THE IMAGE AND IDENTITY OF MUAR AS THE MODERN ROYAL TOWN OF THE JOHOR SULTANATE, MALAYSIA: FROM THE PERSPECTIVE OF PLACE IDENTITY

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ABSTRACT

In contrast to other existing royal towns in Malaysia, the proclamation of Muar as the modern royal town in 2012 has sparked continuous debate among planners, designers and the local authority of Muar itself due to the lack of recognition of the mutual relationship between the Sultan of Johor and his subjects. Thus, this study emphasised the significant role of this relationship to determine its royalness image and identity as the essence of the place identity of Muar. This study therefore aimed to identify Muar's royal image and identity by utilising place identity as the study framework. The place identity approach provided the foundation for this study to enable the understanding of people's preferences, perceptions and cognitions regarding their association with Muar's royalness image and identity. During the process, the study identified four different dimensions of place identity—physical, emotional, cultural and historical—as well as social interaction and people's activities, as the significant dimensions that portrayed the royalness image and identity of Muar.

Following on, two methods—the photo-elicitation method and cognitive mapping—were selected to explore the locals' preferences, perceptions and cognitions effectively. These methods were developed from a series of interviews with experts and locals before being used to assess 300 participants (150 participants each for photo-elicitation and cognitive mapping, respectively) at two different locations in Muar. The results of both methods were displayed via qualitative GIS mapping in order to visualise peoples' preferences, perceptions and cognitions regarding the royalness image and identity of Muar. In addition, this study expanded on the results by proposing a series of boundaries for the preservation and conservation of the local image and identity of Muar.

Finally, the research findings challenged the previous conservation and preservation approach proposed by local planning reports, which was an expert-oriented approach rather than one empowering local engagement. This study revealed that people's engagement in the decision-making process in Muar via place identity would

contribute to meaningful preservation and conservation strategies regarding the royal image and identity of Muar. Hence, this study led to a deeper understanding of how place identity helped to empower people's engagement and to visualise the royalness image and identity of Muar. The study also served as a platform for further research on other Malaysian royal towns.

Keywords: Royalness image and identity; place identity; modern royal town; people's engagement.

TABLE OF CONTENTS

LIST OF TABLES

TABLE NO. **TITLE** **PAGE**

LIST OF FIGURES

FIGURE NO. **TITLE** **PAGE**

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Introduction

This thesis has investigated the essence of the identity and image of Muar as the only modern royal town in Malaysia. In Malaysia,[1] royal towns are associated with the establishment of the Malay states. The Malay states are made up of four states that were formerly known as the Federated Malay States and five states previously known as the Unfederated Malay States.[2] These nine Malay states are headed by local Malay rulers known as *Sultan* (for the states of Kedah, Kelantan, Johor, Pahang, Selangor, Perak and Terengganu), *Yang Dipertuan Besar* (for the state of Negeri Sembilan) and *Raja* (for the state of Perlis). Nevertheless, only six of the Malay states have officially proclaimed their royal seats as royal towns (Table 1.1).

Table 1.1: The list of royal towns in Malaysia

State	**Royal town**
Pahang	Pekan
Perlis	Arau
Selangor	Klang
Negeri Sembilan	Seri Menanti
Perak	Kuala Kangsar
Johor	Muar

[1]Malaysia, as a country, is a federated constitutional monarchy comprising 13 states and three federal territories. These consist of nine Malay states that have hereditary rulers (Perlis, Kedah, Perak, Kelantan, Terengganu, Pahang, Selangor, Negeri Sembilan and Johor); two states that were former Straits Settlements (Penang and Melaka); two Borneo states (Sabah and Sarawak); and three federal territories (Kuala Lumpur, Putrajaya and Labuan).

[2]The Federated Malay States were Selangor, Perak, Negeri Sembilan and Pahang, while the Unfederated Malay Stateswere Perlis, Kedah, Kelantan, Terengganu and Johor.

According to Akub & Ariffin (2013), some of these royal towns are examples of the glorious traditional Malay cities, in terms of their functions, planning, characteristics and the unique mutual relationship between the ruler and his subjects (*rakyat*). Milner (1982) described the mutual relationship between the rulers and the ruled as the core concept of Malay *kerajaan* (royal rule, dominion).

In the current context, the concept of *kerajaan* refers to a symbolic allegiance to the ruler. In return, the Malay rulers are the symbols of the Malays' unity and pride, defenders of Islam in their states and the protectors of the *rakyat* or subjects, regardless of their ethnicity, religion and beliefs (Shah, 2011). Thus, within this context, the royal towns hold special value in Malaysian society due to their spiritual and emotional associations, especially in displaying the mutual relationship between a ruler and his subjects as part of their royalness image and identity.

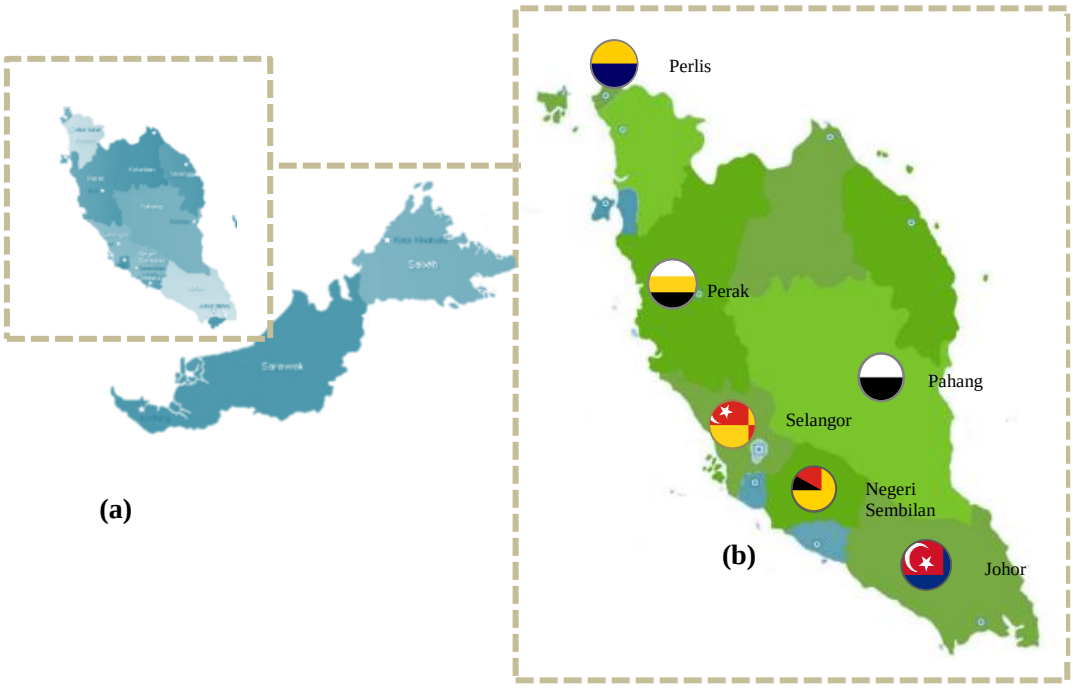


Figure 1.1: Maps of (a) Malaysia and (b) the Malay States with royal towns

However, among these royal towns, Muar, the royal town of the Johor Sultanate, has struggled to exhibit its royal image and identity. One of the reasons for this is that the existing planning and design of Muar do not signify a place that can be recognised as a royal town. Therefore, its image and identity as the modern royal town of the Modern Johor Sultanate have become major concerns to the state government as well as to the local authority of Muar.

Initially, the proclamation was to commemorate the Sultan's forefathers in developing the Johor Sultanate, especially during the early years of the sultanate's establishment. It was regarded as a symbol of the sultanate's legacy, as well as of Johor's modernisation.

Muar is held in special regard by the Sultan. Occasionally, the Sultan visits Muar during formal events such as royal tours, his birthday and *Eid* celebrations to allow him to mingle with the local population. Muar's royal image and identity are represented by the Sultan's royal identity, which harmoniously blends, and is associated with, the people's daily activities. Thus, Muar's royal image and identity are significantly reflected by this interaction and represent the symbolic mutual relationship between the Sultan and his subjects.

Nevertheless, a lack of understanding of this intangible interaction has led to misinterpretation of the place essence in the current planning, design, preservation and conservation of Muar as the modern royal town. In attempting to overcome this lack, this study recognised the importance of people's engagement, especially in terms of how their preferences and perceptions contributed to the image and identity of Muar. Hence, this study elevated the roles of people's engagement by integrating their preferences and perceptions whilst proposing the preservation and conservation zoning areas in Muar. These psychological processes, moreover, have not been thoroughly addressed in the current policies and local report of *Laporan Rancangan Kawasan Khas Bandar Maharani Bandar Diraja.*

1.1.1 Identity of Modern Royal Town

Based on the above discussion, the study sought to identify the characteristics of Muar as the modern royal town by employing the place identity approach as the framework of the research. Moreover, the study emphasised people's preferences, perceptions and cognitions in shaping the royal image and identity of Muar.

One of the main issues was a lack of public engagement in portraying the image and identity of the place. In principle, place identity acknowledges the role of public engagement. In this study, public empowerment helped to define the mutual relationship between the Sultan and his subjects, which inferred the 'royal' image and identity of Muar.

Thus, the findings of the study will provide insights for professionals, academics and others to understand the essence of the royal identity and image of Muar as the only modern royal town in Malaysia.

Generally, place identity is a combination of two notions—place and identity. 'Place' refers to an area that encompasses temporary or long-lasting strong emotional attachments between a person and a specific area (Sime, 1986). 'Identity', on the other hand, refers to an entity of meanings that link a person to a particular community, group or organisation; or to characterising a person with specific values, attributes and areas that are distinct from the rest of the society (Hauge, 2007). Relph (1992) suggested that these two notions are *"implicated and enfolded by each other".* This is because both of them are influenced and shaped by the way people perceive and associate with their surroundings.

1.2 Scope of Research

The scope of the research involved an exploration of the existing body of knowledge related to place identity. This was the first step to recognise the components of place identity and to develop the framework and methodology of the research. Thus, the selected methods were designed to infer the identity and image of Muar by looking into the people's preferences perceptions and cognitions regarding the royalness of Muar.

1.3 Research Aim, Research Objectives and Research Questions

1.3.1 Research Aim

The study aimed to identify the image and identity of Muar as the only modern royal town in Malaysia by looking into the concept of place identity. The main questions linked to the establishment of this study were how to ascertain the elements that illustrated the essence of the identity and image of Muar as the modern royal town.

Historically, Johor Bahru, the state capital, was planned by the Sultan's forefathers to be a symbol of the sultanate's royal seat, and thus, was expected to be the sultanate's royal town. Muar, on the other hand, was a secondary coastal town, which served as a retreat for the royal family. However, in 2012, the proclamation of Muar as a royal town triggered ongoing debate among experts and professionals regarding the kind of identity and image Muar should have to match its royal status.

Therefore, there was an urgent need to ascertain Muar's identity and image. At the same time, the study sought to ensure that the results significantly displayed the role of people's engagement in contributing to Muar's unique royal identity.

1.3.2 Research Objectives and Questions

Objective 1: To investigate the relationship between place identity and Muar's identity and image as the only modern royal town in Malaysia.

> **Question 1:** What are the relevant dimensions of place identity to construct the identity and image of Muar as a modern royal town?

Objective 2: To develop a methodology to assess the image and identity of Muar as the only modern royal town in Malaysia, based on the identified dimensions of place identity.

> **Question 2:** How can the proposed methods be associated with people's preferences, perceptions and cognitions?

Objective 3: To investigate the contributions of place identity in displaying the royal image and identity of Muar as the only modern royal town in Malaysia.

> Question 3: How do people's preferences, perceptions and cognitions reflect the zoning of Muar's royalness as a modern royal town?

1.4 The Importance of the Research

This research has contributed to two pertinent aspects:

1) The discovery of the identity of Muar as a modern royal town, which is crucial to the current Malaysian planning context.
2) The provision of a theoretical methodology framework that combines different dimensions of place identity to assess the royalness of Muar as a modern royal town.

1.5 Thesis Structure

The thesis has been organised into eight chapters. The first chapter has discussed the introduction of Malaysian royal towns and briefly introduced Muar as the case study. The chapter has also illustrated the research background and the importance of the study. Further, it has outlined the research aim, research objectives and research questions, as well as the scope of the study. It has also provided the overall view of the thesis.

Chapter 2 has provided an overview of the theoretical development of the study. This has included place identity, Malaysian royal towns and the roles of place identity in Malaysian royal town planning and development. Chapter 3 has explained the details of the case study selection and criteria.

Next, Chapter 4 has looked into research methodology development, which included the selection of suitable methods for assessing different dimensions of place identity. Chapter 5 has outlined the research methodology, participant selection and procedures. Following on, Chapter 6 has presented the results from the selected methods, which were the details of the qualitative and quantitative outcomes.

Finally, Chapter 7 has discussed the findings from the results and their relationship with the royal identity and image of Muar as the only modern royal town in Malaysia, while Chapter 8 has concluded the overall thesis and outlined areas for future research.

CHAPTER 2

LITERATURE REVIEW- THEORETICAL DEVELOPMENT

2.1 Identity and Place Association

The notion of identity has been extensively discussed by many researchers and in many research fields due to its influence on human and environment association. From a sociocultural perspective, identity refers to an entity of meanings that associate a particular person to a particular community, group or organisation. It also refers to characterising a person with specific values and attributes that are distinct from the rest of society. This results in the emergence of self-reflection and self-awareness (Hauge, 2007).

Proshansky *et al.* (1987, p: 65) have described these 'self' concepts as *"a total system including both conscious and unconscious perceptions of his past, his daily experiences and behaviours, and his future aspirations…."* which lead to the concept of self-identity. In psychological studies, self-identity is a continuous process of how an individual forms a relationship with his/her surrounding environments and the people in his/her society. Bagashev & Fedorov (2012) have revealed that external factors such as the climate and topology of the surroundings contribute to a sense of belonging among individuals, which later helps them to self-identify themselves as a community.

The notion of identity is strongly connected to the idea of how people self-associate their values with their surroundings, or in other words, a place. Wester-Herber (2004) has concluded that the surrounding environment or a particular place influences the way an individual feels about and associates with particular characteristics. Additionally, these factors also shape the culture, norms and values that exist in a place and that emerge as the identity of a place. Bożętka (2013) has stated that it requires a comprehensive understanding of how these relationships between

identity perspectives and places are related to one another, especially in examining spatial phenomena.

In discussing the concept of place, various theories have been developed to describe the essence of a place. Place and space associations are interesting yet complex aspects to be discussed. The concepts of space and place have initiated debate among many researchers due to the interaction and association of these terms with humans. The ideas about space and place can be traced from the ideas on how people want to define their areas or locations, based on their perceptions and cognitions.

However, with regard to fields such as landscape, architecture, planning and geography, space and place have been perceived as two different, but interrelated, entities. 'Space', according to Tuan (1977), is an abstract term, referring to ideas that divide, assign values to, and measure an area, which is influenced by culture, politics, concepts and identities. Space is strongly associated with how an area is physically described. For instance, the area of a room in a house will be classified as space, physically demarcated by walls that separate the room from the rest of the areas existing in the house. Nonetheless, when this space conveys some meaning or engagement to the users, place is the best way to describe this association.

In contrast to space, the term 'place' demarcates a compound that is embedded with intrinsic values. Place is an area that encompasses temporary or long-lasting strong emotional attachments among persons in a specific area (Sime, 1986). Morgan (2010) has argued that a place is an embodied expression of human subjective experience in a setting, also known as a subjectivist perspective.

The theory of place has become a topic of major interest, especially in investigating the relationship between people and their surroundings, since as early as a millennium ago. Aristotle defined place, or *topos*, as a physical environment that illustrates people's feelings of belonging. Norberg-Schulz (1976) extended the meaning of place to how a person perceives and experiences the quality of his/her surroundings so as to direct him/her to orient and identify him/herself in certain areas. In addition, these attitudes have been used to define the characteristics of a place of existence.

The lack of understanding of the essence of place in terms of phenomenological/subjectivist aspects, especially in place planning, leads to the loss of identity. Norberg-Schulz (1976)

believed that the concept of place is solely about its physical attributes, such as the designs, elements and materials that make up the characters of the place, which is similar to the concept of space (Figure 2.1).

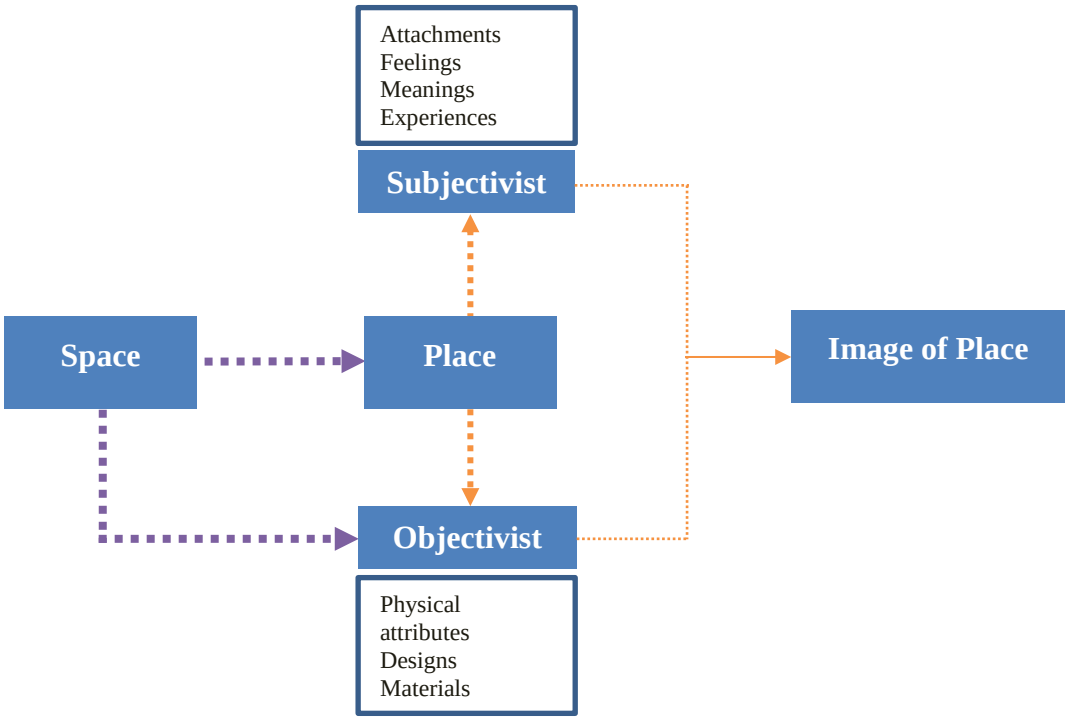


Figure 2.1: Space and place formation

This traditional school of thought, however, has influenced the way local authorities have portrayed the image and identity of a place, particular in Muar. The absence of consideration of human experiences, feelings, associations and meanings of place, which have been stressed by Tuan (1977) and Relph (1976) as the core notions of people and place interaction, have caused homogeneity in the planning and development of Muar as a royal town. This lack would, in future, lead to the loss of the identity and image of the place.

Thus, it has been crucial to address the need for a subjectivist or phenomenological perspective, while also, at the same time, acknowledging the role of the objectivist perspective, in searching for the identity and image of a royal town. This is important to ensure that the future planning and design of royal towns would address and incorporate the people's experiences, memories and attachments in shaping the image and identity of the place.

Moreover, this approach would contribute to the concept of sustaining the continuity and relevance of the place to its residents and users. Human experiences via their perceptions help to propagate a better understanding of the identity of a place (Shinbira, 2017).

2.2 Preference, Perception, Cognition and Identity

The European Landscape Convention in 2002 defined landscape as *"how people perceived the environment, the interaction and action of humans and the result of the actions on the surroundings and the interaction of natural and human factors"*. According to Swanwick (2009), landscape and land are strongly associated with human perceptions and interactions. These resources affect the way of life, local associations, meanings and identities of individuals and society.

Human preference in psychological studies is described as an early process of perception in selecting or identifying a particular idea, product or interest (Goodrich, 1978). From the landscape perspective, preference refers to how people are bonded with a complexity of particular elements in the landscape. These elements are known as colour, shape, pattern, line, form and texture (Daniel, 2001). Thus, these elements contribute to the initial process of place identification as humans are easily influenced by attractive, aesthetic and interesting places (Vanolo, 2008).

Kaplan (1973) has viewed preference as being connected with the visual interest of a particular landscape that emotionally provides a sense of safety and protection to humans. In other words, human preference and perception are an integrated process that requires a human's mind to digest and process his/her experiences while making a decision. Kaplan's perspective was influenced by Appleton's theory of prospect and refuge that was stimulated by the notion of Darwinism's 'survival of the fittest' (Terkenli, 2001). Hence, these two processes were primitively defined as a human survival instinct rather than looking into landscape appreciation or place identification.

Lothian (1999) has distinguished the differences between these two mental processes. The author has defined preference as an objectivist aspect as it provides a basic evaluation of the

landscape. The evaluation does not involve interpretation based on people's emotions and associations with the place.

Perception is a complex process that triggers awareness and identification of changes happening in the surroundings and their meanings (Goodey, 1973). Perception is a mental process that relies upon immediate information provided by human awareness senses such as sight, hearing, smell, taste and touch (Shinbira, 2017). It is a fundamental method of how people interpret their surroundings, especially in non-familiar settings, and an extension of the place identification process.

With regard to identity, perception has been considered as one of the components in self-identity (Ngesan *et al*. 2013). Proshansky *et al*. (1983) have defined perception as a collective of memories, thoughts, values and settings that link a person or a group to a particular place that is meaningful and essential to them. Proshansky *et al*. (1983) have defined perception as a collective of memories, thoughts, values and settings that link a person or a group to a particular place that is meaningful and essential to them.

In contrast to perception, cognition represents a deep understanding of the information gained from preference and perception, stimulated by several factors (Stedman, 2002). These factors are demographic attributes, memories, cultural background, beliefs and values that shape an individual's identity (Sevenant and Antrop, 2011). Similarly, Stedman (2002) has argued that cognition is constructed by the high level of attachment and association of an individual to a place. It can be understood as the reason for a person to find the connection to justify his/her emotional attachment to his/her surrounding landscape through in-depth, informative, evaluation and assessment processes.

Nevertheless, perception and cognition overlap in landscape and psychological studies. Tilt *et al*. (2007) has described the perception and cognition process as an interrelated process that is essential to understanding the image and identity of a place. Both the perception and cognition processes are simultaneously developed by the brain to understand and associate particular elements with certain values and symbols. Hence, the interpretation process is impacted by intrinsic values inherited by people as part of their self-identity. This is a dynamic process that is reflected by interrelationships between humans and their surroundings (Shinbira, 2017). Regardless, Lothian (1999) has acknowledged both these processes as the core of the subjectivist aspect.

Therefore, this study has envisaged preference, perception and cognition as a combination of both objectivist and subjectivist aspects. These aspects are significant in processing information about surrounding landscapes. From the literature review, it was concluded that these aspects are linked to how people identify elements and characterise them according to their senses (preference). These aspects also help them to intellectually interpret meanings, attachments and associations based on their intrinsic values and backgrounds (perception and cognition). Their relationships in this study are shown in Figure 2.2 below.

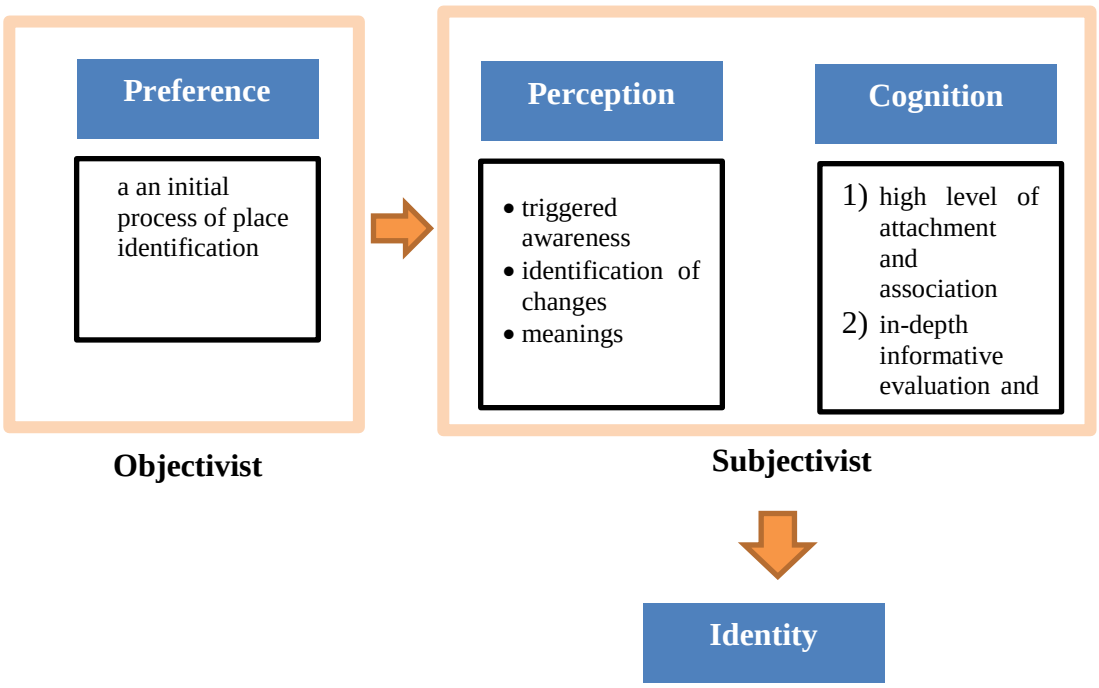


Figure 2.2: The relationship between preference, perception and cognition in this study

2.2.1 Similarities in People's Preference, Perception and Cognition Process

In the human perception and cognition process, human attributes or demographic factors dictate the way a place is assessed by people (Swanwick, 2009; Knez, 2005; Bonaiuto *et al*., 2002). For instance, demographic factors such as age (Bauer *et al*., 2009; Hagerhall, 2000; Groot & Born, 2003; Paquette & Domon, 2001, 2003; Swanwick, 2009; Williams, 2011) and education level (Bauer *et al*., 2009; Bjerke *et al*., 2006; Groot & Born, 2003; He *et al*., 2010; Paquette & Domon, 2001; Swanwick, 2009; Williams, 2011) significantly influence people's perception in general.

In addition, many studies have found that ethnicity and cultural background (Hoogervorst, 2012; Panelli *et al*., 2008; Rosley *et al*., 2013), gender (Hidalgo and Hernández, 2001; Groot and Born, 2003; Bryant and Pini, 2009) and type of occupation (Bonaiuto *et al.*, 2002; Bryant and Pini, 2009; Swanwick, 2009; He *et al.*, 2010) are also critical areas when investigating people's preferences and perceptions regarding a particular landscape.

Svobodova *et al*. (2012) have discovered that the effect of demographic factors in both these mental processes is contributed by the sensory approach and the psychological approach. The sensory approach is based on the setting of the current landscape as well as the observers (Svobodova *et al.*, 2012). According to Webster (1994), the psychological approach is affected by previous experiences and memories that consciously or unconsciously motivate people's preferences and perceptions regarding a particular place.

Table 2.1: The identified demographic factors

Demographic factor	Reference
Age	Bauer *et al.*, 2009; Hagerhall, 2000; Groot & Born, 2003; Paquette & Domon, 2001, 2003; Swanwick, 2009; Williams, 2011
Level of education	Bauer et al., 2009; Bjerke et al., 2006; Groot & Born, 2003; He *et al.*, 2010; Paquette & Domon, 2001; Swanwick, 2009; Williams, 2011
Ethnicity and cultural background	Rosley *et al*., 2013; Hoogervorst, 2012; Panelli *et al*., 2008; Collier & Scott 2009; Gu & Ryan 2008; Zheng *et al*., 2011; Lewis & Sheppard 2006; Swanwick, 2009
Gender	Bryant & Pini, 2009; Hidalgo & Hernández, 2001; Groot & Born, 2003
Type of occupation	Bryant & Pini, 2009; He *et al.*, 2010; Swanwick, 2009; Bonaiuto *et al.*, 2002

Referring to the concept of 'collective' when defining place identity, it can be concluded that Proshansky's definition stresses the idea of people's similarities in perception and cognition being important to display the identity and image of a place. Falk & Balling (2009), in their study, discovered that humans share identical perceptions and cognitions when evaluating a specific landscape theme. The authors explained that the similarity is moulded by *"the interaction of the phenotype with the environment*", such as the biological traits inherited by humans. This idea was described earlier by Klopfer (1969) and Wecker (1963) and both of

them linked it to the Darwinian landscape preference view associated with humans' biological evolution.

As addressed by Breakwell's identity process theory (1986), a homogenous result of perceptions and cognitions could be achieved if a person feels that his/her attached surrounding landscape is being threatened and significantly being exposed to changes and alteration. The sense of continuity of a place shared by individuals and communities increases their self-awareness and self-protection in preserving the distinctive characters and elements of the surroundings. A study by Sullivan *et al*. (2004) has proven that despite the background differences among the participants, the majority of them believed that protecting their environment was the best way to ensure the survival of place identity.

In this research, the Malaysian royal town was used as a platform to investigate the relationship between place identity and people's associations. Some of the royal towns are melting pots of different cultures and demographic attributes that could lead to different forms of place identifications, interpretations, meanings and associations. However, as pointed out by Falk & Balling (2009), similarities in terms of people's perceptions and cognitions could be achieved if a sense of continuity is felt and acknowledged by the people while assessing the characteristics of royal towns.

2.3 Malaysian Royal Town

When and how royal town was established in Malay culture is unclear, due to inadequate information regarding morphology and urbanism in the Malay world before the impact of colonialism in local society (Chee, 1982). Shamsul (2001, 2005) has stressed that colonisation has affected local society in terms of political and diplomatic shrewdness, as well as economics and capitalisation.

Additionally, the concept of royal town may be one of the new epistemological space concepts that were introduced by colonialists between the 17th and 19th centuries. Prior to western advent, royal town served as the capital of the state (Adil, 1973), as well as a centre for political and economic purposes (Matheson, 1972), religious teaching (Matheson, 1989) and culture (Andaya, 2001).

In addition to the strategic location, Parameswara, the first ruler of the Melaka Sultanate established his royal capital in the mouth of Melaka river to revive the glorious capital of his Srivijayan's forefathers in Palembang (Hashim & Sandhu, 1983). The Melaka city was divided by the Melaka River into two parts- the lowland area was populated by the royal's subjects. The hilly area of the city, however, was designated lavishly and privately for the royal households and aristocrats.

The segregation planning of the Melaka city had influenced the traditional pattern of settlement for other Malay royal towns across the archipelago in the 15th century (Hussin & Bidin, 2013). This was contributed by the image of Melaka Sultanate as the successor of the glorious Srivijaya Empire, a maritime empire that controlled the Malay Archipelago between the 7th to 13th century.

Furthermore, the traditional pattern of Melaka and other royal towns was strongly emphasised on the roles of the sultan as the defender of his sultanates, a caliph of his people, a symbol of the sultanate's identity as well as to portray the authority and power of the sultan as the paramount rulers in his sultanate.

2.3.1 Type of Royal Towns

Shahminan (2017) in the researcher's live project with the Malaysian National Heritage Department has generally divided the royal towns in Malaysia into three different categories, known as classical, transitional and modern royal towns (Figure 2.3). In addition, the researcher has included three other unproclaim royal seats of the Terengganu Sultanate, Kedah Sultanate and Kelantan Sultanate as part of the Malaysian royal towns. The categorisation of the royal towns in Malaysia has been based on their physical appearances—the architecture, landscape and planning of the place; urban morphology; and geographical attributes.

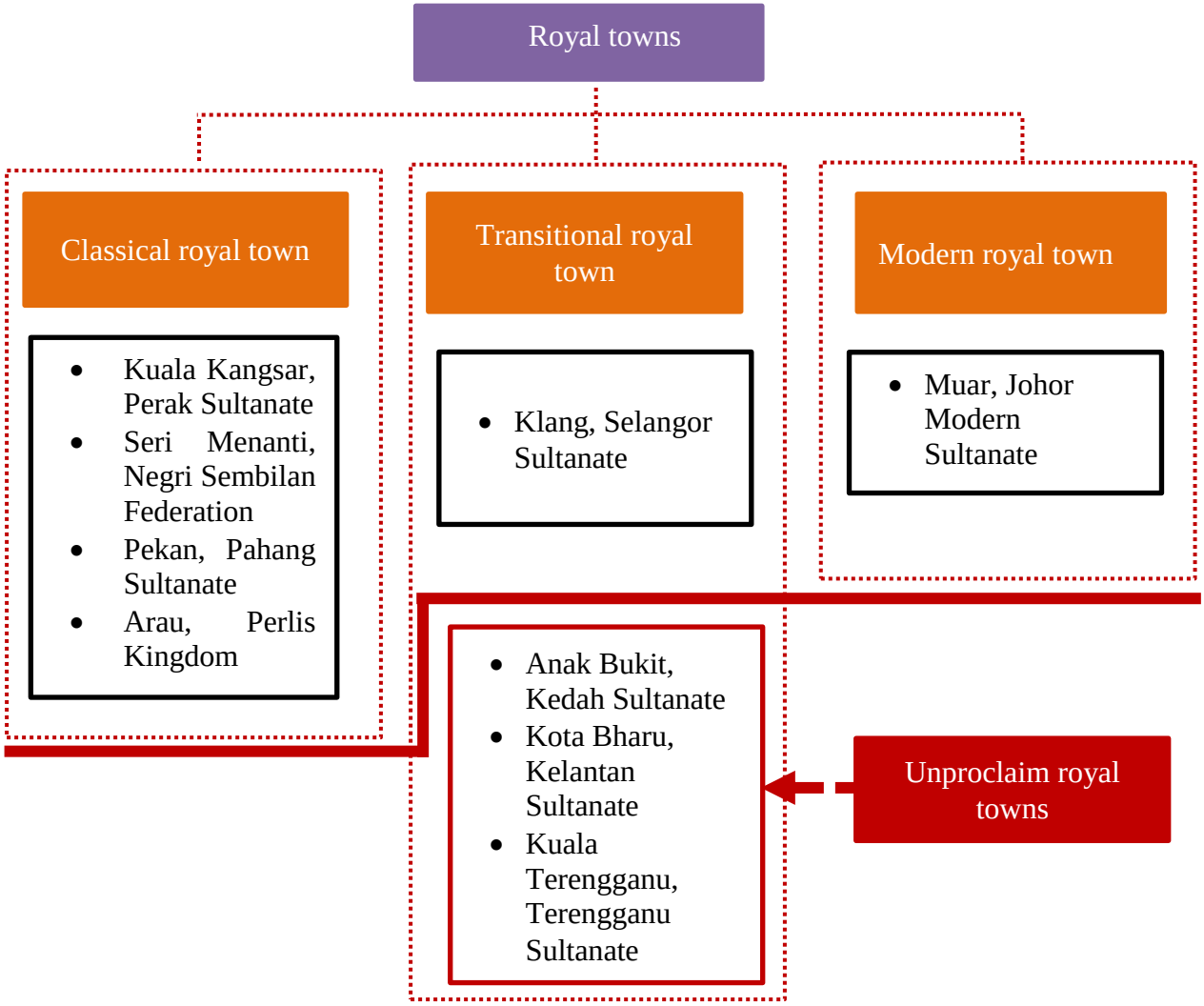


Table 2.3: The categorisation of the existing royal towns in Malaysia

2.3.1.1 Classical Royal Town

A classical royal town is a royal town that has inherited the typical characteristics of a traditional Malay city such as being a centre of Malay culture and an official royal seat for the sultanate since the early beginning of the sultanate's establishment. The classical royal town is also built up with elements that have a strong connection with the Sultan. These elements include palaces, royal mausoleums and royal mosques. In addition, the towns are surrounded by local traditional Malay *kampungs* (Tajudeen, 2005). These characteristics have been described in old Malay manuscripts such as the *Malay Annals*, *Bustanus Salatin* and other historical records.

Figure 2.4: The views of lush green and tranquil of Kuala Kangsar, the royal town of the Perak Sultanate (a) *Istana Iskandariah*, the royal residence for the Sultan in the Chandan Hill. From far, the golden domes of the palace are harmoniously blended with the lush greens hills as their backdrop (b) the aerial view of the *Ubudiah* Royal Mosque and royal mausoleum located near to the river (c) the clock tower of the royal town in the Kuala Kangsar town (d) the view of the palace from the majestic Kuala Kangsar River.

Source: Center for the Study of Built Environment in the Malay World (KALAM)

Moreover, the intactness of the royal town from urbanisation more or less depicts the traditional characteristics of the capital cities of Malay sultanates (Wiryomartono, 2013). The royal towns of Pekan in Pahang, Kuala Kangsar in Perak and Seri Menanti in Negeri Sembilan have been considered as the classical royal towns of Malaysia. All of these royal towns are located are remotely located from the state capitals and thus, it has contributed to the preservation and conservation of identity of the place.

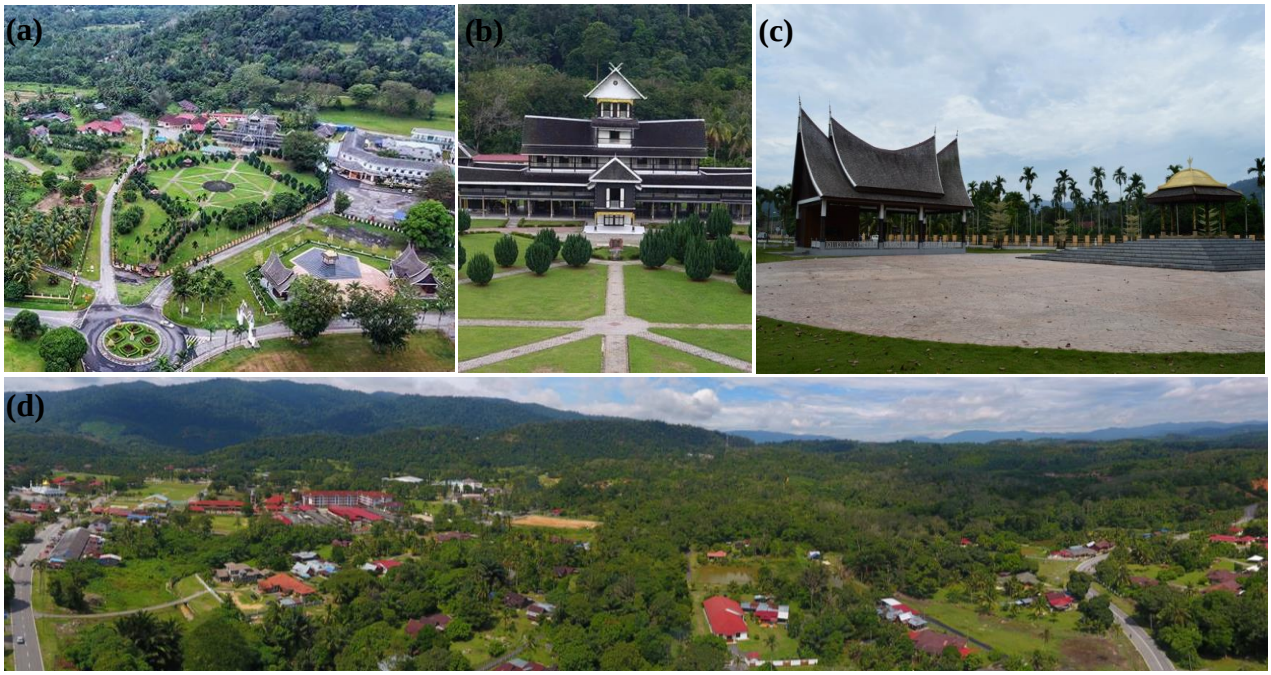


Figure 2.5: The views of rural and pristine surrounding of Seri Menanti, the royal town of the Negeri Sembilan Federation (a) the aerial view of the palaces and the royal compound (b) The historic Seri Menanti, royal palace constructed from hardy local timber and held together using only wooden pegs (c) The royal pavilion, occasionally use for royal ceremonies such as weddings and installations (d) The overall view of surrounding environment of Seri Menanti.

Source: Center for the Study of Built Environment in the Malay World (KALAM)

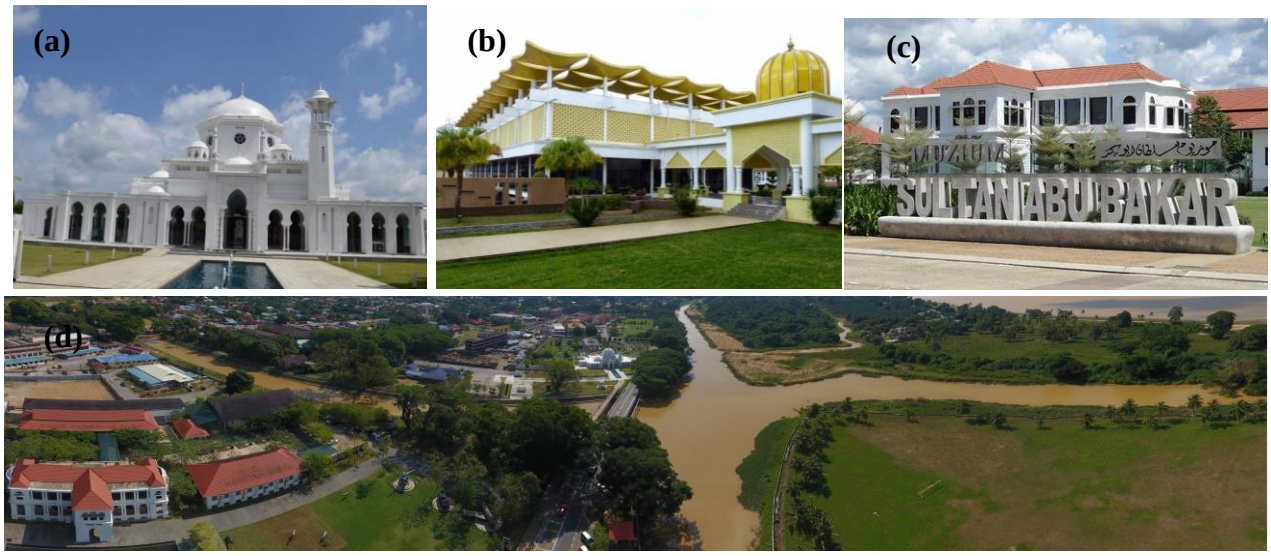


Figure 2.6: The views of the rural surrounding of Pekan, the royal town of the Sultanate of Pahang(a) The former royal mosque, Abdullah Mosque before converted into Islamic Museum of Pekan. Its roles as the royal mosque has been replaced by the nearby royal mosque of Sultan Ahmad Shah (b) The royal residence of the current Sultan- *Istana Abu Bakar,* heavily influenced by the Moorish and local architecture with the hint of modern taste (c) *Istana Kota Beram*, a former residence of the royal households before converted into royal museum of Sultan Abu Bakar (d) the aerial view of Pekan, the royal town of the Pahang Sultanate, located to nearby the Pahang River.

Source: Center for the Study of Built Environment in the Malay World (KALAM)

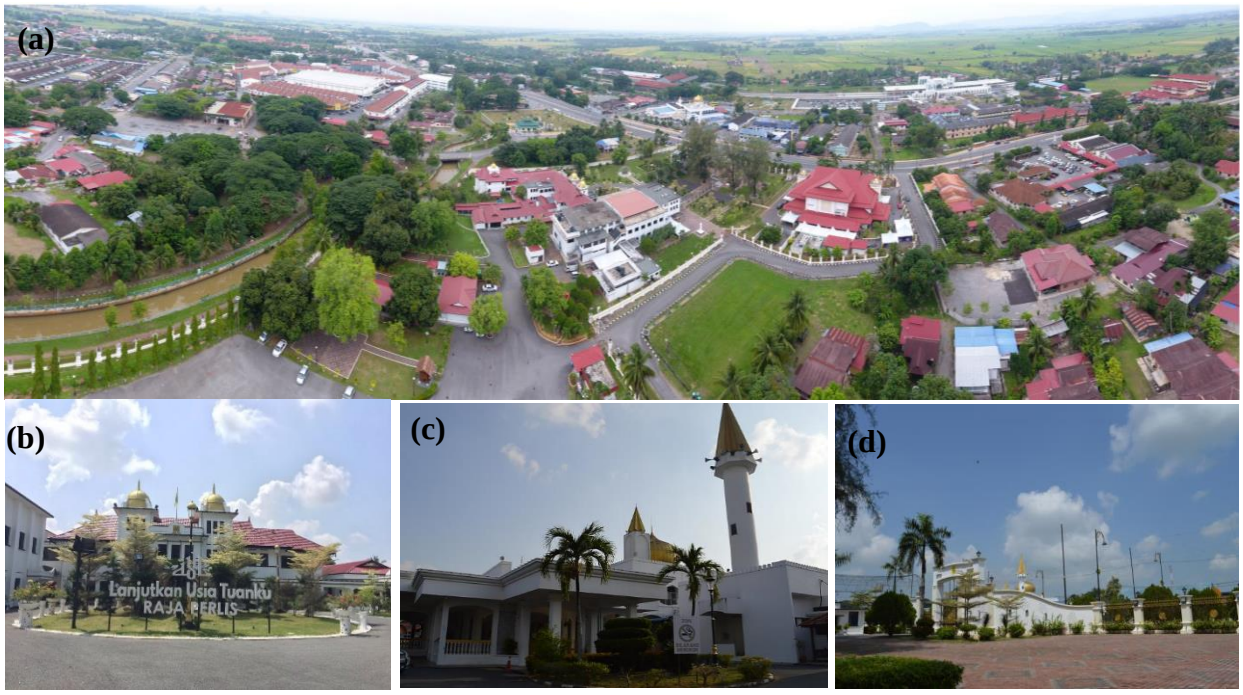


Figure 2.7: The views of Arau, the royal town of the Perlis Kingdom (a)The royal town is surrounded by paddy fields (b) the royal residence of the King of Perlis- *Istana Arau*. The palace was built in 1905, during the era of Siamese occupation in the northern Malay states (c) The Perlis State mosque, located across the royal palace. The mosque's architecture is influenced by the Moorish architecture and local designs (d) The Royal Square of Perlis was built to accommodate royal functions and ceremonies.

