabilitation’4), generally means repair or refurbish a building, and use it for new purpose which is different from its original use for which it was designed. Examples of adaptive reuse are found in the old residential and commercial quarter of Melaka City (ORQ), in Malaysia. This historic area was listed as a UNESCO World Heritage Site (WHS) on 7th July 2008, together with the neighboring old civic quarter (Fig. 1).

Melaka’s old residential quarter is traditionally a popular tourist destination among both Malaysians and people from overseas. The inflow of tourists further increased when the 'Jonker Walk' program was launched at the quarter on 9th June 20005). Jonker Walk program takes its name from one of the main streets in the old quarter, Jonker Street, which was historically famous for its business and Chinese community activities. The Jonker Walk program, which is a joint initiative between the Melaka State Government and local communities, intends to revitalise the old residential quarter which had experienced out-migration since the late 1970s. The program aims to reintroduce the old quarter’s heritage to the locals and visitors, and boost the local economy via tourism. The Jonker Walk program is considered a success by the local communities and Melaka State Government. Due to this, many business individuals and groups wanted to invest there. As a result, from late in the year 2000 many investors started to buy or rent buildings in the old quarter to adapt them for new uses. Most of the new uses are related to tourists, such as gifts shops, souvenir shops and restaurants. It can also be observed that some buildings’ physical adaptations were done with care to conserve their architectural elements. However, there are also some examples that show carelessness.

This research contends that adaptive reuse of buildings for the purpose of tourism alone can be dangerous. This study defines buildings that are adapted and reused with the aim for...
tourist businesses as ‘tourist-dependent adaptive reuse’. The new uses houses are called tourist-dependent uses (TDU). TDU means uses or activities which are created solely to cater for tourists’ needs. Because of that, these uses depend heavily on tourists' spending to continue their operations or survival. Examples of TDU are souvenir shops, hotels, themed restaurants and cafes. The opposite of TDU is non-tourist-dependent use (Non-TDU). Non-TDU are the original activities of the historic area. Their existence is not caused by tourists’ presence or demand, as they existed long before the arrival of tourists. Hence they do not depend on tourists to continue or ‘survive’. Rather, these activities are mainly catering for local consumers’ needs. Examples of Non-TDU include residential use and traditional retail uses.

Even though tourism-led adaptive reuse can benefit a historic area or town, such as by boosting the local economy and improving its infrastructure, building reuse can also create negative consequences for the historic area's environment and its inhabitants. Possible consequences of adaptive reuse include the loss of unique architecture during the process of adaptation, the dislocation of original residents from the town and the loss of privacy for local inhabitants. Buildings that are reused for tourism purposes need to be planned and regulated to prevent the historic area from losing its valuable heritage. To do this, it is important to understand how physical changes to the buildings, and also changes in their use, can affect the area's heritage significance. Besides this, it is also necessary to understand how historic area's users perceive the consequences of building reuse for the place. It is therefore the aim of this paper to present findings from a study conducted in the old residential quarter of Melaka City on the trend of tourist-dependent adaptive reuse.

2. PAST RESEARCHES

The subject of adaptive reuse often appears in literature on building management, architecture conservation, and conservation-led revitalization. Adaptive reuse is also discussed in research on tourism-led conservation. These literatures highlight the effects of building reuse in improving the physical and economic condition of historic cities or areas. However, they do not define clearly how buildings should be adapted and reused within the context of a historic area or town. Past literature on building adaptation and reuse also does not relate on how users of the historic place, such as local residents or tourists, feel about the physical and social changes created by the new activities in the historic area. Hence this study wishes to fill the theoretical gap on the subject of building adaptive reuse in historic area and also users' perceptions towards building reuse.

3. RESEARCH OBJECTIVES AND METHODOLOGY

This study has four objectives. The first objective is to identify the types of tourist-dependent uses and their location in the old residential quarter of Melaka City. The second is to clarify the types of physical adaptation and use of space involving buildings reused for TDU in the old quarter. The third is to measure users' concerns and expectations about building adaptive reuse in this old quarter, where users are the local community and tourists, which consist of residents, business owners, domestic and international tourists in the old quarter. Lastly, the objective is to propose measures to plan and manage adaptive reuse in the old residential quarter to meet users’ needs.