Source: Center for the Study of Built Environment in the Malay World (KALAM)

2.3.1.2 Transitional Royal Town

According to Shahminan (2017), a transitional royal town reflects a new relocated of a royal seat due to political, social and geographical matters of the Sultanate's royal town. Despite the relocation process, the former royal town still plays significant roles to the Sultanate in terms of royal affairs and historical values.

In terms of typology, the transitional royal town is considered as a royal town that has been extremely exposed to urbanisation. Thus, the impact of urbanisation has led to the loss of its authentic characteristics as a traditional Malay city. The robustness of mining activities during the 17th century and the intervention of the British drastically affected the local culture as well as the Malay influence upon the identity of these royal towns (Kim, 1985). The royal towns evolved rapidly to cope with the political, economic and social needs of the population. The royal town of Klang of the Selangor Sultanate has fallen into this category, in addition to other unofficial royal towns of the Kedah Sultanate, Kelantan Sultanate and Terengganu Sultanate (Shahminan, 2017).

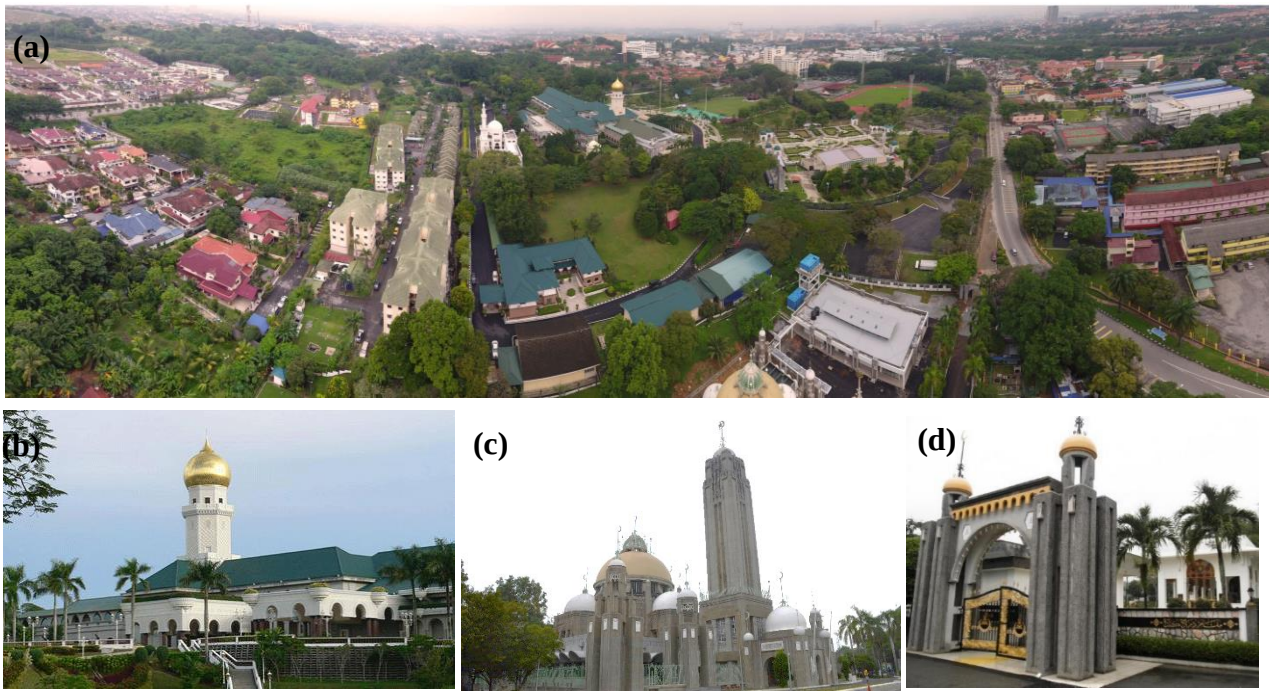


Figure 2.8: The views of Klang, the royal town of the Selangor Sultanate,(a)The aerial view of Klang, surrounded with urban areas and new residential areas (b) One of the royal residences of the Sultan Selangor- *Istana Alam Shah.* The palace hold formal and royal ceremonies for the Sultanate such as the royal wedding, coronation and receiving royal guests (c) Sultan Sulaiman Mosque, a historic royal mosque was built during the reign of Sir Sultan Aleddin Sulaiman Shah, the fifth Sultan of Selangor (1898-1938), funded by the British government of the Federated Malay States (d) The Royal Mausoleum of the Sultanate is a royal burial ground that attached to the royal mosque's compound. It is a resting place for the previous Sultans of Selangor and their royalties.

Source: Center for the Study of Built Environment in the Malay World (KALAM)

2.3.1.3 Modern Royal Town

A modern royal town is symbolically proclaimed as the royal town, yet is not a royal seat for the sultanate (Shahminan, 2017). Royal functions such as the Sultan's coronation ceremony, royal weddings and others are not conducted in this royal town. It is purposely designed as a place of retreat for the royal family and does not possess the typical elements that would fulfil its duty as the royal seat for the Sultanate. Muar is the only one of this kind and thus has been considered as the only modern royal town in Malaysia.

Figure 2.9: The views of Muar, the royal town of the Modern Johor Sultanate (a) The aerial view of Muar Town, located along the River of Muar (b) Sultan Ibrahim Mosque, one of the landmarks in the royal town. The mosque was built by Sir Sultan Abu Bakar with the blend of western and local architecture (c) The aerial view of the royal precinct in Muar. This precinct consists of several historic buildings such as Sultan Abu Bakar Building, Muar High School as well as the royal retreat palace of the Sultan – *Istana Tanjung.*

Source: Center for the Study of Built Environment in the Malay World (KALAM)

2.3.2 Royal Town, Sultan and *Rakyat* relationship

The classification of Malaysian royal towns has provided new insights into terminologies and characterisations of Malaysian royal towns. However, it has been unclear how the relationship between the Sultan and his subjects has influenced the classification of these royal towns. Watson and Bentley (2007) have explained that it is crucial to understand the origins of local place identity, especially for a particular place that possesses substantial cultural and historical value in the place identification process.

Unfortunately, the classification itself has stressed the objectivist perspective while neglecting the vital aspect of the subjectivist perspective in place identification. Smith (2005) has revealed that both the objectivist and subjectivist perspectives enhance the image and identity of a place. Historically, the establishment of the royal towns has been regarded as a manifestation of the mutual relationship between the ruler and his subjects. This relationship has been portrayed in terms of physical appearances (objectivist) and people's associations (subjectivist).

An example of this relationship was Pulau Penyengat, a royal settlement in the Johor-Riau Sultanate. Many key buildings were located in this royal town, such as the *Rusyyidiah* Club, a club for elite and educated Malays, and *Matbaah Riau*, a printing press that was used to propagate, publish and spread anti-colonialism across the sultanate. This royal town became a symbol of solidarity between the rulers and their subjects in their fight against colonialism. The royal town was also a centre for Islamic teaching (Matheson, 1989) and a cradle of Malay culture (Barnard, 2001).

This unique relationship has been inherited across the Malay Archipelago and has shaped the entire concept of the current Malay sultanates in Malay culture and the Islamic world (Wan Ali, 2014). Hence, this relationship has been regarded as the core element for the establishment of the identity and image of Malaysian royal towns.

2.3.2.1 Physical Appearances

The sultans were the patrons of a royal town's identity and image. The sultanate's treasure was spent on lavish and extravagant projects across the royal town. These projects included palaces, mosques, government and civic buildings and facilities. The physical appearances of these projects symbolised the ruler's power and were associated with the identity and image of the royal town.

a) Palace

A palace was regarded as the most important element of a royal town. It served as the official residence of the Malay rulers. Historically, the layout of the palace was designed carefully to indicate the status of the rulers as *Khalifatullah fil ard* (Allah's Caliph). The concept of *Khalifatullah fil ard* politically recognised the Sultan as the absolute authority of his kingdom. This is almost similar to *Devaraja*, whereby a king is a reincarnation of God in the world, a remnant of Hindu philosophy in Malay culture (Rosley *et al*., 2016). Chuchu & Saxena (2009) have stated that these concepts were interwoven with one another and played significant roles in characterising the unique Malay polity.

b) Royal Mosques

It was common for the royal mosques to be designed and decorated lavishly by the Malay rulers to depict Islam as the religion of the state. The mosques have become significant in Malay culture and identity. The royal mosque was one of the symbols to demarcate the polity and religion of the states (Bougas, 1990) and was always located next to the ruler's residence (Bruce, 1996). In some cases, the royal mosque was also meant to emphasise the concept of *daulat,* or sovereignty of the Sultan to rule his sultanate (Drakard, 1986). Interestingly, during the 19th century, the colonialists funded some of the royal mosques in order to please the local rulers and their subjects. Hence, some of these mosques have been heavily influenced by colonial architecture.

c) Traditional markets and Towns

According to Widodo (2009), a traditional market and town in the Malay Archipelago demonstrated a significant cosmopolitan character, yet preserved the unique identities, beliefs and cultures of the natives and foreigners. These places were melting pots of cultures that led to a new hybrid identity in the architecture, beliefs and lifestyles of the denizens. Normally, these places were located near the residential places, worshipping places and other important buildings of the sultanate. Bougas (1990) found that traditional markets and towns were interchangeable terms in local planning, due to the unclear morphology process in the Malay urbanisation concept (Wiryomartono, 2013).

d) *Padang, Medan* or Open Space

The *padang, medan* or open space was used as a multipurpose space. It was used to accommodate different needs and activities, according to the social strata and the formal and informal occasions related to the people and their rulers. It was an important hub for both the people and the rulers and symbolically represented the mutual interaction of both parties. In many cases, this open space was an outdoor extension of the royal palace during special occasions such as *Eid*, the ruler's coronation, royal weddings and royal mourning, in order to cater to the crowds of subjects.

These practices have been observed in many existing royal towns in Malaysia. For non-formal activities, the open spaces were sometimes turned into weekend street markets or bazaars and sites of religious activities (Rukayah and Bharoto, 2012). They were also

used as outdoor recreational spaces for the commoners (Rukayah and Roesmanto, 2013).

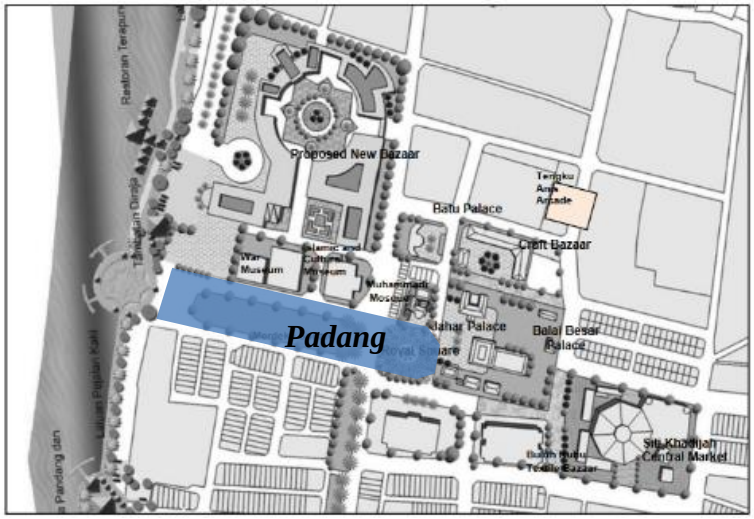


Figure 2.10: Map of *padang*'s location in the Kota Bharu

Source: Kota Bharu, Local Plan Report, 2009

e) Royal Mausoleum

Generally, a royal mausoleum was located within the compound of the royal mosque and sometimes attached to the mosque itself. However, in some cases, a particular compound was designated to be the royal burial area and could only be accessed by the sultans and the royal families. The building or complex was always extravagantly adorned with unique motifs and details befitting the status of the rulers. The Sultan utilised the mausoleum as his eternal resting place or to commemorate his ancestors. This was a legacy from the classical period of Hinduism and Buddhism in the Archipelago between the 7th and 12th centuries, before Islam, and was deeply rooted in local belief (Wessing, 1988).

Figure 2.11: Royal mausoleum of Perak sultanate in the royal mosque compound

2.3.2.3 People's Association

The people's associations refer to the existing activities and inherited cultural and historical values in the royal towns of the Malay sultanates before the colonial intervention. In addition, the people's associations have been shaped by the interaction between the ruler and his subjects. Generally, these associations have been demonstrated in:

a) Royal Functions

Royal functions refer to any functions related to the Malay rulers. These functions are royal weddings, royal funerals, receiving royal delegates, the ruler's installation or coronation, royal festivals such as *Eid* and the ruler's birthday celebration. These are some of the activities that take place in the royal towns and that are celebrated by the royal families along with their subjects.

Sultan Johor and his consort during his royal coronation parade

Historic royal vessel of Kelantan sultanate during the royal parade in the 19th century

Figure 2.12: The royal parades in the royal towns

By tradition, the royal functions are followed by a grand royal parade. The royal parade usually takes place from the Sultan's palace to several locations within the royal town. It has become the most exciting event for the people throughout the state. The parade involves special carriages designed in various forms such as the mystical bird known as *Garuda (*royal vessel); or sometimes, the ruler's lavish car collection.

b) *Rakyat*'s activities

The *rakyat'*s activities in the royal town are orientated to local heritage-based products. The reason is that these activities are supported by the royal family and are also based on their daily life activities. In this case, the local heritage products are food, crafts and traditional lifestyles of the local people. Harun *et al*. (2015) have described the *rakyat*'s activities in the royal town as an expression of the cultural diversity and richness that enlivens the place.

The royal towns in Malaysia are homes for the traditional master crafts. Taking the example of Kuala Kangsar, local products such as *labu sayong* (pottery), *tekat emas* (gold embroidery) and *keris* (traditional dagger) are strongly related to the history of the place. These products also represent the image and identity of the royal town (Selamat & Othman, 2016).

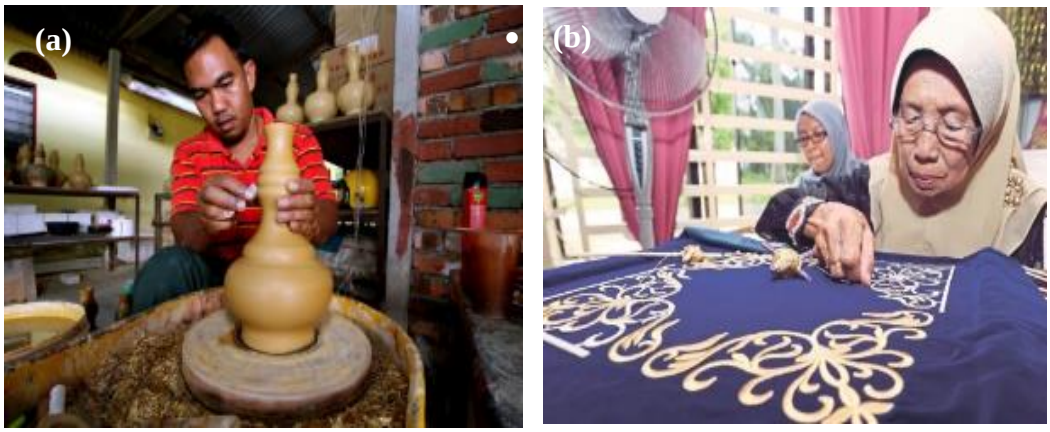


Figure 2.13: The traditional products of Kuala Kangsar (a) *Labu sayong* (b) *tekat emas*

In fact, some of the exquisite Malay traditional woven clothes such as *songket* and *tenun diraja Pahang* have been widely recognised as the image and identity of the Malay rulers and the Malay community across the archipelago (Rupiwin, 2013). This is due to the long history of these fabrics that have been propagated and patronised by the Malay royal courts. The dying arts of *tenun diraja Pahang* was garnered support from the royal house of Pahang in the early 20th century and nowadays, it is has been the pride of the Pahang Sultanate (Zainal & Abdullah, 2012).

Figure 2.14: The royal couple, The King and Queen of Malaysia (a) The King of Malaysia, Al-Sultan Abdullah Al-Haj and the Queen, Tunku Azizah Aminah Maimunah Iskandar from the royal house of Pahang are known for their passion in promoting the traditional woven clothes of *songke*t and *tenun diraja Pahang* (b) The royal couple in their royal attires sewn from *songket* and *tenun diraja Pahang*

The royal town of Seri Menanti is famously associated with the local matrilineal custom known as *adat perpatih*. This *adat* has been interpreted and incorporated into the *rakyat's* daily activities, social strata and local architecture. Thus, it has been perceived as a symbol and source of pride of the Minangkabau descendants in Malaysia as it has shaped the entire identity of the people. Their culture has helped to distinguish them from the neighbouring Malay states (Lister, 1887).

The royal towns of Malaysia are also homed to unique gastronomy experience. Some of the delicacies are invented and evolved from the local's cuisines as well as from the royal courts. In some cases, the local delicacies have been proclaimed as the royal identity due to their strong connotation with the royal town.

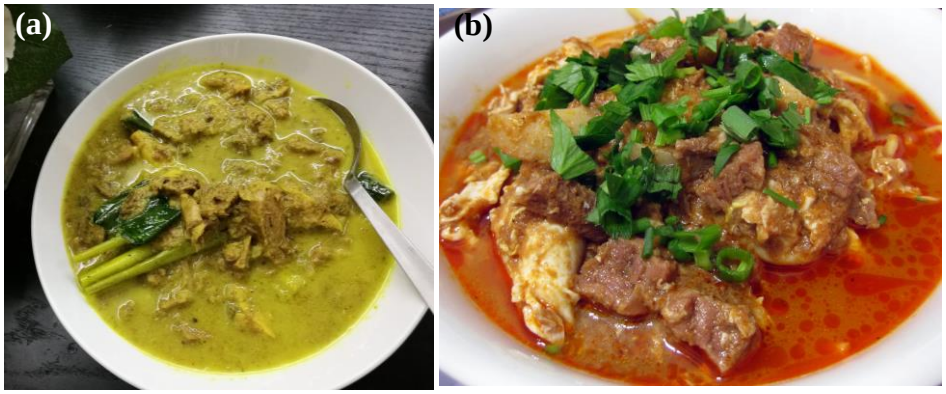


Figure 2.15: The delicacies of the royal towns (a) Beef in spicy coconut stew, a famous delicacy and identity of the Negeri Sembilan Federation. Seri Menanti is homed to one of the authentic recipes of this delicacy (b) *Mee bandung*, a rich spicy and flavourful noodle has become the food identity of Muar.

According to Roe et.al (2016, p. 768), food identity has significant roles in establishing place characters as it represents '…..*interactions between social change, class, values, activities, desires, association, lifestyle trends and behaviour'.* Thus, it is among the existing cultural heritages that enriched the distinctiveness image and identity of the Malaysian royal towns.

Therefore, the place identity approach has been introduced in this study to (i) highlight the importance of both the objectivist and subjectivist aspects when investigating the image and identity of Muar as a modern royal town; and (ii) look into how place identity can define the association between people and place from the perspective of the ruler and *rakyat* relationship.

2.4 Place Identity

One question that needed to be asked was whether the place image and identity of the Malaysian royal towns could be formulated based on specific criteria, guidelines or approaches. The current situation in Muar is that image and identity have been poorly interpreted based on physical appearances alone. This interpretation has resulted from neglecting the essence of the people and place interaction. In this case, the ruler and his *rakyat* relationship is one of the identity components.

Jones (2003) has argued that identifying the image and identity of a place should acknowledge an individual or a group association with the place, e.g. in terms of the culture, heritage and identity that are embedded in the place. Consequently, this requires some underpinning human psychological theories in order to understand the connection between the subjectivist and objectivist aspects.

The emergence of studies related to a place and its identity has affected many people such as city planners, designers, policymakers and the people who dwell in the place, especially in identifying an approach to preserve the distinctive characteristics of the place. This is where place identity plays its role. Place identity has been widely used to describe the relationships and effects of place on people's associations with, and attachments and feelings of belonging to, a particular place.

Proshansky *et al*. (1983, p. 60), in their explanation regarding place identity, identified this theory as a *"potpourri of memories, conceptions, interpretations, ideas, related feelings about specific physical settings, as well as types of settings".* In other words, it is a combination of two different aspects. One aspect is about people's emotional attachments (subjectivist), while the other is about the role of physical attributes in influencing people's attachments (objectivist). Relph (1992, p. 37) has argued that place identity in a place includes *"Those fragments of human environments where meanings, activities and specific landscapes are all implicated and enfolded by each other…".*

2.4.1 Place Identity and Reviving Place Image and Identity

While examining identity and place image, many researchers (e.g. Mahmoudi *et al*. 2015; Madgin *et al*. 2016; Béneker *et al*. 2010) have highlighted the importance of the physical dimension in constructing the essence of place distinctiveness. The physical dimension consists of man-made structures such as landmarks, nodes, paths, districts and edges (Lynch, 1960), as well as natural elements such as rivers and mountains.

Ryden (1993, p. 209) has suggested that the physical aspects of a place are *"grounded in those aspects of the environment which we appreciate through the senses and through movement: colour, texture, slope, quality of light, the feel of the wind, the sounds and scents carried by that wind"*. Xia *et al*. (2008) have asserted that the physical aspect is the most noticeable aspect with regards to place identification and orientation.

People are more aware of their surroundings especially when they are trying to associate themselves with a place. This awareness arises because the physical dimension is regarded as vital to evoke people's attachments (e.g. Hull *et al*., 1994; Mahmoudi *et al*., 2015; Shamai *et al*., 2012), hence providing wayfinding and orientation in a place (Lynch, 1960), as well as a setting for people's activities (Brandenburg and Carroll, 1995).

Proshansky *et al*. (1983) have determined that the physical aspect and the emotional aspect are inextricably linked as both these aspects merge to form the identity and image of a place. In the field of human geography, emotion is something that defines the characteristics of humans as it attaches feelings, associations and behaviours to a place (Tuan, 1976; Griffin & McQuoid, 2012). Shamai (1991) has explained that collective emotions lead to the meaning of a place.

Researchers such as Barret (2006) and Russell (2004) have defined emotion as a two-dimensional structure that indicates positive and negative feelings. Williams *et al*. (1992), meanwhile, have concluded that the emotional aspect is shaped by the history, socio-demographics, characteristics, level of sensitivity and attachments regarding a place. It also emerges from how a place or thing is being perceived, experienced and affected (Barrett & Archer, 2006).

Previous studies have also shown how locals possess a high degree of attachment to, and emotionally bond with their landscape (e.g. Hernández *et al*., 2007; Lewicka, 2005, 2008, 2010, 2011, 2013). Similarly, Proshansky *et al*. (1983, p. 88) have pointed out the association between place identity and people's emotions as *"the symbolic importance of place as a repository for emotions and relationships that give meaning and purpose to life, reflects a sense of belonging and important to a person's well-being"*. In this respect, people's emotions, which are shown by their perceptions and cognitions, determine their self-conception, identity and image of a place. Thus, emotion is one of the essential dimensions when referring to people and place interactions.

Proshansky *et al*. (1983) have listed the conceptions of behaviour and attitudes as part of the criteria that define place identity. In other words, these conceptions represent the attributes of social interaction. The social interaction can be displayed in terms of liveable activities (Ngesan *et al*., 2013) and daily routines (Yaldız *et al*., 2014) that emerge and are cultivated from the characteristics of the surrounding areas. In many cases, it has been accepted that it is people who make places by giving those places meaning. Thus, people transform empty spaces into identifiable places (Ryden, 1993).

Cheng & Guo (2015) have stated that social interaction is one of the elements that make up the concept of social identity. This is because it is always associated with how a group of people interact and connect among their group members (Larsen *et al*., 2007). Matsuoka & Kaplan's (2008) study identified that social interaction fosters a sense of community, thus improving the image of urban spaces (Carmona *et al*., 2010).

Moreover, social interaction increases the sense of belonging and acceptance between individuals (Putnam, 2000), later influencing a community's self-conception regarding its identity and place identity (Russ *et al*., 2015). Researchers such as Vanolo (2008) and Peters *et al*. (2010) have attempted to stress the significance of promoting local activities in existing

spaces of the city. The reason is that these activities improve the self-identity of the community and help to distinguish the place's distinctiveness (Lombard, 2014)

The richness of culture and historic values are crucial for a city to sustain its image and identity. Many studies have shown that the regeneration of culture and historic values of a city helps to boost the economics, tourism, image and identity of a city, and most of all, demarcate the city on the world map (Lagrou, 2000; Ardaman, 2007; Alvarez &Yarcan, 2010). Jeong & Santos (2004) have stressed the importance of promoting culture and historic values as part of the distinctive identity and character of a place.

However, there have been some arguments about the tendency of losing the authenticity of existing values due to over-exploitation of the cultural and historic elements (Jeong & Santos, 2004; Ghaderi *et.al*, 2012). Nonetheless, with a proper preservation and conservation approach such promotion helps both the place and these values to survive and be appreciated by others (Aas *et. al.*,2005; Alvarez & Yarcan, 2010).

Various researchers have tended to highlight different dimensions when reinforcing the identity and image of a place. Nevertheless, none of these researchers has adequately addressed the relationships between these dimensions in constructing the image and identity of a place. This may be due to the broad definition of the place imageability concept that engages multiple operations (Shinbira, 2017).

However, Montgomery (1998) has recognised three components (physical, activity and emotion) as the essence of place. These components predominantly influence place identity and other existing place-based theories. In this context, their connections to people need to be addressed thoroughly when investigating people and place interaction.

Nonetheless, other dimensions, such as culture and historic values, are relevant to be integrated in order to respond to the scope of the study, which is the royal town of Muar. Local researchers (Shamsuddin & Ujang, 2008; Ujang, 2012; Ujang and Zakariya, 2015; Masri *et al.*, 2016) have emphasised the significant role of these values in reflecting the dynamism of the local identity, due to the local identity is an amalgamation of various beliefs such as Hinduism, Buddhism and Islam (Wiryomartono, 2013).

In fact, the multicultural identity of Malaysian society has heavily shaped local identity in the country. This influence has been reflected in the high level of tolerance, adjustment, understanding and consensus between the ethnicities in Malaysia (Shumaker, 2010).

Hence, the study has considered it essential that the dimensions of physical, emotional and social interaction, and culture and historic values, as well as their connections, be integrated holistically into the study. The study has envisaged that place interpretations based on these dimensions would help in portraying the identity and image of the modern royal town of Muar.

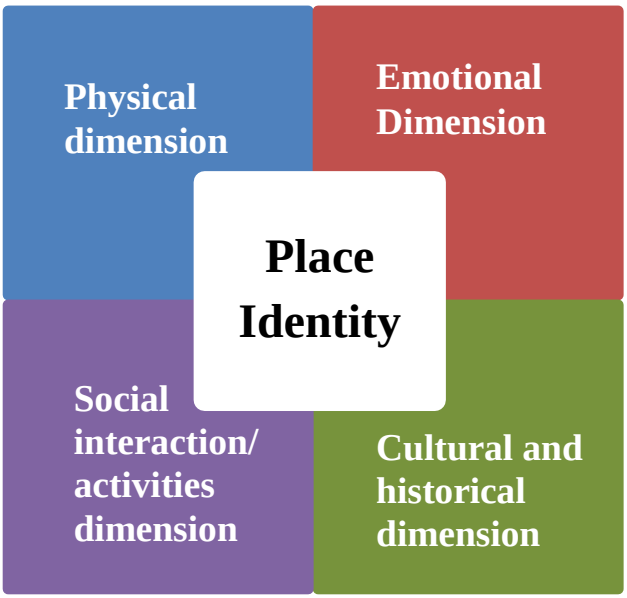


Figure 2.16: Dimensions of place identity

2.4.2 Place Identity and Identity Process Theory

In terms of practicality, one major drawback of Proshansky's place identity theory is that it is too flexible in interpreting the people and place association. Hauge (2007) has criticised the establishment of place identity theory as not addressing adequately the nature of identity. Additionally, it is insufficient for providing relevant principles for identifying a place identity. Similarly, Korpela (1989) and Twigger-Ross & Uzzell (1996) have asserted that these limitations are contributed by non-existing specific processes that are lacking in addressing the essence of place and self-concept.

This is where identity process theory (IPT) has been integrated into the framework of place identity. In contrast to other place related theories, IPT postulates that identity is dynamic and

evolving. Thus identity is a phenomena process that constructs, shapes and influences people's sense of selfhood pertaining to how individuals or groups perceive, experience and engage with a particular place (Kharshiing, 2016). IPT provides a competitive explanation of how people and place have been associated, which is critical whilst discussing the concept of place identity.

Breakwell (1986) introduced the IPT as part of a substructure of self-identity. The IPT was propagated to look into how individuals or groups cope with threats to themselves, and their motivations to defend themselves from changes. This theory was inspired by how a biological organism accommodates and assimilates the cultural diversity of its surroundings.

Hauge (2007) has elaborated that the structure of identity, based on IPT, is expressed through a person's thoughts, actions and affections towards his/her surroundings. Hallak *et al*. (2012) and Kyle *et al*. (2014) have suggested that the theory stimulates people's perception and cognition processes in the interpretation of their surroundings.

These principles have been summarised by Twigger-Ross & Uzzell (1996), as shown in Table 2.2. Twigger-Ross & Uzzell (1996) described these four principles as the main criteria to examine place identification. Korpela (1989) has found that these principles are widely established in several place identity investigation studies such as studies on cognitive and social learning psychology. Thus, they are significant when discussing the roles of place identity in people and place interaction.

Table 2.2: The principles proposed by Breakwell

Principle	Definition
Distinctiveness	How people are attached to a place and use the characteristics of a place to define themselves.
Continuity	An action of people in terms of emotional and physical traits to preserve and maintain a place that reflects their group identity.
Self-efficacy	How people adapt to and assimilate into a place in order to meet the place's demands.
Self-esteem	Reflects the positive attitudes of an individual or a group towards a place in terms of attachments to the place's objects, values or physical surroundings.

Moreover, Winterton & Warburton (2012) have suggested that these principles help people to reflect a sense of cultural connectedness and serve as a mechanism to relate their self-concepts to a place's characteristics.

2.5 The Roles of Place Identity in the Planning of Malaysian Royal Towns

2.5.1 Place Identity and Place Conservation and Preservation

The *Akta Warisan Kebangsaan 2005* (National Heritage Act 2005) has been enacted to protect significant historic intangible and tangible values that exist in Malaysia. Nevertheless, it has been criticised due to the unclear and restricted implementation of the law in protecting the identity and historical values of Malaysia's rich heritage. The act loosely emphasises the significance of the subjectivist aspect and its associations as part of the identity of a place (Muhamad, 2009). The existing laws lack clear guidelines, particularly in determining a place's identity. Thus, this lack has led to a diminishing of intangible values, principally in the Malaysian context (Mustafa & Abdullah, 2013).

In addition, the International Council on Monuments and Sites (ICOMOS, 1982) has suggested that the preservation and conservation approach in relation to a particular cultural and historical site is based on the site's scientific, aesthetic, historic and social values. Hence, this approach acknowledges that both tangible and intangible values need to be safeguarded as *"accepting cultural diversity [is]…a source of enrichment for the whole of mankind"* (Vecco, 2010), as well as the image and identity of a place (Ouf, 2001).

The vague interpretation of identity has led to chaotic planning development in the Malaysian royal towns. In some cases, prominent landmarks that have given character and identity to the area have been torn down and replaced by alien designs. The impact of development has gradually destroyed the unique character of places. Local researchers (Lai *et al.*, 2013; Shamsuddin & Ujang, 2008; Ujang, 2012; Ujang & Zakariya, 2015) have found that the intrusion has subsequently influenced people's engagement with, and perception of, their surroundings, hence resulting in a decline of a sense of place and self by the residents.

Previous studies (eg.Krause, 2001; Paquette and Domon, 2003; Marignani *et al.*, 2008; Cullotta and Barbera, 2011; Henningsson *et al.*, 2015) have emphasised on a comprehensive landscape management via landscape mapping - as a tool to restore, preserve and conserve cultural identity of a place. The mapping process such as land use and landscape zoning have been considered as a critical approach in bringing awareness to the policy-makers and planners especially in the Malaysian planning and development contexts (Abidin, 2011). Local precedent case studies such as Melaka and George Town display the importance of how place zoning based on local identity and characteristics helps to protect their outstanding landscape heritage. The zoning, as part of the preservation and conservation approach, has allowed both of the cities under the UNESCO to be recognised as the historic cities of the Straits Melaka.

Therefore, it is critical to engage the community in identifying and constructing a place image and identity (Al-Zoabi, 2004; Brown & Raymond, 2007; Buta *et al*., 2014; Elliot *et al*., 2010; Maccallum & Bryant, 2013; Ramkissoon *et al*., 2012; Sarlöv Herlin, 2016) due to the fact that a place is strongly embedded with people's perceptions, cognitions and interactions (Ngesan *et al*., 2013). Faro Convention (2005) has highlighted that community have their responsibility in expressing their way of life which includes their values, local wisdoms and traditions, resulted from people and place interaction.

As stated by Sepe (2013), the identity of a place results from a continuous process. The process is demonstrated by human and environment interaction, which emerges from cultural, historical and human activities. Therefore, a holistic approach to preserve and conserve this complex relationship is necessary. This necessity is the main reason why place identity should be integrated into the process. It continuously acknowledges the importance of the mutual formation of tangible and intangible values as the essence of place image and identity (Saleh, 1998; Yuen, 2005; Bleam, 2018).

2.5.2 Place Identity and People Empowerment

As described earlier (in subsection 2.3.2), the royal identity of Malaysian royal towns has been shaped by the mutual relationship between a ruler and his subjects. Thus, to acknowledge this relationship, it is important to include people's preferences, perceptions and cognitions in understanding the identity and image of a place. These components are built up from a

collective of memories displaying the society's relationships, that later contribute to people's experiences and distinctiveness of the place.

Manenti (2011) has posited that human interaction and experience with a place enrich the character of, and sustain, place identity. Hence, these components need to be thoroughly addressed in the planning and design stages as part of highlighting the image of Malaysian royal towns.

The resurgence of identity as part of imageability and its association with people and place interaction has been widely discussed by many researchers (e.g. Sonn *et al*. 2015; Pánek & Vlok, 2013; Stewart *et al*. 2004; Strzelecka *et al*. 2017). Devine-Wright & Clayton (2010) have found that these interactions result from people's perceptions, cognitions and preferences when assessing their surroundings. These interactions can operate as a framework to monitor changes and alterations of landscape policies and development of a place.

Several researchers have pointed out how people's attachments as part of people and place interaction are essential in the decision-making process (e.g. Pánek & Vlok, 2013; Stylidis *et al*., 2014; Stylidis *et al*., 2014). This fact has been raised by Sepe (2013) in her introduction of place identity in planning and place in a city. Local engagement in the process contributed solutions for obtaining realistic identity-based design projects.

In parallel to Faro Convention in 2005, the local engagement is critical in preserving and conserving the cultural heritage site such as the Malaysian royal town due to *"a recognise the public interest associated with elements of the cultural heritage in accordance with their importance to society"*. Thus, local engagement ensures better opportunities for the authorities to create liveable places that are appreciated by, and 'belong' to, society. In fact, for the survival of place image and identity, it is important to ensure the involvement and participation of local residents.

This emphasis on local engagement has also been supported by the Charter *on the Conservation of Historic Towns and Urban Areas* (Washington Charter, 1987), which highlights the roles of people in safeguarding the success of conservation and preservation programmes.

Drawing from the idea of the image of a city by Lynch (1960), the soul of a place and a city is a combination of several factors. The place's factors emerge from the experiences, memories,

social intactness and culture of the people. Their local engagement in planning, especially in the decision-making process, helps to provide valuable insights, thus ensuring that the future planning of a place fulfils the needs of its people and secures the essence of the place.

This study has highlighted the impact of people engagement via the place identity approach. The place identity approach has been envisaged as one of the planning solutions in sustaining place characteristics, i.e. the well-being and the identity of a place, especially in a royal town.

2.6 Summary

In general, this chapter has discussed the theoretical and conceptual ideas of place identity and its relationship with people and place interaction. Further evaluation has covered how place identity can be used to investigate the identity and image of the Malaysian royal towns. The literature review began with a review of place and identity in the creation of place identity. In this study, the definition of place has been divided into two aspects—the objectivist and the subjectivist. These aspects have been derived from the way people perceive and interpret their surroundings and the place.

Thus, the study has referred to place identity as a combination of both objectivist and subjectivist aspects. Referring to Proshansky's (1978, p. 165) definition, place identity is *"a comprehensive combination of memories, ideas, feelings, attitudes, values, preferences, meanings, and conceptions of behaviour and experience which relate to the variety and complexity of physical settings that define the day-to-day existence of every human being"*. He acknowledged the integration of both aspects as the fundamental elements of place identity. Therefore, the first part of the chapter addressed the significant roles of both aspects when assessing the identity of Malaysian royal towns.

Moreover, the study has been concerned with how preference, perception and cognition processes influence the methods of assessing place identity. Hence, factors that affect people's perception and cognition processes have been discussed, as these are associated with the level or degree of people's attachments to a place, which are essential when looking into people and place relationships. This approach was important in providing insights into the research objectives and questions, which have been discussed in the next chapter.

To understand their relationships, the study recognised several dimensions that could be referred to as the conceptual framework of place identity. The identified dimensions were physical, social interactions/activities and emotional, as well as cultural and historic. These were the critical dimensions that were connected to the place identity concept, and have been used to guide this research when assessing the image and identity of the case study.

In addition, the study has focused on how place identity and its dimensions should be recognised in improving the preservation and conservation of the Malaysian royal towns. This recognition stems from the public empowerment aspect, which considers people's perception and cognition processes as the keys to the well-being of a place's identity and image.

CHAPTER 3

CASE STUDY: MUAR AS A MODERN ROYAL TOWN

3.1 Case Study Approach

Based on the listed approaches, the study intends to adopt a positivist case study. The reason is that the study aims to investigate and test the relationship between people's preferences, perceptions and cognitions from the recognised place identity's dimensions. These dimensions are referred to while assessing the identity and image of the selected Malaysian royal town. It is common to apply a case study approach, especially in landscape, urban planning and environmental studies. The case study provides a platform to test and validate a proposed approach (Greene *et al.*, 2010; Luther *et al.*, 2010). Additionally, it allows the researcher to understand the unique phenomena embedded in a place (Bennett, 2014b). According to Crowe *et al*. (1993), the case study approach can be defined as *"a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context"*.

From the planning and landscape perspectives, the case study approach can be summarised as an association process between people and place. It improves, acknowledges and empowers the understanding of the relationship between people and place. In addition, it becomes a platform to educate and introduce new theories, practices and knowledge, which benefit the people and the existing environment (Francis, 1999).

Crowe *et al*. (1993) have suggested that a case study can be interpreted and influenced by the various ways the study and it has been designed to fulfil the researcher's interests. The authors have classified these approaches into three categories, as listed in Table 3.1.

Table 3.1: Different approach to a case study

Approaches	**Characteristics**
Critical	The case study provides a platform for an exploratory study, such as questioning existing assumptions from a broader context.
Interpretive	The case study involves developing a theory based on several perspectives and attributes.
Positivist	The case study involves identified variables or dimensions that the researcher wishes to assess in terms of their relationships with the case study. The end product of the case study encompasses testing and refining the theory.

Based on the listed approaches, the study has adopted a positivist case study. The reason was that the study aimed to investigate and test the relationship between people's preferences, perceptions and cognitions in relation to the recognised place identity dimensions. These dimensions were referred to when assessing the identity and image of the selected Malaysian royal town.

The study has followed the modified case study procedures proposed by Yuhan (2014) when the researcher investigated the local identity in Yantai, China. The procedures are:

- Desk study preparation
- Field observations

1 **Case study selection**

- Develop an interview for both experts and locals
- Identify relevant methods based on identified dimensions of place identity

2 **Research methodology development**

- Selection of the participants for assessing the place identity
- Data collection via face-to-face interviews

3 **Research methodology**

- Data categorisation
- Data evaluation

4 **Results**

- Identity and image determination

5 **Findings**

3.2 Case Study Selection

The case study selection consists of two stages. The first stage starts with a desk study preparation and is followed by on-site observations, which aim to identify the relevant case study

3.2.1 Desk Study Preparation

A desk study preparation is common for a case study approach. Sepe (2013) has described the process as the establishment of a researcher's expectations regarding a particular case study. The process involves gathering relevant information, databases and criteria for measuring the elements in the case study.

This study began with gathering information from various sources to provide insights into the justification of the case study selection. These included the history, elements and characteristics of, and influences on, the present royal towns and sultanates in Malaysia. Data and information for this study comprised Malaysian archive collections, Malay manuscripts, memoirs, articles and books. In addition, inputs from experts during the semi-structured interview sessions were also included.

As a result, the information-gathering process managed to identify several criteria that could be used to select an appropriate case study (see Appendix A). These criteria were:

i. Sociopolitical data, which covered the aim of the establishment of a royal town, royal ceremonies and royal decrees;
ii. Socioeconomic data, which catered to people's activities and demographics;
iii. Physical appearances, which looked into man-made and natural attributes; and
iv. Cultural influences, which covered Hindu and Buddhist philosophies, the Islamic concept and colonial influence

3.2.2 On-Site Observations to Select Case Study

On-site observations often provide additional information about the site's context, the specific conditions of a particular place and the behaviours of the inhabiting population (Halpenny,

2010). In addition, on-site observation is a way to assess demographic attributes, as well as social and political activities occurring in the place (Meyer and Youngs, 2018). On-site observations allow researchers to assess, feel, experience and understand the uniqueness of a place. The process is important for identifying the appropriate case study for the research.

Prior to the selection of Muar as the case study, a series of on-site observations was conducted across all the existing royal towns in Malaysia. During the process, the researcher referred to a developed matrix to validate the characteristics of the present royal towns (Refer to Appendix A). All the elements that were believed to be part of a place's characteristics were recorded using digital photography and field notes. The field notes were used to describe additional information about the elements and places around the royal towns.

As a result, the royal towns of Kuala Kangsar and Pekan were identified to fulfil most of the criteria produced by the matrix. This finding was followed by Klang, Arau and lastly, Seri Menanti. Interestingly, Muar was the royal town that displayed the most minimum criteria to represent a typical royal town in the Malaysian context. Thus, Muar was considered as a potential case study for this research.

Additionally, Muar is the only royal town in Malaysia that is considered as a modern type of royal town. Physically, it is not designated as the royal seat of the Johor Sultan. It only serves as a symbol of the sultanate. This position is due to its significant role in the royal history of the current Johor Sultanate, as well as in the history of its predecessors—Old Johor and the Melaka Sultanate.

3.3 Case Study: Muar, the Modern Royal Town of Johor Sultanate

Tangibly, Muar did not possess the typical characteristics of a royal town, in contrast to other existing Malaysian royal towns. The peculiarity of Muar provided an excellent platform for the methodology of the study. It allowed the identified methods, based on place identity dimensions, to be tested to examine and infer Muar's 'royal' image and identity. Furthermore, the selection of Muar as the case study was appropriate for the study in terms of the following factors.

a) Diverse population

The population of Muar's urban areas consisted of proportional numbers of the Malay and Chinese communities, which was important for this study. As described earlier (subsection 2.3), demographic factors, such as different cultural backgrounds and ethnicity, are expected to influence people's perceptions and cognitions in particular landscape settings. However, these factors could be exceptional when referring to the integration of Breakwell's identity process theory and place identity. Both theories offer insights into how intrinsic values lead to similarities in terms of place identifications, interpretations and associations.

Table 3.2: Total population of Muar's urban area

Muar Town	**2010**					
	Malay	**Chinese**	**Indian**	**Others**	**Non-citizen**	**Total**
	22,394	29,307	1,517	142	2,022	55,382
Percentage	40.44	59.92	2.73	0.26	3.65	100.00

Source: Population census (2000 and 2010, Department of Statistics Malaysia)

b) Addressing the integration of Local Participation

An exclusive planning report, *Laporan Rancangan Kawasan Khas Bandar Maharani Bandar Diraja*, was produced due to the proclamation of Muar as a royal town in 2012. This report was specifically formulated to identify and preserve the distinctive characteristics of Muar. The report was an example for other royal towns' planning regulations. However, the role of the public as the decision-makers was not appropriately addressed in the process, which was one area of interest explored in the study. The selection of Muar as the case study offered some additional perspectives on how the image and identity of a place should be engaged with local participation when regarding people's preferences and perceptions in Muar. In reference to subsection 2.2.3, this is important in displaying the mutual relationship between the Sultan and *rakyat* in the place-making and identity of the Malaysian royal town.