In this study, two surveys were conducted. The first was building use survey, carried out to record all buildings and land plots' uses in the old quarter from November 2008 to January 2009. This survey was conducted by the authors for the duration of three months for two reasons. First reason was that the authors wished to understand in depth the situation in the study area, which include its urban character, people, their ways of life and also the activities found there. Second reason was that the authors intended to seek permission from buildings’ owners to visit their buildings and to hold interviews with them, to understand the purpose and details of the adaptive reuse works.

For buildings, only ground and first floor uses were recorded due to time and human resource limitations. Building uses were recorded by a non-participatory observation method, involving observation from outside the buildings and not inside. This method was used because of the large number of buildings to be surveyed within a limited time. A total of 947 building and land plot uses were classified into 15 use groups, which include residential, retail, service, wholesale uses and vacant buildings. Building use data were then analyzed by frequency and the results displayed by GIS. Subsequently, a questionnaire survey was conducted from July to August 2009, aimed at collecting the opinions of local community and tourists about building adaptive reuse in the old quarter. In this survey, the questionnaire tests to the tourists were distributed at restaurants and guest house located in the study area which are popular with local and foreign tourists.

A total of 358 samples were collected. 132 samples were locals living or doing businesses in the old quarter, and 206 were visiting tourists. Locals respondents were selected by proportional stratified-random sampling, and tourists via random sampling. The response rate for locals and tourists were 48% and 86% respectively. In the questionnaire, respondents were asked to state their opinions about a list of changes in the old quarter related to adaptive reuse. Respondents chose their answers from six given options from ‘strongly disagree’, ‘moderately disagree’, ‘slightly disagree’, ‘slightly agree’, ‘moderately agree’ to ‘strongly agree’. Data collected from the questionnaire were tested using the Mann-Whitney U-Test to identify the difference in opinions among the local community and tourists.

4. TOURIST-DEPENDENT ADAPTIVE REUSE AT OLD RESIDENTIAL QUARTER

4.1 General Building and Land Uses at the Old Quarter

The results of the building use survey show that the use of buildings and land plots in the old quarter can be divided into two main types: building or
land with active use; or property with passive use. The former means places that are frequently occupied or visited by people, while the latter are places less frequented or not used at all. The results also show that more than three quarters of the ground-floor building and land uses in the old quarter are active uses (76.2%). These uses include retail (25.5%), residential (17.5%), service uses (16.9%), workshops (6.1%), art galleries (3%), wholesale (2.6%), religious buildings (1.8%) and agriculture (0.7%). Passive uses include vacant or idle buildings (14.5%), storage or warehouses (7.1%), building under renovation (1.1%) and cemeteries (0.2%) (Fig. 2).

1) Buildings' Upper Floor Use

For buildings' upper floor space, the survey shows that active uses make up slightly more than half of the total uses (51.6%), while the remainder are passive uses. For active uses, residential use is the single largest use found on the first floor of the buildings (40.2%), followed by other uses such as services (4%), community uses (2.3%) and art galleries (1.6%). Passive uses are mainly vacant spaces (27.3%) and storage (14.5%). The findings show that the old quarter is still a living area with people staying on the upper floor of the buildings. But the number of dwellers could have reduced over the years, as indicated by the large amount of vacancy and storage on upper floors.

2) Concentration of Uses

The survey finding shows that residential buildings are located at many places in the old quarter. They are especially concentrated on Heeren Street, Jalan Kampung Kali and Kampung Ketek/Kampung Dua. Retail uses are concentrated on Jonker Street, and service uses are dispersed within the old quarter (Fig. 3).

The results also show that wholesale and storage buildings remain concentrated along Jalan Kampung Pantai, which has been the traditional wholesale hub of Melaka City since the early 20th century, due to its proximity to Melaka River. Religious institutions important to the history of Melaka and Malaysia such as Cheng Hong Teng Temple, Sri Poyyatha...
This research has made a comparison with the works on the concentration of building use in the old quarter by Chi published in 1983 [12] and Funo et al. [13] published in 2005. The finding from the comparison with Chi's research shows that a number of building uses or activities in the past, such as dentists and tailors, have now decreased, which reflects their declining importance in the old quarter due to the reduced demand from lessening resident. The comparison with the research by Funo et al. indicate that the concentration of major uses, especially residential and religious uses, remained largely unchanged from 20 years ago. Despite minimal change in the concentration of building use, this research found that many uses or activities inside the buildings in the old quarter, had now changed towards tourist-dependent uses or activities.

4.2. Tourist-dependent Uses at the Old Quarter

1) General Composition and Location

This study examined the occurrence of tourist-dependent uses and their location in the old quarter. The survey results show that almost one quarter of the building and land uses are TDU (24.3%), and a little more than half are NTDU (59.1%). There are also uses that do not fall into either category, namely land plots without buildings, or buildings without any activity inside, such as vacant buildings, vacant land, buildings under renovation or cemeteries (16.6%) (Fig. 4).

This survey also found tourist-dependent uses consist of mainly retail-based uses (51.2%) and service-based uses (32.6%). Both uses make up more than two third of the total TDU in the old quarter. Other tourist-dependent uses include art galleries (9.8%), workshops (3.5%) and buildings with educational purposes such as Dutch period house turned into museum (2.8%) (Fig. 5).

In the old quarter, tourist-dependent uses are mainly concentrated in the central part of the area, particularly along Jonker Street, which is the main business street and backbone of the Jonker Walk Program (Fig. 6). Other streets which also recorded relatively high numbers of TDU are Heeren Street, Jalan Tokong, Lorong Hang Jebat, Jalan Hang Kasturi and Jalan Hang Lekir, all of which intersect Jonker Street (Fig. 7).

At streets level, almost all streets showed some occurrence of tourist-dependent activities in reused buildings. However, certain streets show higher numbers of activities compared to others. For example, a relatively high number of TDU are found at Heeren Street, Jalan Tokong, Jalan Hang Jebat, Jalan Hang Kasturi and Jalan Kubu. There are also streets where the number of tourist-dependent uses is higher than non-tourist-dependent uses, such as Jonker Street and Jalan Hang Lekir. This study suggests that if this kind of building reuse trend is not checked, it could pose a great threat to the town or streetscape of the old quarter and its historic and cultural legacy.

2) Composition and Location of Retail-based Tourist-dependent Uses

For retail-based TDU, gift and souvenir shops are the single largest use found in the old quarter (53%). They are followed by food and beverage products shops (17.9%) and clothes and accessories shops (14.5%) (Fig. 8). Further analysis shows that Jonker Street has the highest number (n=49) and most diverse types of retail-based TDU compared to other streets (at least one occurrence for each use category). Jonker Street also has the most gift and souvenir shops, clothes and accessories shops and antiques shops (Fig. 9). The occurrence of such a trend can be related to the ‘spillover effect’ of the Jonker Walk Program, which prompted buildings in its surroundings to be reused due to their proximity to the main attraction (Fig. 10).

3) Composition and Location of Service-based Tourist-dependent Uses

For service-based TDU, restaurants, cafés and pubs are the largest uses in

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Vinayagar Moorthi Temple and Masjid Kampung Kling remain on Jalan Tukang Besi, Jalan Tukang Emas and Jalan Tokong. Buildings with upper residential floors can still be found at many places in the old quarter, and are not confined to one area or street only. This is because the old quarter was the former residential centre of Melaka City.
5. BUILDING ADAPTATION AND REUSE

The results of the building use survey reveal that buildings in the old quarter that were adapted and reused involve either one or both of these interventions: a) Adaptation to the physical components of a building; and/or b) Reuse of a building's internal space.

5.1 Adapting Buildings' Physical Components

The survey found that when a building had undergone the process of physical adaptation, at least one of these components was involved: a) Interior or structure of a building; b) Space outside the building but within its lot boundary; and/or c) Building's external fabric or envelope (Fig. 13).

Examples of the adaptive reuse of buildings in the old quarter also show that when adaptation is carried out, at least one of the following three interventions is usually applied. The first intervention involves the modification, alteration or reconfiguration of the physical components of a building. The second intervention involves an addition or extension to a building. The third type of intervention involves partial demolition. Among the three, modification creates the most minimal change to the building, while partial demolition causes the most severe change. The application of different choice of intervention can generate a different intensity of consequences for the historic area. For example, a modification or reconfiguration to the internal space or structure of a building will generate relatively minor consequences for the historic area compared to partial demolition of the building's facade or the installation of new elements on the building's exterior (Fig. 14). This is because internal changes are usually visually concealed from the public, who often view heritage from the public

![Diagram of building components](image)

**Fig. 12 Location of Service-based Tourist-dependent Uses by Streets**

![Diagram of service-based tourist-dependent uses](image)