3.3.1 Muar's Background

Geographically, Muar town is situated in the northern part of Johor and is located on the Muar River. The urban area covers approximately five km^2 of total built-up area in Muar town. The town was planned by Dato Rahman Salleh Perang, one of the prominent Malay officers during the sovereignty of Sir Sultan Abu Bakar. The town includes two different precincts that used to be significant during the early 19th century (Figure 3.2). Both these precincts portray the townscape's characteristics and reflect the robustness of people and place interaction.

Figure 3.1: Map of the Modern Johor Sultanate

Source: Geoportal .johor.gov.my
Town and Country Planning Department
of the State of Johor

Figure 3.2: Overall map of Muar Town
Source: Google Maps

3.3.1.1 The Town Area

The town area is the cradle of Muar's activities. The main roads are known as Jalan Maharani, Jalan Abdullah, Jalan Meriam and Jalan Ibrahim. These main roads serve as essential connectors for the people of Muar. Thus, many traditional, commercial and cultural activities, as well as gastronomy centres, are located along these roads. The unique features of the streets can be traced from the enclosure and narrowness of the streets, which are very intimate. In fact, the streets give a pleasant sensory experience, such as the agreeable smells that exude from hawkers and restaurants nearby. The food identities have been considered as part of the town's distinctive characteristics.

Figure 3.3: The old shophouse buildings in the town

Figure 3.4: Map of the town area

Source: Google Maps

Additionally, the town has several strong, distinctive characteristics, reflected by the many traditional shophouses and houses of worship sandwiched between these shophouses. Some of the buildings, especially along the town's main roads, were built in the early 1900s and are heavily ornamented with lavish and intricate motifs. Muar is also well known for its diversity of architectural styles such as utilitarian, strait eclectic, sino- palladian, art- deco and early modernism.

Figure 3.5: Building (a) and (b)- Utilarian**,** building (c) and (d)- Strait eclectic

Figure 3.6: Building (e) and (f)- Sino-paladdian**,** building (g) and (h)- Art-deco, building (i) and (j)- Modernism

The shophouses are connected by corridors, which were purposely designed as walkways for pedestrians. These walkways are sometimes used as an extension of the shop owner's retail activities. They are also rented by small traders to sell their goods and services. The whole scenario is thus one of the robust activities taking place within small, arched corridors.

3.3.1.2 The Royal Precinct

The government enclave was purposely planned and built by Sultan Abu Bakar and his officer, Dato Bentara Luar Salleh Perang, to accommodate the Johor Sultanate's administration complex for the district of Muar. The Sultan designated Muar as his second-most important town after his capital at Johor Bahru, a modern city situated facing then-colonial Singapore.

In contrast to other districts in Johor, Muar was planned as a small-scale replica of Johor Bahru in terms of development and urban planning. A lavish and magnificent palace was erected within this enclave before being replaced by a modern yet architecturally modest palace. The current palace is located in juxtaposition to the Muar River. Following traditional Malay culture, a piece of land in front of the new palace was designated as a *padang* or open lawn. It was purposely built for royal and formal occasions.

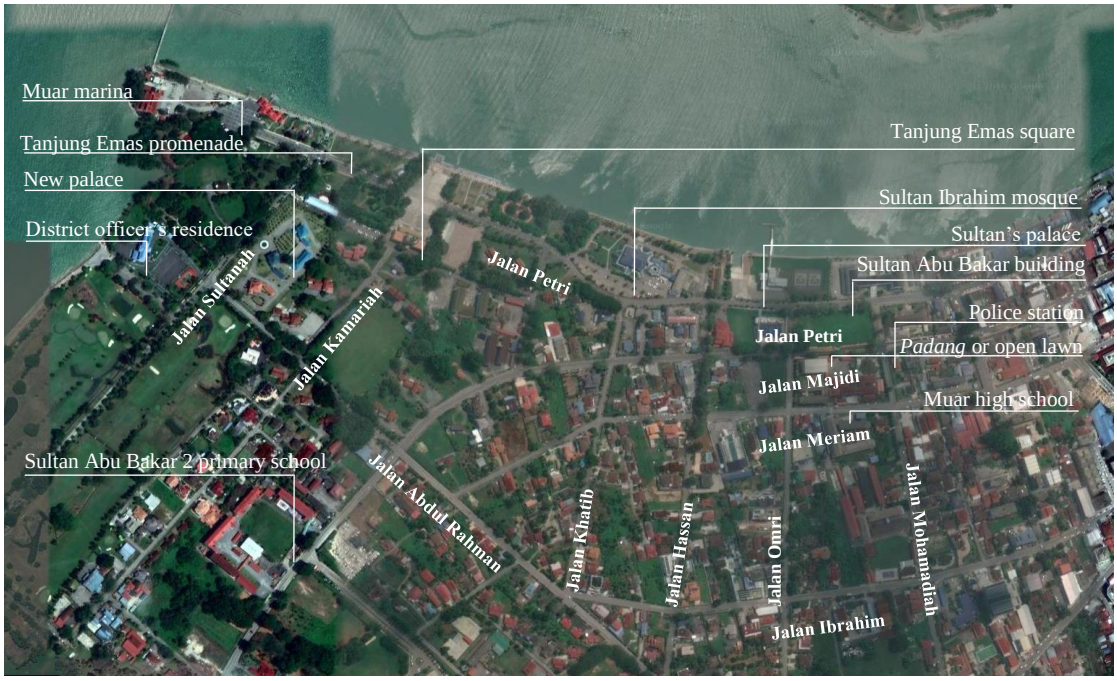


Figure 3.7: Map of the royal precinct

Source: Google Maps

The unique feature of this precinct is that the government buildings have been architecturally influenced by colonial designs, but with traces of local and Islamic patterns. The buildings magnificently face the Muar River, creating a grand effect when viewed from across the river. Inspired by colonial design and planning, Sultan Abu Bakar requested this enclave to be equipped with the police station, the Sultan's office, barracks for the Sultan's private army, a courthouse and English and Malay schools. Finally, as a symbol of Islam, the state's official religion, a mosque was erected next to the palace.

Figure 3.8: Historic old building built by Sir Sultan Abu Bakar in the early 19th century (a)- Sultan Ibrahim Mosque, (b)- Sultan Abu Bakar Building, (c)- Muar Police Station, (d)- Muar High School

An enclave of government quarters, between the present-day Jalan Kamariah and Jalan Sultanah, was designated for the local and English officers in Muar during the reign of Sultan Abu Bakar. These quarters were then converted into rest houses, the official residence of the district officer of the town and residences for the current Sultan and his family. Initiated by the city council, a green area along the riverside in this precinct was turned into a riverfront and recreational area for locals and visitors. New structures imitating the historic buildings' architecture were built to boost tourism activities within this precinct.

Figure 3.9: New development buildings in Tanjung Emas Promenade within the royal precinct

3.3.1.3 The Mangrove Area

In addition to these two precincts, the town is famous for its abundant greenery and an extensive mangrove area. The mangrove area is another element that enriches the character of the town. Historically, the strategic location of the Muar River and the dense mangrove forest were the reasons for Sultan Ahmad Shah to establish his capital in Muar (Adil, 1973). The harsh and impenetrable mangrove area protected his capital from Portuguese military campaigns in the 15th century.

Figure 3.10: The views from the mangrove area

In the late 19th century, Javanese immigrants were hired by local chiefs to plant mangrove trees to prevent soil erosion along the coastal areas of Muar (Selat, 1986). The area has been part of Muar's rich cultural landscape and history. Currently, the mangrove area stretches from both sides of the riverbank to the inner part of the royal precinct. Nowadays, the mangrove area is famously known for its abundant wildlife habitats and tourism activities.

CHAPTER 4

RESEARCH METHODOLOGY DEVELOPMENT

4.1 Introduction

This study has used a qualitative case study approach to investigate the role of place identity in displaying the royal identity and image of Muar as the only modern royal town in Malaysia. Hence, the study has addressed the significance of people's preferences, perceptions and cognitions in the study. In seeking to achieve **Research Objective 2**: **To develop methods for assessing the different identified dimensions of place identity in order to infer the image and identity of Muar as the only modern royal town in Malaysia**, several available methods were reviewed in order to identify a relevant methodology for this study.

As stated earlier in Chapter 2, two essential principles of place identity were addressed in this development. These principles were:

i) People empowerment by highlighting people and place association.
ii) Assessing people's preferences, perceptions and cognitions as part of royalness identification.

These principles were used to guide the selection of the methods as well as their practicality when assessing the identified place identity dimensions. This was to ensure that the techniques answered **Research Question 2** of the study, i.e.: **How can the proposed methods be associated with people's preferences, perceptions and cognitions?**

People's perceptions and cognitions are significant in assessing place identity (Bauer *et al*., 2009; Casakin *et al*., 2014; Kaplan *et al*., 2007; Kearney *et al*., 2008; Martı *et al*., 2010; Stephenson, 2008) because the processes allow researchers to understand the relationship

between people and place interaction. Therefore, the selected methods for a study: (i) need to be able to extract people's opinions, ideas and conceptions; and (ii) need to address the existing dimensions of place identity when describing the functions of place identity in this people and place interaction.

A qualitative methodology was chosen as the research framework for this study due to its role in investigating people and environment relationships, especially in landscape studies, social and environmental psychology and environmental psychology (Shinbira, 2017). Nevertheless, the study did include a quantitative approach as well, to quantify such data via an analytical system, which generated findings that required qualitative interpretations.

The study highlighted several relevant techniques and instruments to assist in data collection, which aimed to identify the unique characteristics of Muar as a modern royal town. Therefore, the techniques were guided by the four identified dimensions of the place identity concept, which were physical, emotional, social interaction, and cultural and historical values.

4.2 Interview - Method for Developing Data Gathering

In general, an interview is a verbal conversation that allows people to express their ideas, experiences, knowledge and insights about particular subjects (Rubin & Rubin, 2012). The information obtained from the interview can help interpret certain contextual phenomena or socio-spatial experiences (Ragin, 1994).

To obtain the information in an effective and efficient way, the interviewer should address two important key aspects, which are bias and empowerment of the interviewees, during the process. Shinbira (2017) stated that both these issues can be catered for with a proper approach while engaging the potential interviewees. The researcher must permit the interviewees to express their insights freely without any interruption; nonetheless, the interviewees are guided by the interviewer during the process.

Marshall and Rossman (2010) have categorised the interview approach into three categories: (i) the conversational interview; (ii) the scheduled or semi-structured interview; and (iii) the co-constructed interview. The informal conversational interview is conducted in unplanned and accidental ways with individuals or small groups. The guided interview is scheduled and the

list of questions is structured and prepared. The scheduled interview is mostly focused on specific questions and structures. Finally, the co-constructed interview involves both scheduled and informal conservations.

This study determined that the semi-structured interview was the best way to yield people's experiences, feelings and attachments, as well as place meanings, in relation to their surroundings. Smaldone *et al*. (2005) and Bernard & Bernard (2012) have found this type of interview to be a flexible approach in exploring relevant issues with efficient time management. Furthermore, the semi-structured interview has been commonly adopted by other researchers (e.g. Jepson and Sharpley, 2015; Kamarudin *et al*., 2013; Maxwell *et al*., 2013) as their framework of qualitative research to provide an understanding of people's insights into, and concerns about, their surrounding issues.

It has also been used as a complementary method to support other qualitative methods such as photo-elicitation (Jones, 2004; Bennett, 2014b) and mapping (Griffin & McQuoid, 2012; Brown, 2013) as it has the ability to reveal understanding of phenomena such as place identity (Smaldone *et al*., 2005).

Therefore, the interview process was considered as the foundation or primary source of interest for this study as well as complementing other qualitative data collection methods. This process has been explained further in the next subsection.

4.2.1 Interview with Experts and Locals

Yuen (2005) has noted that the conceptions of people regarding a place will enhance the ascertainment of place identity. Nonetheless, this can only be achieved if the planning process acknowledges such conceptions as important according to expert opinion. Many studies have acknowledged the positive effects of the integration of experts and locals into the planning process. Their integration leads to a better understanding of the current issues (Brown & Raymond, 2007), provides sustainable planning (Alberts, 2007; Fletcher, 2007; Sarlöv Herlin, 2004; Stephens *et al*., 2009) and most of all, empowers local participation in future planning (Strzelecka *et al*. 2017).

This study utilised the interview as a platform to investigate the different perspectives of both parties regarding place identification and meanings. For the public, the interview is a gateway

to explore people's experiences (Wesener, 2016, 2017), people's identity perspectives (Burholt *et al*., 2013) and place meanings (Spartz & Shaw, 2011). These factors are important when investigating people and place interaction in landscape studies. It is an advantage if this knowledge is incorporated into public values as a way of improving the substantive quality of decisions and policies.

For the experts, the interview provides knowledge that is not accessible to everyone, especially on crucial and sensitive issues (Alberts, 2007). Beyers *et al*. (2014) have argued that experts' perspectives are valuable because they are related to the group's strategies and interests, as well as to local policies and regulations development. Experts have been regarded as a group of people who are knowledgeable, who have privileged positions in policymaking and who influence the decision-making process of particular activities and rules (Huggins, 2014).

According to Harvey (2011), the resurgence of engaging experts and locals is to understand the perspectives and behaviours of these groups in responding to particular issues and problems. The interview has been considered as the best method to draw similarities between the groups and to bridge the clash of interests between these groups. Furthermore, Pánek & Vlok (2013) have pointed out that the integration of both parties prevents a superficial policy that lacks appreciation and association by the users of a place.

Likewise, it will be a meaningless process resulting from disrespecting the connection between people and place. The insights from locals, planners and policymakers with multiple social relationships will yield much information regarding people and their surroundings (Alessa *et al*., 2008; Kearney *et al.*, 2008; Bennett, 2014a, 2014b). Bennett (2014a) has stated that locals are the custodians of place. Their insights connect experts with the intangible and tangible values embodied in a place.

The study had intended to integrate the Sultan's insights into the study in order to strengthen the research methodology framework. However, issues such as bureaucratic and royal protocols have led the study to emphasis only on both experts and locals' insights. Therefore, interviews of both parties have been regarded as the only appropriate foundation to support the methods for assessing the identified place identity's dimensions.

At the same time, the methods provided insights into the locals' perspectives regarding the image and identity of the royal town of Muar. As a result, the land use and aspiration conflicts

of both parties were ascertained. Such conflicts could lead to social and interpersonal discrimination in the decision-making process, as well as in planning and development (Brown & Raymond, 2014). The collaborative nature of the expert group offered an advantage for this study. It provided a fundamental platform for exploring the local policies and planning in Muar.

4.3 Method for Physical Dimension and Emotional Dimension

Numerous methods have been described by researchers to assess the unique physical aspects of the landscape. These available techniques include 3D visualisation and video simulations (Daniel & Meitner, 2001; Gill *et al*., 2010; Lange *et al*., 2001), drawings (Bates & Bates, 2009) and photographs (Arriaza *et al*., 2004; Kearney *et al*., 2008; Saleh, 1998).

Methods such as 3D visualisation and simulation are considered effective and efficient (Bilge *et al*., 2015), especially in studies that relate to interactive landscape visualisation (Gill *et al*., 2010). This is because both methods provide attractive visual exploration, thus increasing the users' engagement.

However, Jones *et al.* (2013) noted that both methods could be tricky for non-experts to understand if visual problems such as transparency of uncertain 3D objects are not thoroughly addressed during the process. Furthermore, it is vital to include visual aspects such as orientation, size, colour value, colour hue, position, shape and texture, as these aspects affect people's preferences and perceptions. Thus, 3D visualisation and simulation require a meticulous process before they are able to deliver information effectively. Moreover, these methods are costly and time-consuming to conduct (Lange, 2001).

Drawing, on the other hand, is a conventional method that is capable of expressing people's experiences in graphics. It has been considered as the simplest way to gather information, especially when investigating children's relations with their surroundings (Béneker *et al.*, 2010). Nonetheless, Gieseking (2013) has criticised this method as irrelevant in engaging a wider group of participants (e.g. adults and the elderly), as some of them are embarrassed about their poor drawing skills. For many landscape studies, particularly regarding people and place association, a diverse sample of participants offers rich and meaningful insights regarding this association (Wang & Zhao, 2017).

Photographs have been widely used in multidisciplinary studies such as anthropology, as well as landscape and urban research, which emphasise cognitive and perception processes. The method is useful especially in landscape perception research due to its advantages such as being economical and easy to use in contrast to other alternative methods (Fairweather & Swaffield, 2001). In fact, many researchers (e.g. Kong *et al*., 2014; Pan *et al*., 2014; Peabody, 2013; Schänzel & Smith, 2011) have managed to prove the validity and efficiency of this method, and most importantly, have provided ideas on how this method could engage people in many evaluations and landscape assessments.

However, in landscape and urban planning, the available photograph methods are more self-research-centred. The photograph method has been regarded as a visual tool to embody the researcher's interest in particular landscape subjects and to observe how the subjects affect people's preferences and perceptions (Howley, 2011; Howley *et al*., 2012; Kijazi & Kant, 2010), either during, or in the final stage of, the planning process. Berbés-Blázquez (2011) criticise the existing photograph methods in these fields because of their non- holistically process. The methods are not adequately benefited the society, due to lack of people empowerment from the early stage of the process. The reason is place-making and identification are a dynamic and continuous process that require an ongoing process of people involvement, particularly in understanding people and place associations (Dempsey *et al*., 2014; Dempsey *et al*., 2012).

In contrast to sociology and anthropology studies, photograph techniques hold special value in terms of empowering people via their perception and cognition processes. Moore *et al*. (2008) and Drew & Guillemen (2014) have extended the use of photo surveys in interpreting meaning and people and place associations from sociological perspectives. This technique is known as photo-elicitation. It has been introduced in these studies to record human experience (Harper, 1998).

Nevertheless, drawbacks such as photo accuracy and quality (Arriaza *et al.*, 2004), systematic visual methodology (Daniel, 2001) and reliability (Sevenant & Antrop, 2011) of the photographs, which are essential when using the photographic technique in landscape studies, have not been thoroughly addressed.

4.3.1 Development of the Photo Elicitation Method

Harper (2010) has defined photo-elicitation as a photo-based interview that is aimed at stimulating verbal information. In sociological studies, photo-elicitation has been classified according to its implementation techniques. These techniques include the method of participant recruitment, the photo collection procedure, and lastly, how the data gained from photos are analysed by the researcher (Torre & Murphy, 2015). These techniques have led to the establishment of several photo methods such as auto-driven photography, photovoice, photo novella and reflexive photography (Hurworth, 2003).

The integration of photo-elicitation into landscape studies has elevated the role of photograph techniques, especially from the landscape perspective. One of the reasons is its function in evoking deeper elements of human perception and cognition about specific information (Drew and Guillemin, 2014), which is fundamental to investigate the people and place association. This is because the method helps to elicit emotions, attachments and meanings related to a place from the eyes of beholders.

At the planning stage, photo-elicitation helps to strengthen relationships between researchers and participants. It provides an understanding of the place from the people's perspectives and narratives (Moore *et al*., 2008; Sherren & Verstraten, 2013). It also acknowledges the autonomy and self-esteem of respondents (Wang *et al*., 1996) and extends conventional research approaches such as interviews (Drew & Guillemen, 2014). Moreover, the method offers a sense of inclusion to people and stimulates community engagement (Sherren & Verstraten, 2013). These factors are important, especially in dealing with the subjectivist aspect of place image and identity determination.

4.3.2 Interview Questions

The aim of the questions during the interview was to examine what the participants thought about the existing elements in Muar in relation to its image and identity as a royal town. The questions were developed based on the four identified principles of Breakwell—self-esteem, self-efficacy, distinctiveness and continuity. These principles were used to guide and evoke participants' preferences and perceptions when investigating the roles of the physical and emotional dimensions in displaying Muar's identity. As mentioned earlier in Chapter 2, the

Breakwell principles were incorporated into this study as a strategy to relate people's self-concept with place characteristics.

Prior to the development of the questions, a series of peer debriefing assessments were conducted with 15 PhD students from the School of Architecture and Department of Landscape Architecture at the University of Sheffield. The debriefing assessment allows a particular study to gather inputs and feedback regarding specific questions. The primary concerns for question validity are:

i. Language, terminology and wording of questions;
ii. Comprehensive measurement;
iii. Mutual understanding between both researcher and participants about the questions' meanings; and
iv. Comments regarding the questions from the targeted participants' perspectives.

An individual follow-up session for each participant was conducted after the participants had completed the list of questions, which used Sheffield City Centre as the case study. The participants were asked about anything that they found misleading or confusing regarding the language, keywords and the structure of the questions. Ruel et al. (2018) have explained that this validity process is essential to evoke people's opinions and suggestions regarding the drawbacks of question instruments. The finalised questions for the actual photo-elicitation interviews were:

Can you identify a maximum of five different photographs and reasons from the provided list of photographs that demonstrate each of the following features?

a) **Self-esteem**
   Buildings, structures or landscape features that are **special to you** in the royal town of Muar.
b) **Self-efficacy**
   Buildings, structures or landscape features that make **you feel proud** about the royal town of Muar.
c) **Distinctiveness**
   Buildings, structures or landscape features that **can be only found** in the royal town of Muar.

d) **Continuity**

Buildings, structures or landscape features that require **maintenance and protection** in the royal town of Muar.

4.3.3 Photo Sampling

This study explored two different types of photo sampling approaches in order to produce a list of photos for the photo-elicitation interviews. These photo-sampling approaches were the participant-based approach and the researcher and participant-based approach. The aim of this process was to identify the most efficient approach that was able to engage the locals in the early stage of the development process of the photograph sampling procedure.

4.3.3.1 Participant Based Approach- Reflexive Photograph Method

Reflexive photography emphasises the perception process rather than the informant's behavioural aspect. Within a similar concept, this method requires respondents to generate their own photographs. Usually, the respondents are given a disposable camera to explore their engagement with their surrounding (Bridge, 2013; Drew and Guillemin, 2014; Shell, 2014). In a study by Packard (2008), a group of homeless respondents, selected by snowball sampling, were given disposable cameras with simple instructions on the area of research interest. A face-to-face in-depth interview session based on the generated photographs was conducted after most of the respondents returned the given disposable cameras to the researcher.

In some cases, the respondents are provided with a diary to describe each of the photographs captured (Latham, 2003). This technique, however, depends on the research context as Bennett (2014) believed that the diary should be used only as a supportive tool to supply more profound and in-depth information. The benefits of this technique are: (i) it allows a researcher to explore further people's perspectives, perceptions and meanings of certain subjects dictated by the respondents' interests; and (ii) it helps to decrease bias on selecting images for the interview.

a) Spot Identification for Reflexive Photograph Method

Prior to implementation, the study engaged both experts and locals in narrowing down the spot selection for conducting this method. The study recruited seven experts and 20 local participants to take part in a series of semi-structured interview sessions.

The experts consisted of two historians, one urban planner, two landscape architects and two academics. They were selected based on their expertise about Muar's history, policy and planning development as well as their contributions in the local report of *Rancangan Khas Kawasan Bandar Maharani Bandar Diraja* in 2015. On the other hand, the local participants were recruited using random and snowball sampling techniques in several tourism spots in Muar. During the interviews, the targeted participants were asked to describe:

i. Historic buildings that reflected Muar as a royal town.
ii. Buildings that held unique activities in the royal town.
iii. Natural landscapes such as rivers, forests, coastal areas.
iv. Unique structures and landmarks that represented Muar as a royal town.
v. Landscape elements and features that represented Muar as a royal town.
vi. Roads or informal pathways associated with Muar as a royal town.

Based on the interview findings, the study identified six different spots that highlighted the unique physical characteristics of Muar as a modern royal town. The spots are shown in Figure 4.1 below.

Figure 4.1: Map of the identified spots in Muar Town

b) Sampling Size

Typically, the sample size of participants for the photo-elicitation method varies. Kong *et al*. (2014) engaged 11 and 14 interviewees in two respectively different areas in addressing the issues of land management occurring in the South African Kalahari. More recent studies by Guell & Ogilvie (2015) and Kim (2015) involved between 15 and 30 participants in the photo-elicitation process, during which both of them gathered a large number of photo samples.

The main concerns of this technique are to explore in more depth the respondents' values, meanings and perceptions and to sharpen their memories about their surroundings (Prosser & Schwartz, 1998). Thus, the quality of information is more important than the number of participants (Kong *et al.*, 2014). Consequently, a small number of participants, of between 10 and 30, is sufficient to ensure the reliability and validity of the method. Drawing from these findings, the study aimed to recruit five to six participants for each identified spot.

c) Procedures

Preceding each interview, the willing participants were briefed on the background of the research. They were informed about several guidelines that they needed to consider during the sessions. The study followed the guidelines proposed by Wang (2005) while engaging participants in the photo sampling process. The guidelines highlighted: (i) that safety and well-being were the primary concerns of the study—no photo was worth risking the life of the participants; and (ii) the importance of the participants' responsibility in respecting others' privacy and rights. In this case, the participants were engaged using a random sampling technique due to its practicality and efficiency on the site.

The participants were given time to review the questions provided and to familiarise themselves with the spots. The basic operations of a disposal camera were demonstrated to the participants immediately after they had reviewed the questions. They were briefed on how to photograph an ideal composition, as well as on focus and angle of photos. The participants were asked to capture a maximum of 25 photographs of different elements that they perceived to be meaningful, guided by the provided list of questions. In addition, the participants were encouraged to explore their surroundings but were reminded to prioritise their safety during the process.

d) Findings from Reflexive Photograph Sampling Procedures

Photographs from each spot were gathered and analysed during the pilot test. However, the researcher found that the photos taken by the participants were inconsistent and hard to interpret. Many of the photos were blurred and unfocused. These imperfections may have resulted from external and internal factors of the spots and the participants themselves.

In previous studies, spot identification was used to provide boundaries for the reflexive photography sessions—to help the participants focus on specific elements within a small area and to minimise the time spent by them during the sessions. However, one drawback in the present study was that some of the selected spots were unable to represent the entire uniqueness of Muar as a royal town. In contrast to European towns and old cities, many Asian urban areas such as Muar are laid out in an organic and linear arrangement, and in a non-compacted form, such that some of the distinctive characteristics of the town are scattered in relation to each other.

Despite focus group discussions have been successful to explore in-depth people's engagement with a particular place (e.g Charron *et al.*, 2019; Foelske *et al.*, 2019; Norwood *et al.*, 2019; Stewart *et al.*, 2019), the technique was not considered fruitful in Muar's context. The technique was implemented by the local authority during the early stage of *Rancangan Kawasan Khas Bandar Maharani Bandar Diraja,* a local report to develop Muar's identity as the royal town of the Johor Sultanate. However, it received negative feedback from the local community. Furthermore, this technique requires good publicity and long- term engagement from the participants which could not be achieved in this study due to time and financial constraints.

Other methods, such as walking interviews, which have been widely used to investigate people and place interaction (Jung, 2013; Chua, 2014; Holton, 2015), were considered to be adopted in the study due to these reasons. The walking interview requires the researcher to walk with a group of participants from one point to another, requesting them to take photos of elements that they are attached to. This process is then followed by an in-depth interview session focusing on the participants' photos.

However, this technique did not apply to the present research context due to existing issues such as improper pedestrian connections within the identified spots and weather conditions. Some of the places in the identified spots lacked connectivity for pedestrians and were located on busy streets. These factors jeopardised the safety of the participants. In addition, most of the participants were not willing to explore the areas within the spots due to the high humidity and hot weather of Muar during the photo sampling process.

From the researcher's observations, many of the participants were rushed and hesitated to engage in the sessions after they were asked to provide a list of photographs based on the guided questions. These reactions may have been due to the participants' insecurity about their photography skills as well as unfamiliarity with using disposal cameras. Thus, all these issues led to the unsatisfactory results of the photo sampling process.

4.3.3.2 Researcher and Participant Based Approach- Participatory Image Production

Participatory image production is a process whereby the researcher and the respondents collaborate to generate photos and images for a specific study. In other words, the researcher and the respondents work together to remove the barriers between the observer and the observed. This technique includes many negotiations between both parties to achieve an outcome useful for the researcher (Parker, 2009).

The researcher and participants together spend their time exploring the everyday experiences of the respondents and simultaneously react to the same topic. This is where negotiations on the use of the camera begin. The researcher and the respondents will have opportunities to select what kind of photograph to produce based on both parties' interpretations and evaluating criteria. The photographing process provides a mutual interaction and learning process for both parties to understand their unique abilities while trying to interpret the photos. At the same time, it also empowers participants in the decision-making process as they are given opportunities to select photos that best represent their experiences, perspectives and histories (Buckley, 2014).

This study, however, modified this method based on previous findings on the reflexive photography method. Instead of asking participants to provide a list of photographs, the photos were produced based on the findings gained via face-to-face interview sessions with 20 locals and seven experts. Overall, the study managed to identify 60 images of elements that were

suggested during the interviews, which portrayed the identity and image of Muar as a modern royal town.

In addition, the modified method surmounted several critical factors that affect people's preferences and perceptions when using photos to assess the quality of landscape settings. The photo-elicitation technique requires a proper photograph methodology before it can be integrated into the research. Pink (2006) has noted that the visual quality conveys place experiences to *"the context of representation"*. Several aspects have to be addressed while engaging participants in visual landscape assessment. These aspects include photo horizontal angle, photo orientation, visual characteristics and element characteristics (Bishop, 1997, 2014; Bishop *et al*., 2004)

a) Photograph Horizontal Angle

Many researchers (e.g. Dupont *et al*., 2014; Sevenant & Antrop, 2011; Shao, 2014; Yuhan *et al*., 2015) have highlighted the inefficiency of the 60-degree angle of conventional photographs in depicting the entire landscape composition existing in a place compared to a panoramic view. Nevertheless, this inefficiency occurred because these studies were intended to focus on large-scale landscape settings rather than on the micro aspects. Stewart *et al*. (1984) have suggested that the validity of photograph angles should depend on the judgement and focus of the research.

However, there is no requirement of using a panoramic view to portray the identified physical elements of a place for a study. The reason is that each of the physical elements is the focus subject for photo sampling. Thus, the 60-degree angle view is already appropriate for a study as the focus of the photograph is on the specific and particular physical elements rather than on the whole landscape composition. This approach helps to minimise bias, and at the same time, the photo's composition is consistent and precise.

b) Photograph Orientation

In studies such as tourism, psychology, sociology and social research, photograph orientation is not a significant concern when seeking the engagement of participants during the photo-elicitation survey. For these studies, a photograph-based survey is considered as a visual approach to: (i) improve reflection on how a photo is used to capture and ignite participants' interpretations about a particular subject (Drew & Guillemin, 2014): and (ii)

allow a researcher to understand and view a photo from the viewpoints of participants. Nevertheless, it is followed by an in-depth interview session, which is uncommon for visual landscape assessments.

The operation of many photo-based landscape assessments emphasises visual or space qualities using a quantitative model (e.g. Angileri & Toccolini, 1993; Arriaza *et al*., 2004; Howley, 2011; Howley *et al*., 2012; Lange *et al*., 2008). Thus, a standardised orientation of photo samplings is necessary in order to decrease bias among participants.

In many landscape studies (e.g. Dramstad *et al*., 2006; Fjellstad & Dramstad, 1999; Larsen *et al*., 2007; Stewart *et al*., 1984), a landscape orientation photograph is preferred to a portrait orientation photo. Landscape orientation is better in displaying the composition and relationship between a particular landscape element and its surroundings due to the wider angle. It also reduces the differences among people's preferences and perceptions between on-site observations and photographs (Sevenant & Antrop, 2011).

Although this study has integrated interview-based photos adapted from psychological and sociological studies, a standardised landscape orientation was important. This is because it helped to reduce bias among participants when selecting photographs during the photo-elicitation procedure.

c) Visual Characteristics

According to Bandura (2001), a photograph, or photo-taking, is strongly associated with cognitive theory. Humans always refer to photos as a way of evoking their feelings, imagination and positive or negative thoughts regarding a particular subject or place. Palmer & Hoffman (2001) have revealed that the clarity, colour and intensity effects play significant roles in influencing people's preferences and perceptions when assessing photos.

However, Tips & Savasdisara (1986) have pointed out that black and white printed photos help to decrease bias. This view has been criticised because it creates a monotonous list of samples, and is not able to stimulate the 'pleasant' and affective quality of the subjects (Pan *et al*., 2014).

Therefore, taking all these attributes and debates into consideration, the use of a list of coloured photos has been preferred in the study. Coloured photos have been widely used to imitate actual landscape settings, which are critical landscape assessments (Howley, 2011; Howley *et al*., 2012a; Howley *et al*., 2012b).

The list of photos was adjusted and fine-tuned using Photoshop to ensure that the photos were visually standardised. The photo backgrounds and certain other elements were eliminated to emphasise the subject as the primary matter, instead of the overall landscape composition. In addition, the photographs were taken at the eye level of the researcher (Ryan, 2002). Aspects such as colour intensity, grain size and image density were taken into consideration as these reflected the quality of the photographs (García *et al*., 2006).

As an example, Photo 15 below indicates the process of elimination of unnecessary elements in the background and foreground of the photo. Moreover, adjustments regarding the hue, saturation, light relating to the tone, texture and shadow of the photo were also conducted during the process. The photo editing was carried out to decrease visual bias that could influence people's preferences and perceptions.

Before **After**

Figure 4.2: Photo before and after graphics adjustment

d) Physical Appearance Characteristics

Appleyard (1979) while drawing a connection with Lynch's image of the city, has stressed the influence of landmarks and buildings on evoking people's memories and associations. In his model of landmark and urban form, he characterised buildings into three dimensions:

(i) building form; (ii) building visibility; and (iii) building use and symbolic meaning. Evans *et al*. (1981) provided definitions for each dimension as follows:

- Building form: revolves around factors of the building's appearance such as the movement around the building, pattern, colour, shape, complexity, maintenance quality, texture and signage.
- Building visibility: reflects the location, orientation and significant look of the building.
- Building use and symbolic meaning: represents the cultural and historical impact of the building.

A set list of photographs was developed based on the proposed technique of Evans *et al*. (1982). This technique aimed to examine the association of people's memories with physical and sociocultural features of buildings. In their study, the photo's composition was planned to adhere to the highlighted dimensions of the building's characteristics.

From the visual quality perspective, human attributes such as activities and movements can increase people's preferences and perceptions regarding a photo (Arriaza *et al.*, 2004), thus increasing the bias. Nevertheless, these human attributes and movements are also effective in recalling people's memories (Appleyard, 1979; Evans *et al.*, 1982).

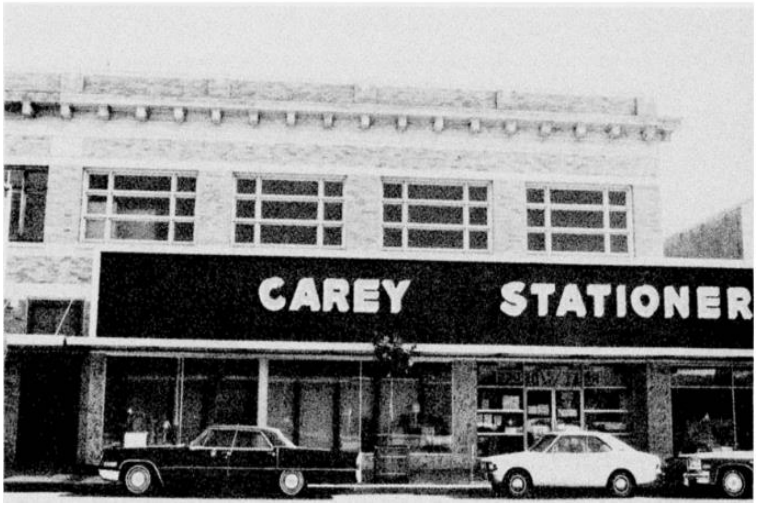


Figure 4.3: One of the photo samples in Evans et al., (1982)

Figure 4.4: One of the photo samples followed Appleyard's model

This study has preferred to keep people's activities and movements in every photo. The reason is that man-made appearances and traces show a strong connection with human interaction within the environment itself, thus capturing the essence of people and place association (Tempesta, 2010). A historic urban city such as a royal town is one example of how human contact can transform the identity and image of a place. This view is in parallel to the definition of a landscape by the European Landscape Convention, which states that

"Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors."

(Council of Europe, 2000)

4.4 Method for Social Interaction / Activities Dimension and Cultural & Historical Dimension

Regardless of the efficiency of the photo-elicitation technique, it requires supporting methods for better results when related to the intangible characteristics of a place such as people's activities, and cultural and historical values. Shao (2014) has found that photo-elicitation is

insufficient to capture all the elements within a place. In her study, the photo-elicitation technique required a supporting tool, such as a map.

Historically, maps are used as directional tools, providing graphical information such as orientations, legends and symbols that represent a place. However, through time, their functions have been expanded. Maps have become a competitive method to assess different aspects of human interest, and especially to investigate people and place association.

Brown (2005) has related this trend specifically to urban and planning studies due to the enlightenment of subjectivist aspects of perception and cognition by prominent researchers (e.g. Tuan, 1977; Relph, 1976) when assessing identity and place meanings. This is because maps as a method offer researchers a broader opportunity to explore social engagement and psychological attachment, as well as people interaction and place interaction. Drawing from this notion, Powell (2010) has divided maps into four different types of place mapping based on their functions and practices, which are summarised below in Table 4.1.

Table 4.1: Different type of place mapping

Mapping Method	Description	Assessment	Design
Cognitive map	Displays a correlation between spatial attributes and people's perceptions (Stoiculescu & Huzui, 2011)	Preference and perception (Stedman *et al.*, 2007)	Wayfinding in a spatial environment (Elizabeth and Brubaker, 1998); people's associations with a place (Garling, 1984)
Concept map	Presents knowledge and information in the form of diagrams, which aim to display the relationships between concepts (Mcmahon *et al*., 2015)	Ideas and concepts of relationship (Jankowska, 2014)	Communication improvement (Margolis and Pauwels, 2011)
Emotional map	Displays qualitative and subjective spatial information that is related to human emotions (Pánek & Benediktsson, 2017)	Preference and perception (Pánek & Benediktsson, 2017)	The effect of positive and negative emotions on a place (Pánek, 2013, 2015; Pánek & Benediktsson, 2017)

Behaviour map	Displays a unique relationship between social behaviour, movement patterns and spatial relationships (Powell, 2010)	Observation (Goličnik & Thompson, 2010; Marušić, 2011)	Frequencies of behaviour (Goličnik & Thompson, 2010; Marušić, 2011)

Each type of map caters to different types of assessments, either in terms of design aspects or in investigating people's associations with a place. Based on this fact, the study employed cognitive mapping in assessing the intangible dimensions of place identity.

In general, a cognitive map is used to investigate the association between people and physical aspects (Brown *et al*., 2015) and its relationship with the intangible values in landscapes (Brown, 2013). It helps to articulate place meanings based on preference, perception and cognition (Powell, 2010). This idea was in parallel to the principles of the place identity approach used in this study, which addressed the importance of perception and cognition processes in the selection procedure of the research's methodology.

4.4.1 Developing a Cognitive Mapping Method

A proper operational measurement system in cognitive mapping required major attention when implementing this method in this study. Operational measurement is required to bridge both spatial qualities of a place with people's perceptions and emotions to investigate the place identity of a particular area (Brown, 2005). This requirement is due to the place itself being considered as a subjective matter, which deals with *"how people feel and connect with the perceived qualities of that place"* (Haartsen *et al*., 2000).

Initially, drawings and sketches are used during the cognitive mapping process (Gillespie, 2010). Both techniques allow participants to express and deliver freely their multisensory association with a place. These techniques are effective in particular groups such as children and teenagers due to the non-complicated procedures during the data collection (Béneker *et al*., 2010).

However, recent studies (e.g. Pánek, 2016; Pánek, 2017; Pánek & Benediktsson, 2017) have provided new insights into integrating non-physical attributes into ArcGIS when conducting

cognitive mapping. These insights ensure that the mapping will be more efficient in displaying the mutual relationships between people and place engagement (Powell, 2010). In addition, cognitive mapping via GIS software provides an excellent platform to engage and educate participants on their roles as decision-makers (Brown & Brabyn, 2012; Greg *et al*., 2015; Brown & Raymond, 2014; Raymond *et al*., 2010).

Nevertheless, the advancements in mapping technologies such as GIS may lead to problems among specific groups. These problems are associated with how familiar and technology savvy the targeted groups are. Travlou *et al*. (2008) have reported that different age groups possess different skills in responding to mapping exercises. Thus, providing people with different alternatives in mapping instruments would enhance their engagement during the cognitive mapping exercises.

Continuous studies by Brown and his colleagues (2007, 2012, 2013, 2014a, 2014, 2015) have provided a clear morphology of an operational cognitive mapping process, especially in assigning landscape values to evaluate people's perceptions and cognitions. They proposed a list of landscape values that aimed to investigate how people respond to the changes and alterations in, and to different types of, landscape settings. These values produce essential information about how the values influence people's intimate relationships with their surroundings (Brown *et al*., 2014).

4.4.2 Development of Landscape Values

Landscape values are attributes derived from the transactional concept of human and place interaction (Brown, 2005). Humans value places within landscapes differently. Landscape values have been propagated to assess people's associations with a place. These values are based on their associations, feelings, experiences, identity formation and memories that are embedded in their daily lives. These emotional attachments to landscapes are often difficult to assess as these values overlap and are diffused in relation to one another in real situations (Henningsson *et al.*, 2015). Therefore, landscape values have been developed to identify these intangible connections.

These values offer opportunities for designers, researchers and planners to evaluate people's perceptions and preferences through a more systematic and operational approach (Brown &

Brabyn, 2012). Hence, landscape values helped to provide a clearer understanding, especially among local participants, when responding to the mapping exercises in the study.

However, the development of these values does not include people as the decision-makers when inferring the appropriate landscape values. This is due to the fact that the development of landscape values from these studies used the expert-oriented approach.

Holistically, landscape values should be able to provide an effective measurement of place identity based on people's perceptions. Thus, this requires local's engagement throughout the process. The European Landscape Convention (ELC) in 2002 stressed collaboration between various bodies, including locals, in the planning and development of landscape policies. This collaboration was relevant to the role of landscape values in the landscape identification and assessment process.

Furthermore, the development of landscape values varies according to different research's areas of interest. Brown (2005) proposed his landscape values from different fields such as forestry, urban planning, landscape management and ecological studies. However, the establishment of his landscape values is still questionable, particularly in relating them to this study's context. Issues such as the landscape values' relevancy and the number of landscape values for each specific research area were not thoroughly discussed by Brown and his colleagues (Brown & Brabyn, 2012; Brown & Raymond, 2014; Brown *et al*., 2015; Brown, 2005; Brown & Raymond, 2007). Thus, this lack has led to preconceptions when assessing people and place association.

Existing studies have not attempted to differentiate between different types of landscape contexts and places when using landscape values. In fact, different places hold different values and meanings. Culturally, landscapes are shaped by human activities and values, and these attributes affect people's perceptions and interpretations regarding their surrounding landscapes (Swanwick, 2009).

Existing studies have not attempted to differentiate between different types of landscape contexts and places when using landscape values. In fact, different places hold different values and meanings. Culturally, landscapes are shaped by human activities and values, and these attributes affect people's perceptions and interpretations regarding their surrounding landscapes (Swanwick, 2009).

Therefore, careful consideration was required when inferring any landscape values for this study. This consideration was to ensure that the proposed landscape values addressed the significant contributions of these attributes in displaying the identity and image of Muar as a modern royal town. Moreover, the proposed landscape values needed to correspond to the identified principles of place identity.

Drawing from these findings, the development process of landscape values needed to respond to the following questions:

i. How can relevant landscape values be developed for this study?
ii. How can the identified landscape values represent the real meaning of the values, regardless of the differences in people's perceptions?
iii. How many relevant landscape values are needed to assess the distinctiveness characteristics of Muar as a modern royal town?

One of the main principles of place identity is to focus on people and place interaction. Hence, people's ideas, insights and concepts regarding Muar as a royal town were meaningful, especially in identifying keywords for the landscape values. By using a snowball sampling technique, a series of short interviews was conducted to engage 20 local participants. These participants were the same participants who engaged in the photo sampling interviews.

The participants were asked one open-ended question that was designed to identify keywords that could be inferred as the landscape values. This question aimed to stimulate participants to describe Muar in their own words. The question was:

c) Can you describe in what ways you are attached to Muar? Moreover, why?

Additionally, it was crucial to engage experts within this process. Their inputs regarding the relevant landscape values led to a better understanding of the intangible elements and place identity in Muar. The researcher interviewed a group of experts that consisted of four landscape architects, two urban planners, three academics and a historian. The experts were asked to provide a keyword that represented the identity of the Malaysian royal towns, as follows:

d) Can you describe a word that represents the idea of royal towns? Moreover, why?

In addition to these methods, various types of information from articles, Malay manuscripts and other sources were referred to during this process. The findings from the locals and experts, as well as and the findings from the literature review, provided profound landscape values that could be inferred for the cognitive mapping surveys.