**Fig. 13 Physical Components of Buildings in the Old Residential Quarter**
the likely consequences of both reuse methods. Building’s entire ground floor (Fig. 15). Examples of such reuses in the old quarter include art galleries, cafes, souvenir shops or workshops. Other spaces in the building usually remain as a residence, become storage, or are even left vacant or idle. For a building which is fully reused, often the entire building is used for only one single new use, such as tourist accommodation, restaurants or art galleries. A fully reused building poses greater challenges to the old quarter compared to a partially reused building. This is because the former introduces totally new activity into the whole building, which can extend the consequences of the change to its surrounding area, and have either positive or negative effects on a larger scale. On the other hand, the latter mixes existing and new uses within a building. Mixes of uses are unlikely to generate drastic consequences to the old quarter as new activities are wedged between the existing. However, there could be a potential conflict of uses if the current ones cannot adapt to the new or vice versa. Planning for full or partial reuse should be concerned about the likely consequences of both reuse methods.

5.2 Reuse of Buildings’ Internal Space

The survey results also show that the internal spaces of reused buildings in the old quarter, whose buildings are mainly two-storey shophouses or townhouses, are either partially or fully reused with new activities. The findings which were based on the survey of 50 adapted and reused buildings in the old quarter, show that partial reuse is usually characterized by mixed uses within a building, and can appear in three forms. The first is the reuse of the front internal space of a building’s ground floor; the second is the reuse of the front internal spaces of the building’s ground and upper floor, and the third is the reuse of the building’s entire ground floor (Fig. 15). Examples of such reuses in the old quarter include art galleries, cafes, souvenir shops or workshops. Other spaces in the building usually remain as a residence, become storage, or are even left vacant or idle. For a building which is fully reused, often the entire building is used for only one single new use, such as tourist accommodation, restaurants or art galleries. A fully reused building poses greater challenges to the old quarter compared to a partially reused building. This is because the former introduces totally new activity into the whole building, which can extend the consequences of the change to its surrounding area, and have either positive or negative effects on a larger scale. On the other hand, the latter mixes existing and new uses within a building. Mixes of uses are unlikely to generate drastic consequences to the old quarter as new activities are wedged between the existing. However, there could be a potential conflict of uses if the current ones cannot adapt to the new or vice versa. Planning for full or partial reuse should be concerned about the likely consequences of both reuse methods.

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![Fig. 14 Types of Building Physical Adaptation in the Old Residential Quarter](image)

![Fig. 15 Types of Reused Building Internal Space in the Old Residential Quarter](image)
6. LOCAL COMMUNITY AND TOURISTS’ PERCEPTIONS ON TOURIST-DEPENDENT ADAPTIVE REUSE

The results of the Mann-Whitney U-Test show that there are two types of outcomes when comparing the perceptions of local community and tourists in the old quarter on adaptive reuse. The first outcome shows that there are similar concerns and expectations from these two user groups about building adaptive reuse; while the other outcome indicates their different concerns and expectations.

Both user groups agree that adapting and reusing buildings makes the old quarter more lively (Table 1) (Fig. 16). However, they also share concerns that buildings with new uses reduce the privacy of residents living nearby (Fig. 17) and make the old quarter too touristic and commercialized (Fig. 18). Both groups have the opinion that new activities are not more interesting than traditional one (Fig. 18). These results show that local community and tourist are concerned about the consequences of adaptive reuse that might affect the social and heritage aspects of the old quarter.

Subsequently, Mann-Whitney U-Test results indicate that local community feel that adaptive reuse makes the historic place livelier, promotes the rehabilitation of existing buildings and encourages gentrification (Table 1). While tourists feel that adaptive reuse makes the old quarter safer and also creates businesses that provide better quality services. They also feel that building reuse could affect heritage in the old quarter, and hence its ability to attract visitors. Local community and tourists’ concerns about the consequences of adaptive reuse show that different groups have different expectations for the old quarter. For local community, they indicate their expectation that the old quarter keep its valuable heritage and at the same time, be a good place to live. For tourists, the emphasis is for the old quarter to ensure that tourists’ visiting experiences are enhanced and their expectations met regarding its unique heritage, the availability of quality services and safety. Users’ concerns and expectations are important and should be used to guide the planning and regulation of building reuse at historic towns or areas.

7. PLANNING FOR ADAPTIVE REUSE IN OLD RESIDENTIAL QUARTER

7.1 Existing Planning Guidelines

Currently, there are three planning documents used by Melaka City Government to regulate adaptive reuse activity in the old quarter: the Melaka Central District Local Plan, 2015 (15), Special Area Plan: Melaka Historical City Conservation Area Management Plan (13), and Melaka Historical City Conservation Area.

Table 1 Local Community and Tourists’ Perceptions on the Effects of Adaptive Reuse in the Old Residential Quarter

<table>
<thead>
<tr>
<th>No.</th>
<th>Impacts of Adaptive Reuse at Historic Area</th>
<th>Results of Mann-Whitney U-Test</th>
<th>Interpretations of Results</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Historic area becomes more lively.</td>
<td>Local: 132, 205; Tourists: 337, 333</td>
<td>204.9 145.89 27046.5 29906.5 8791.5 -5.619 0.000</td>
<td>Locals feel adaptive reuse improves the environment of the place by making it more lively.</td>
</tr>
<tr>
<td>2.</td>
<td>Reuse of buildings makes old quarter safer place.</td>
<td>Local: 132, 205; Tourists: 337, 333</td>
<td>122.31 97.34 16172 19793 7374 -7.653 0.000</td>
<td>Tourists feel reuse improves the safety of the historic environment.</td>
</tr>
<tr>
<td>3.</td>
<td>Rehabilitated historic buildings are more attractive than non-rehabilitated buildings.</td>
<td>Local: 132, 205; Tourists: 337, 333</td>
<td>192.4 154.12 22308 31749 10428 -3.609 0.000</td>
<td>Locals feel reuse improves the building's physical appearance.</td>
</tr>
<tr>
<td>4.</td>
<td>Local community and tourists feel reuse reduces local security.</td>
<td>Local: 132, 205, 337; Tourists: 337, 333</td>
<td>172.24 166.31 24259 34052 12937 -0.574 0.566</td>
<td>Both locals and tourists feel reuse improves the living environment of the historic place.</td>
</tr>
<tr>
<td>5.</td>
<td>Reuse of buildings promotes gentrification.</td>
<td>Local: 132, 205, 337; Tourists: 337, 333</td>
<td>79.45 148.09 25065.7 29494.5 9645.5 -4.276 0.000</td>
<td>Locals feel that reuse improves the social mix of the place.</td>
</tr>
<tr>
<td>6.</td>
<td>Reuse of buildings reduces old quarter’s habitants' privacy.</td>
<td>Local: 132, 205, 337; Tourists: 337, 333</td>
<td>158.85 174.76 20665.1 35650.5 12187.5 -1.498 0.134</td>
<td>Locals and tourists feel reuse reduces the privacy of people living at the historic area.</td>
</tr>
<tr>
<td>7.</td>
<td>Economically, reuse promotes building makes old quarter improve service of businesses.</td>
<td>Local: 132, 205; Tourists: 337</td>
<td>138.77 188.46 26310 38135 9540 -0.635 0.000</td>
<td>Tourists feel reuse improves the service of businesses.</td>
</tr>
<tr>
<td></td>
<td>Heritage Tourism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Reuse of buildings causes old quarter to lose its heritage attractions.</td>
<td>Local: 132, 205; Tourists: 337</td>
<td>144.35 185.47 20984.5 33026.5 10306.5 -3.383 0.000</td>
<td>Tourists feel reuse reduces the heritage attraction of the historic place.</td>
</tr>
<tr>
<td>2.</td>
<td>Reuse of buildings makes old quarter commercialised.</td>
<td>Local: 132, 205, 337; Tourists: 337</td>
<td>168.31 168.5 22074.3 34541.5 11326.5 -0.001 0.999</td>
<td>Locals and tourists feel reuse can make historic area tourism area fill with commercialization.</td>
</tr>
<tr>
<td>3.</td>
<td>Modern activities at the old quarter are more interesting than traditional ones.</td>
<td>Local: 132, 205, 337</td>
<td>158.83 175.35 20965 35988 12187 -1.582 0.114</td>
<td>Locals and tourists feel traditional activities at the historic area are more interesting than new activities.</td>
</tr>
</tbody>
</table>
However, this study found a number of limitations with the existing guidelines, where firstly, the guidelines in these documents are not specifically formulated to address the issue of excessive number of buildings in the old quarter being adapted and reused for tourist-oriented business and service, as this issue has never been identified as a problem before. Second, the emphasis and depth of all three documents are different. For example Melaka Central District Local Plan 2015 has no specific provisions dealing with adaptive reuse even though it provides general urban design guidelines for the old quarter. The other document, the Action Plan does provide detail analysis and guidelines to control adaptive reuse activity, however the focus is only on individual street and not the whole old quarter. In addition to that, the Action Plan regulate adaptive reuse activity by controlling mainly building use, which this study believes, is insufficient to support the planning of the old quarter effectively. This research contends that there should be other complimentary mechanism, such as area management measure, which can help in controlling the building adaptive reuse in the old quarter.