4.4.2.1 List of Landscape Values

The study identified 10 keywords as the landscape values for cognitive mapping. These landscape values were:

a) Aesthetic

Aesthetics are one of the landscape values that are significant in assessing people's perceptions in place mapping. The value in the landscape depends on both physical elements and perceptual processes that evoke feelings in people (Daniel, 2001). This value is an extension of how people perceive and are stimulated by a sense of pleasure and satisfaction in the well-arranged elements of a landscape setting (Laurie & Zube, 1976). A local participant (LP 2) described the landscape setting of Muar as follows:

"I feel very proud of how Muar has been tremendously changed into a clean and lovely town after it was proclaimed as a royal town. The landscape design and its surroundings have been tremendously improved, especially in the town as well as in the Tanjung (Tanjung Emas Promenade)…."

Further, as elaborated by a landscape architect in the National Landscape Department:

"A royal town is a place where everything looks in order; well-arranged, formal and well-maintained. It is a unique setting that symbolises the image of the Malay traditional polity."

The consideration of aesthetic value in the spatial arrangement of Muar helped to increase the sense of well-being of the local community in the place, thus increasing the community's attachments to, and engagements with, its surroundings.

b) Economic

The establishment of many traditional Malay settlements was heavily influenced by their roles as centres for maritime trading, connecting both the East and the West (Widodo, 2009). In fact, due to their strategic location and abundance of resources, some of the traditional Malay settlements were upgraded into the ruler's capital, or presently known as royal towns.

Nowadays, most of the economic activities in the royal towns, especially in Muar, are more 'localised'. The economic activities are strongly associated with the needs of the local community as well as providing an uncommon place to meet the Sultan. As described by a local participant (LP 6):

"Many people tend to visit the town to enjoy its famous local delicacies such as mee bandung *(spicy noodles),* satay *(chicken and beef skewers) and to have a sip of coffee in many traditional* kopitiam *in Muar. You can see many shophouses in Muar, especially along the first road, selling much stuff related to the local needs. Even the Sultan enjoys meeting his subjects in these places."*

Most of the shophouses in the town were constructed pre-World War II. Typically, these buildings were designed with covered pedestrian walkways. Some of these walkways have been expanded in terms of usage. The town has become more liveable, full of traditional, local economic-based activities (Shamsuddin & Ujang, 2008). According to another local participant (LP 11):

"Muar town is a tiny town, yet you can easily get all your daily needs within the town. There is no hustle and bustle to drive as far to Melaka (45 minutes away from Muar). You know you can get similar products from the shops around the town."

c) Recreational

Recreational activities are one of the attributes that raise people's emotional engagement with places (Lewicka, 2005, 2008; Butler *et al.*, 2019; Nam & Dempsey, 2019). Although such activities could be an alien concept in many of the Malaysian royal towns, Muar is exceptional. The recreational areas are located next to the royal compound with its palace and mosque. A local participant (LP 9) stated that:

"Despite being known as an old town, Muar offers a lot of interesting activities and places suitable for family recreational and tourism activities. You will find many peoples love to spend their weekends and evenings at the promenade, especially near to the Sultan's palace and the mosque. I think this is because Muar has changed a lot…."

Another local participant (LP 3) explained that:

"Before the proclamation, Muar has been famous with its plenty of green spaces for local activities. People love to come to Muar because of these places."

Hence, it was worth investigating the existing spaces in Muar that possessed recreational value. This conclusion was because the value reflected the unique characteristics of Muar. It also indirectly showed a mutual relationship between the Sultan and his subjects. These findings differentiated Muar from other traditional royal towns.

Elaborated by another local participant (LP3): -

"Before the proclamation, Muar has been famous with its plenty of green spaces for local activities. People love to come to Muar because of these places."

Hence, it is worth to investigate the existing spaces in Muar that possess recreation value. This is because the value reflects the unique characteristic of Muar. It also indirectly shows a mutual relationship between a king and his subjects. This is what differentiates Muar from other traditional royal towns.

d) Naturalness

Stamps & Smith (2002) have identified naturalness as a factor that influences people's perception process in assessing the environment. In landscape studies, naturalness is used to portray pristine conditions and intactness or conditions resulting from a minimal impact from human activities (White *et al*., 2008). From urban planning and landscape design, the robustness of vegetation and wild green areas are referred to as having a high quality of naturalness. Lin & Lockwood (2014) have found that a natural landscape helps to increase people's attachment to a place. It provides a healthy environment and lifestyle for the community.

However, in this study, naturalness has denoted a variety of natural elements, such as vegetation and water bodies, that have improved the landscape setting of a place. Muar is surrounded by green spaces and mangrove forests. The location of the town at the estuary of the Muar River highlights the significance of natural elements as part of the local identity. Some of the natural elements have been associated with the legacy of previous sultans. An urban planner from the local council (*Majlis Perbandaran Muar*) stated that:

"*Muar is also famous for natural and green spaces, especially the mangrove along Teluk Ketapang and Tanjung Emas Promenade. In addition to this, some of the tree species, especially along the river, are very old; some of them were planted during the reign of Sultan Ibrahim. In fact, we have seriously taken action to preserve and conserve these trees as part of the place identity.*"

e) Spiritual

According to Allerton (2009), spiritual value is strongly embedded in the landscapes of Southeast Asia. This attribute can be traced from the planning of many traditional urban settlements across the region, which include the Malaysian royal towns. Many of the royal towns inherited the strong influence of Hinduism and Buddhism as part of their local identities.

Elements such as the sacred mountain known as Mount Meru are often found and imitated in the planning of royal palaces. Mount Meru represents *Inderaloka,* a dwelling place for gods in Hinduism (Colombijin, 2006). This philosophical idea has been used to portray the authority of local monarchs as the reincarnations of gods on earth. This concept, moreover, has been assimilated into the Muslim sultanates across the Malay Archipelago and later represented the concept of *Khalifatullah fi ard,* or 'The Shadow of God' in this world (Ozay, 2011). An academic, who was an expert in the study of the Malay Archipelago, noted that:

"In my opinion, the planning concept of royal towns in Malaysia is unique. The palace, for instance, represents the spiritual link between the monarch with his subjects and his Creator. It highlights the role of the monarch as the Caliph for his people and sovereignty. Thus, many of the palaces and other important buildings holding the patronage of the

monarch are located in the heart of the royal town. These reflect their significance in the community and society…."

In addition, spiritual value also displays the holiness or sacredness of places that used to connect people to their religions. Describing his spiritual connection with particular places in Muar, a local participant (LP 5) said that:

"You can feel the calmness and tranquillity in certain places in Muar, especially in this place (the royal precinct). I love the positive aura and inner peace gained while visiting the mosque and enjoying my time in this area."

f) Intrinsic

Intrinsic value refers to a value that appeals significantly to a person without requiring any reason that dictates the decision (Norman, 2011). This value is unique, yet complicated to evaluate when investigating how this value influences people's perception process. However, intrinsic value can be triggered by a person's emotional attachment and a high degree of familiarity towards land or places and surroundings (Lokocz *et al*., 2011).

Mainardi *et al*. (1990) have explained that people's familiarity with a place can be differentiated into how the place is perceived and used by the people. This study characterised familiarity into two aspects—functional familiarity and acquaintance familiarity.

Functional familiarity describes how a person's goal to be part of existing activities in a place is initiated by his/her connection with the place. On the other hand, acquaintance familiarity describes a person's repeated exposure to a place. His/her connection to the place is not linked to a particular aim, but it is necessary for him/her to be in the place whenever he/she can. A local participant (LP 7) opined that:

"*There is nothing special about Muar from my perspective. The thing that triggered me to the town is because I am doing business here and meeting with my friends. However, on certain occasions, Muar is crowded with people, especially during the Sultan's birthday. Many roads are closed for a royal parade. What a lovely event…."*

This participant was too familiar with Muar town as she described her daily routine and experiences in Muar as mundane and without any excitement. However, unconsciously, she excitedly described special events that took place in Muar that she thought interesting and that stimulated her unique experiences.

Furthermore, another local participant (LP 10) described her attachment to Muar as:

"Every time I am in Muar, I will visit the town because I feel it is like a routine to me, sort of my checklist…."

Based on both LP 10's and LP 7's descriptions, it was revealed that investigation into intrinsic value in cognitive mapping was necessary. This investigation highlighted the significant roles of particular places, which were underestimated, yet held special value for people in Muar, as they linked them to their Sultan.

g) Historic

Exploring the uniqueness of local heritage value helps to portray the image of a place. It helps to boost a sense of place and a sense of belonging to a modern community as people start to link their places and landscape characteristics with the past (Rippon, 2013).

Due to Muar's status, historic value represented a significant contribution to its identity and place image. Existing physical forms, spaces and patterns in Muar can be linked to the early days of the establishment of the modern Johor Sultanate. This value was worth integrating into cognitive mapping. It was one of the outstanding values that characterised Muar as a royal town. In an interview with a historian, he described Muar as:

"…a fascinating royal town, especially in the history of the modern Johor Sultanate. It is a symbol of sovereignty for the late Sir Sultan Abu Bakar. He claimed Muar from the heir of the Johor-Riau Sultanate as a rightful heir to Muar, right after he won the Jementah Civil War. He spent his fortunes to develop Muar, as a satellite city of Johor Bahru. Thus, you can find many buildings in Muar developed during his reign."

h) Relaxation

Russell (1988) has suggested that relaxation is one of the attributes used to describe humans' affective appraisals of their environment. It is a positive mood/feeling that is aroused by the qualities attributed to a particular space or place. This feeling occurs extensively in a person who seeks for emotional and health restoration via nature exposure (Kil *et al*., 2014; Nam & Dempsey, 2019), as an escape from his/her daily hectic urban life (Cherifi *et al*., 2014). Based on the interviews, Muar town provided this relaxation element. The locals cherished it as one of the elements that enlivened Muar's identity. According to a local participant (LP 12):

"*Muar is a very peaceful place. You can always find a good place to unwind and relax, especially at Tanjung (Tanjung Emas Promenade). The town is not too crowded. It is a compact and very old charming town."*

Another local participant (LP 13) expressed the same opinion. He felt that Muar was:

"A town that is known as a town for pensioners. Perhaps for some people, Muar is a dull and mundane town. However, at the end of the day, where can you find other towns that are very clean, calm and peaceful as Muar? There is no hustle and bustle as in the big cities."

Many studies have revealed that relaxation increases satisfaction and people's awareness of, observation of, and engagement with, their surroundings. Guell & Ogilvie (2015) found that their participants were very keen to describe and recall unique features and elements of places that offered them relaxation. For Korpela (1989), relaxation is one of the attributes of a place that becomes a part of a person's self-regulation in responding to his/her sense of belonging to the place. Furthermore, Tsaur *et al*. (2014) have posited that a place that provides relaxation value leads to satisfaction, memorable experiences and attachments in users.

i) Culture

While discussing culture value, Stephenson (2008) stressed the importance of differentiating between culture and cultural terminologies, especially when these terms need to be used as values to assess landscapes. Culture represents a dynamic process that

binding people in constructing group life and product-based their group life's image (Ingold, 1994). Thus, this terminology was preferred in this study as it reflected people and place interaction.

According to Porananond & King (2016), a royal town should be able to display the distinctive culture of the locals as part of its place identity. Muar has been regarded as a melting pot of local cultures such as Malay and Chinese. This is due to its economic and historic significance. An academic who was involved in research that related to the history and local culture of Muar informed that:

"Surprisingly, Muar is home to Chinese traditional dance that was introduced by the Chinese community but popularised by Dato' Salleh Perang. He was a Malay aristocrat from the Sultan's court. He introduced the lion dance to other districts in Johor as part of the Johor identity. In addition to this, Muar is famous for several versions of zapin *and* ghazal *(Malay traditional dance and music, heavily influenced by Persian, Northern Indian and Arab cultures). Thus, Muar represents the uniqueness of Johor's and local identity."*

It was essential to include culture value during the cognitive mapping process. The value provided an insight into how people perceived and identified spaces and places associated with their daily activities, customs and local culture. This value assisted the study in displaying people's affections towards, and engagements with, Muar as part of its identity and place image.

j) Symbolic

Vorng (2011) has provided a perspective on how the royal influence continues to symbolise urban morphology and spaces in Bangkok. Several places and spaces associated with royal identity in the city are viewed as the identity and image of Bangkok.

Hence, the landscape value known as symbolism was introduced to investigate people's perceptions regarding royal influence on the image and identity of Muar. Symbolism was used to identify any spaces, places or structures that people believed reflected this royal association.

Historically, Muar remained as the royal seat for the last heir of the Johor-Riau Sultanate, Sultan Ali Iskandar Shah ibni Hussein Muazzam Shah. Although Muar was Sultan Ali's royal seat, it was in a neglected state. This resulted from debts and financial problems faced by the Sultan (Turnbull, 2009). Gradually, Muar developed into one of the most profitable districts in Johor, under the leadership of Sultan Abu Bakar.

He later renamed the town of Muar as *Bandar Maharani* (the Empress's town) to honour his empress, who was Chinese-born (Selat, 1986). Thus, the establishment of Muar town was strongly associated with royal history and value. A well-established Johor historian suggested that Muar was:

"…a symbol of his legacy, and sovereignty upon the Johor Sultanate. Taken from how his ancestors developed Muar into one of the state's crown, Muar reflects the richness identity of the modern Johor Sultanate's monarchy system as well as its history as the succession of the Johor-Riau Sultanate in the 19th century."

Furthermore, a local interviewee (LP 13) described Muar as a town that held special meaning for the Sultan:

"The Sultan is always in Muar, especially during his birthday, as he loves to celebrate it with the locals. The main road started from his retreat palace to the town centre will be closed for a parade. Sometimes, he will meet the locals in many unexpected places, such as in the kopitiam*, public parks, and market during the celebration and his royal tour."*

Porananond & King (2016) have argued that buildings and places in royal towns are used to establish a connection between a ruling monarch and his subjects. Thus, symbolic as a landscape value aims to provide a better understanding of this unique connection.

4.5 Research Methodology Design

The study focused on integrating photo-elicitation and cognitive mapping methods as its research methodology. These methods were derived from and combined with, interview methods to achieve meaningful outcomes that related to people's preferences and perceptions.

Moreover, the limitations of the methods were ascertained in responding to the principles and identified dimensions of place identity.

Table 4.2: The proposed methods based on place identity's dimensions

Dimension	Method	Function	Limitation	Improvement	Outcome
Physical and Emotional	Photo - elicitation	To evoke people's preferences, perceptions and cognitions regarding the identified physical elements associated with a royal town	Lack of public empowerment as decision-makers in the initial stage of the techniques.	Integration of locals and experts during the photograph sampling procedure	60 photos provided by the researcher
					Standardised landscape photo orientation
				Improving visualisation aspects of the samples	60-degree view
					Visual improvement
					Characteristics of physical appearance
Social Interaction / Activities, and Cultural and Historical	Cognitive mapping	To help participants explore the meanings of their associations with places based on their perceptions and cognitions	Underestimating people's perceptions and cognitions regarding their association with place value, image and identity	The landscape values derived from locals' and experts' perspectives, supported with findings from the literature review	Provided alternatives to participants while responding to a mapping survey
					Identification of 10 landscape values that were associated with Muar

4.5.1 Photo-Elicitation Interview Design

The first part of the photo-elicitation interview was designed to stimulate people's preferences and perceptions based on the provided list of photos. The structure of the interview was planned to obtain in-depth answers regarding the participants' preferences and perceptions regarding their photo selections in answering the list of questions based on Breakwell's principles (see subsection 5.3.1).

The photo-elicitation interview was conducted via a casual approach. The interview was open-ended so that the participants could explore and reveal their attachments, associations and feelings regarding their selected photos. For instance, if a participant described a particular photo as ‘beautiful’, the interviewer encouraged them to provide further explanation about the meaning of ‘beautiful’. Nevertheless, if the participants were not able to do so, they were allowed to proceed to the next photo selected. This procedure was to ensure that the participants were comfortable with the interview session and to reduce any chances of them withdrawing from the session.

4.5.2 Cognitive Mapping Design

The first part of the cognitive mapping structure was designed to encourage participants to explore spaces and areas in the targeted areas by demarcating or drawing polygons on the online map or conventional map provided. The participants were guided by the list of identified landscape values to assess their associations and connections with the spaces. Each of the landscape values was provided with a straightforward definition, to decrease bias among the participants when referring to the landscape values during the mapping.

Based on a study by Francescato & Mebane (1973), participants should be assisted during the process, as the mapping task may be difficult for a particular group of participants due to their drawing abilities. Therefore, the participants should be constantly reminded that their drawings were confidential and only for the study purposes. Efforts should be made to guide participants during the process by providing examples or explaining the landscape value definitions to the participants. Mendoza & Morén-Alegret (2013) have suggested that this would encourage people to provide more details about their experiences during the mapping activity.

4.5.3 Socio-Demographic Attributes

Both the photo-elicitation and cognitive mapping methods were designed to address the socio-demographic attributes of the participants, in addition to their perceptions and preferences regarding Muar’s royal identity.

Therefore, the first part of the photo-elicitation and cognitive mapping interviews began with a list of questions about the participants’ socio-demographic background—age, level of

education, ethnicity, gender and type of occupation. The objective here was to understand how these attributes related to people's preferences and perceptions when assessing the dimensions of place identity. The questions also aimed to ensure that the sample represented all segments of the population in the case study.

Generally, demographic attributes are the major factors that influence people's preferences and perceptions in landscape studies. As mentioned earlier (Chapter 2), socio-demographic attributes, which include age (Ode Sang *et al.*, 2016; Pretty *et al.*, 2003), education level (Sklenicka & Molnarova, 2010), ethnicity (Panelli *et al.*, 2008) and type of occupation (Dearden, 1984), have been widely identified to shape people's perceptions and preferences.

Furthermore, diverse population sampling is key to empowering participant engagement in such a study. According to Shinbira (2017), it is necessary to ensure the representativeness of the population in order to investigate place identity contributions in the determination of image, identity and character of a place.

4.6 Summary

Briefly, the thesis development methodology has emphasised the significant roles of people's preferences, perceptions and cognitions in the photo-elicitation and cognitive mapping methods, which apply to **Research Question 2**, i.e. **How can the proposed methods be associated with people's preferences, perceptions and cognitions?** Prior to the development of the methodology, insights from both experts and locals were incorporated into the development process to acknowledge the role of locals in the decision-making process. In fact, their inputs, especially in the production of the list of photos and landscape values, enhanced the understanding of the key essences of Muar as a modern royal town.

Additionally, this chapter has provided a brief overview of the structure and design of the research methodology that was conducted in Muar as the case study. The procedures of the research methods have been discussed in detail in the next chapter on research methodology.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 Introduction

This chapter discusses in detail both photo-elicitation and cognitive mapping as the methodology of the study. In addition, this chapter explains how **Objective 3** of the study was achieved, which was: **To investigate the contributions of place identity in displaying the royal image and identity of Muar as the only modern royal town in Malaysia.**

5.2 Procedures for Participant Recruitment

The study carefully designed a list of procedures for participant recruitment. These procedures contained a series of site observations and methods of participant recruitment. Consequently, the procedures identified and engaged participants from different age, gender, ethnicity, occupation and education-level groups to answer **Research Question 3**, which was: **How do people's preferences, perceptions and cognitions reflect the zoning of Muar's royalness as a modern royal town?**

As mentioned in Chapter 2, demographic attributes have been found to influence how people perceive their surroundings. According to Proshansky's view of place identity, humans share 'collective' values. These values are shaped by the similarity of their perceptions and cognitions of identity and image of a particular landscape. Therefore, a diverse sample of participants is crucial in investigating their similarities in terms of perceptions and cognitions. Parallel to the notion of local empowerment in the decision-making process, representatives from different groups of participants are required. This is one of the general principles in

permitting locals to play their roles in "*formulating, implementing and monitoring landscape quality objectives*" (European Landscape Convention, 2002).

5.2.1 Site Observations- Ethnicity Distributions

Nasar (2008, p.3.62) has acknowledged that *"affective appraisals of environments have relevance to understanding active living through the environment".* Worskett (1969) has emphasised site observations as a platform for a researcher to assess a particular case study comprehensively, especially in portraying the identity of a place. Generally, site observations are a process of recording both tangible and intangible qualities that make up the characteristics of a place such as building form, architecture, people's activities and social lifestyles.

In this study, site observations were used to identify places or spots that were suitable to conduct the photo-elicitation and place-mapping interviews. The focus of the site observations was purposely meant to identify the distribution of the participants based on their demographic factors. The site observations were conducted in five different spots and places, which were: (1) Tanjung Emas Promenade; (2) Sultan Ibrahim mosque; (3) Muar flea market; (4) Muar City Council; and (5) Muar's old bus station. The selected spots and places were significantly robust in terms of cultural, daily and social activities, as well as being recognised as important landmarks in Muar.

The observations were conducted over two weeks, from 30 May 2017 to 5 June 2017. The observations were also conducted at different times (morning: 7 am – 11 am, noon: 12 pm – 4 pm, evening: 5 pm – 9 pm) and on different days of the week. In addition, ethnicity attributes were recorded with the help of a scheme comprising gender, age, origin, number of people, activities and interaction, which were important to the sampling technique procedures.

As a result, the study managed to recognise two significant spots to conduct the photo-elicitation and place mapping surveys, which were Tanjung Emas Promenade and Muar's old bus station. Geographically, the promenade was located within the royal precinct area, which was highly populated by Malays. The bus station was nestled in the historic town area, with a large number of Chinese.

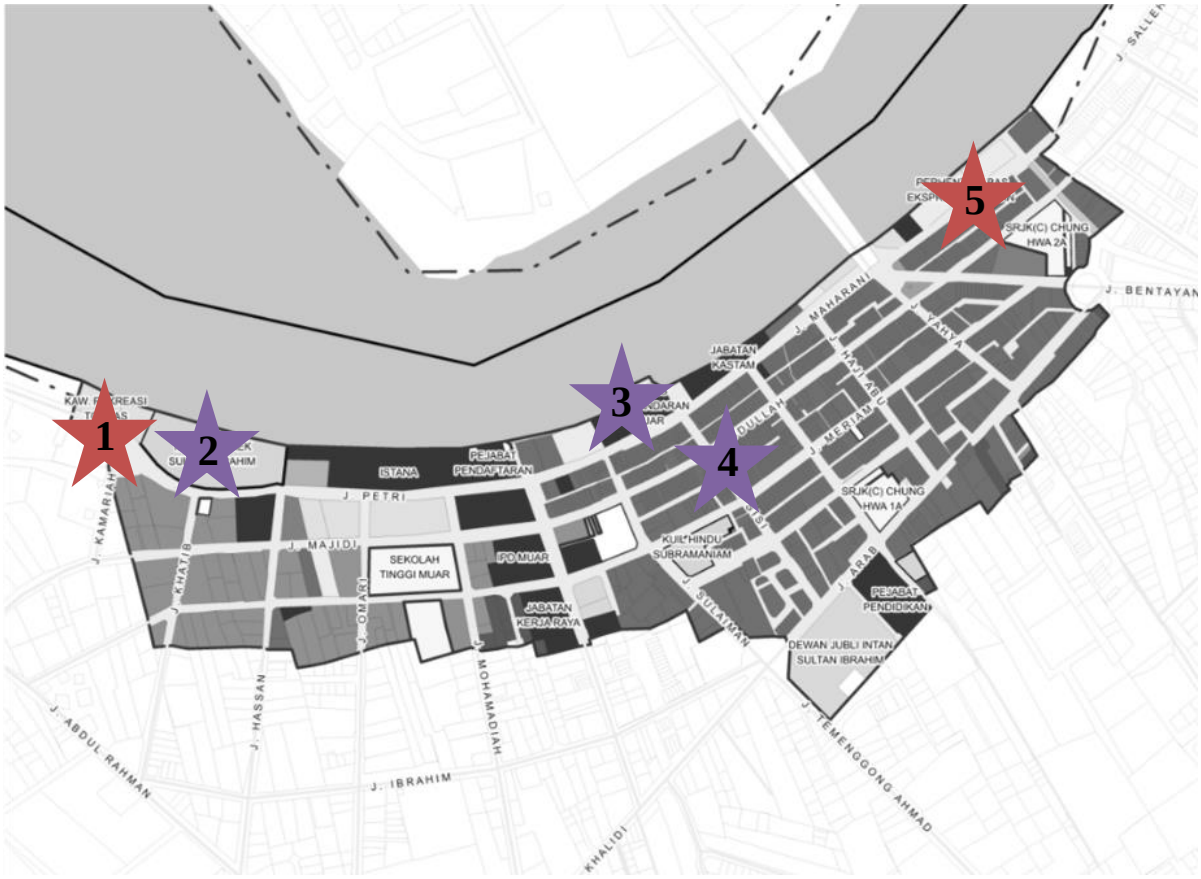


Figure 5.1: The identified spots to recruit participants

Source: *Laporan Rancangan Kawasan Khas Bandar Maharani Bandar Diraja*

These spots represented different identities of the population of Muar. Muar, similar to other historical towns in Malaysia, was built from multiple layers of cultural influences. Sulaiman & Suhana (2008) have stated that it is normal to detect some places in a historical town that are heavily populated by a particular ethnic group. This type of urban planning and design was influenced by the colonial era (15th to early 20th century). In fact, Shamsuddin & Ujang (2008) have revealed these enclaves as sociocultural strongholds that provide historical significance for people and place interactions.

5.2.2 Random and Snowball Sampling Techniques

Due to the restriction of data population in Muar, the best way to gather the potential participants for the study was using the survey method proposed by Zakariya *et al*. (2015). Their study provided insights into engaging participants from Malaysia's cultural context. The

targeted participants were approached during three different blocks of time—morning, afternoon and evening. This allowed the researcher to engage with different groups of people involved in different activities and interactions in the same spots.

Similar to the site observations, the surveys were conducted during three different blocks of time (morning: 7 am – 11 am, noon: 12 pm – 4 pm, evening: 5 pm – 9 pm). Both the surveys were also conducted during weekends because the volume of people within the identified spots increased compared to weekdays. The surveys were conducted for approximately two months, from 6 July 2017 to 20 August 2017.

In order to produce robust population samples, this study recruited participants by integrating random and snowball sampling techniques during the photo-elicitation interviews and place-mapping sessions. Hence, at first, the random sampling technique was employed in this study because it was expected to produce more representative samples (Shinbira, 2017). It was also expected to reduce bias as it gives an equal chance of each unit of population to be selected as a sample (De Vaus, 1991).

Nevertheless, factors such as cultural and language barriers decreased the efficiency of this technique when conducting the surveys. Some of the potential Chinese and elder Indian participants hesitated or declined to engage in the surveys due to insecurities about their Malay or English proficiency levels. In many cases, willing participants, especially from these two ethnicities, were asked to invite their families and friends along to take part in the surveys.

The snowball sampling technique is also efficient in approaching participants with different types of occupations and incomes. The reason is that for some potential participants, these attributes are considered to be sensitive and personal. Manstead (2018) has observed that a particular group of society perceives the type of occupation and income as a social identity that defines its socioeconomic status.

Prior to the surveys, the targeted participants were given a participant information sheet, which informed them about the background of the research. They were briefed about their rights to withdraw at any time during and after the surveys if they felt the provided information could bring negative consequences to them. Moreover, issues such as anonymity and confidentiality were highlighted to the participants in order to develop trust between the interviewer and the participants.

The participants were also informed that all the information given could only be used for this research purpose, which included thesis writing and publication. The survey only proceeded after receiving approval from all participants by them signing the consent form provided explaining that their rights were protected in this study.

5.2.2.1 Sample Size

In photo-elicitation, the sample size of participants varies. The size is based on the participants' availability, type of photo-elicitation method and the sensitivity of the research topic. In studies related to children, the sample size is small due to children's level of linguistic ability, their limitations in cognitive development and difficulty to be approached without their guardians' approval (Schänzel & Smith, 2011). For example, Johnson (2011) asked 14 children to provide a maximum of 36 photographs during the interview sessions. MacDonald (2012), in contrast, only engaged eight children aged between five and six years in his photo-elicitation method.

Nonetheless, a large numbered sample is typical for many landscape studies when evaluating how people perceive landscapes. Arriaza *et al*. (2004) used 16 photographs with 226 participants to investigate how people perceived the quality of rural landscapes. Ode Sang & Tveit (2012) engaged 113 participants to respond to 12 images of Norwegian agricultural landscapes. Pan *et al*. (2014) utilised 146 photographs to investigate the relationships of 145 participants regarding their feelings, affections and memories in tourism spots.

All the above mentioned studies were able to engage a large sample of the population as the studies employed Likert-scale photo-based questionnaires/interviews. These types of surveys are designed to respond to people's preferences rather than integrating both preference and perception processes into the survey. This type of integration demands participants to be more critical in their responses. As well, it is time-consuming for researchers to conduct such surveys.

Similar to photo-elicitation, the number of participants for cognitive mapping varies from one research to another. Plieninger *et al*. (2013) performed 93 face-to-face place-mapping interviews with the local population on existing cultural ecosystem services in eastern Germany. Recent studies (e.g. Cheung *et al*., 2016; Panek *et al*., 2017; Pánek & Benediktsson, 2017) have provided insights into how technology advancement helps to increase the sample

size of the population. Their studies managed to gather from 116 to 166 participants from the local community.

However, Cheung *et al*. (2016) found that their study did not portray the diversity of socio-demographic composition. The reason was that most of their participants were drawn from non-random sampling. The cognitive mapping exercise in their study was designed for participants who were technology savvy. Thus, this limited the number of potential participants. Factors such as the abilities of the participants, the proposed technique and population diversity are among the crucial criteria in considering the sample size of the participants.

300 local participants were engaged for this study—150 participants each for both photo-elicitation and cognitive mapping surveys. The surveys strictly followed the procedures and etiquette approved by the ethics committee of the Department of the Landscape of the University of Sheffield. A face-to-face interview for both photo-elicitation and place mapping was conducted during the surveys.

5.2.2.2 Profile of the Participants

a) Photo- Elicitation Interview

Details of the participants engaged in the photo-elicitation interview are displayed in Table 5.1 below.

Table 5.1: Participant characteristics in photo-elicitation interview

	Study Participants	No (n)	Percentage (p)
Age	**18-22**	**41**	**27.3**
	23-27	**38**	**25.3**
	28-32	**21**	**14**
	33-37	**11**	**7.3**
	38-42	**12**	**8**
	43-47	**6**	**4**
	48-52	**8**	**5.3**
	53-57	**9**	**6**
	58 and above	**4**	**2.7**
Gender	**Male**	**76**	**50.7**
	Female	**74**	**49.3**
Ethnicity	**Malay**	**110**	**73.3**
	Chinese	**40**	**26.7**

Occupation	**Full-Time Student**	**28**	**18.7**
	Part-Time Student	**2**	**1.3**
	Self-Employed	**21**	**14**
	Full-Time Employee	**65**	**43.3**
	Part-Time Employee	**10**	**6.7**
	Retired	**7**	**4.7**
	Currently Not Working	**10**	**6.7**
	Others	**4**	**2.7**
	Not stated	**3**	**2**
Income	**RM 0- RM 2000**	**47**	**31.3**
	RM 2001- RM 4000	**23**	**15.3**
	RM 4001- RM 6000	**6**	**4**
	RM 6001 - RM 8000	**9**	**6**
	RM 8001- RM 10000	**0**	**0**
	confidential	**48**	**32**
	Not stated	**17**	**11.3**
Education	**Primary Leaver**	**11**	**7.3**
	Secondary Leaver	**52**	**34.7**
	Certificate Holder	**8**	**5.3**
	Diploma Holder	**36**	**24**
	Graduate with Degree	**29**	**19.3**
	Graduate with Masters	**5**	**3.3**
	Graduate with a PhD.	**0**	**0**
	None of these	**7**	**4.7**
	Not stated	**2**	**1.3**

With regard to the age group category in the demographic characteristics of the participants, it was found that 27.3% (n: 41) came from the 18–22 age group and made up the highest age group population. The lowest age group population was from the 58 and above age group, which constituted 2.7 % or four participants.

For the gender category, the study engaged a proportional participant population, which consisted of 76 male participants (50.7%) and 74 female participants (49.3%). Key contributors to the ethnicity category were Malay participants (n: 110, p: 73.3%), while Chinese participants made up the rest (p: 26.7%, n: 40).

Full-time employees were the highest group in the occupation category (n: 65, p: 65%) while 2% of the participants (n: 3) did not provide occupational backgrounds. The participants with incomes between RM 0–RM 2,000 were the highest group that contributed to the sampling population, with 31.3% (n: 47) from the total of 150 participants. On the other hand, only six participants (p: 4%) stated their incomes as between RM 4,001–RM 6,000. Finally, 34.7% (n:

52) of the participants self-identified as secondary leavers in the educational background category. Two participants did not provide their educational backgrounds and only made up 1.3% of the total population.

An analysis conducted by using a series of independent tests of Chi-Square was conducted to examine if the sample data successfully represent the ideal distribution number of participants in every tested demographic attribute.

Table 5.2: Results of chi-square for the demographic characteristics

Demographic Characteristic	Values	Results
Gender	Chi-square	100.485
	df	59
	Sig (P-value)	0.001
Age	Chi-square	537.698
	df	472
	Sig.(P-value)	0.019
Occupation	Chi-square	451.887
	df	406
	Sig.(P-value)	0.057
Ethnicity	Chi-square	74.896
	df	59
	Sig.(P-value)	0.079
Income	Chi-square	266.590
	df	232
	Sig.(P-value)	0.059
Education	Chi-square	397.999
	df	348
	Sig.(P-value)	0.033

Table 5.2 above displayed the summary of a series of Chi-Squared analysis. Several demographic characteristics from the analysis indicated negative results. The characteristics were occupation (X^2: 452.88, p-value: 0.057), ethnicity (X^2: 74.89, p-value: 0.079) and income (X^2: 266.59, p-value-0.059) are quantitatively not significant attributes for this study.

A possible explanation for this might be the lack of robustness in the sampling population due to the restriction of the existing Muar's population census data . The only way to overcome this limitation was by engaging a large sample of population. Many of other similar studies such as Buta et al., (2014) managed to quantitatively exhibit the role of income and type of occupation

in perception and preference studies due to a large number of sampling. Their studies managed to engage 4232 participants from 1159 private household, and they were selected using multistage random sampling. However, this method was impossible to be conducted in this study due to time and financial constraints.

This study, nevertheless, is still relevant despite some of the participant demographic characteristics were negative values in the chi-square tests. From the qualitative perspective, the results were relevant as the study managed to get inputs from various group of participants. According to many researchers (eg. Eglinton, 2013; Huot & Rudman, 2015; Lombard, 2014; Osborne, 2001; Panelli et al., 2008; Robinson et al., 2001), the engagement of participants from different walk of life provided a depth understanding about how social differences intersect and enhance the essence of a particular place.

b) Cognitive Mapping Survey

Similar to the previous photo-elicitation analysis, 150 local participants were engaged in the cognitive mapping survey in two identified spots in Muar. The participants' characteristics are described in Table 5.3.

Table 5.3: Participant characteristics in place mapping survey

	Study Participants	No (n)	Percentage (p)
Age	**18-22**	**41**	**27.3**
	23-27	**38**	**25.3**
	28-32	**21**	**14**
	33-37	**11**	**7.3**
	38-42	**12**	**8**
	43-47	**6**	**4**
	48-52	**8**	**5.3**
	53-57	**9**	**6**
	58 and above	**4**	**2.7**
Gender	**Male**	**76**	**50.7**
	Female	**74**	**49.3**
Ethnicity	**Malay**	**79**	**52.7**
	Chinese	**68**	**45.3**
	Indian	**3**	**3**
Occupation	**Full-Time Student**	**29**	**19.3**
	Part-Time Student	**2**	**1.3**
	Self-Employed	**34**	**22.7**
	Full-Time Employee	**54**	**36**
	Part-Time Employee	**7**	**4.7**
	Retired	**5**	**3.3**

	Currently Not Working	**11**	**7.3**
	Others	**8**	**5.3**
Income	**RM 0- RM 2000**	**27**	**18**
	RM 2001- RM 4000	**27**	**18**
	RM 4001- RM 6000	**7**	**4.67**
	RM 6001 - RM 8000	**6**	**4**
	RM 8001- RM 10000	**1**	**0.7**
	confidential	**82**	**54.7**
Education	**Primary Leaver**	**4**	**7.3**
	Secondary Leaver	**34**	**24**
	Certificate Holder	**16**	**5.3**
	Diploma Holder	**49**	**34.7**
	Graduate with Degree	**28**	**19.3**
	Graduate with Masters	**6**	**3.3**
	Graduate with a Ph.D.	**0**	**0**
	None of these	**13**	**4.7**

Approximately 27% of participants (n: 41) came from the age group 18 to 22, and four of the participants self-identified themselves as 58 years old and above. The study managed to engage almost an equal proportion in the gender category—76 males (50.7%) and 74 females (49.3%).

In contrast to the previous demographic results of photo-elicitation, the proportions of Malay and Chinese participants were almost equal. There were 79 Malays (52.7%) and 68 Chinese (45.3%), while another three participants were Indian (3%).

In the occupational category, the highest group were full-time employees, with 36% of the total population (54 participants). The part-time student group, on the other hand, made up 1.3% (two participants) of the population.

Surprisingly, approximately 55% (n: 82) of the participants preferred to classify their incomes as confidential, making this the largest group in the income category. Only one of the participants self-identified as having an income between RM 8,001–RM 10,000, thus making this the lowest frequency in the category.

In the educational background category, participants with diplomas made up the highest group of participants with 34.7% (n: 49) of the population. Participants who were primary leavers constituted 7.3 % (n: 4). None of the participants was a PhD holder.

A further analysis was conducted using a series of sequential sidak tests to investigate the association of landscape values with the tested demographic characteristics of the participants. Table 5.4 below displayed the relationship between demographic characteristics and people's perceptions and preferences in characterising the identity of Muar as a modern royal town.

Table 5.4: The association of landscape values with the participant demographic characteristics

Demogr-ahic character-ristics		**Landscape Values**									
		Aes-thetic	Culture	Relaxa-tion	Intrin-sic	Recreat-ion	Spiritual	Econo-mic	Histo-ric	Symb-olic	Natural-ness
	18-22	1.92	1.05	0.90	1.46	1.33	1.41	2.21	1.41	1.79	2.56
	23-27	1.21	0.97	1.21	1.10	1.17	1.31	1.55	1.48	2.21	2.34
	28-32	1.58	1.79	1.42	1.53	1.21	1.53	1.84	2.68	2.00	3.53
	33-37	1.33	1.20	0.87	1.53	1.20	1.47	2.47	1.33	1.73	2.67
	38-42	1.88	1.81	1.19	1.06	1.13	1.44	2.06	2.00	2.13	2.81
	43-47	1.18	1.92	1.09	1.64	1.18	1.36	1.55	1.82	2.00	3.09
	53-57	1.14	1.83	1.43	1.43	1.86	2.29	2.43	2.86	3.14	4.14
	58 and above	2.08	2.42	1.83	2.08	1.75	1.92	2.44	2.94	2.89	3.33
Gender	Male	1.30	1.24	1.28	1.34	1.33	1.63	1.72	1.96	2.36	3.01
	Female	1.55	1.39	0.88	1.40	1.28	1.35	2.30	1.66	1.66	2.54
Ethnicity	Malay	1.43	0.92	0.97	1.24	1.13	1.30	1.81	1.52	1.78	2.34
	Chinese	1.57	1.75	1.22	1.46	1.53	1.72	2.19	2.16	2.29	3.25
	Indian	2.00	1.67	0.67	1.33	1.00	1.33	3.00	1.67	2.00	3.67
Occupat-ion	Full-time student	1.24	0.81	2.85	1.26	1.11	1.33	1.85	1.30	1.89	3.30
	Part-time student	1.85	2.00	1.50	1.00	1.25	0.75	1.50	1.00	1.75	3.75
	Self-employed	1.53	1.35	0.94	1.21	1.12	1.50	2.12	1.71	2.03	2.56
	Full-time employee	1.12	1.53	1.35	1.71	2.12	2.56	0.94	1.21	1.50	2.03
	Part-time employee	1.50	1.33	1.00	1.17	1.50	1.50	2.17	1.67	2.33	2.33
	Retired	0.40	1.00	1.60	1.80	2.00	1.60	3.40	2.00	2.80	3.40
	Currently not working	1.64	1.45	1.36	1.24	1.55	1.55	3.00	1.36	3.00	3.09
	Others	1.25	1.00	1.38	1.88	1.75	2.00	1.50	2.50	2.88	3.75
Income	RM 0-RM 2000	2.07	2.41	2.00	2.19	2.30	2.30	3.81	1.84	3.41	5.78
	RM 2001 - RM 4000	1.48	1.48	1.11	1.59	1.33	1.56	2.22	2.19	2.15	3.19
	RM 4001 - RM 6000	1.29	1.29	1.71	1.29	1.29	1.71	2.29	1.57	1.71	1.71
	RM 6001-RM 8000	1.67	2.17	0.83	1.00	1.31	2.83	3.33	2.00	3.67	4.00
	RM 8001 - RM 10 000	1.00	1.00	0.00	1.00	1.28	1.00	1.00	1.00	1.00	5.00
	Confidential	1.67	1.17	1.07	1.34	1.27	1.43	1.89	1.56	2.10	2.62
Educati-on level	Primary Leaver	1.00	0.25	0.75	0.25	1.25	2.25	1.75	2.50	2.00	2.25

	Secondary Leaver	1.68	1.06	0.82	1.56	1.38	1.59	2.29	1.88	1.76	2.65
	Certificate Holder	1.50	1.50	1.69	1.19	1.38	1.63	1.69	1.69	1.38	3.50
	Diploma Holder	1.65	1.24	1.12	1.29	1.20	1.29	1.98	1.80	2.12	2.37
	Graduate with Degree	1.87	1.46	0.96	1.36	1.75	1.80	2.11	1.68	2.48	3.86
	Graduate with Masters	1.87	1.47	0.50	1.17	1.17	1.80	2.17	1.70	2.50	3.63
	None of these	1.23	2.08	1.46	1.54	1.62	1.62	1.54	2.08	2.54	3.54

The mean values for the group- age 58 and above were leading in majority of the landscape values except for recreation (m: 1.75) and naturalness (m: 3.33). Meanwhile, the group- age 23-27 displayed among the lowest level of preference and perception across the landscape values, especially in cultural (m: 0.97) spiritual (m: 1.31), economic (m: 1.55) and naturalness (m: 2.34).

There was a trend showing a high degree of male participants' preferences, and perceptions across the provided landscape values compare to female. Nevertheless, economic (male: 1.72., female: 2.3), aesthetic (male: 1.3, female: 1.55) and cultural (male: 1.24, female: 1.39) values were highly preferred and perceived by female participants. Other landscape values such as recreation (male: 1.33, female 1.28), and intrinsic (male 1.4, female: 1.38) show a small range of mean values.

The study found that most of the landscape values were significant for Chinese participants. These landscape values were culture (m: 1.75), relaxation (m: 1.22), recreation (m: 1.53), intrinsic (m: 1.46), spiritual (m: 1.72), historic (m: 2.16) and symbol (m: 2.29). Other landscape values- aesthetic (m: 2.00), economic (m: 3.00) and naturalness (m: 3.67) were highly preferred and perceived by Indian participants.

There were several occupation groups displayed high mean values in the selected landscape values. The retired group displayed a high level of preference and perception in almost all of the landscape values, except for cultural (m: 1.00), aesthetic (m: 0.40) and symbol (m: 2.80). Meanwhile, not working group was leading in culture (m: 1.45), aesthetic (m: 1.64) and symbol (m: 3.00).

Participants with income RM 0 to RM 2000 displayed a high level of preference and perception across the landscape values except for historic value (m: 1.84). Participants with RM 8001-RM 10 000 demonstrated a low level of preference and perception in each landscape values except for naturalness (m: 5.00)

Lastly, the results revealed that graduate with degree and masters groups shown a high level of preference and perception towards the landscape values. In fact, in several landscape values such as aesthetic (m: 1.87) and spiritual (1.80), both of these mean values were almost identical.

Quantitatively, the way of people's interpreting and understanding the landscape as well as their associations with places around Muar were affected by their demographic characteristics (Refer to Appendix C). However, qualitatively, the study foresees that the sense of 'collectiveness' of the participants regarding their place associations will lead to people's similarities in terms of preference, perception and cognition as discussed in sub-section 2.2.1 (Refer to Appendix D). This will be elaborated in details in Chapter 6- Results.

5.3 Photographs Preparation for Photo- Elicitation

In total, there were 60 identified photographs that were taken by the researcher that were used as photograph samples for the photo-elicitation interview (Figures 5.3, 5.4 and 5.5). The sample photos were taken using a NIKON 1 J1 compact system camera on clear days between June and July 2017. As mentioned in Chapter 5, the samples were derived from experts' and locals' inputs. The photographs strictly adhered to the specific requirements of standardised photo horizontal angle and photo orientation, and included the physical appearance characteristics of the identified elements.

At the same time, the visual characteristics of the photographs were improved to enhance the visual appearance of the photographs. The visual enhancements were also important for another reason, which was to reduce and eliminate irrelevant features or objects in the samples. This was because the process of capturing photos was in some instances challenging due to the location and accessibility of the identified elements. For example, some of the elements were located along busy streets in Muar; thus, objects such as moving cars were easily included in the photographs. These unwanted images could have affected the reliability of the photographs. Hence, the photo samples required visual editing via Adobe Photoshop CC 18 software.

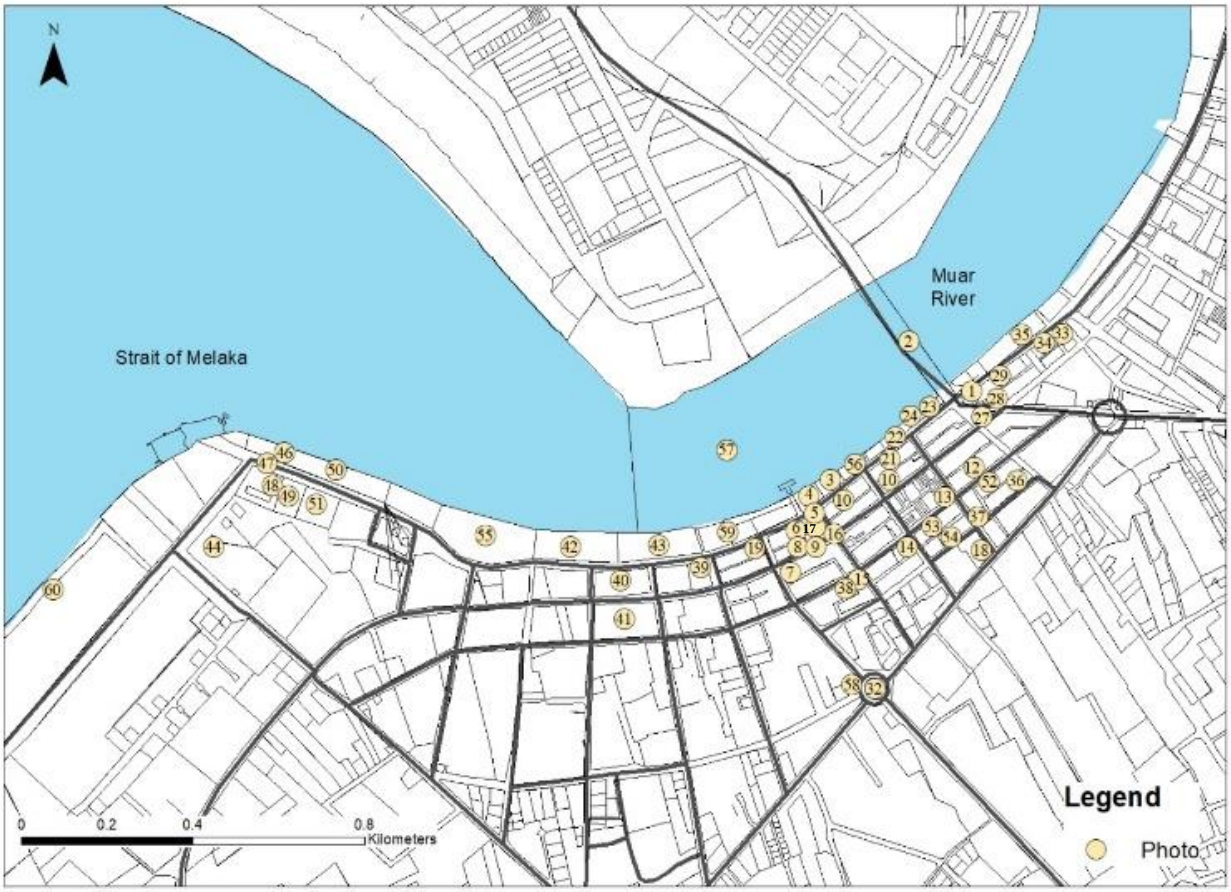


Figure 5.2: The location of coded physical elements

The photograph samples represented different physical elements that were visible across the town. The photographs were randomly coded in numerical order. This helped to guide the targeted participants when responding to the photo-elicitation survey.

Figure 5.3: The list of photographs (1- 20)

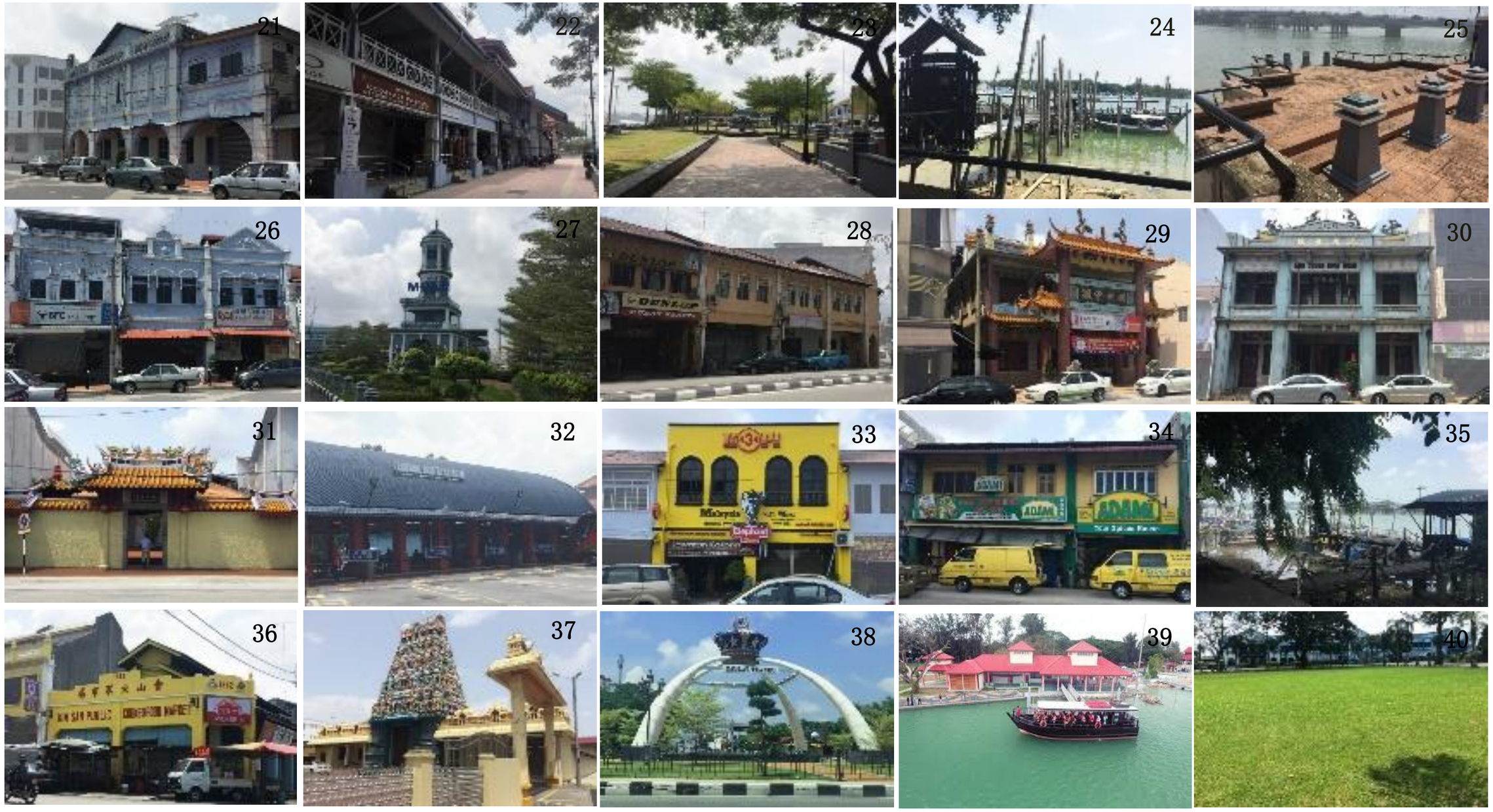


Figure 5.4: The list of photographs (21- 40)

Figure 5.5: The list of photographs (41- 60)

5.3.1 Photo-Elicitation Interview

A semi-structured interview was conducted in the study. This type of interview allows participants to express themselves freely without being dictated to, or guided by, provided answers (Spartz & Shaw, 2011; Zakariya *et al*., 2015). The outcomes of the interview were expected to represent people's associations and emotional engagements. These traits were based on the physical attributes depicted in the list of photos.

The semi-structured interviews were divided into two parts. Part 1 looked into participants' profiles (age, gender, ethnicity, occupation, income and education). Part 2 consisted of four different questions. These questions were derived from the identity process theory (IPT) proposed by Breakwell's model of identity. The questions aimed to evoke people's memories, emotional attachments and feelings regarding the elements that were presented in the photographs. The questions were designed to measure four principles, as shown below:

Table 5.5: The list of principles based on Identity Theory Process

Principles	**Questions**
Distinctiveness	The buildings, structures or landscape features that **can only be found** in the royal town of Muar.
Continuity	The buildings, structures or landscape features that require **maintenance and protection** in the royal town of Muar.
Self- efficacy	The buildings, structures or landscape features that make **you feel proud** about the royal town of Muar.
Self- esteem	The buildings, structures or landscape features that are **special to you** in the royal town of Muar.

In contrast with previous studies (e.g. Heisley & Levy, 1991; Kong *et al*., 2014; Kyle & Chick, 2007; Torre & Murphy, 2015), the participants were provided with a list of actual photographs during the photo-elicitation survey. However, this study decided to exhibit the list of photographs by using a tablet PC. This enhancement increased the level of engagement due to its interactiveness, as compared to the conventional technique.

According to Bilge *et al*. (2015), the use of mobile devices enhances public engagement, especially during face-to-face interviews. In fact, during the survey, the respondents were able

to respond more effectively as they were interested in perusing the samples of photos on the tablet PC.

The participants were asked to select a maximum of five photographs that they believed to represent each question, and then to provide reasons for their selection. The surveys were conducted in two ways: either by recording all the verbal responses using a tape recorder or by noting down all the responses during the interviews. Some of the interviewees preferred to respond to the interview in writing. This was due to practical reasons for the interviewees and for the interviewer himself. Supported by Zakariya *et al*. (2015), this approach provided a flexible interview session for both the interviewer and the interviewee in an open and public space.

5.4 Cognitive Mapping Survey

This study kept the survey as simple as possible. This was because the cognitive mapping survey for some participants could be difficult due to the lack of appropriate information on the maps (Brown, 2005) and because some participants were self-conscious about their drawing skills (Travlou *et al.*, 2008). Therefore, relevant techniques and procedures were adopted to address these issues.

At first, the participants were presented with a list of questions about the demographic attributes, which aimed to investigate participants' profiles (age, gender, ethnicity, occupation, income and education).

This was followed by the second part of the cognitive mapping survey—a brief explanation about the list of identified landscape values. As described in Chapter 4, this study developed 10 landscape values, which were specifically designed to assess the social interaction/activities, and the cultural and historical dimensions of Muar. The developed landscape values were aimed at guiding the participants during the survey.

Table 5.6: The list of landscape values and their definitions

Code Number	Landscape value	Definition
1	Aesthetic	I value these areas because these are the most scenic areas in Muar.
2	Economic	I value these areas because of economic properties such as business and tourism that are important to Muar.
3	Recreational	I value these areas because these areas support recreational activities in Muar.
4	Naturalness	I value these areas because they provide sanctuary for various flora and fauna in Muar.
5	Spiritual	I value these areas because these places are sacred, holy and spiritually special for me in Muar.
6	Intrinsic	I value these areas because these areas are important to me in Muar.
7	Historic	I value these areas because these places contain historical natural and man-made objects that important to Muar.
8	Relaxation	I value these areas because they make people feel better, physically and emotionally, when they are in Muar.
9	Culture	I value these areas because people can continue to pass down wisdom, traditions and ways of life in Muar.
10	Symbolic	I value these areas because they are symbolic and represent the identity of the Sultan in Muar.

The study was inspired by a technique proposed by several researchers (e.g. Brown, 2005; Brown & Raymond, 2007; Raymond *et al*., 2010). In their studies, the participants were provided with a different colour of sticker dots; represent different landscape values. They were asked to place as many as dot stickers on the maps that they found associated with the identified landscape values. These dots were transferred as GIS's point data, which signified qualitatively people's place associations and meanings about a place.

However, this study had taken a different path of engaging people via the cognitive map. The study aimed to provide two alternatives for the potential participants during the survey, which were using online mapping and conventional mapping techniques.

5.4.1 Tablet PC to Support Cognitive Mapping Survey

The study integrated GIS as part of enhancing the existing mapping techniques. PPGIS/PGIS has become a common technique to assess local knowledge, place meanings and cultural and historical values that are associated with people's experiences of a place (Brown *et al*., 2014). This study method was inspired by research carried out by Raymond *et al*. (2010) and Brown *et al*. (2014).

Previous researchers mailed invitation letters to their targeted participants, which provided then with a website URL link to the online survey. However, this method was impossible to implement in Muar because of two main reasons. First, not everyone in Muar had access to the internet, in contrast to previous case studies' populations. Second, the process of developing a website link for the mapping method was time-consuming. Therefore, for this study, a face-to-face interview session with an open-ended questionnaire was preferred due to its practicality.

The study used Mapbox, a free application, during the mapping survey. This application allowed the participants to furnish information on the provided map by using polygons, instead of the points commonly used in Google Maps. Thus, the polygons displayed more specific, concise and precise spaces that held meaning for the participants from their perspective. Similar to Google Maps, the data from the application could be easily converted into shapefiles in GIS. Thus, it permitted the data to be further analysed in ArcGIS.

A 10.5-inch iPad with an internet connection, together with an iPad pencil, were also used during the survey. Nowadays, the use of mobile devices is effective and practical in supporting public engagement (Bilge *et al*., 2015).

Similar to the procedures in the photo-elicitation interview, approximately 10 minutes in the early stage of the cognitive mapping survey was dedicated to building mutual trust between the participants and the researcher. The study engaged 20 participants in the online cognitive mapping survey. The target participants were briefed about the research background, their rights to withdraw from the cognitive mapping surveys and the confidentiality of the information given during and after the surveys.

The researcher then spent 10 to 15 minutes at the beginning of the surveys in explaining the functions of the Mapbox application to the participants. This step was followed with a

demonstration by the researcher on how to draw polygons in the Mapbox application by using the tablet PC provided. To boost the participants' familiarity and confidence level, the participants were allowed to freely explore the Mapbox application under the researcher's supervision.

Once the participants were satisfied with the demonstration and exploration of the online mapping software, they were asked to provide polygons on the map by listening to the list of landscape values recited by the researcher. The participants could draw as many polygons as they deemed necessary to express the landscape values on the map, accompanied by their codes in the attribute table.

During the process, the participants were given several minutes to respond to the sequence of landscape values delivered by the researcher. In addition, they were allowed to stop the researcher from continuing on to the next landscape value if they felt rushed during the process. This was to ensure that the participants were able to deliver information effectively and appropriately. The researcher only proceeded after the participants were satisfied with their polygon drawings.

On average, the participants spent about 1 to 1.5 hours in completing the online mapping survey. Some of the participants withdrew from the survey as they encountered difficulty with the overall online mapping execution, which for some of them was time-consuming.

Figure 5.6: Map retrieved from Mapbox apps

5.4.2 Conventional Mapping to Support Cognitive Mapping Survey

In addition to the online mapping survey, the participants were presented with printed, coloured Google maps, as an alternative technique when responding to the place mapping survey. Despite the vigorous evolution of online mapping and the advancements in technology in engaging with participants, they do not apply to all groups of society. Some groups in society, such as the elderly and the underprivileged, are hardly exposed to such advancements in technology (Bilge *et al.*, 2016). In fact, some factions of society have rejected such advancements due to their social concerns (Mekni & Lemieux, 2014).

The study engaged 130 participants in the conventional cognitive mapping technique of printed, coloured, A3-sized maps. The maps were intentionally printed in A3 size to provide a clear bird's-eye view of Muar town that consisted of the different areas of the mangroves, the royal precinct and the old town of Muar. Brown (2005) has noted that the appropriate size of maps is significant in providing the participants with clear information and accuracy of a place. The map size was also aimed at providing wayfinding and orientation to participants when assessing the maps.

In addition, several essential urban components of the place were included in the provided maps for these purposes. These components were nodes, edges, landmarks, streets and districts, and were derived from Lynch's *The Image of the City* (1960), where they had been used to display the physical characteristics of a city form.

Table 5.7: List of components used to enhance wayfinding in the map

Component	Definition
Nodes	Strategic spots and points that become a focal point for an area. These nodes gain their significant influences due to their vibrant activities, surrounded by unique physical characteristics and located between the convergence of busy pathways or streets.
Edges	Boundaries that break spaces, regions and areas in the city into smaller sections. These boundaries can be made up of walls, railroads, pathways and streets.
Landmarks	Significant structures in providing wayfinding due to their architectural design, location and size.
Streets	Consist of walkways, transit lines, canals and railroads that connect the people to a city. These elements allow people to perceive the city while moving through it.

Districts	Geographical segregation of the city based on functions, dominant elements or demographic backgrounds.

Similar basic procedures as those used in the online mapping technique were also implemented during this conventional mapping survey. The provided maps were the instruments of assessing people's preferences and perceptions regarding places and spaces that were meaningful to them to represent the image and identity of Muar as a modern royal town. The participants were asked to draw as many polygons as they could to represent the recited list of landscape values.

Each of the drawn polygons needed to be accompanied by a code number, which determined a particular landscape value (see Table 5.2). This was to ensure the provided drawing was easily recognised by the researcher during the analysis stage.

The polygon drawings obtained from both types of cognitive mapping surveys were processed using GIS. By referring to a study carried out by Jankowski *et al.* (2016), the number of polygons provided by the participants for each landscape value was calculated and aggregated. The aggregation process was divided into two steps: (i) polygon overlay and rasterisation of each land use category; and (ii) calculation of a surface representing the degree of divergence between preferences for the preservation of land use and change. Both of the analyses have been discussed further in Chapter 6.

Figure 5.7: The map that was used in the survey

5.5 Summary

In general, this chapter has provided an insight into the procedures used in engaging the participants during the implementation of the photo-elicitation interview and the cognitive mapping surveys regarding Muar. Table 5.6 below provides a summary of the methodology procedures executed in this study.

Table 5.8: The summary of the methodology process for the study

Process	**Procedures**	**Details**	**Outcomes**
Participant recruitment	Site observations	Two different spots were selected (Muar Promenade and Muar's old bus station)	300 participants: - 150 for cognitive mapping - 150 for photo-elicitation
	Sampling techniques	- Both random and snowball sampling techniques - Conducted during three different blocks of times - Conducted during weekends and weekdays	
Photograph preparation for photo-elicitation	Number of photographs	- 60 photos were randomly numbered - iPad was used to display the photos	A maximum of five selected photos with justifications
	Photo-based questionnaire	- Open-ended questionnaire - The questions were based on the identity process theory • Distinctiveness • Continuity • Self-efficacy • Self-esteem	
Cognitive mapping surveys	Online mapping via Mapbox application	Supported by tablet PC—iPad Pro 10.5 inch—and iPad pencil	Polygons represented different landscape values in Muar
	Conventional mapping	- Used printed, coloured, A3-sized maps - Provided with components proposed by Lynch for navigation and map identification	

In short, photo-elicitation interview and cognitive mapping survey were chosen as the best source for data collection to assess people and place association in this study, particularly in investigating Muar's royalness image and identity. The methods are considered reliable in engaging people and analysing their associations, feelings, emotions and image to their surrounding case study- Muar.

CHAPTER 6

RESULTS

6.1 Introduction

This chapter presents the analysis of the data associated with **Objective 3**, which was: **To investigate the contributions of place identity in displaying the royal image and identity of Muar as the only modern royal town in Malaysia.** Additionally, this chapter responds to **Research Question 3**, which was: **How do people's preferences, perceptions and cognitions reflect the zoning of Muar's royalness as a modern royal town?**

From the data analysis, the attributes that emerged from people's preferences and perceptions via the photo-elicitation interviews, as well as the place demarcations via the cognitive mapping surveys, were ascertained. These attributes determined how the identified elements and places in Muar highlighted the mutual relationship between the Sultan and his subjects, thus representing the royal identity and image of Muar.

6.2 Textual Analysis of Photo-Elicitation Interviews

The first part of the photo-elicitation interview analysis was to cluster all 150 participants' interview data in a more efficient way in order to evaluate the participants' preferences towards, and perceptions of, the 60 provided photos. A textual analysis was conducted to understand how the interpretations of the photos by the participants could be clearly understood in terms of their attachments and associations with the elements represented by the photos.

The process of textual analysis consisted of four major stages—transcription, coding, identifying keywords and finally, presenting the keywords quantitatively in a list of diagrams and tables for cross-referencing in order to obtain further explanations.

The transcription process began with transferring all the data into Microsoft Excel. All the verbatim written notes and important points provided by the participants were organised into four thematic concepts based on the four principles of Breakwell (self-esteem, self-efficacy, distinctiveness and continuity). The analysis continued with an open coding process, which allowed the researcher to fine-tune, understand and identify repetitive words or phrases that could be clustered into several thematic keywords and attributes. The derived thematic keywords and attributes were the responses to the physical and emotional dimensions of place identity.

Based on this process, four distinct keywords representing both physical and emotional dimensions were identified:

- *Architectural aspect:* referred to the physical characteristics of the elements that gave them unique identities and images from the participants' points of view.
- *Landmark:* represented how the elements were referred to in order to provide wayfinding and to define the place as it was.
- *Place attachment:* referred to how people responded to and engaged with their environment.
- *Place dependence:* denoted the conditions and functions of a place that provided a platform for people to achieve or satisfy their activities and needs.

Figure 6.1 indicates the dimensions with their keywords and attributes, derived from the photo-elicitation survey.

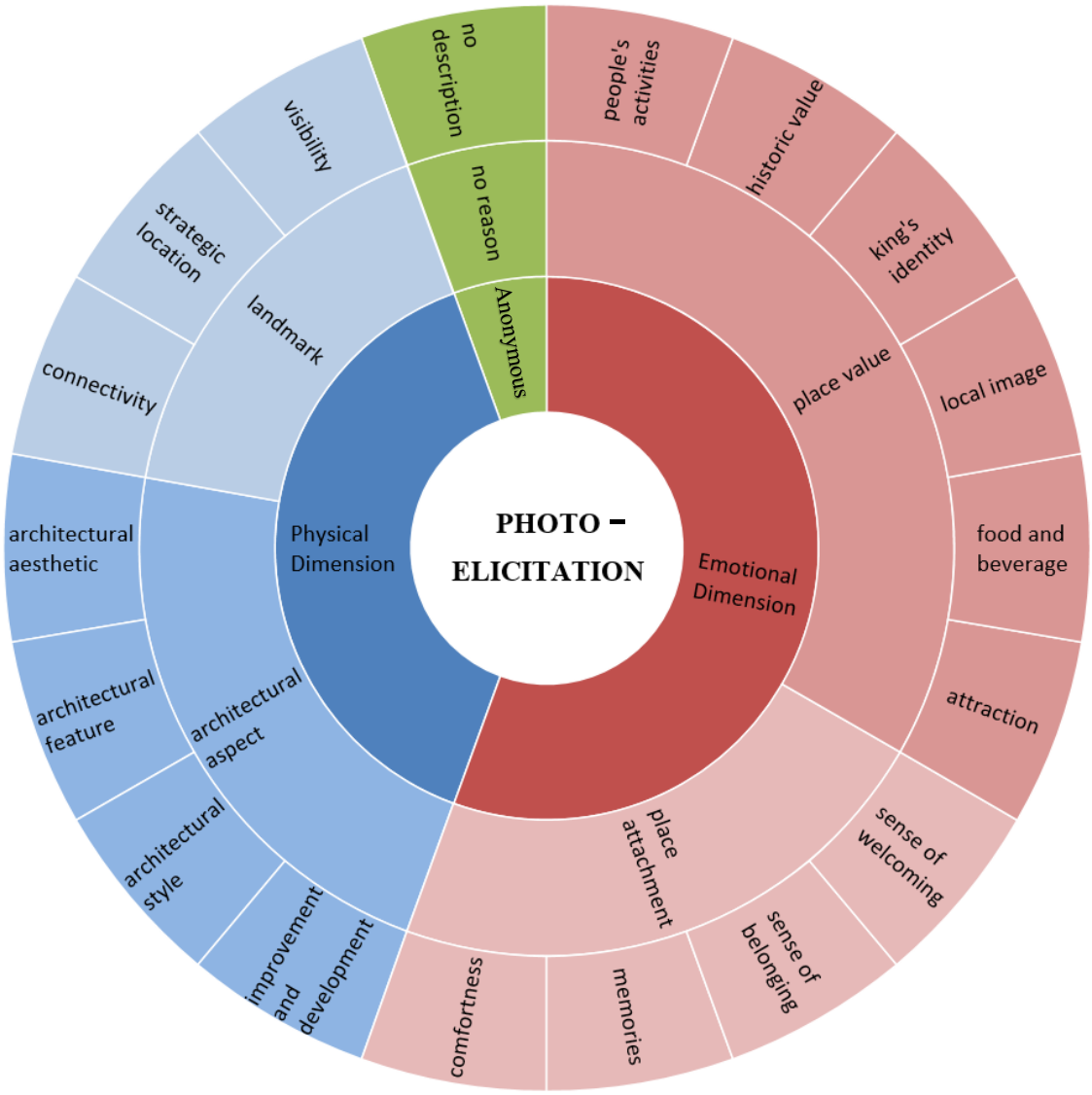


Figure 6.1: Keywords and attributes proposed in the photo-elicitation analysis

As mentioned earlier, it was vital to enable compression and cross-referencing between all identified keywords and attributes to attain triangulation between Breakwell's principles, people's preferences and perceptions, as well as the identified elements toward the end of the coding process. The process allowed this study to identify the elements and the participants' key reasons (based on their preferences and perceptions), to highlight the elements as part of the image and identity of Muar as a modern royal town. This process has been explained further in the next subsection.

6.3 Analysis of Photo-Elicitation Based on Breakwell's Principles

This stage displayed the results of the data categorisation based on Breakwell's principles of self-esteem, self-efficacy, distinctiveness and continuity. The results were tabulated separately to show in detail people's photo selections and their justifications regarding each principle and dimension.

The idea behind having a separate analysis for each principle was to investigate the extent of the attachment of a person towards a particular element. This attachment could be invoked either by the element's physical attributes or by emotional affection towards the element. In this case, the participants' preferences were referred to as the rank and sum value of the individual photos. The physical and emotional dimensions, on the other hand, were used to denote participants' perceptions towards a particular existing element in Muar.

A different colour-coding system was used to differentiate the principles, keywords and dimensions visually. This system was vital to provide a clear sequence of data analysis as well as to simplify the existing massive amount of results into a systematic visual presentation throughout the analysis process.

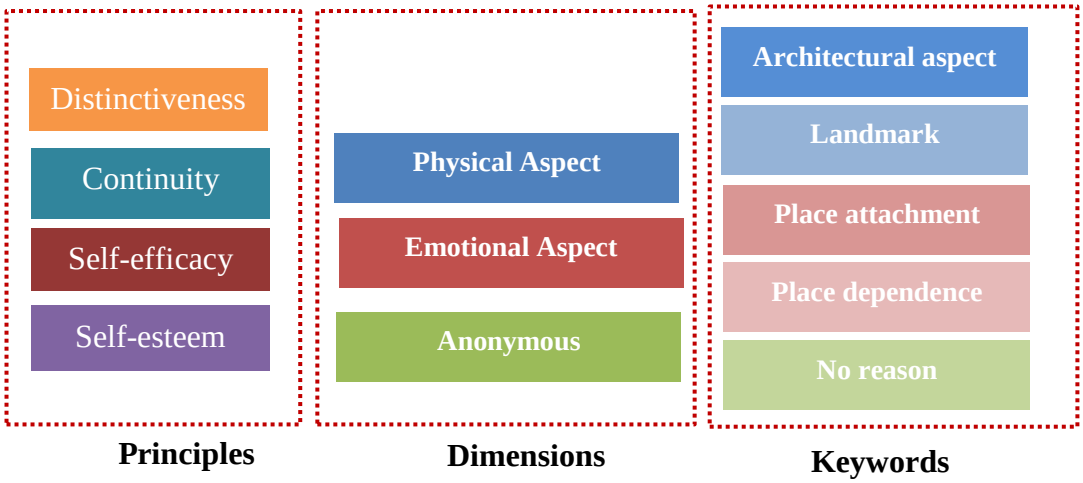
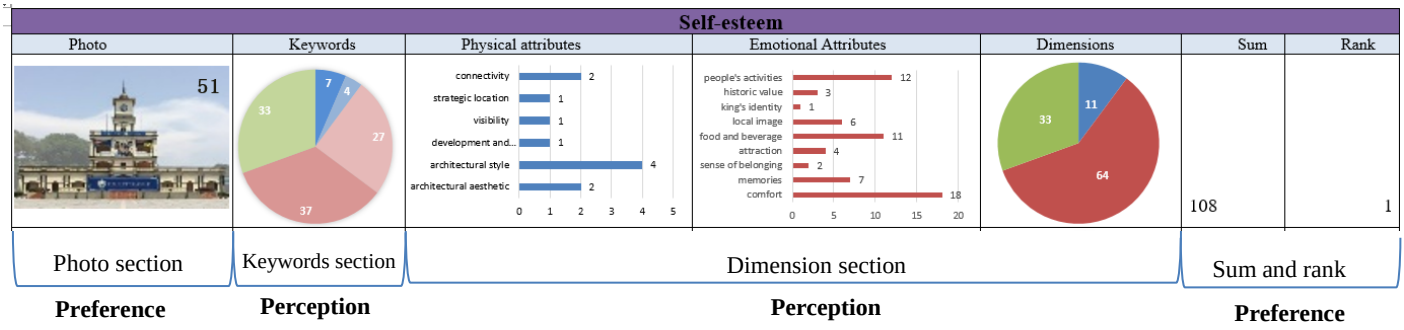


Figure 6.2: The colour coding system in the study

In order to investigate people's preferences towards, and perceptions of, their selection of photos, the study displayed the data in a table that consisted of four different sections, which were the:

- **Photo section:** to display the photos selected by the participants in the study.
- **Keyword section:** to display the number of keywords that represented both emotional and physical dimensions, as well as the non-identified reasons for photo selection. Each colour in the pie chart exhibited different keywords.
- **Dimension section:** this section was divided into three columns, which represented the corresponding attributes relating to physical and emotional dimensions. The list of physical and emotional attributes for each photo was presented using a bar chart provided with labels, and values, as well as dictated by the colour-coding system. For the overall results, these attributes were displayed by using a further bar chart, accompanied by labels, values and different colours to differentiate each dimension. The total count of people's perceptions based on the dimensions was visualised using a pie chart in the dimension table.
- **Sum and rank section:** the sum represented the overall number of preferences for a particular photo during the survey. Meanwhile, the rank indicated the importance of the photo, which was based on the sum of the count of people's preferences.
-

Table 6.1: The structure of photo elicitation's analysis



For this analysis, only the five highest-ranked photos were presented, instead of the total of 60 photos, for each Breakwell principle. The reason was that these photos were significantly preferred and perceived by the participants to demonstrate the identity and image of Muar as a modern royal town. Second, the amount of collected data was massive, thus leading to difficulty in cross-referencing between all of the elements and the Breakwell principles in order to obtain their relationships with the royal identity and image of Muar. Throughout the process, the results focused on the derived attributes from the identified keywords. This was due to the thoroughness and richness of the attributes that helped to describe people's preferences

towards, and perceptions of, their photo selections. Furthermore, the study designated the keywords as sub-themes to cluster the keywords into a systematic and structured group.

6.3.1 Self- Esteem

Based on the survey, **Photo 51**, **Photo 15**, **Photo 46**, **Photo 54** and **Photo 33** were the five highest-preferred photos (Table 6.2). Additionally, the emotional dimension was cherished by the participants as important to them in contrast to the physical dimension when referring to their associations with the photos (Figure 6.3). Nevertheless, 323 participants anonymously did not describe their attachments and associations with the provided photos. Overall, the attribute of **comfort** from the emotional dimension was the highest thematic outcome that was explicitly perceived by the 164 participants as the attribute that represented their self-esteem in the identified elements in Muar.

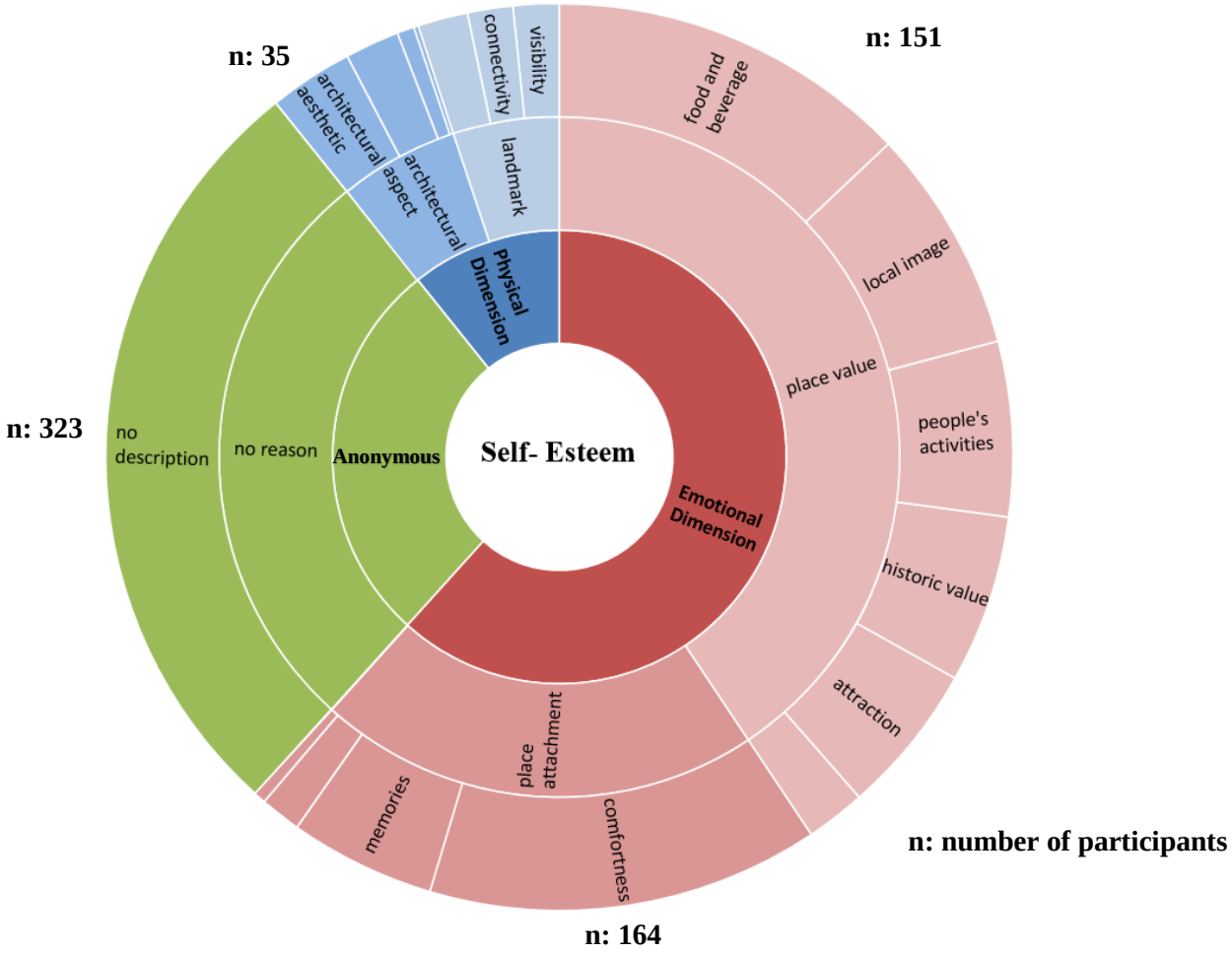


Figure 6.3: The proportion of attributes across the list of photos for self-esteem

Table 6.2: 5 highest ranked photos for self-esteem

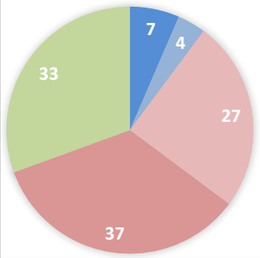
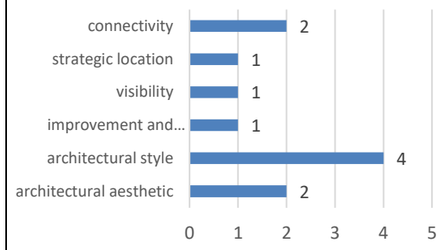
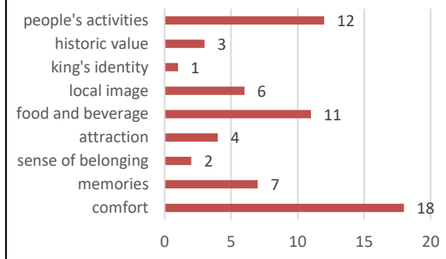
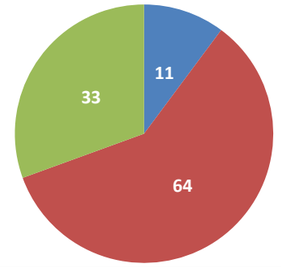
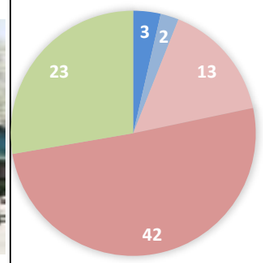
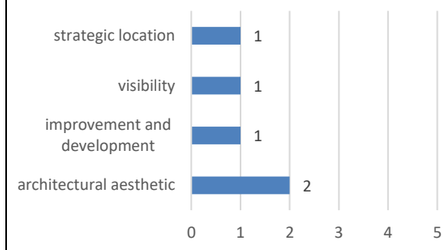
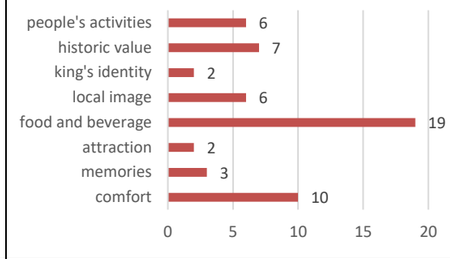
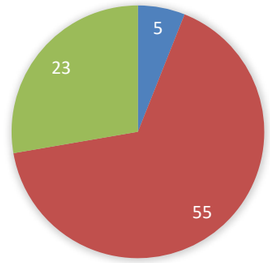
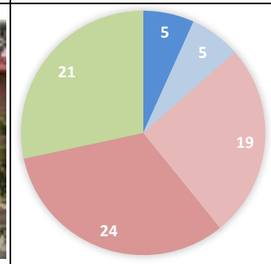
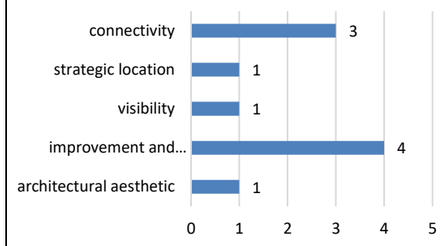
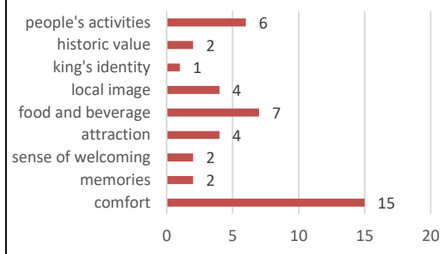
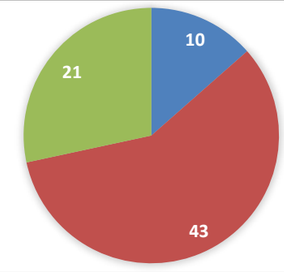
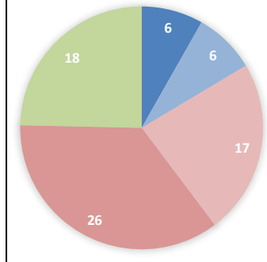
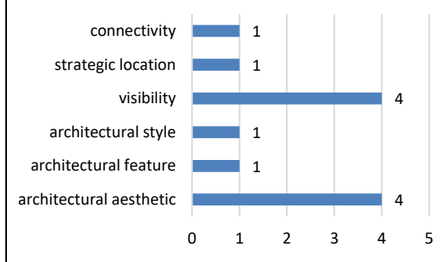
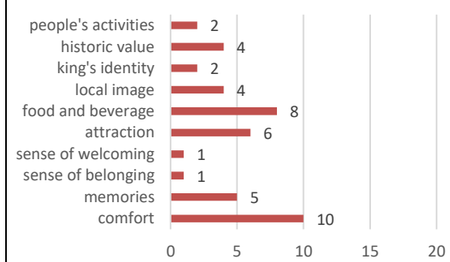
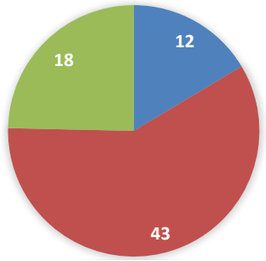
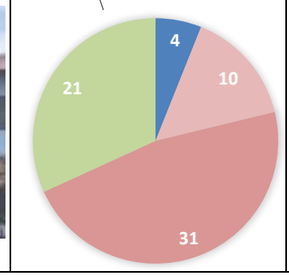
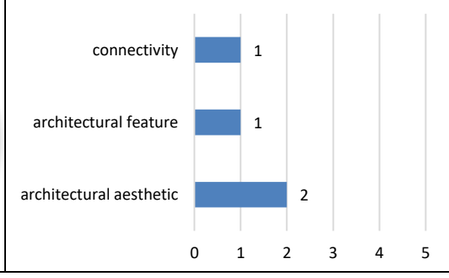
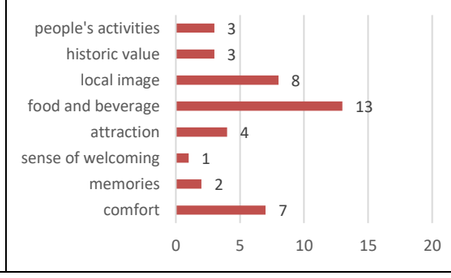
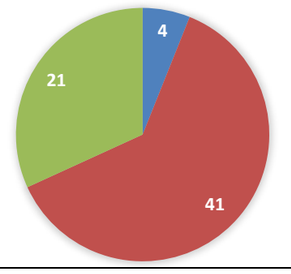
Self-esteem						
Photo	Keywords	Physical attributes	Emotional Attributes	Dimensions	Sum	Rank
 51					108	1
 15					83	2
 46					74	3
 54					73	4
 33					66	5

Photo 51- Tanjung Emas Square was the most preferred element to represent people's self-esteem in the royal town of Muar. For instance, Participant 22 found that **Photo 51** was an excellent example to describe his **comfort** association with Muar. He described it as:

"You know that this area is the most pleasant place to relax and chill out with friends and families in Muar. Despite its location just adjacent to the town, it has become escapism for locals and visitors to enjoy the serenity of Muar…it is surrounded by many good and important facilities. It is one of the important and attractive spaces in the town."

This view was a common one shared with other participants and confirmed that **comfort** was an important aspect that increased their self-esteem in Muar. Participants 46 and 52 for instance, recalled **Photo 46- Tanjung Emas Promenade** as:

"The promenade is the best place to hang out with your family because of its fresh air, shaded trees and I feel this is where I belonged to" (Participant 46)

"Where on earth in Muar you can find such as the pleasant and tranquil area in Muar which you can escape from your busy daily life? This promenade provides a sanctuary for the locals and me. You can see many people enjoy walking along the promenade" (Participant 47)

In addition, the relationship between **comfort** and people's self-esteem was also reflected by how the place accommodated the people's needs. Participants 2, 31 and 32 were among the participants who felt that their self-esteem increased based on this reason.

"Even though I am Chinese and non-Muslim, I love to mingle around with my friends in the mosque compound. One of the reasons is because the committee provides nice shelters for visitors. You can even picnic in this compound" (Participant 31)

"I always bring my kids here after fetch back them from school. The mosque becomes our second house because here they can play around, pray and sometimes do their homework, before sending them to the religious school in the evening. We live quite far from here. So the mosque has become our transit" (Participant 32)

For participant 2, **Photo 54- Sultan Ibrahim Mosque** was a special place for her, as:

"*My family and I are always come here to perform our daily five prayers because it is a comfortable place that all of us can mingle around with the local community, attend religious classes and meet our Sultan occasionally during the special events."*

In addition to comfort, the attribute of **food and beverage** was among the highest-ranked (n: 151) across the photos. Two of the five photos were associated with gastronomy experiences (**Photos 15-Muar Soup House** and **33-Muar Kopi 434 Kopitiam**). This was indicated by the sense of pride felt by Participant 44 when describing his affection for **Photo 15- Muar Soup House**:

"It is sort of creating a good gastronomy experience for someone is new to Muar to dine in here. Imagine that you can feast a variety of local cuisines within one roof, from the Mamak *(Indian Muslim cooking technique), oxtail soup to mee Bandung Muar (spicy noodles), even to western cuisine. I do highly recommend this area to anyone who wanted to know about Muar!"*

Participants 36 and 116 highlighted **Photos 15-Muar Soup House** as a place that was important for gastronomy experiences; thus, it was worth introducing to others:

"Muar Soup House is a must-go place in Muar. I truly recommend this place to my friends are planning to visit me in Muar because for me it is very special. It is a door to Muar's food heritage and culture." (Participant 36)

"My aunt and her family sort of attached to this place. Thanks to me because I was the one who introduced this dining place to her when they were visiting us during the last school holidays." (Participant 116)

At the same time, Participants 5, 35 and 122 agreed that**33-Muar Kopi 434 Kopitiam** was the best place to experience authentic Muar **food and beverages**. For participant 5, this place was:

"The best place for anyone to taste the authentic Muar's coffee, with delicious kaya *spread (coconut jam) on top of the bread with Muar's style."*

"You can smell the aromatic of local coffee and local food along the corridors. It is famous among locals as well as visitors." (Participant 35)

"This is the best place in Muar that you can feel the richness and tradition of our local cuisine. This place offers a wonderful traditional breakfast menu, and you can see it is famous among locals and non-locals." (Participant 122)

Nevertheless, the hierarchy of physical attributes for the five highest-ranked photos that projected self-esteem was mixed. None of the identified attributes showed any dominant correlation or trend that could describe any significant attribute in each photo. However, **architectural aesthetic** regularly appeared in each photo. It was also frequently described across the 60 photos (n: 35). For example, Participant 146 described **Photo 54-Sultan Ibrahim Mosque** as:

"The mosque's dome painted with royal blue has a majestic look especially when you are looking from the promenade. You can see how the other mosque on the other part of the riverbank is imitating and balancing (the landscape of) Muar. It is something that pleasant to Muar as the royal town."