7.2 Research Proposal

This paper puts forward a proposal that wishes to compliment existing guidelines, in addressing the situation of adaptive reuse and tourist-dependent uses in the old quarter. The proposal is based on the needs of the users, which are grouped into three categories: 1) Lively environment; 2) Historical integrity or or integrity, and 3) Quality of service. To meet the users' needs for lively environment and historical integrity, eight principles which include building use concentration, building use type, quantity of existing use, adaptation intervention, awareness installation and area management, have been proposed to ensure the old quarter is lively and contains historical integrity to meet local and tourists' needs. While the principle of product and service management is proposed to improve the quality of service in the old quarter to meet mainly tourists' need. The implementation of these principles should consider both tourist-dependent uses and non-tourist-dependent uses in the old quarter. Over-emphasizing TDU related adaptive reuse will make the old quarter too touristic and commercialized, whereas old quarter without any new activity would make it stagnant and dull. Therefore, these principles which are mainly planning and management measures, intend to achieve a situation in the old quarter that is a result of balance TDU and NTDU, and that can meet users' needs (Fig. 19).

The reason why not only planning measures are proposed for this study but also management measures is because this study believes planning control must be complimented by management of the area in the old quarter, especially if the outcome intends to achieve improve service for tourists and increase awareness among locals about the need to implement adaptive reuse appropriately in the old quarter.

8. CONCLUSION

This study, which focuses mainly on building adaptive reuse at the old residential quarter of Melaka City for tourist-dependent uses, has identified a number of findings which could allow a deeper understanding of the subject of adaptive reuse in the historic city. In this research, it is found that most of the new activities housed in adapted and reused buildings at the old residential quarter are retail businesses and services aimed at tourists. Tourist-dependent uses are also concentrated mainly at the central part of the old quarter, with most of the reused building found on Jonker Street, Heeren Street and streets intersecting them. The high concentration of TDU around this area could have been prompted by the successful implementation of the Jonker Walk programme.
which aim to regenerate the old quarter through a tourism-led urban revitalisation programme. However, there is a possibility that some streets will have more than half of their buildings adapted and reused for tourist-dependent uses such as souvenir shops or restaurants in the future. There could also be a situation where only one kind of tourist-dependent use dominates a whole street or section of an area within the old quarter. The current situation in the old quarter is gearing towards this trend, which could continue as tourism demand grows due to Melaka City's recent inclusion in the UNESCO WHS.

This study attempts to classify the types of approaches and interventions used for the reuse of buildings in the old quarter. This classification produces some indicators which are able to help individuals or officials decide how buildings located in the historic area can be adapted and reused, to achieve the intended intensity of change for the building, street or area. This classification may be the first attempt to compare adaptive reuse approaches with the effects they bring to the historic area of an Asian city.

Findings from this research also demonstrate that users of the old quarter, namely the local community which consist of the residents and business owners, and also domestic and international tourists, have different and similar concerns and expectations about the consequences that adaptive reuse brings to the old quarter. The findings suggest that different users view changes brought by adaptive reuse differently, and their views reflect their concerns and also their expectations for the old quarter. The findings also indicate there is no clear ‘yes or no’ answer for adaptive reuse, hence there should not be a ‘one-size-fits-all’ rule for building adaptation and reuse in the historic area. Rather, building reuse should be implemented based on the concerns and expectation of the historic area's users and how these users desire the place to be.

The proposal in this paper is meant to steer building adaptation and reuse in the old residential quarter of Melaka City. Besides that, it wishes to suggest to urban planners, heritage managers and decision makers, the possible measures to be implemented in the old quarter, to compliment and strengthen existing guidelines in addressing the issue of adaptive reuse towards tourist-dependent uses. The sequential methodology of this research, which started from collecting building use data, to conducting perception survey on historic area's users about the effects of adaptive reuse, and up to the final task of formulating planning guidelines, can be all emulated and applied in other historic areas, towns or cities that wish to implement and regulate tourist-dependent adaptive reuse activity.

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