This attribute was followed by the **visibility** attribute that represented a sense of wayfinding to people in Muar. **Photo 51-Tanjung Emas Square** represented how the distinctive architecture of the buildings increased people's wayfinding. Participant 11 stated that:

"The pavilion has a very nice design that sort of look like a modern yet with Islamic and colonial touch. Everyone in Muar knows about this mosque due to its unique design. From far you can see how the mosque eloquently defines Muar's identity."

Participant 91, on the other hand, found that the **visibility** of the promenade increased her self-esteem about Muar's identity and image. She referred to **Photo 46- Tanjung Emas Promenade** as the current landmark among Muar's tourist attractions.

"I still remembered how the promenade used to look messy and unattractive. Happy to see how the proclamation changed Muar to be a better place for the locals and visitors."

6.3.2 Self- Efficacy

Photo 38, **Photo 54**, **Photo 33**, **Photo 51** and **Photo 57** (Table 6.3) were the five highest-preferred photos representing the high level of the participants' self-efficacy. Thus this made that the emotional dimension was valued to be important by people when describing their association with these five photos.

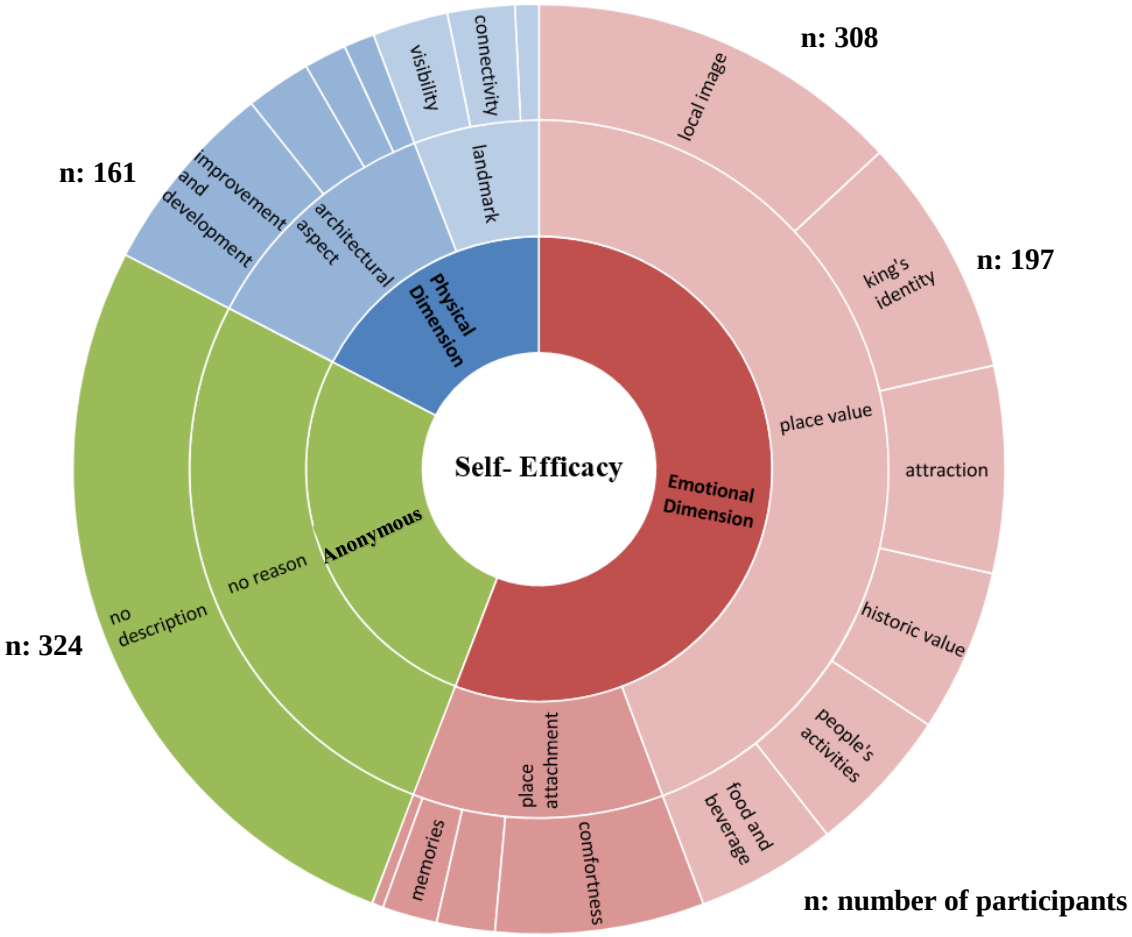


Figure 6.4: The proportion of attributes across the list of photos for self-efficacy

Both **local image** (n: 308) and **king's identity** (n: 197) were important to the people in emotionally associating their self-efficacy in Muar. These attributes were among the highest-ranked attributes across the list of 60 photos. However, 324 participants were anonymously displayed their association and attachment with the photos.

Photo 38- Monument of Royal Town was the highest-ranked photo by the participants in demonstrating the importance of self-efficacy in Muar. The majority of the participants perceived the element in **Photo 38 - Monument of Royal Town** as an essential element that depicted **local image** and **king's identity**. The photo showed an image of a crown structure located in the centre of the busiest roundabout in Muar town. According to Participant 30, the photo represented a strong characteristic of the **local image** of Muar as a royal town:

"The structure is a symbol that depicted Muar as the royal town of Johor. You can see why it is located in the centre of the town. This is an idea to emphasise Muar as an important district in Johor."

This view was similar to the opinion given by participant 58, who said:

"This landmark could only be found in Johor only. Similar to other districts, the crown structure is important because it represents the authority of the king towards his subjects."

In addition, the crown structure was indelibly associated with **king's identity** as it represented the royal crown of Johor. Participant 14 believed that:

"The landmark in the heart of town portrays Johor as a state that is governed by a wise Sultan".

Another of the participants stated that:

"Its location within one of the important roundabouts sort of telling the people that the crown represents the authority of the king towards his subjects…." (Participant 56)

Photo 54- Sultan Ibrahim Mosque was also strongly perceived by the participants to be associated with **local image** and **king's identity**:

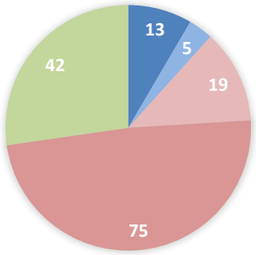
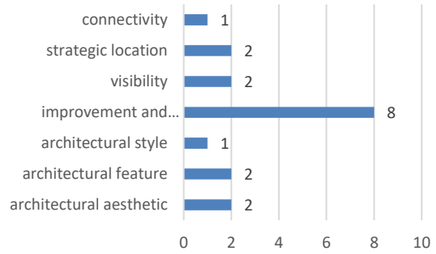
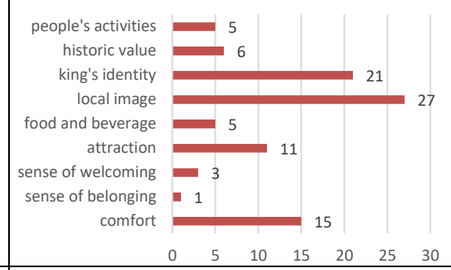
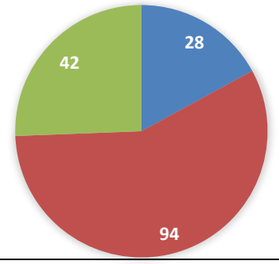
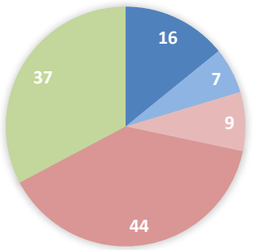
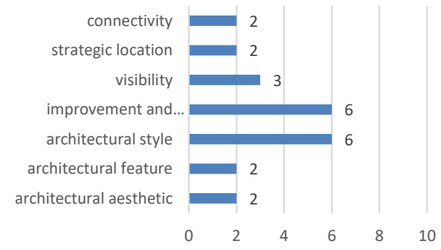
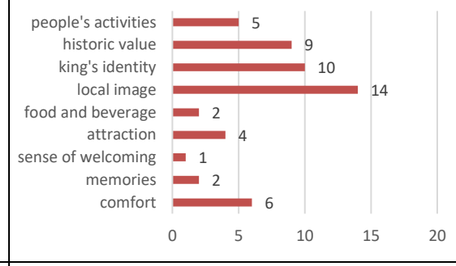
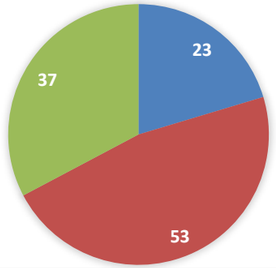
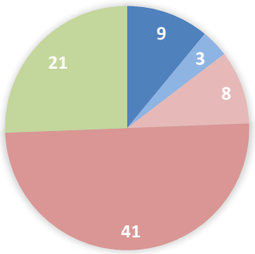
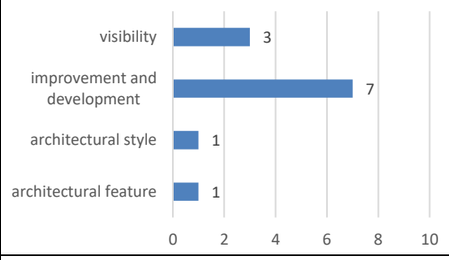
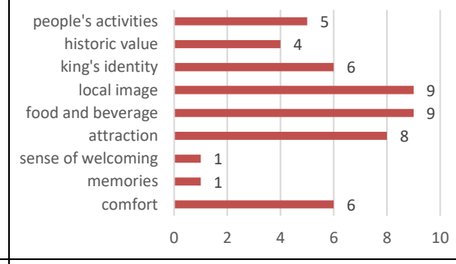
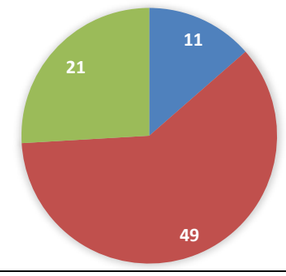
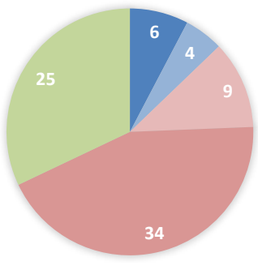
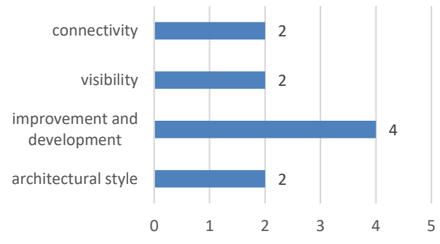
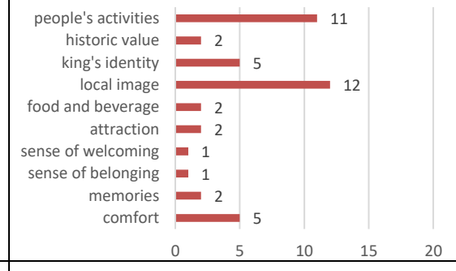
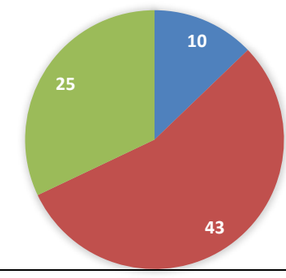
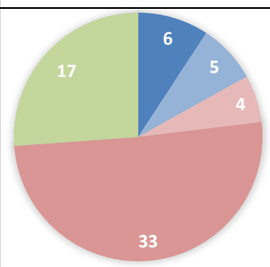
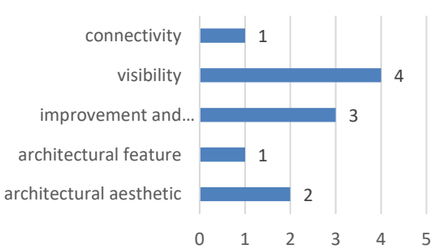
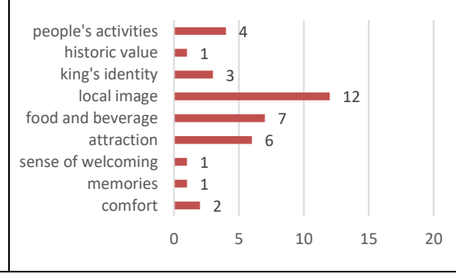
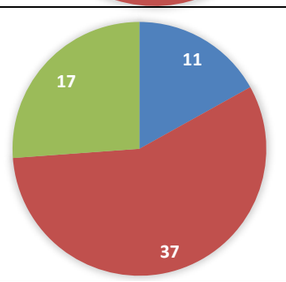
"I always visit the mosque because of its location near to the tourism spots. In fact, it totally displays the local identity of Muar as the royal town." (Participant 78)

"I was blessed to meet the Sultan during his birthday celebration in this mosque. There are no royal protocols. Many people were here to shake a hand and wish him. It was a wonderful atmosphere!" (Participant 132)

Photo 33- Muar Kopi 434 Kopitiam was perceived to be important in representing **local identity** for the people. Participant 42 observed that:

"At first, I was not so fond of this place. However, after my daughter brought me here, I found that this is a place was so amazing! I learnt to appreciate the authentic Muar coffee and food. If someone who loves coffee, he should visit this café."

Table 6.3: 5 highest ranked photos for self-eficacy

Self- Efficacy						
Photo	Keywords	Physical attributes	Emotional Attributes	Dimensions	Sum	Rank
 38					154	1
 54					113	2
 33					82	3
 51					78	4
 57					65	5

Similar to the other photos, **Photo 51-Tanjung Emas Promenade** was significant for several participants (e.g. Participants 88 and 90) because the element reflected the outstanding **local image** of Muar:

"*If you ask anyone in Muar, I bet, all of them will agree that this pavilion area is the best place for you to see how people from different age, ethnicity, religion and culture mingle around in many occasions and activities here. Everyone proud to be called as* Bangsa Johor *(Johor nation)."* (Participant 88)

"You can see how this place reflect the spirit of Bangsa Johor *(Johor nation). Everyone all over Muar loves to come here because of its great atmosphere, full of activities as well as the diversity of people."* (Participant 90)

On the other hand, **Photo 57-Great Mural of Muar** portrayed the strong bond of two sisters, which, according to Participant 29, was a symbol of local identity:

"…a manifestation of the love of an older sister to her sick sister that inspired a famous Russian painter to dedicate their love to one another. The painter met them somewhere here and amazed at how the older sister protected and cared for her sister. Even the Sultan was so touched by them and decided to sponsor these two kids and her family." (Participant 29)

In contrast, the attribute of **improvement and development** (n: 161) was found to be the highest-preferred attribute in the physical dimension for self-esteem. It appeared to be significant in most of the highest-ranked photos. Using a similar example of **Photo 38-Monument of Royal Town** as a reference for **improvement and development**, one interviewee said:

"It used to be nothing and dull here. I am glad such development occurred here and transformed this roundabout into a majestic look. It provides us with a sense of direction to the Muar town from nearby district…." (Participant 60)

Participant 98 shared a similar thought. According to her:

"…the construction of the landmark helps me a lot to provide wayfinding for my relatives to my house which is located nearby to the landmark."

6.3.3 Distinctiveness

This section refers to a list of five photos that received the most positive responses regarding distinctiveness in Muar as a modern royal town. These photos were **Photo 38**, **Photo 33**, **Photo 54**, **Photo 57** and **Photo 51** (see Table 6.4).

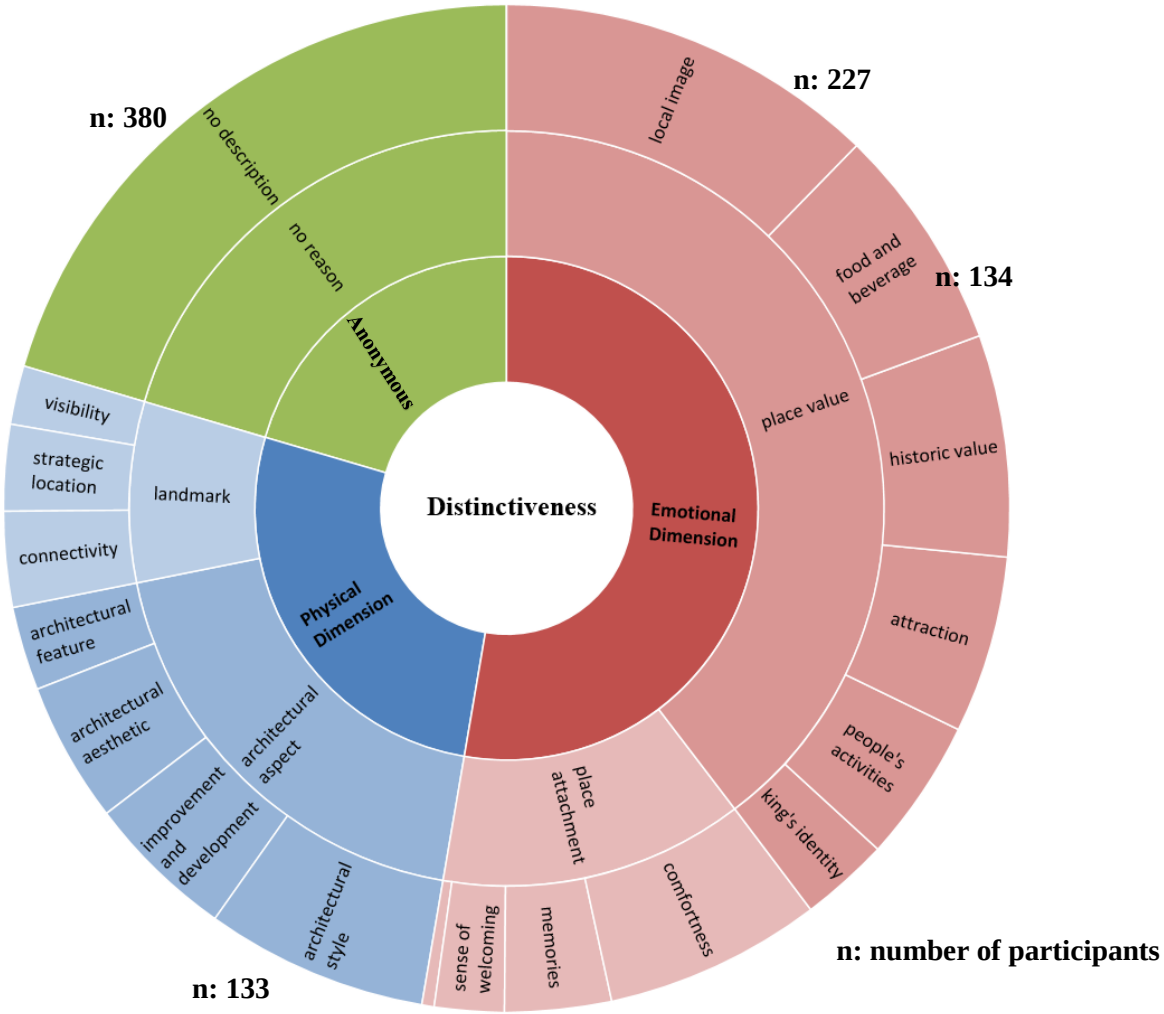
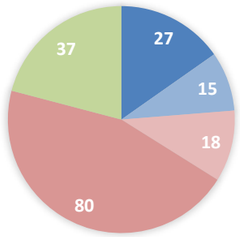
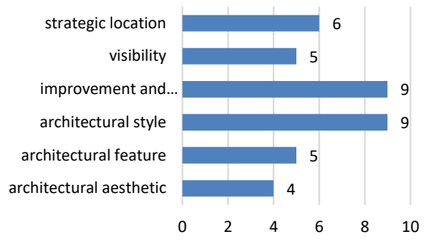
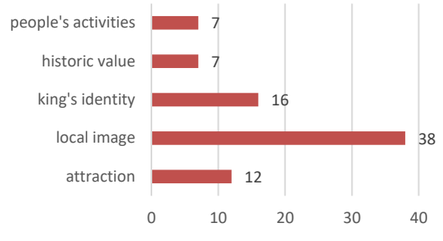
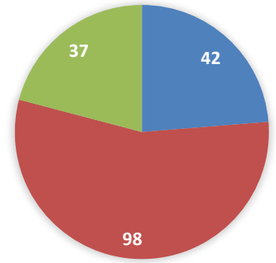
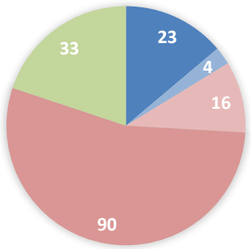
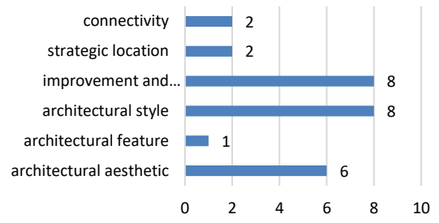
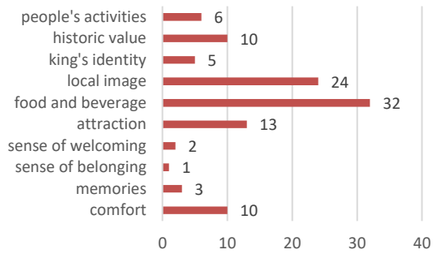
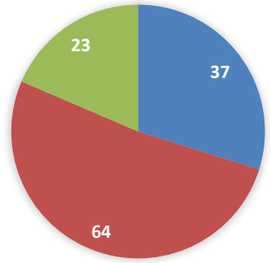
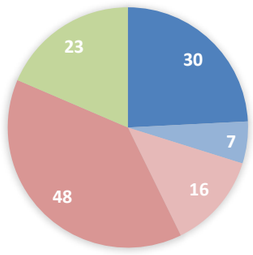
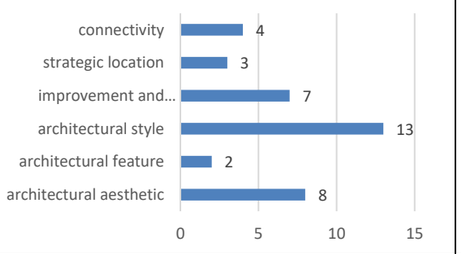
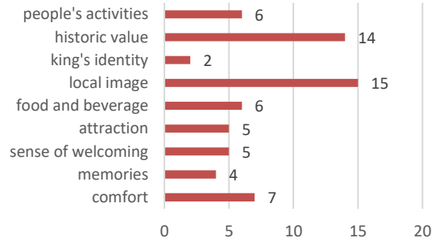
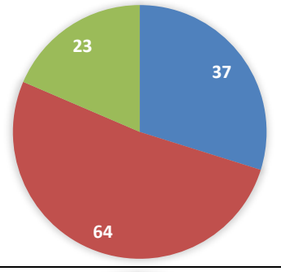
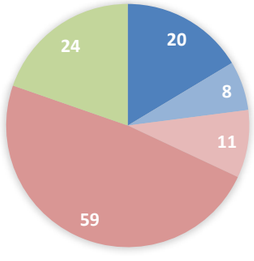
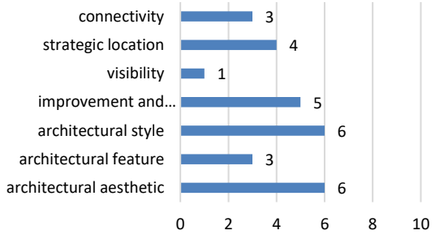
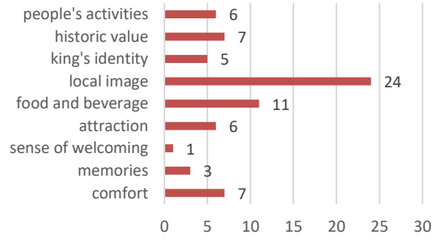
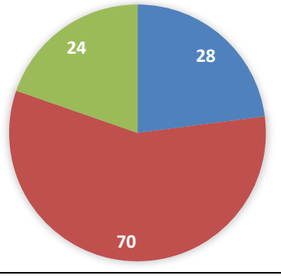
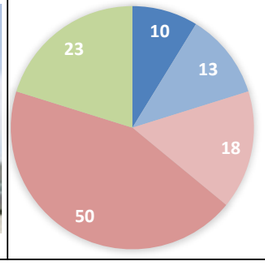
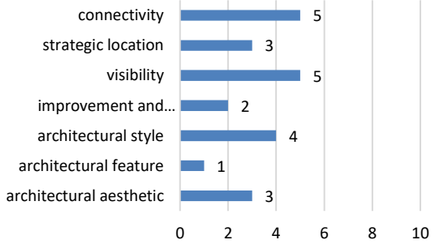
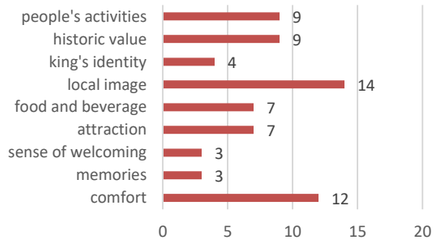
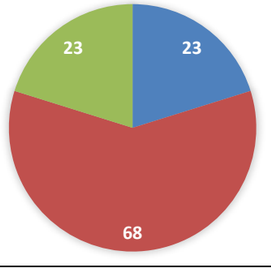


Figure 6.5: The proportion of attributes across the list of photos for distinctiveness

In addition to anonymous preferences by 380 participants, the participants perceived the emotional dimension as an important dimension with reference to their distinctiveness associations with identified elements in Muar. Overall, the attributes of **local image** (n: 227) and **food and beverage** (n: 134) were strongly perceived by the participants across the list of photos. Therefore, these two attributes were important in reflecting the distinctiveness of Muar, both from other towns and as a modern royal town.

Table 6.4: 5 highest ranked photos for distinctiveness

Distinctiveness						
Photo	Keywords	Physical attributes	Emotional Attributes	Dimensions	Sum	Rank
 38					177	1
 33					166	2
 54					124	3
 57					122	4
 51					114	5

From the results in Table 6.4, four out of five elements from the highest-ranked photos exhibited dominant **local image**. For example, **Photo 38- Monument of Royal Town** showed how **local image** influenced the participants' perceptions of distinctiveness in Muar:

"The crown (landmark) reflects the identity of Muar as a royal town…and due to its strategic location in the heart of the town; I do believe it boosts the exclusiveness and Muar's identity in contrast to other districts." (Participant 6)

For some participants, the Sultan Ibrahim Mosque in **Photo 54**, in their opinion, was one of a kind:

"I have been everywhere in Johor, regardless every district has its district mosque like this kind, in Muar it is exceptional. It represents Muar, in term of our heritage, culture and history…." (Participant 17)

"I think, this mosque is unique because there is no other mosque in Johor that has this kind of beautiful setting, facing a beautiful river." (Participant 42)

From the interviews, it became evident that elements that defined the distinctiveness of local image increased the emotional attachments of people in Muar.

Other participants (e.g. Participants 55 and 70) described **Photo 57-Great Mural of Muar** as unique in terms of **local image** due to:

"The mural is the biggest mural in Muar. It displays the sacred relationship of two sisters that lived in Muar. These girls are famous in Muar because they represent our local culture as a loving and care society." (Participant 55)

"I think this mural is unique because the models were the local people that lived in Muar. It emphasised on love value that we tend to take for granted in our nowadays society." (Participant 70)

Moreover, the attribute of **food and beverage** was among the attributes that were perceived to reflect the distinctiveness of Muar as a modern royal town. **Photo 33- Muar Kopi 434 Kopitiam** showed a well-known local café that had been established for quite a long time in Muar. The unique feature of the café was that all its food and drink ingredients were outsourced

from, and self-produced by, the nearby local community. For several participants, the café emphasised the uniqueness of Muar:

"The kopitiam *(café) is very famous and unique in Muar. The coffee beans in here come from nearby local plantations. You can see how each of the package provided with information about these plantations. The best part is I do enjoy the coffee and food that being served here…."* (Participant 99)

"The other thing is the kopitiam *wonderful because of its scrumptious local cuisines that everything you can find in Muar…I think it is unique to me. Imagine you can have* nasi lemak, mee bandung *accompanied with a cup of local coffee. It is a wonderful experience."* (Participant 45)

In the physical dimension, **architectural style** (n: 133) was the highest-preferred attribute to reflect the distinctiveness of Muar. Based on **Photo 54-Sultan Ibrahim Mosque**, the participants believed that the strong amalgamation between local and colonial architecture in Muar depicted the distinctive character of Muar:

"The mosque sort look like a cathedral to me. With all the colonialism design especially with its domes, archways and windows, which are, not look like a typical mosque in Malaysia. Nevertheless, the inner of the building do some local touch…." (Participant 55)

"When you see this colonial look of the mosque you can feel that you are in Muar as its architecture has become a distinctive identity for Muar…." (Participant 57)

In addition to the historic buildings, the unique architecture of Muar was inspired by other newer structures in Muar. They commemorated the existing **architectural styles** of Muar. According to some of the participants, **Photo 38-Monument of Royal Town** and **Photo 51-Tanjung Emas Square** manifested the image and identity of Muar:

"The building (pavilion) suit with the surrounding, especially with the mosque and other old buildings in this area. It is sort of unique to me as I think the local council is very concern about Muar's royal town identity." (Participant 51)

"The landmark sort of honouring the unique architectural style in Muar as well as in Johor. Look very colonial yet heavily influence with Malay culture." (Participant 11)

6.3.4 Continuity

Based on Figure 6.6, the emotional dimension significantly related to how people associated with identified elements of the photos. **Photo 54**, **Photo 32**, **Photo 49**, **Photo 7** and **Photo 38** were the five highest-preferred photos to represent people's continuity in Muar (see Table 6.5).

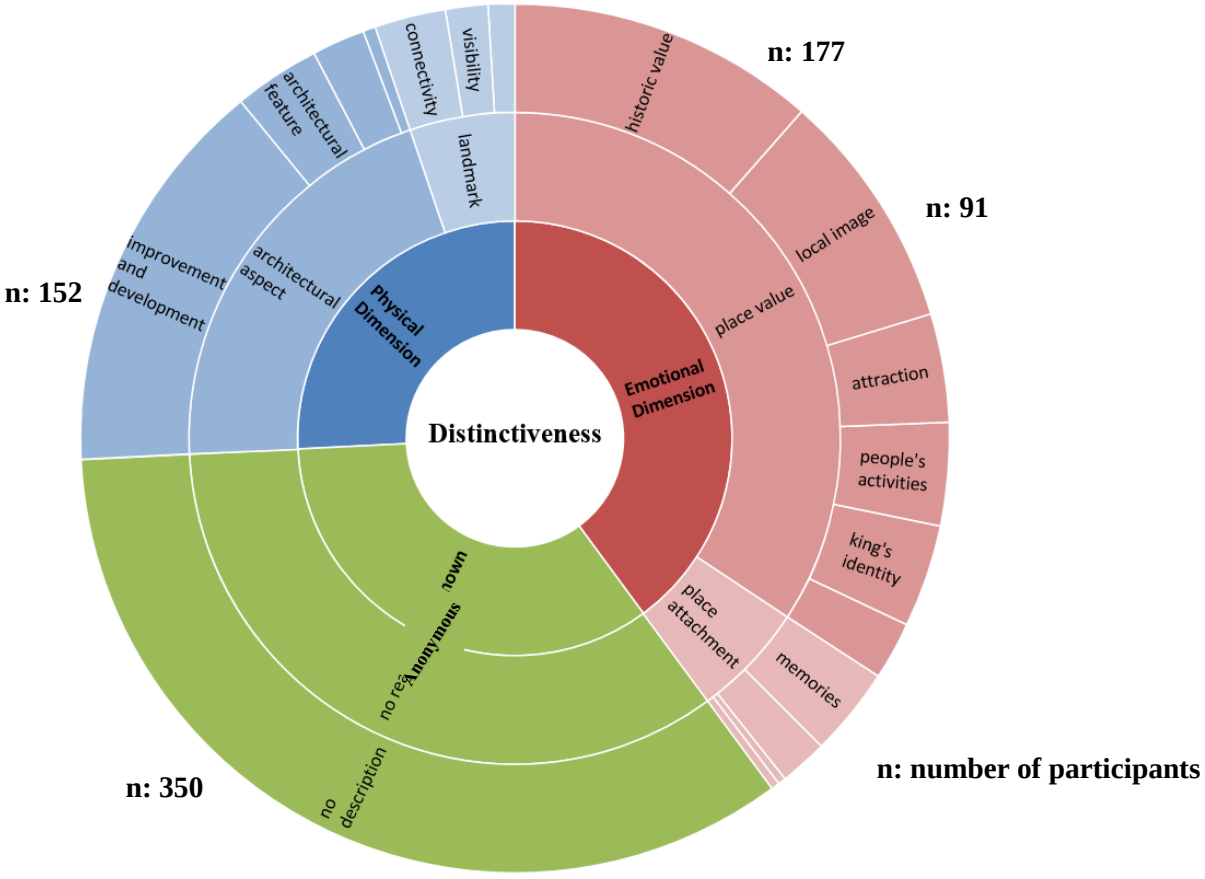
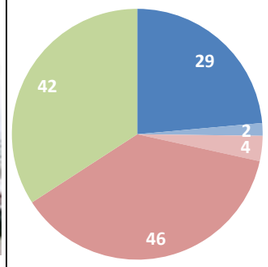
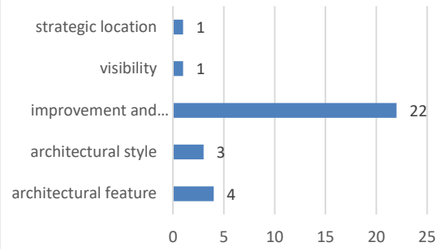
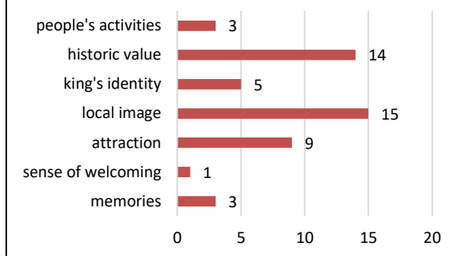
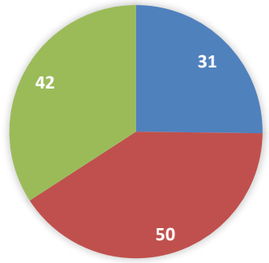
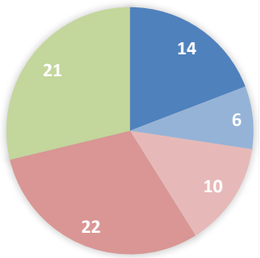
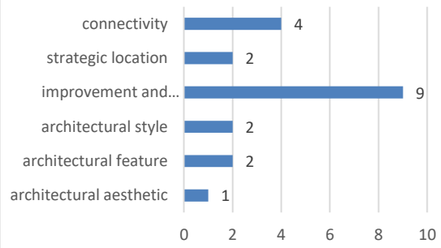
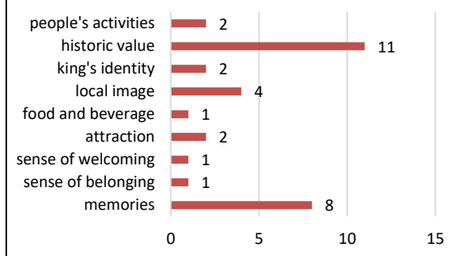
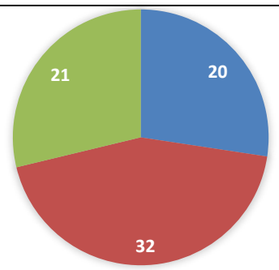
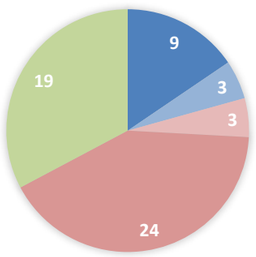
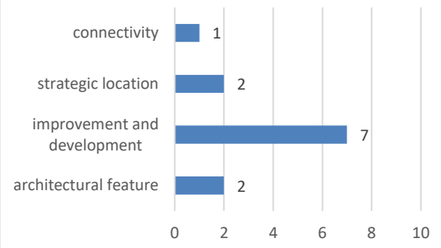
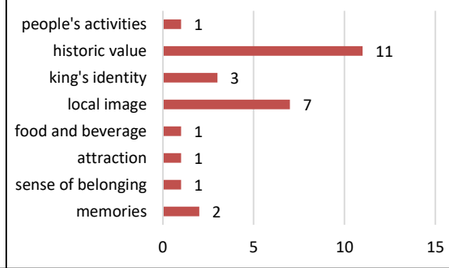
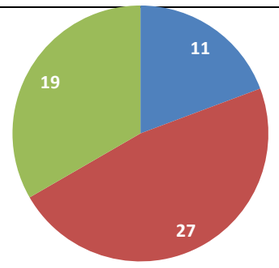
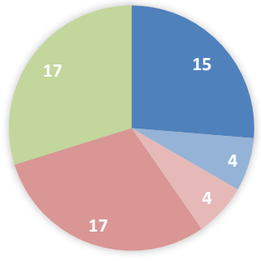
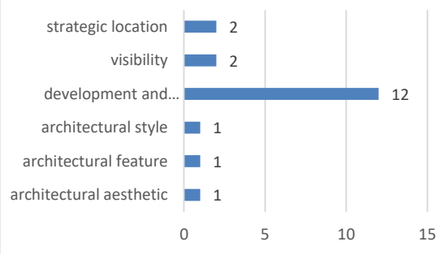
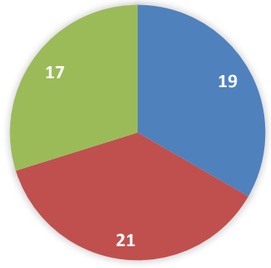
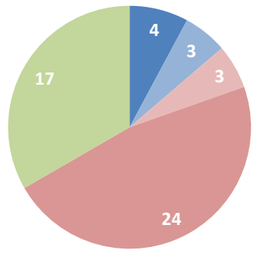
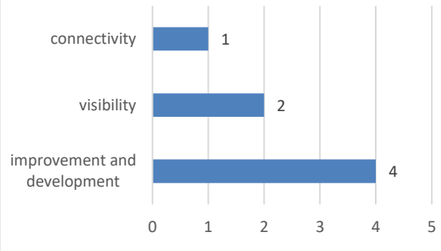
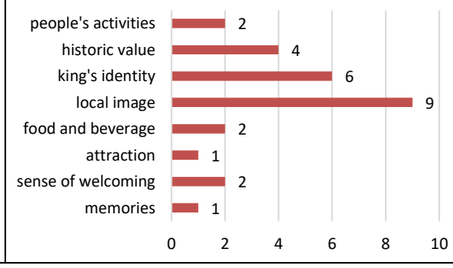
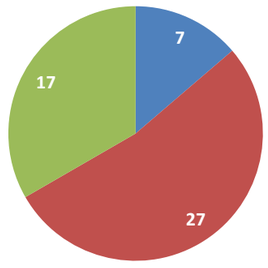


Figure 6.6: The proportion of attributes across the list of photos for continuity

Overall, 350 participants could not clearly classified their attachments and associations with the photos. Nevertheless, the attribute of **development and improvement** from the physical dimension was revealed to be significant across the list of photos (n: 152). It was also frequently recorded in all five of the highest-ranked photos. For example, referring to **Photo 54-Sultan Ibrahim Mosque**, some participants described the attribute as:

"I wish the local authority could improve the facilities and amenities in the mosque compound as it is a symbol of Muar as well as the identity for Malays and Muslim communities in the town. I do not wish people to misinterpret our teachings by looking into the unfriendly setting of the mosque." (Participant 80)

Table 6.5 : 5 highest ranked photos for continuity

Continuity						
Photo	Keywords	Physical attributes	Emotional Attributes	Dimensions	Sum	Rank
 54					123	1
 32					73	2
 49					58	3
 7					57	4
 38					51	5

"There is no doubt the mosque has become one of the important tourism spots in Muar due to its historical value…however, at one point, aspects such as cleanliness and environment-friendliness should be considered to attract people to the mosque…." (Participant 47)

These two statements were some of the examples of how the **development and improvement** attribute was reflected in the community's concerns regarding improving the current situation of the place.

Furthermore, several participants (Participant 2, Participant 5 and Participant 31) suggested that Muar's bus station needed to be improved because it significantly reflected the identity of Muar:

"The bus station needs to be improved because it is the first place for visitors (bus passengers) to be in Muar." (Participant 2)

"The bus station needs to be upgraded. It has a lot of historical values and thus one of the important landmarks for Muar." (Participant 5)

"It is strategic location which is next to the main road and Muar River could offer many potentials to the people. In fact, it can be upgraded into a tourist spot." (Participant 31)

Historic value (n: 117) and **local image** (n: 91) were also perceived as the essential attributes in emotionally displaying people's sense of continuity in Muar. These attributes were among the highest-ranked attributes that appeared across the list of photos.

With reference to Table 6.5, four out of five photos were strongly associated with **historic value**. These five photos, except for **Photo 49** (which was a replica of a past Muar railway locomotive), were identified as depicting several of the oldest buildings in Muar. The late Sir Sultan Abu Bakar commissioned these buildings during the 19th century.

Taking the example of **Photo 54-Sultan Ibrahim Mosque**, Participant 77 described the mosque as:

"The mosque sort of a symbol that keeps reminds everyone about our unique local values and history. How Islam has been considered to be part and parcel of local communities' life, culture and belief…."

For Participant 32, the Muar bus station, which was **Photo 32- Muar Old Bus Station**, held special memories for him:

"My father keeps telling me; how he is truly missing the ambience of the old market of Muar during his childhood. He said that he always followed his father to the old market to buy some groceries and sometimes meeting with his father's friends at the riverbank."

Regardless of the fact that **Photo 49** represented a replica of a train engine, several participants believed that the replica had historical significance for the people of Muar:

"My father told me that Muar used to have its railway station. This locomotive is reminiscing the glorious era of Muar railway system." (Participant 11)

"The local authority tries hard to imitate the design of the previous rail engine. Even though some of the details are missing, but it manages to educate people about our legacy and history." (Participant 45)

In addition to **historic value**, the **local image** attribute was also considered important in referring to people's continuity. **Photo 54- Sultan Ibrahim Mosque** and **Photo 38- Monument of Royal Town** were the best examples of how these attributes affected people's sense of continuity in Muar. Regarding the mosque (**Photo 54**), Participant 101 stated that:

"It is a symbol of Islam as the state official religion back during the early years of Sultanate until nowadays. I mean, the significance of the mosque for the Sultanate and people is projected by the

lavish decorations and design of the mosque by our previous Sultan. It still the centre for communal activities especially during Eid *and other religious and royal festival."*

On the other hand, Participant 57 described **Photo 38-Monument of Royal Town** as:

"The landmark is one of a kind in Muar. It emphasises Muar as the royal town and somehow reflects the long history of Muar as the Empress town in the 19th century."

These two attributes reflected the mutual relationship between the Sultan and his subjects, which influenced the sense of continuity in Muar's identity and image.

In addition to these emotional attributes, the attribute of **improvement and development** from the physical dimension was also found to be significant across the list photos (n: 152). It was substantially recorded in all five of the highest-ranked photos. For example, in **Photo 54- Sultan Ibrahim Mosque**, some participants described the attribute as:

"I wish the local authority could improve the facilities and amenities in the mosque compound as it is a symbol of Muar as well as the identity for Malays and Muslim communities in the town. I do not wish people to misinterpret our teachings by looking into the unfriendly setting of the mosque." (Participant 80)

"There is no doubt the mosque has become one of the important tourist spots in Muar due to its historical value…however, at one point, aspects such as cleanliness and environment-friendliness should be considered to attract people to the mosque…." (Participant 47)

6.4 Overall Analysis of Photo-Elicitation Interview

This section discusses the final step of analysing the data gained from the photo-elicitation interviews. Previously, all the identified elements were analysed based on the thematic principles of Breakwell. However, to provide a comprehensive analysis of the photo-elicitation interviews, the five highest-ranked photos from the four principles of Breakwell were combined to form a single unit of information (Figure 6.7). This information was aimed at accomplishing **Research Objective 3**.

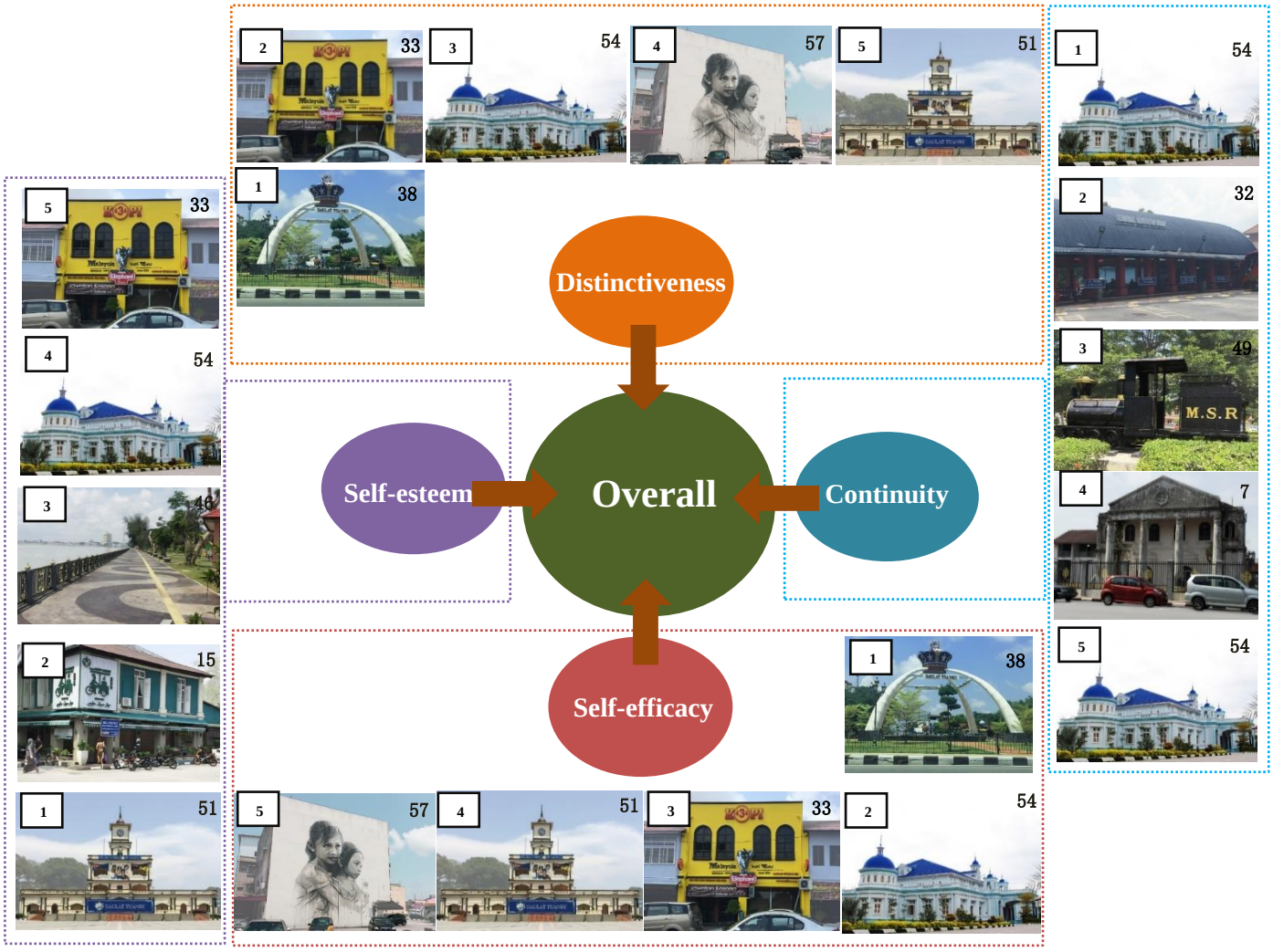


Figure 6.7: The ranked list of photo for each principle

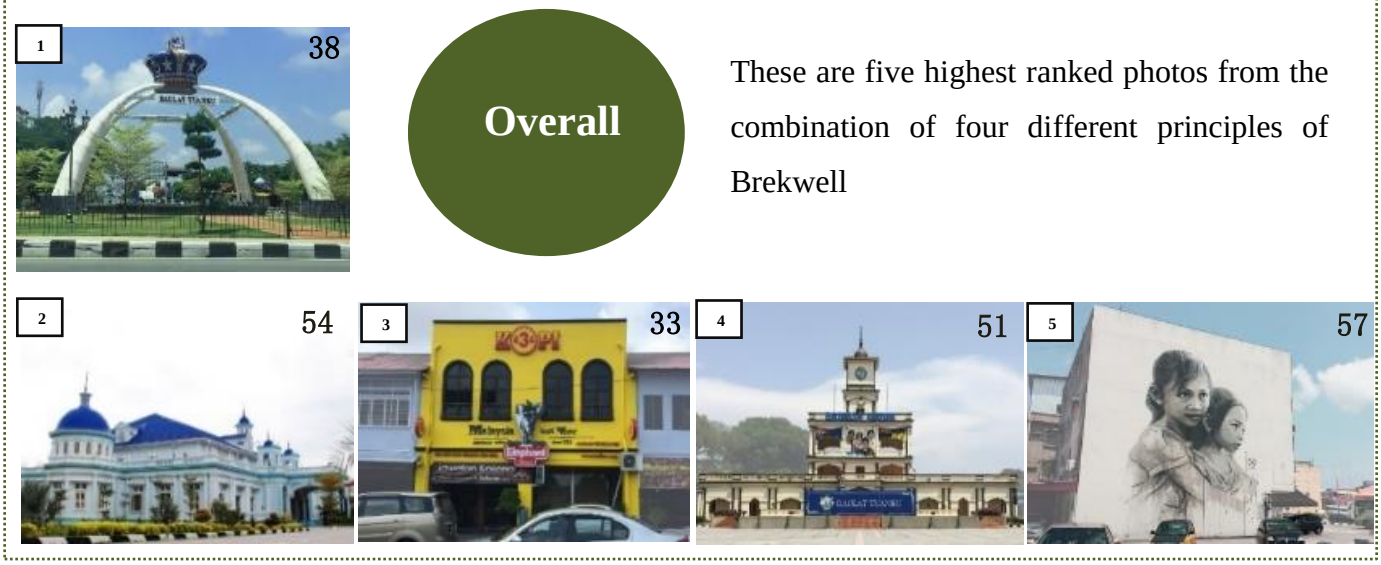


Figure 6.8: The list of the five highest-rated photos for overall findings

From the overall results in Figure 6.8, these photos illustrated five significant elements that were highlighted by the participants to represent the image and identity of Muar as a modern royal town. All of the five elements were located in prominent areas in both the royal precinct and the old town area. **Photo 33-Muar Kopi 434 Kopitiam**, for example, was well-known for its unique gastronomy experience in Muar, and thus reflected the unique food culture in Muar. **Tanjung Emas Square** in **Photo 51-** represented a space that was highly entrenched with local culture and activities. This place was also notable as a royal venue during several important royal occasions.

Meanwhile, **Photo 57-Great Mural of Muar** depicted Muar's local identity as the mural illustrated the image of local children in an affectionate posture. **Photo 38**, a monument of the royal town, was the most outstanding element, thus reflecting Muar's royal identity. The structure was among the landmarks that were built to commemorate Muar as a modern royal town. **Photo 54- Sultan Ibrahim Mosque** was meaningful in terms of symbolism as it was strongly associated with local faith and religion.

Table 6.6 displays the rest of the 60 photos arranged in a hierarchical sequence based on the sum of preferences across the principles.

Table 6.6: The list of photos for overall results

Overall

Photo	Rank	Sum	Dimension			Demographic attributes																																					
			physical	emotional	unknown	Gender		Age									Ethnicity			Locality		Occupation								Income						Education							
						Ma	Fe	1	2	3	4	5	6	7	8	9	Mal	Chi	Ind	Lo	N-lo	1	2	3	4	5	6	7	8	1	2	3	4	5	6	1	2	3	4	5	6	7	8
38	1	786	213	475	98	49	50	32	24	14	7	6	4	6	6		76	23		76	23	23	1	17	39	4	4	7	4	34	15	2	6		31	5	36	7	25	19	2		4
54	2	773	225	452	96	49	48	24	23	16	8	8	2	7	7	2	76	21		69	28	20	1	15	38	7	3	8	4	26	13	6	6		34	5	31	4	29	17	5		5
33	3	604	162	367	75	36	40	19	21	14	5	7	2	5	2	1	56	20		61	15	12	1	9	40	5	2	4		29	12	5	5		19	7	23	1	17	21	3		3
51	4	593	153	365	75	37	38	22	22	11	4	6	2	4	3	1	58	17		57	18	19	2	12	30	3	4	3	2	27	10	4	1		25	8	27	4	19	14	2		1
57	5	532	150	318	64	39	26	20	18	9	3	5	3	5	2		45	20		49	16	13		11	31	2	2	5	1	20	11	3	6		21	4	21	4	17	11	2		6
46	6	484	145	277	62	27	36	21	9	10	7	4	3	2	5	2	46	17		47	16	10	1	9	24	6	2	5	4	19	8	4	5		16	3	24	2	22	9			3
2	7	440	143	240	57	25	32	18	12	7	5	2	2	4	6	1	48	9		46	11	12	1	7	23	3	1	5	3	15	11	1	3		14	3	22	3	16	10	1		1
49	8	426	120	256	50	23	27	16	10	12	4	2	1	4	1		36	14		39	11	12		8	21	2	2	2	2	19	5	1	3		12	2	16	6	16	8	1		
27	9	378	105	228	45	20	26	17	17	5	1	1	2	1	2		33	13		36	10	9	2	10	18	2		3	2	23	4		3		9	2	11	6	12	12	1		1
15	10	362	105	207	50	26	24	17	15	7	3	3	3	2			34	16		37	13	9	1	7	25	3	2	2	1	22	8	2			14	5	11	2	16	12	2		2
16	10	362	106	207	49	29	20	13	9	5	5	7	1	3	5	1	33	16		39	10	7		6	25	4	3	2	2	16	8	3	5		13	2	19	3	15	9			1
24	12	330	100	190	40	16	24	10	15	5	2	2		1	5		30	10		27	13	6	1	8	15	3	1	4	2	15	7	1	4		10	0	13	1	8	14	2		2
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50	14	262	69	158	35	15	20	8	10	2	3	2	2	3	3	2	26	9		22	13	7		6	14	2	2	1	1	11	6		2		10	3	13	1	9	4	2		2
7	15	213	66	119	28	18	11	4	9	1	6	4	2	3			21	8		24	5	5		6	14	3		1		10	6	2	2		6	2	10	1	9	4			3
42	16	201	58	119	24	11	13	4	4	7	2	1		1	3	2	21	3		18	6	2		8	10	1	2	1		6	4	1	2		7	2	10	2	4	6			
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43	20	178	54	102	22	11	11	7	3	3	1	3		2	3		19	3		20	2	5		3	11	1	1	1		7	2	3	3		6		4	1	6	9	2		
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11	49	29	11	13	5	4	1	1				1	2	1			1	4		4	1			1	3					2			1		2		1	1	1	1			1
20	50	28	10	14	4	2	2	1	1	1		1					2	2		2	2	2		1	1							1	1		1			1	1	1	1		
1	51	26	11	11	4	1	3	2			1	1						4		3	1	1		1		1		1		1					3		1	1		1	0		1
26	51	26	9	14	3		3		1	2							2	1		3				1	1			1		1					1		2		1				
22	53	25	4	18	3	2	1	1	1					1			3			3		2				1				1					2		2		1				
5	53	23	8	12	3	3			1	1	1						2	1		2	1			1	1	1				1	1				1		1		1				1
3	55	22	5	14	3	3				1	1			1			2	1		2	1				3					1	2						1		2				
58	56	19	6	11	2	1	1	1				1					1	1		2		1			1					1					1		1		1				
59	57	18	3	13	2	1	1		1					1			2			2					2					2							1		1				
9	58	12	4	6	2		2	2									2			2						2				2										2			
4	59	7	4	3	1	1				1							1				1																						
28	60	0																																									

Legend

Gender	Ma	Male
	Fe	Female
Age	1	18-22
	2	23-27
	3	28-32
	4	33-37
	5	38-42
	6	43-47
	7	48-52
	8	53-57
	9	58 and above
Ethnicity	Mal	Malay
	Chi	Chinese
	Ind	Indian
Locality	Lo	Local
	N-lo	Non-local
Occupation	1	Full-time student
	2	Part-time student
	3	Self-employed
	4	Full-time employee
	5	Part-time employee
	6	Retired
	7	Currently not working
	8	Others
Income	1	RM0- RM 2000
	2	RM 2001- RM 4000
	3	RM 4001- RM 6000
	4	RM 6001 - RM 8000
	5	RM 8001- RM 10000
	6	confidential
Education	1	Primary leaver
	2	Secondary leaver
	3	Certificate holder
	4	Diploma holder
	5	Graduate with degree
	6	Graduate with masters
	7	Graduate with Phd
	8	None of these

6.4.1 List of Compilation Photos Based on the Overall Result

This section provides a list of photo images based on the hierarchical process of the overall results. Based on Table 6.7, the photos have been arranged in a series of numbers that represent the significant levels of the elements based on peoples' preferences and perceptions in the physical and emotional dimensions. The hierarchical significance of the photos was dictated by the results of the overall sum in the physical, emotional and anonymous dimensions.

Thus, this section has provided visual information by displaying the list of photos that were used throughout the analysis. However, the locations of these elements could not be provided in this section. The locations will be addressed in the next stage, which uses the mapping method in the final part of the analysis, in order to visualise the royalness of Muar as a modern royal town.

Table 6.7: The list of photos for overall findings

1  Monument of Royal Town	2  Sultan Ibrahim Mosque	3  Muar Kopi 434 Kopitiam	4  Tanjung Emas Square	5  Great Mural of Muar	6  Tanjung Emas Promenade	7  Sultan Ibrahim Bridge	8  Replica of Muar Train Engine	9  Muar Landmark	10  Muar Soup House
11  Flea Market	12  Muar Cruise River Centre	13  Muar Bus Station	14  Monument of Tanjung Emas	15  Old Telekom Building	16  Sultan's Retreat Palace	17  Estuary of Muar River	18  Tanjung Emas Food Court Centre	19  Tanjung Emas Gateway	11  Sultan Abu Bakar Building
21  Traditional Fisherman Jetty	22  Pre WWII buildings	23  Pre WWII buildings	24  Pre WWII buildings	25  Tanjung Agas	26  Muar High School	27  Muar Police Station	28  Nattukottai Chettiars Sri Murugan Temple	29  ADAMI Spices House	30  Maharani Jetty
31  Satay Hawker	32  Maharani Square	33  New Retreat Palace	33  Pre WWII buildings	35  Mee Bandung Hawker	36  Muar Customs Building	37  Chiang Chuan Association House	38  Muar's Teochew Association Building	39  Hainanese Muar Hawker	40  Back lane in Flee Market
41 Hua Nam Old Kopitiam and Hotel	42 Muo Boutique Hotel	43 Pre WWII buildings	44 Nai Hai Fei Lai Temple	45 Tanjung Emas Jetty	46 Padang – Open Lawn Area	47 Hawker Food Centre	48 Eng Choon Huay Kuan Associations	49 Chong Hwa Primary school	50 Pre WWII buildings
51 Pre WWII buildings	52 Pre WWII buildings	53 MARA building	54 Muar Old Bookstore	55 Muar Terminal Ferry	56 Wetex Parade	57 Muar Trade Hotel	58 Satay Hawker	59 Local Council	60 Pre WWII buildings

6.5 Data Categorisation Based on Landscape Values of Cognitive Mapping Survey

As mentioned earlier, the collective aggregation of landscape value preferences and perceptions was conducted in two different steps. The first step was to overlay each participant's polygon data onto one database by using the Union overlay operation. This was designed to create new layers from the participants' databases.

Following the Union overlay, a Dissolve operation was run in order to calculate the count of polygons with similar geometries. Polygon boundaries were dissolved based on common geometry (area and perimeter), resulting in retaining one polygon in place of multiple overlapping polygons, and in creating a new attribute field count in the polygon attribute table with the attribute value representing the number of overlapping polygons. All of these geoprocessing operations were conducted using ArcGIS 10.4.

The second step was to quantify the polygons based on the 10 different landscape values. The process generated frequency counts of the 10 landscape values based on people's preferences towards, and perceptions of, the spaces within the identified area of Muar town.

Table 6.8: The frequency values for each landscape value

Landscape values	Number of polygons (FP)	Percentage (%) of polygons (PP)	Number of overlapping polygons (OP)	Percentage (%) of overlapping polygons (OPP)	Total of number of polygons (TP)	Percentage (%) of the total number of polygons
Symbolic	302	13.08	72	15.52	374	**13.49**
Economic	299	12.95	43	9.27	342	**12.34**
Naturalness	245	10.62	72	15.52	317	**11.44**
Historic	271	11.74	35	7.54	306	**11.04**
Aesthetic	228	9.88	31	6.68	259	**9.34**
Intrinsic	198	8.58	51	10.99	249	**8.98**
Spiritual	221	9.58	27	5.82	248	**8.95**
Recreational	194	8.36	39	10.34	233	**8.69**
Culture	193	8.41	48	8.41	241	**8.41**
Relaxation	157	6.80	46	9.91	203	**7.32**
Total	**2308**	**100.00**	**1954**	**100.00**	**7289**	**100.00**

Based on Table 6.8, the most frequently mapped landscape values were symbolic (n: 374/ 13.49% of all polygons), economic (n: 342/12.34%) and naturalness (n: 317/11.44%). Falling

in the middle of the distribution were historic (n: 306/11.04 %), aesthetic (n: 259/9.34%), intrinsic (n: 249/8.98%), followed by spiritual (n: 248/8.95%). The least frequently mapped landscape values were recreational (n: 233/8.69%), cultural (n: 203/8.41%) and lastly, relaxation (n: 203/7.32%).

Based on these results, the landscape values of symbolic, economic and naturalness were the three dominant landscape values most strongly preferred and perceived by the participants.

6.5.1 Visualising the Mapped Values based on Participants' Preferences and Perceptions

The polygons were aggregated spatially by using the Spatial Join tool in GIS in order to examine the collective preferences and perceptions of the participants. This tool was used to count the number of overlapping polygons in each landscape value. The maximum potential counts for each landscape value were varied as these were dictated by the total number of polygons (TP) provided during the survey (see Table 6.9).

Table 6.9: The overlapping values for each landscape value

Landscape values	Total number of polygons (TP)	Percentage (%) of the total number of polygons	Total of number of maximum overlapping polygons (MOP)	Percentage (%) of the total number of MOP	Rank
symbolic	374	13.49	68	12.62	**2**
economic	342	12.34	68	12.62	**2**
naturalness	317	11.44	58	10.76	**6**
historic	306	11.04	66	12.24	**5**
aesthetic	259	9.34	80	14.84	**1**
intrinsic	249	8.98	22	4.08	**10**
spiritual	248	8.95	76	14.10	**4**
recreational	233	8.69	38	7.05	**8**
culture	241	8.41	39	7.24	**7**
relaxation	203	7.32	24	4.45	**9**
Total	**7289**	**100.00**	**539**	**100.00**	

From the generated map, aesthetic value had the highest number of overlapping polygons (MOP: 80, PMOP: 14.84%). This was followed by spiritual (MOP: 76, PMOP: 14.10%) and both symbolic and economic (MOP: 68, PMOP: 12.62%). Falling in the middle of the distribution were historic (MOP: 66, PMOP: 12.24%) and naturalness (MOP: 58, PMOP: 10.76%). The landscape values that had the lowest number of overlapping polygons were cultural (MOP: 39, PMOP: 7.24%), recreational (MOP: 38, PMOP: 7.05%), relaxation (MOP: 24, PMOP: 4.45%) and intrinsic (MOP: 4.08, PMOP: 8.98%).

Aesthetic value dominated the overall results by having the most overlapping polygons in Muar, although it was not frequently significant in previous results. Figures 6.9, 6.10, 6.11, 6.12, 6.13 and 6.14 display the spatial aggregations of the landscape values as well as provide a visual inspection of the distribution of polygons in Muar.

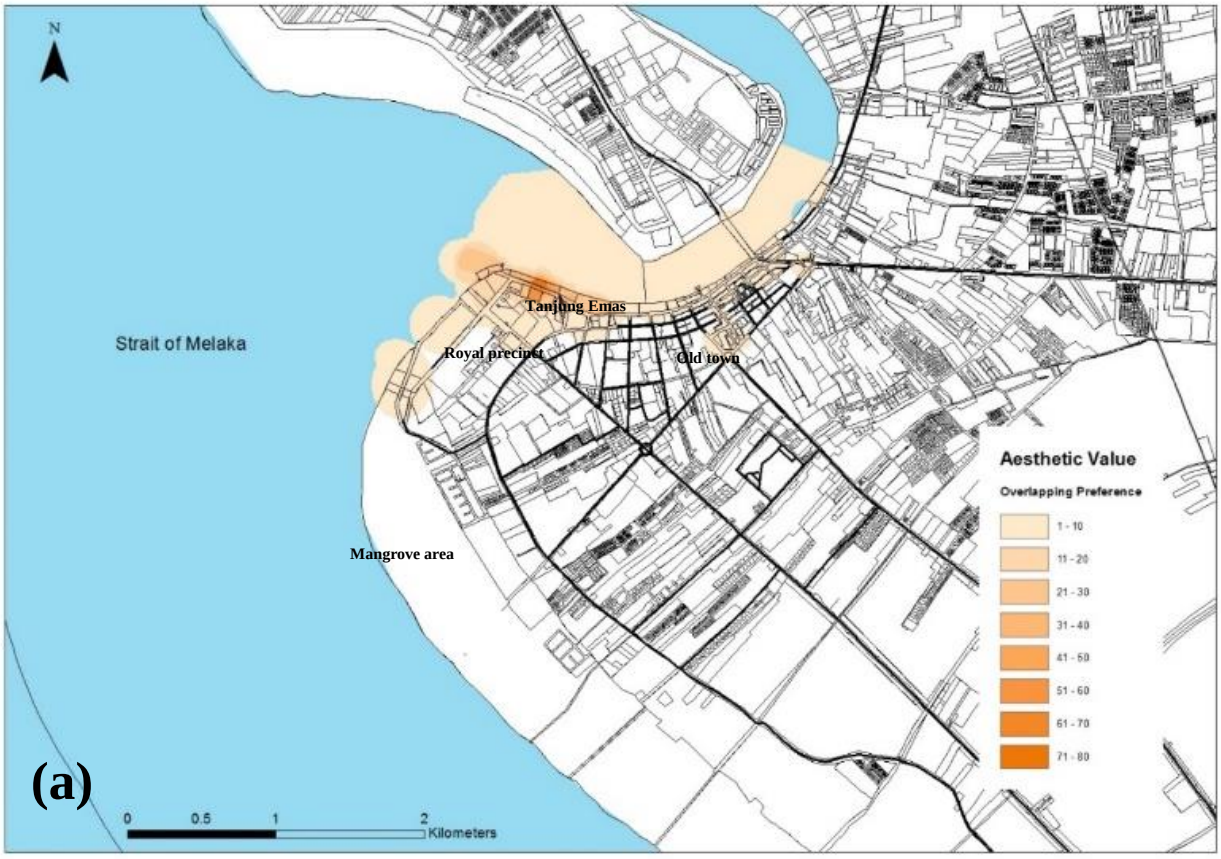


Figure 6.9: (a) Aesthetic

From the visual inspection, the spatial concurrence of aesthetic value in Muar was geographically located along the Muar River. The map densely aggregated in the royal precinct, particularly in the recreational area of Tanjung Emas.

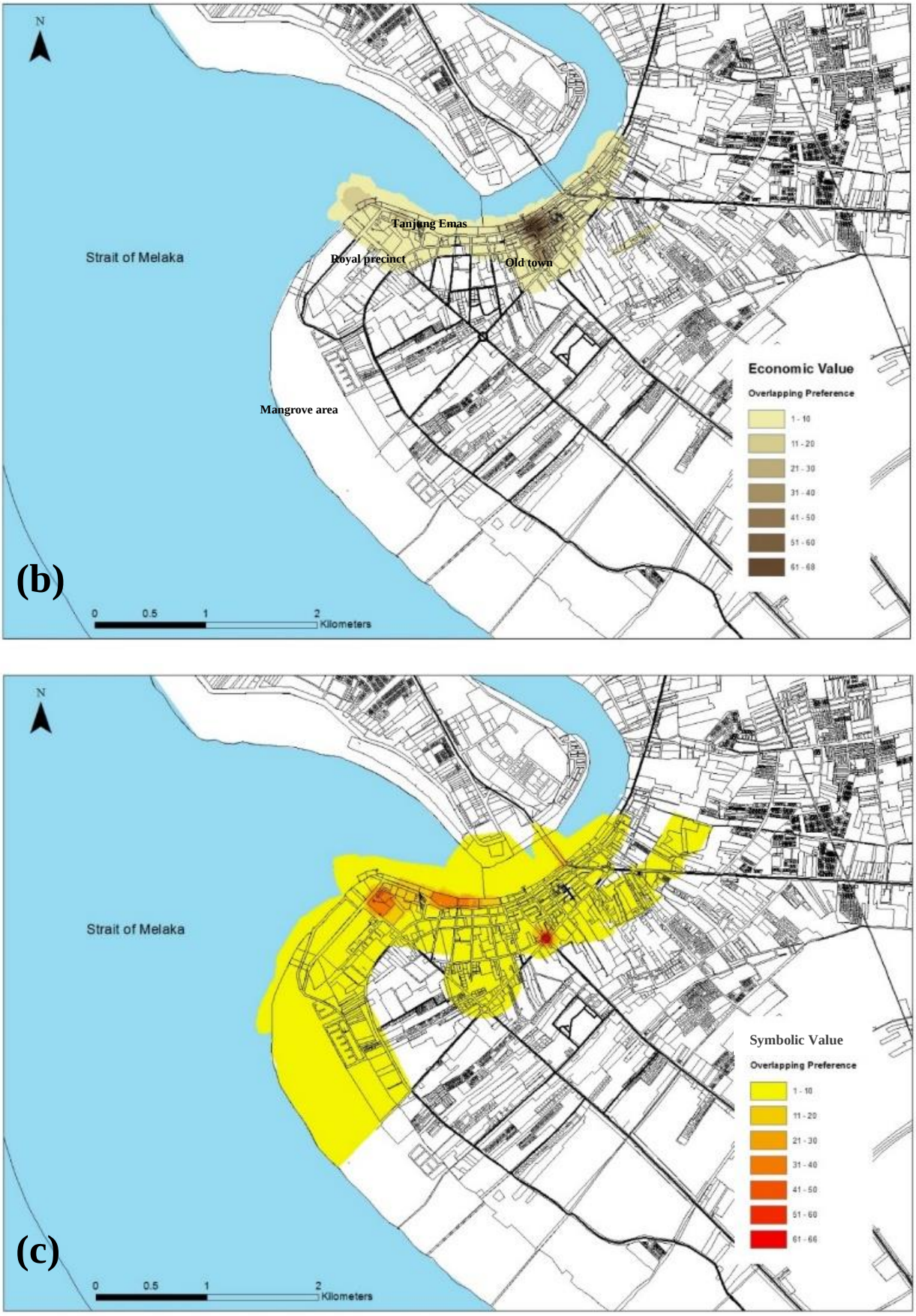


Figure 6.10: (b) Economic value (c) Symbolic value

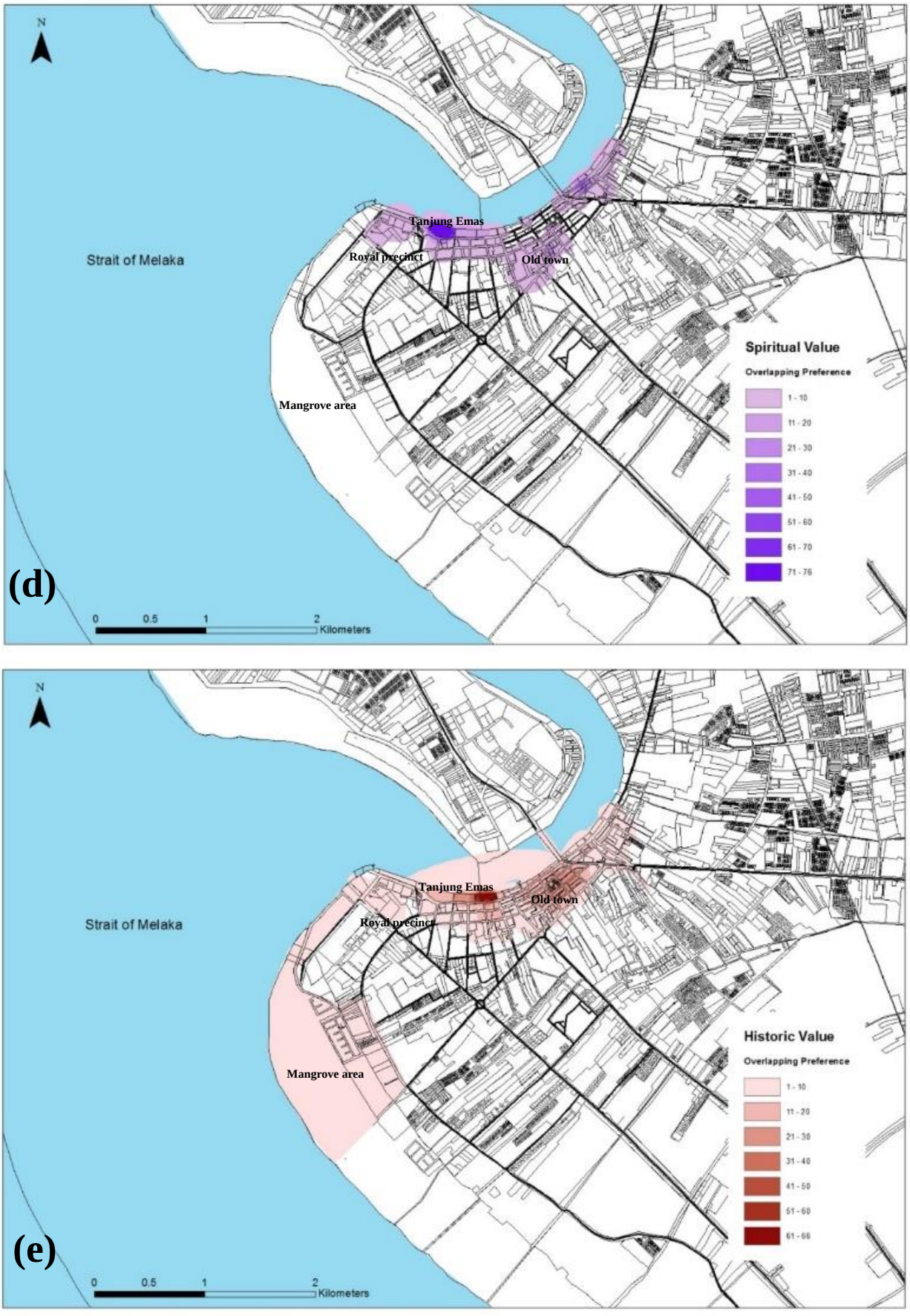


Figure 6.11: (d) Spiritual value (e) Historic value

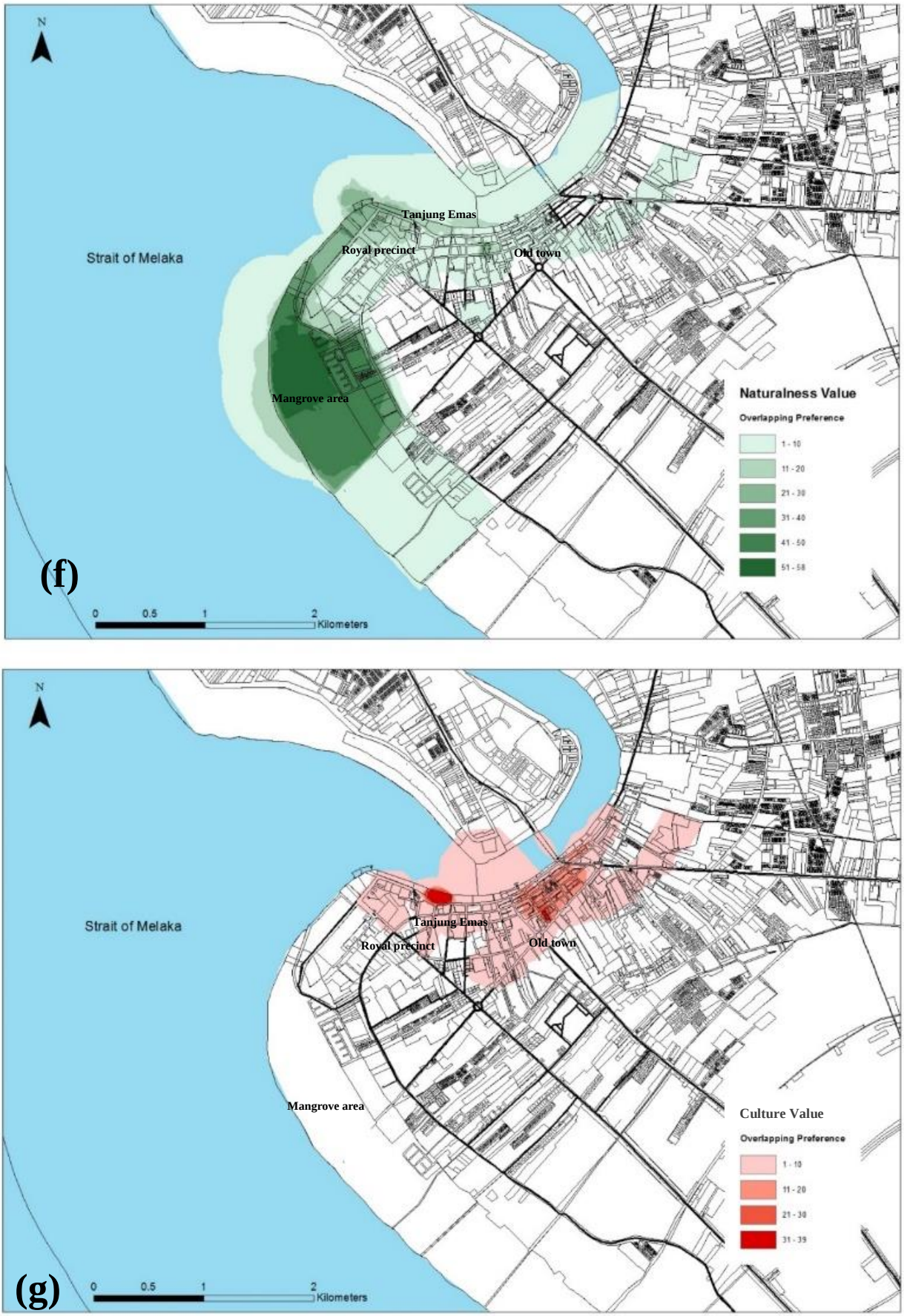


Figure 6.12: (g) Naturalness value (h) Culture value

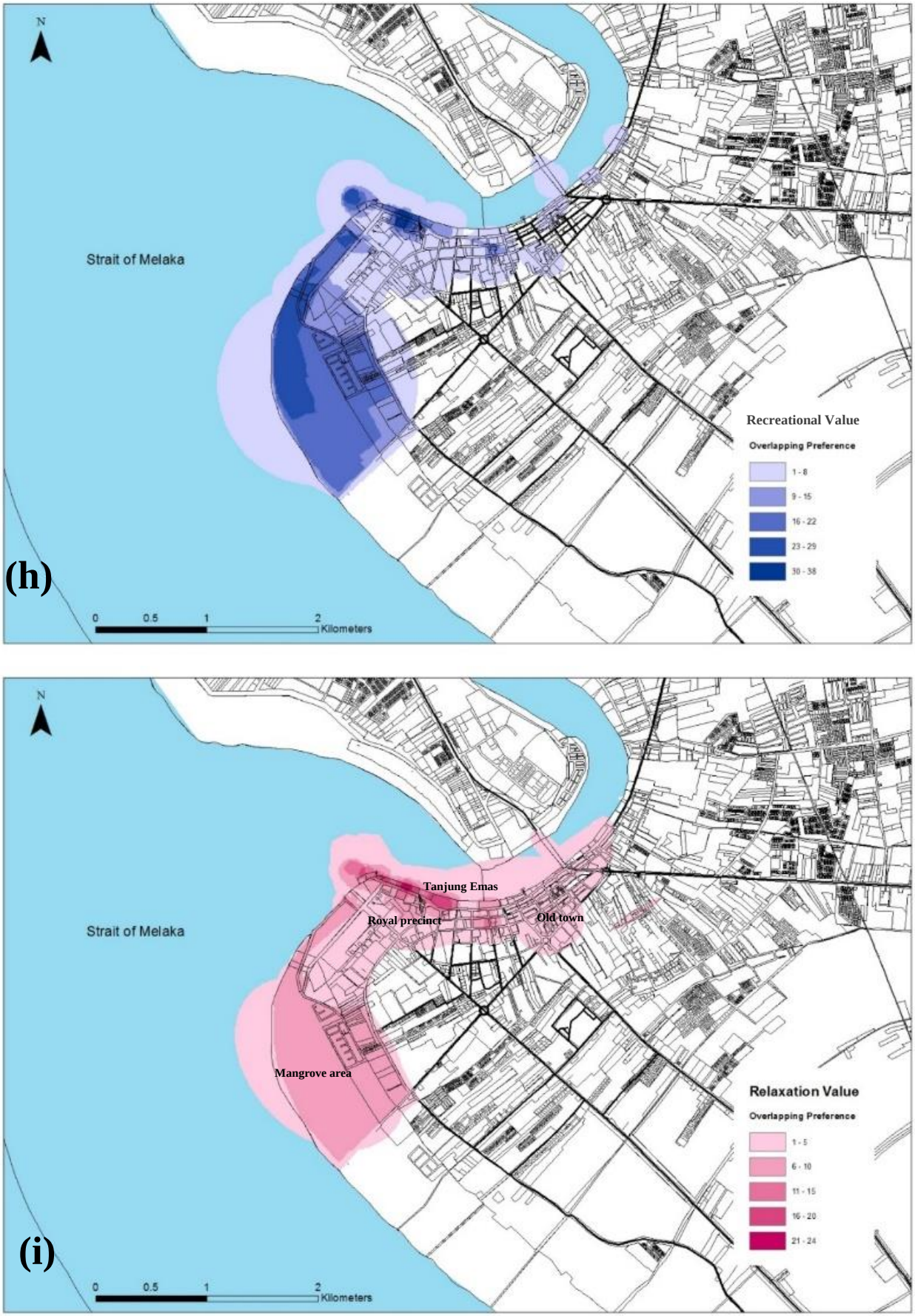


Figure 6.13: (h) Recreational value (i) Relaxation value

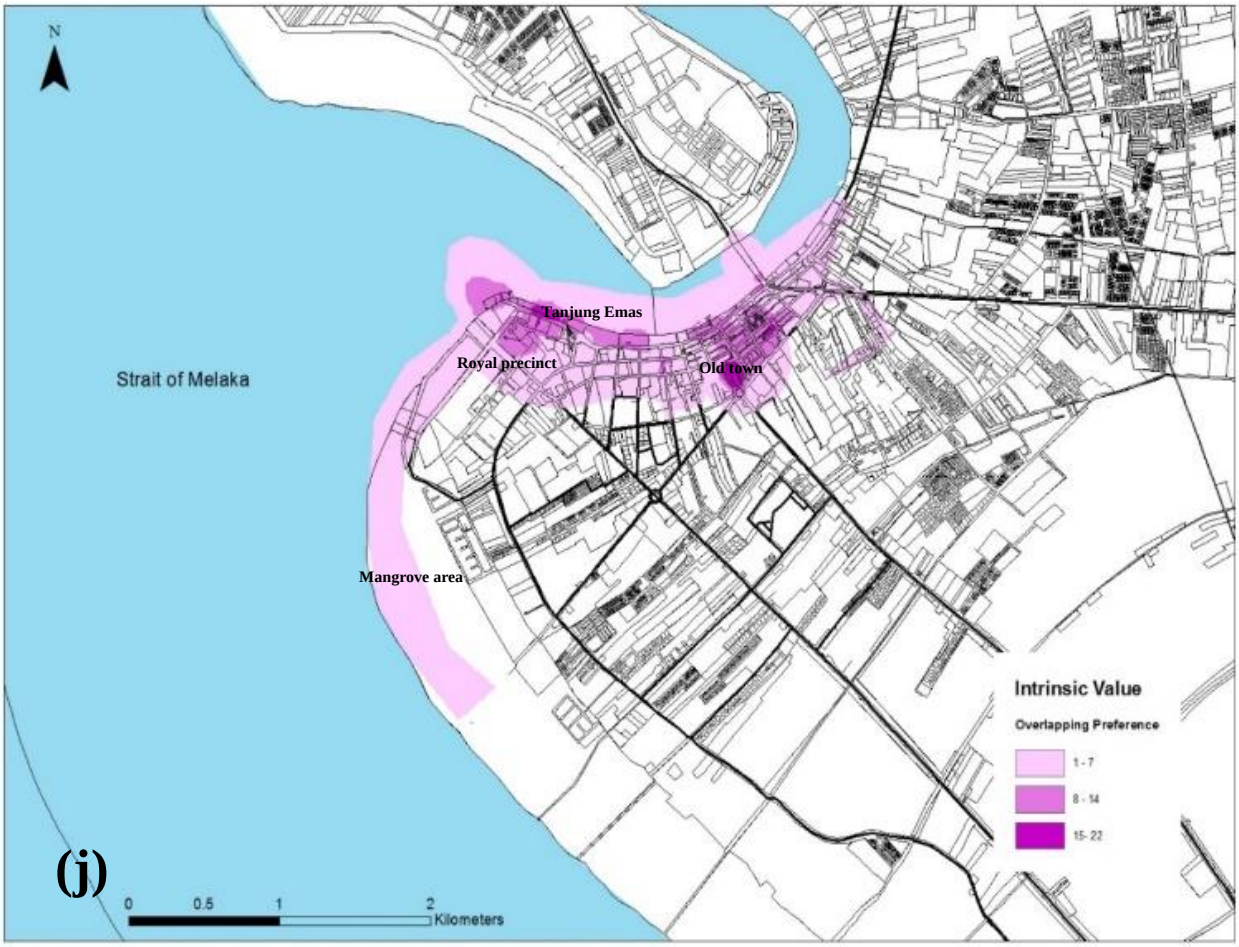


Figure 6.14: (j) Intrinsic value

The landscape values of economic, historic and culture were found to be highly concentrated in the old town area. Other landscape values such as naturalness, recreational and relaxation were perceivably significant along the royal precinct and the mangrove forest areas. These areas were nestled in the southwest of Muar. The landscape value of intrinsic, however, was densely concentrated in both the old town area and along the royal precinct.

For spiritual value, visually, the spatial concurrence of this value was in the royal precinct. It was particularly concentrated in the areas surrounding the Sultan Ibrahim Mosque and in several other spots in Muar's old town, where there were expected to be other religious buildings.

Based on the map for symbolic value, most of the places and spaces that represented the identity of the Sultan were aggregated in the royal precinct. It was also spotted in Muar town, which indicated the monument of the royal town, and along the Sultan Ibrahim bridge.

6.6 Combining the Maps of Landscape Values

The study was aimed at determining and understanding the relationships between all of the landscape values and their crucial contributions in displaying the social interaction/activities, and cultural and historical dimensions. Hence, all 10 maps were overlapped for this purpose.

The goal of this process was to identify areas or spaces that were homogenously significant in representing the investigated dimensions—the social interaction/activities, and cultural and historical dimensions. Two important stages were highlighted during the process.

The first stage began with converting the existing landscape value maps into raster format maps. All the polygons in every map were rasterised for the grid cell of 10 m using the *Polygon to Raster* operation in the *Conversion tool* in the *ArcToolbox*. In this process, each polygon cell received a value from the *Join Count* field in the maps' attributes table that comprised the number of overlapping polygons in each identified map.

The next stage was to provide a single unit layer map depicting the overall result for the dimensions. Therefore, each map was overlaid using the Addition tool in the raster calculator from the *Spatial Analyst tools*. The *Addition tool* was used to sum the values—in this case, the count number of the participants' preferences signified by the rasterised cells in the maps. Figure 6.15 demonstrates the overall process of combining the maps of the landscape values.

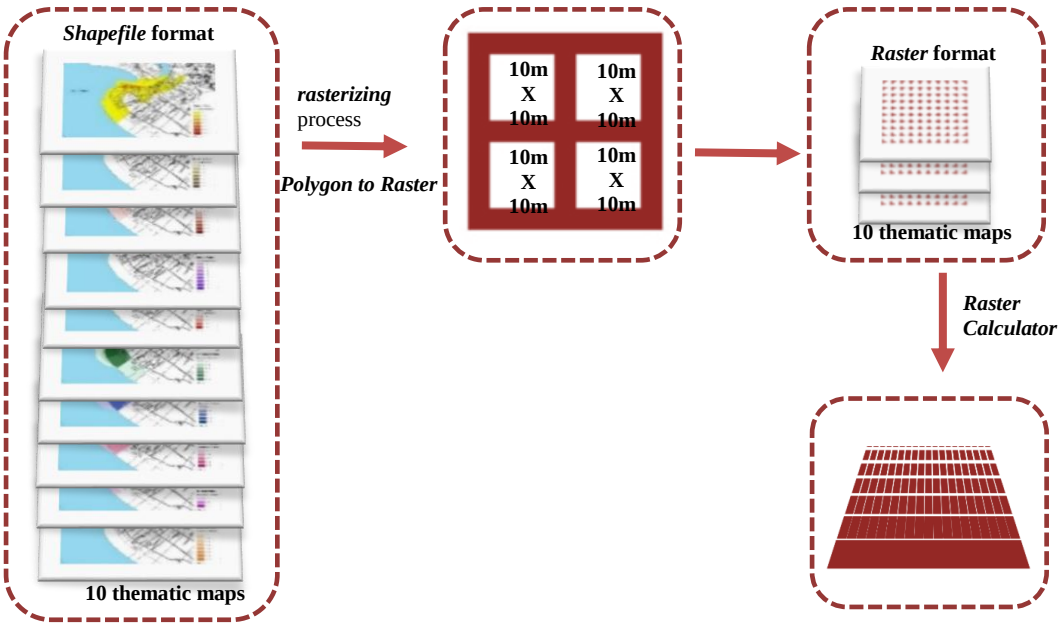


Figure 6.15: The overlay process of ten maps

The map in Figure 6.16 shows the result from the overlay process. Only a few areas in Muar town were considered significant. The map revealed that most of the areas were located along the Muar River, specifically in the Tanjung Agas Promenade. There were also several other scattered spots in Muar's old town area.

Therefore, the study recognised these areas as being the most significant, and rich with a diversity of landscape values. The results were dictated by people's preferences and perceptions, and hence, were vital to the identity of Muar as a modern royal town.

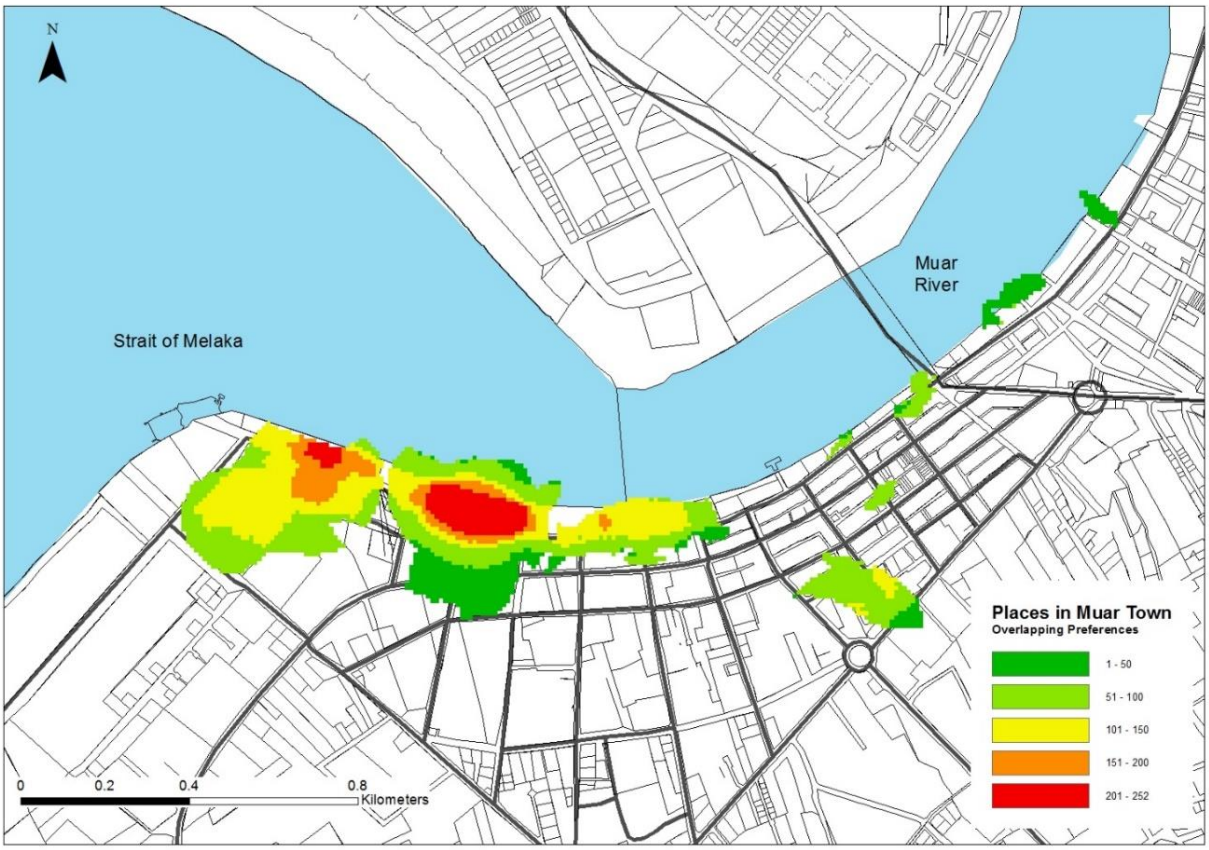


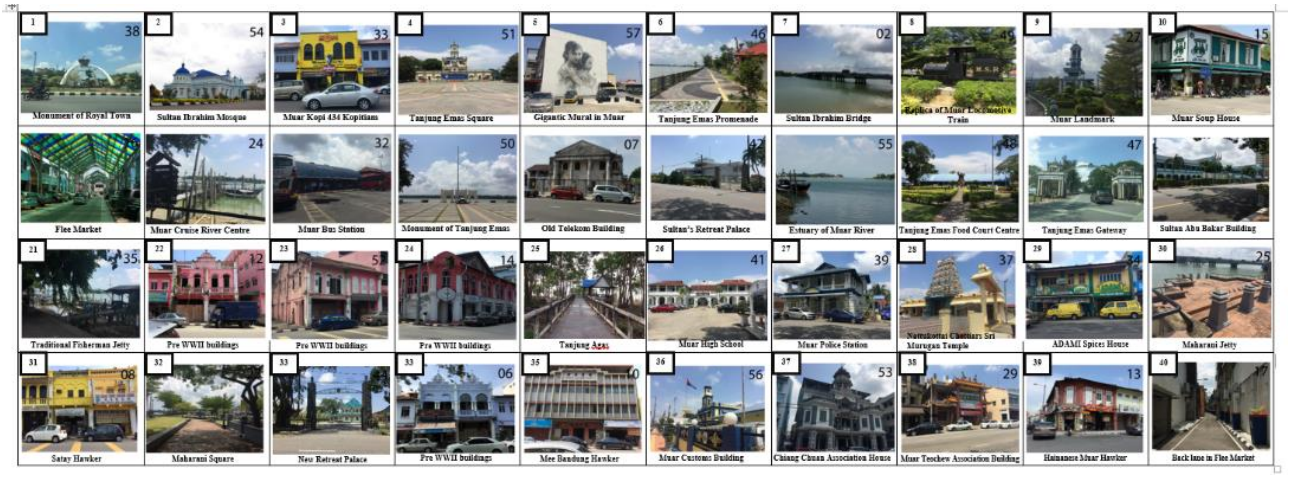
Figure 6.16: The final map from the overlay process

The value in the legend in the map indicates the number of overlapping cells, resulted from the identified identical cells across ten different landscape value maps. These cells represent the number of areas that are significant to the participants regardless of their differences in preferences and perceptions.

6.7 Finalising the Image and Identity of Muar as a Modern Royal Town

This process began with integrating the results from each dimension. Hence, a list of photos from the results of photo-elicitation was plotted on the final overlay map from the mapping exercise. The overlay process provided a comprehensive view of the elements that were strongly preferred and perceived by the participants.

Table 6.10: The example of photos



Before the overlay process, the selected list of photos that were significant to Muar from the physical and emotional dimensions was transferred and stored onto the GIS database. Point features were selected to depict the locations of the photos on the GIS map. The photos that were chosen and preferred by more than 75 participants in the overall result were included in this map. The reason was to ensure that the photos were significant in representing more than half of the majority of people's preferences and perceptions. In other words, these photos were strongly associated with the identity and image of Muar as a modern royal town in the eyes of the beholders.

Despite this decision, the non-selected photos were still considered meaningful and significant for the study. This was because all of the photos were produced and chosen based on the experts' and locals' feedback and supported by the literature review. However, these photos were not sufficiently preferred and perceived by the participants during the survey. As a result, these photos were excluded during the overlay process.

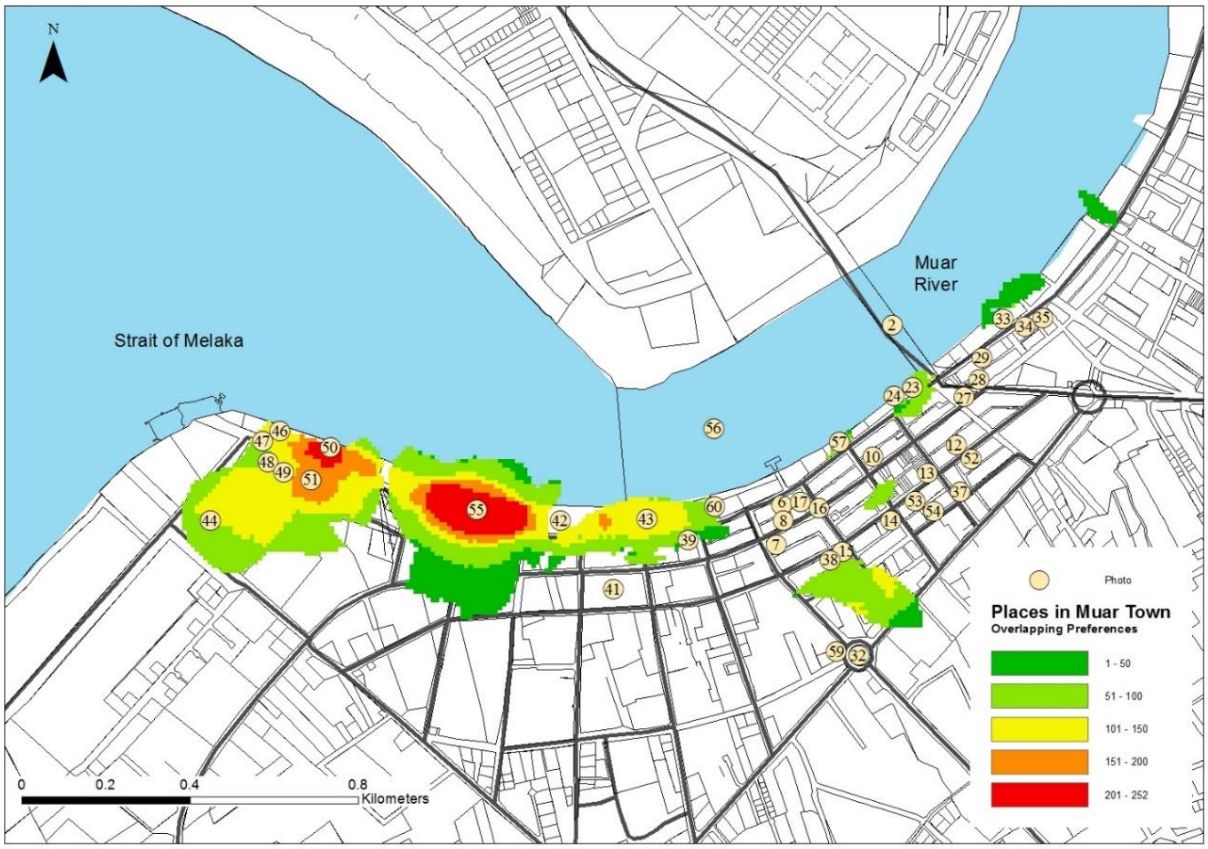


Figure 6.17: The overall result

The map in Figure 6.17 displays the overall results of photo-elicitation and cognitive mapping. The results represented four identified dimensions of place identity. The map provided better insights into the contributions of spatial values and people's perceptions in visualising the identity of Muar as a modern royal town from the place identity perspective. Visually, it could be seen that the distribution of photos was densely concentrated in the old town area of Muar. The cognitive mapping results were highly concentrated within the royal precinct.

The royal precinct location was considered unique as it was surrounded by many public places such as the Tanjung Emas promenade and the mangrove areas. Thus, this precinct had become one of the major attractions for the locals. It accommodated people's recreational, nature exploration and family activities. In contrast to other royal towns, Muar's royal precinct had a sense of welcoming and was vibrant with people's activities. The precinct was also embedded with the sultanate's historic value, which was displayed by the many existing historic buildings.

6.7.1 Visualisation and Boundaries of Royalness in Muar

This analysis responded to the roles of place identity in the planning process of Muar. In this case, people's preferences and perceptions via both photo-elicitation interviews and cognitive mapping surveys were regarded as part of acknowledging and empowering local participation in Muar's image and identity identification and yielded results for the future preservation and conservation of Muar.

Hence, the study was initiated to develop buffer zones that aimed to establish the boundaries of Muar as a modern royal town. This establishment of boundaries was to preserve and conserve Muar's distinctive characteristics. The study identified adequate levels and reasonable distances for a series of buffer zones in Muar. These appropriate distances for buffer zones contributed to the overall idea of Muar's royal town boundaries. ICOMOS and KSAS reports were referred to and both these reports suggested that each level of the buffer zones needed to consider three principles:

a) Protecting outstanding views into and out from the core area.
b) Protecting the built and natural environment where actions could adversely impact their historical and physical relationships with the core area.
c) Appropriate consideration should be given to the impact that any proposal may have on the character and setting of the core area, and therefore its outstanding universal values.

The study proposed three layers of buffer zones that signified the hierarchy of the zones in the royal town. With reference to the *Action Plan for Biosphere Reserves* (UNESCO, 1984) as well as the existing boundary zones requirement of the local planning report *Kawasan Sensitif Alam Sekitar* (KSAS; Planning Development for Sensitive Areas), the planning zones were classified and divided into:

Table 6.11: The justification of zones

Zone 1	Sensitive area: no major development is allowed
Zone 2	Semi- sensitive area: a permission is needed from local council for any major development
Zone 3	Transitional area: a flexible development area but a permission is needed from local council for any major development

The study suggested 500 meters for Zone 1, 1,000 meters for Zone 2 and 1,500 meters for Zone 3, respectively. The proposed distances were suggested based on the practicality, sensitivity and real-world conditions of Muar as a compact and small coastal town.

The buffering analysis produced three maps to indicate three different zones in Muar, using three different coding colours (see Figures 6.18, 6.19 and 6.20). At the end of the analysis, Figure 6.21 displayed a map that consisted of three levels of distance, from 500 metres, 1,000 metres and 1,500 metres. The map showed the changes in the gaps between the zones. Therefore, the produced map can be used to propose the boundaries of the royal town of Muar, based on the place identity approach.

Figure 6.18: (a) Map with 500 metres buffer zone

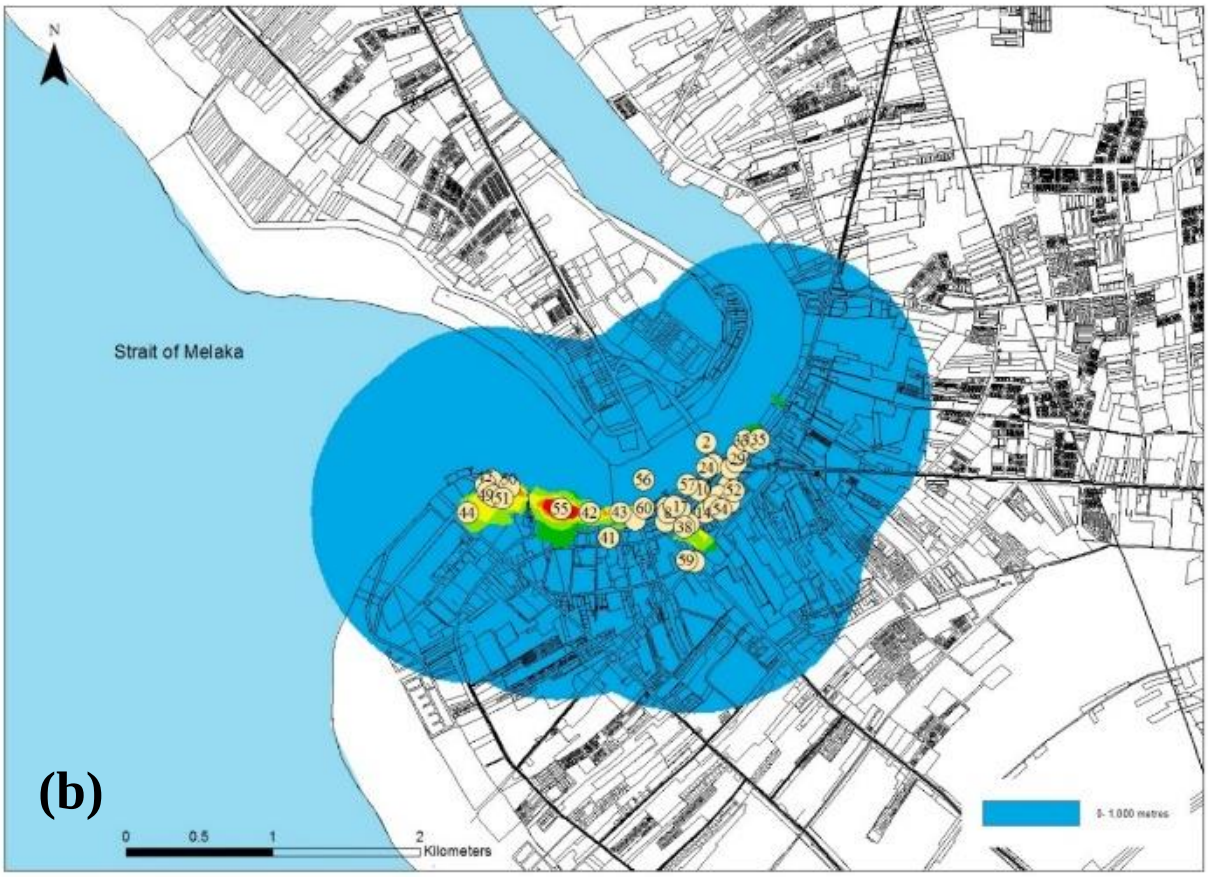


Figure 6.19: (b) Map with 1,000 metres buffer zone

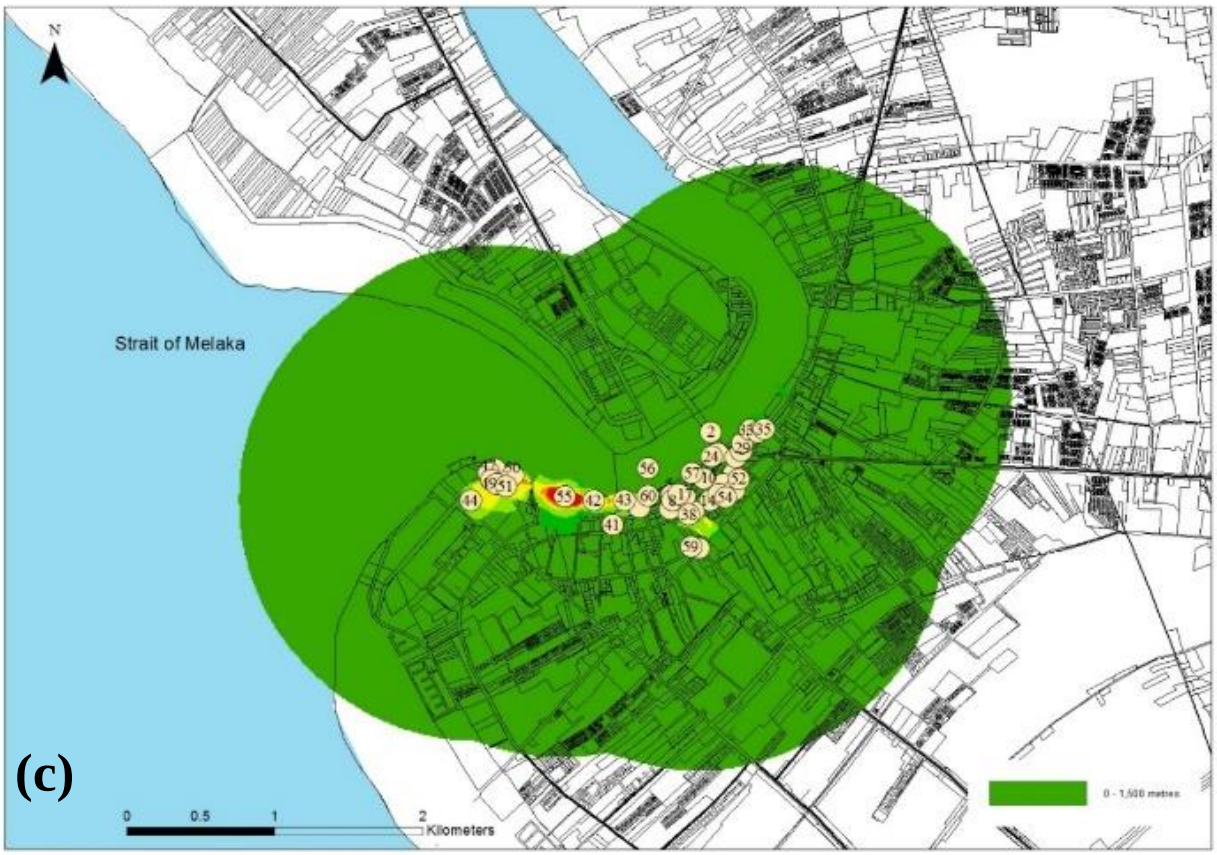


Figure 6.20: (c) Map with 1,500 metres buffer zone

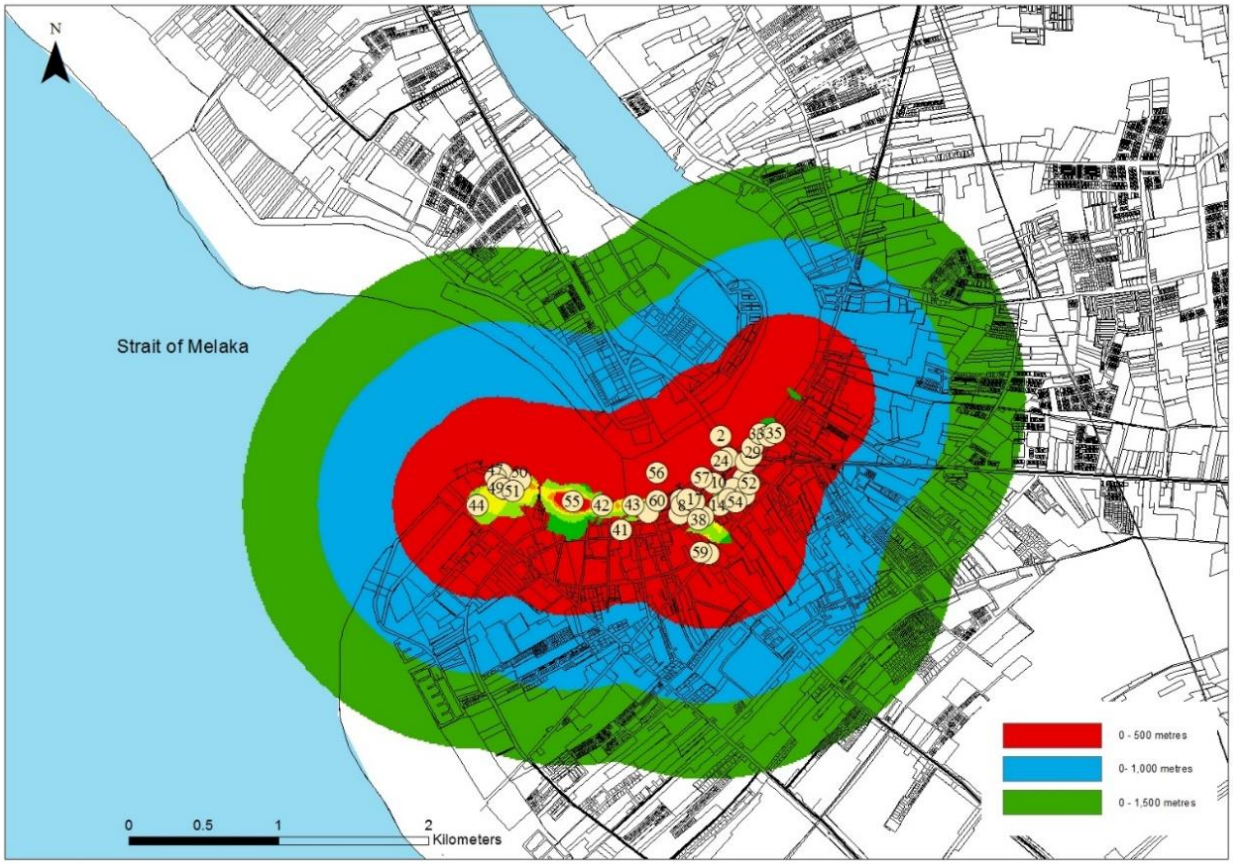


Figure 6.21: The map of the proposed zoning areas in Muar

6.8 Summary

This chapter has provided methods of analysis by both photo-elicitation and cognitive mapping surveys in a systematic way as part of displaying the results for the place identity dimensions. The textual analysis in the photo-elicitation has resulted in a better way to interpret people's associations with particular elements. The transcription, coding and keyword identification procedures have allowed this study to quantitatively analyse the ranking of photos based on the number of people's preferences.

These procedures were followed by cross-referencing each Breakwell principle to obtain further explanations based on the provided justifications, which were derived from people's perceptions. Next, the five highest-preferred photos from each principle were compared to determine their significance in terms of demonstrating the identity and image of Muar as a

royal town. In addition, a new categorisation table of photos that were ranked according to the total sum of people's preferences was produced. These two stages were critical as both of them provided the foundation of achieving **Research Objective 3**.

The results from cognitive mapping were operated using ArcGIS 10.4 in order to visualise 10 different thematic maps. The produced maps depicted the distribution of people's preferences and perceptions regarding places and spaces that were meaningful and that reflected the social value of the places.

The final stage of cognitive mapping was to produce a single map that displayed the most important spaces that were homogenously significant for the participants. This process responded to **Research Question 3**, which was: **To look into how people's preferences, perceptions and cognitions reflected the zoning of Muar's royalness as a modern royal town**. Thus, this map represented the investigated dimensions—social interaction/activities, and cultural and historical dimensions.

To ultimately resolve **Objective 3**, the results for both photo-elicitation and place mapping were incorporated into a single layer map. This map showed the spatial attributes and values that were significant for Muar's identity as a royal town from the place identity approach.

The analysis was continued by proposing a clear boundary demarcation process, which emerged from the people's preferences and perceptions. A series of buffer zones was introduced, based on UNESCO guidelines and the KSAS report. These zones were aimed at protecting and conserving, as well as highlighting, the significance of the identified characteristics of royalness in Muar.

Overall, this chapter has provided an insight into how place identity has been integrated into the planning process of Muar in terms of exploring people empowerment in several stages (e.g. identifying, characterising and establishing, as well as preserving and conserving) in order to discover the image and identity of Muar as a modern royal town.

CHAPTER 7

DISCUSSION

7.1 Reflections on Place Identity's Dimensions

The initial objective of this study was to investigate the relationship between place identity and Muar's identity and image as the only modern royal town in Malaysia. Hence, the study explored the existing body of knowledge regarding the concepts of place and identity. This study has acknowledged the importance of both the objectivist and subjectivist paradigms when determining the roles of preference, perception and cognition in portraying the image and identity of a place based on the place identity approach.

Concerning **Research Question 1**, which was: **What are the relevant dimensions of place identity to construct the identity and image of Muar as a modern royal town?** one of the contributions of this study was to identify four different place identity dimensions that have been widely discussed in place identity studies. These dimensions were physical, emotional, cultural and historical, as well as people's activities.

However, some of these dimensions were treated as subsets of one another due to unclear definitions. Additionally, these dimensions were dominated by the physical dimension. As a result, the dimensions other than the physical dimension have not been thoroughly addressed in reflecting the real essence of place identity (Marcouyeux & Fleury-Bahi, 2011).

Therefore, highlighting the identified dimensions was crucial for the study. The integration of these four dimensions has allowed the study to address the tangible and intangible elements that characterised the image and identity of Muar as a modern royal town. Moreover, the study aimed to prevent a vague interpretation of place identity that resulted from its broad concept of people and place interaction (Hauge, 2007).

Furthermore, the integration of the four identified dimensions was the first step in establishing the research framework for this study. The research methodology introduced two different methods to assess the identified dimensions. These methods were photo-elicitation and cognitive mapping. Each of them was designed to assess the physical, emotional, cultural and historical, as well as social interaction/activities dimensions during the surveys in Muar. Additionally, the methods were selected in order to respond to **Research Question 3**, which stressed the roles of people's preferences, perceptions and cognitions in the place identity approach.

7.2 Reflections on People's Engagement in Investigating Muar's Image and Identity

The present research was also aimed at achieving **Research Objective 2**, which was: **To develop a methodology to assess the image and identity of Muar as the only modern royal town in Malaysia, based on the identified dimensions of place identity.**

It was found that photo-elicitation and cognitive mapping surveys were the relevant methods to assess the identified place identity dimensions, as stated theoretically in Chapter 4 and practically demonstrated in Chapter 5. However, the methods were still subject to a number of limitations.

7.2.1 Limitation of Photo Elicitation

During the photo-elicitation survey in Muar, several factors affected the process of data collection. First was the difficulty in approaching local participants from different backgrounds during the short interview sessions, which were aimed at developing photo sampling. In Chapter 5, it was noted that 20 participants were willing to cooperate in this study. However, the sample did not represent the diversity of the demographic population of Muar. This factor may have potentially led to bias in the photo sampling.

According to Ghaderi *et al*. (2012) representatives from different groups, especially in the Malaysian planning context, is a must. This allows the aspirations and interests of particular groups to be taken into account during every step of the planning process.

Second, the consistency of the photo sampling technique was the main concern in the study. Despite the study observing and following the photo techniques proposed by Appleyard (1979) and Evans *et al*. (1982), several modifications occurred during the photo-capturing process. These modifications were necessary because several buildings and elements were not accessible due to security reasons such as the Sultan's palace.

Some buildings were also located in juxtaposition to the main roads and there were distractions from traffic and pedestrians. Therefore, the photos could only display glimpses and partial structures of the buildings. These factors may have affected the way people preferred and perceived the photos during the surveys.

Moreover, a large number of participants during the surveys were preferred not to elaborate in detail about their photo preferences. This has led to insufficient information regarding their emotional attachments and engagements with the elements in the photos. This was a common problem encountered during the photo-elicitation process. Karmanov & Hammel (2009) and Rambonilaza & Dachary-bernard (2007) believed this photograph method was not sufficient to resemble the actual landscape due to the lack of actual experience by the participants. Human's perception is influenced by a simultaneous reaction triggers by human senses such as sight, hearing, smell, taste and touch (Shinbira, 2017). This was the reason that contributed to the lack of information given by the participants in this study.

However, the selected method was still relevant Many researchers (e.g. Kyle & Chick, 2007; Kong *et al.*, 2014; Sonn, Quayle and Kasat, 2015) have preferred photo-elicitation interview instead of on-site assessment the efficiency and cost-effectiveness.

7.2.2 Limitation of Cognitive Mapping

The complicated aspects of developing the mapping method were: (i) ensuring the conventional A3 map was presentable; and (ii) the practicality of online mapping. It was challenging to provide a clear map of Muar town in A3 size due to the low resolution of the print-based maps from Google Maps. However, the provided map was graphically enhanced by using Photoshop software, which was used to increase the map's resolution and pixelation.

Despite the Mapbox application being flexible in terms of interactivity, the printed A3 map was more efficient when dealing with various groups of participants. Most of the time, the

participants struggled to respond using the application during the place mapping. Second, some of the participants stated that the process and technique were not user-friendly and too complicated for them. Although the researcher tried to assist them during the survey, they were not able to respond to the place mapping process according to the researcher's expectations.

This commonly happened among many older participants who were not familiar with online mapping. Despite many researchers (Bilge *et al*., 2015; Pánek, Gekker, & Hind, n.d.; Pánek *et al*., 2013; Trapp *et al*., 2011) suggesting that integrated online mapping and mobile devices improved people engagement in surveys, this study contradicted their findings. In this case, knowledge of, exposure to, and familiarity with, technology did influence people engagement in this study.

However, online mapping was considered effective and interactive in a particular group of participants—those aged between 18 and the early 30s. This was because this group was aware of the advancements in present-day technology.

7.3 Reflections on Image and Identity of Muar as the Modern Royal Town based on the Proposed Methods

7.3.1 Reflections on Physical Dimension and Emotional Dimension of Existing Muar's Image and Identity Using Photo- Elicitation

The analysis process for photo-elicitation was divided into two parts. The first part was to assess place identity from each of the four Breakwell principles individually. This allowed the study to investigate the roles of these principles in influencing people's preferences and perceptions when responding to photo sampling.

The second part was to gather the overall results. This part was designed to assess people's preferences, perceptions and cognitions within the physical and emotional dimensions in reflecting the identity and image of Muar as a modern royal town.

7.3.1.1 Reflections on People's Preferences and Perceptions based on Identity Theory Process's Principles in Muar

a) Self- Esteem

Based on the results in subsection 7.3.1, the attribute of **comfort** was detected as the attribute that defined the highest significance level of self-esteem across the 60 provided photos. This finding strongly suggested that **comfort** was the most important component of people's pride when describing their emotional attachments to particular elements in Muar. It was found that **Photo 51-Tanjung Emas Square**, **Photo 46- Tanjung Emas Promenade** and **Photo 54- Sultan Ibrahim Mosque** were strongly preferred in terms of **comfort** because their settings were suitable to accommodate people's social interaction and activities.

These findings are in line with previous studies performed by Shamsuddin & Ujang (2008) and Ujang (2012). These studies demonstrated that **comfort** helps to secure a sense of identity and that the **comfort** of a particular place helps to increase the positive image and identity establishment of the local environment in Malaysia. Thus, it is common for individuals to associate themselves with places that have a good image as part of their self-esteem development process (Korpela, 1989; Twigger-Ross and Uzzell, 1996).

In addition to **comfort**, the attribute of **food and beverage** was the second highest-ranked in the entire photo sampling as well as among the five highest-ranking photos. This ranking was due to the importance of food culture and gastronomy in Muar. Muar has been widely known throughout Johor and other states as a food haven for food seekers. Due to Muar being a melting pot of cultures of the local communities, food was one of the elements that highlighted Muar's local lifestyle.

Two of the five photos were associated with gastronomy experiences (**Photo 15-Muar Soup House** and **Photo 33- Muar Kopi 434 Kopitiam**), while two other photos were preferred due to their strategic locations near the famous hawker centre in Muar (**Photo 51-Tanjung Emas Square**) and a venue for annual food festivals **(Photo 46- Tanjung Emas Promenade**). **Photo 54- Sultan Ibrahim Mosque** was strongly associated with special events such as the Sultan's birthday and religious festivals such as *Eid* and the

Prophet's birthday. The place also witnessed the generosity of the Sultan and local communities in providing scrumptious local cuisine for visitors and people in need.

These findings have established that people's associations with several places in Muar should be addressed thoroughly as part of the royalness image because food culture and gastronomy are synonymous with Muar's image and identity. In fact, as mentioned earlier in Chapter 2, food culture and gastronomy are some of the local heritage products that demonstrate the local traditional lifestyle.

For the physical dimension, the **architectural aesthetic** attribute was the key element that portrayed Muar tangibly as a royal town. It helped to boost people's self-esteem in Muar.

Muar is among other Malaysian historic towns that have taken the function of the **architectural aesthetic** as a serious matter. One of the approaches to enhance **architectural aesthetic** has been to introduce colour coding to differentiate each existing road across a town. Each building along a particular road is also required to follow this coding system, thus creating aesthetical value for the whole place.

This attribute was followed by the **visibility** of buildings and landscape elements, which raised people's self-esteem regarding Muar as a modern royal town.

The skyline of Muar is dominated by many old buildings with different influences such as Islamic architecture, as well as colonial, Chinese and vernacular designs. These buildings were erected between the 19th century and before the Second World War. Some of the buildings are considered as landmarks in Muar. Thus, these buildings help to differentiate Muar from other existing royal towns, which are traditional and conservative in terms of architectural design.

b) Self- Efficacy

Both the attributes of **local image** and **king's identity** were also emotionally important to the participants in relation to their self-efficacy in Muar. The attribute of **king's identity** was notably displayed in **Photo 38- Monument of Royal Town** and **photo 54- Sultan Ibrahim Mosque**. Other photos—**Photo 33- Muar Kopi 434 Kopitiam**, **Photo**

51- Tanjung Emas Square and **Photo 57-Great Mural of Muar**—demonstrated a high level of **local image**.

The recognition of Muar as a royal town in 2012 greatly affected people's perceptions of this coastal town. It elevated the status of Muar from a small and typical town to a special town and district that was able to compete with other districts. These two attributes were manifestations of emotion that boosted the competency of Muar as well as the people's emotional affections and self-efficacy. Thus, these attributes helped to project the significance of Muar as a royal town.

All these collective perceptions from the participants reflected the significance of the elements in improving their needs and supporting their daily activities in Muar, especially the element in **Photo 33-Muar Kopi 434 Kopitiam**. The lavishness and majesty of the elements in **Photos 38-Monument of Royal Town**, **54- Sultan Ibrahim Mosque, 51-Tanjung Emas Square** and **57- Great Mural of Muar** led to site identification and reference for locals and visitors. Hence, these have been perceived as essential elements to portray the image of a royal town.

Sorrows & Hirde (1999) have argued that humans' ability to understand, navigate and orientate in their environment, based on the representation of spatial attributes and landmarks, provides them with a reason to interact and fulfil their needs in the surrounding environment.

c) Distinctiveness

In this principle, the **local image** and **food and beverage** attributes were perceived as the most important attributes that increased place distinctiveness in Muar. From the results, four elements (**Photo 38-Monument of Royal Town , Photo 54- Sultan Ibrahim Mosque, Photo 57-Great Mural of Muar** and **Photo 51-Tanjung Emas Square)** out of five elements from the highest-ranked photos were perceived to display a high level of **local image**. All of them were strongly associated with tourism attractions in Muar. Thus, there was a positive impact of the elements' distinctiveness that created a brand identity of Muar as a royal town.

A similar pattern of results was obtained in a study done by Wang & Xu (2015). The study investigated the influence of distinctiveness in the tourism town of Zhuhai, China. According to their findings, unique local images associated with local culture and value increased people's engagements with the place.

Photo 33-Muar Kopi 434 Kopitiam displayed a high level of perception of **food and beverage**. Ujang (2012) has acknowledged the influence of food culture in Malaysian distinctiveness in local identity and people's attachments towards it. In Johor, particularly in Muar, food has become part of the identity.

Johor's Malay cuisine has been heavily influenced by Indonesian cuisine due to the mass migrations of the Javanese population in the 19th century. Local delicacies such as *satay* (skewered and grilled meat served with peanut sauce) can be traced back to Indonesia. *Mee bandung* (a spicy and sweet gravy noodle), another famous dish in Muar, also owes its existence to Javanese influence. *Otak-otak* (a savoury fish snack), which can typically be found everywhere in Muar, is a manifestation of how Malay and Chinese influences have shaped the food culture in Muar.

Food has become a symbol of transcultural cuisine in Malaysian society as well as in Muar. A diversity of ethnicities living together in Muar has influenced how food has been perceived as something that needs to be cherished and celebrated as part of the distinctive identity and heritage of Muar.

In the physical dimension, **architectural style** in Muar was the most important attribute to reflect the distinctiveness of Muar. A possible explanation for this may be that Muar has an abundance of unique historic buildings and monuments scattered across the town. Different cultures and identities have heavily influenced the buildings' architecture.

Sir Sultan Abu Bakar contributed to this architecture through his exquisite architectural taste. He spent most of his time travelling and visited many European countries, such as Britain, the Ottoman Empire, the Prussian Empire and France. Muar, in addition to Johor Bahru, was his brainchild. His passion for and exposure to foreign architecture led to an architectural amalgamation of local and western features, and this identity has transformed Muar into a unique royal town.

d) Continuity

In contrast to the other principles, the **development and improvement** attribute of the physical dimension significantly contributed to the sense of place continuity in Muar. Based on the five highest-ranked photos- **Photo 54 –Sultan Ibrahim Mosque**, **Photo32- Muar Old Bus Station**, **Photo 49- Muar Old Train Engine** ,**Photo 7- Old Telekom Building** and **Photo 38- Monument of Royal Town** most of the participants expressed their concerns regarding the conditions of the place that for them required several improvements. This result exhibited how people's attachments to a place are evoked by their sense of awareness and affection in protecting the well-being of the place.

These results reflected those of Cross *et al*. (2011), who also found that improper management and destruction of physical elements affected the local population, in terms of their lifestyles and psychological attachments to a place. Thus, the well-being of a place, particularly its proper maintenance, helps to construct people's identities (Twigger-Ross and Uzzell, 1996) and their psychological aspects (Feldman, 1990).

Moreover, the sense of place continuity in Muar was also denoted through the qualities of **historical value** and **local image** in the elements. These were key features that shaped people's attachments and associations with Muar as the identified physical features, and the place gave rise to historical and social continuity in their daily lives.

7.3.1.2 Reflections on Physical and Emotional Dimensions in Portraying Image and Identity of Muar as a Modern Royal Town

The overall results in Chapter 5 listed five photos that were strongly preferred and perceived by the local participants. The five photos displayed the images of elements located in both the royal precinct and the old town area. These photos represented two different categories—first, the elements that were associated with local activities and people's lifestyles; and second, the elements that were attributed to royal identity.

Photo 33- Muar Kopi 434 Kopitiam was well-known for its representation of the unique gastronomy experience to be found in Muar. Thus, it reflected the unique food culture in Muar. **Tanjung Emas Square** in **Photo 51** represented a space that was perceived to be highly entrenched with local culture and activities. This place was also notable as a royal venue

during several royal occasions. **Photo 57-Great Mural of Muar**, on the other hand, depicted local identity, as the mural illustrated the image of local children in an affectionate posture. These three photos demonstrated the significance of local associations in shaping the unique characteristics of Muar.

Nevertheless, the elements that represented royal identity and appearance also played important roles in projecting Muar's identity. **Photo 38**, a monument of the royal town, was the most outstanding element based on the majority of participants' preferences and perceptions. The structure was built to commemorate Muar as a modern royal town. It had a tremendous impact on how pragmatic symbolism, based on royal identity, effectively delivered the essence of royalness in Muar.

However, this impact was in contrast to **Photo 54**, which was the **Sultan Ibrahim Mosque**. The image of the mosque was strongly associated with local faith and religion. Still, the royal influence could easily be traced to the building, especially in its architectural design principles and architectural style, which reflected the identity of the previous Johor Sultan, Sir Sultan Ibrahim.

Both these findings signified the symbiotic relationship between the Sultan and his subjects in terms of the place's functions, meanings and symbolism. Thus, these elements were highlighted as the elements that reflected the identity of Muar as a modern royal town.

7.3.2 Reflections on Social Interaction / Activities Dimension and Cultural & Historical Dimension on Muar's Existing Image and Identity Using Cognitive Mapping

7.3.2.1 Reflections on People's Preferences and Perceptions Based on Landscape Values

Despite the demographic factors, which substantially influenced people's preferences and perceptions, the findings from the mapping process revealed interesting outcomes. The outcomes reflected the collectiveness of place identity, as mentioned in subsection 2.4.1. The collectiveness showed that humans share identical perceptions and cognitions, as these are related to inherited intrinsic values that bind humans as a community.

Many of the participants agreed that places along the Muar River were highly embedded with aesthetic value. It was also densely aggregated in the royal precinct, particularly in the recreational area of Tanjung Emas. These results may be explained by the fact that the identified location was heavily influenced by the existence of the Muar River, and thus, affected how people perceived the aesthetics of the area.

Arriza *et al*. (2004) and Howley (2011) have reported that water elements have a positive impact on people's preferences and perceptions regarding a particular landscape setting. To some extent, aesthetic value has become an ideal attribute to depict the identity of the outstanding quality of a landscape.

The landscape values of economic, historic and cultural, on the other hand, were found to be highly concentrated in the old town area. Unsurprisingly, this area was full of economic and cultural activities. It is also contained several important historical buildings. This was a core area supporting local needs and demonstrating the distinctive architecture of the place, as well as the local traditional lifestyles. Most of the economic activities in the old town area were mixed, and some of them were inherited from previous generations.

The local council has also included the old town area as one of the significant places to be highlighted in the tourism strategies of Muar due to these unique values. Many notable local and cultural events take place in the old town. These include the Chinese New Year celebrations, Sultan's birthday celebration and other local festivals.

The landscape values of naturalness, recreational and relaxation were perceivably significant along the royal precinct and the mangrove forest areas located in the southwest of Muar. These results may be due to the roles of green areas that provide sanctuary and places of retreat for people.

These findings parallel those of previous studies carried out by several researchers (Kil *et al*., 2014; Nam and Dempsey, 2019; Tsaur *et al*., 2014; White *et al*., 2008). Their studies reported that people's attachments dictate a high level of the senses of recreation and relaxation in their natural surroundings. In addition. the royal precinct and the existing green areas in Muar were the nodes that connected people to nature. In this context, the green areas were significant in displaying the identity of Muar, based on the local lifestyles and activities.

Visually, the spiritual value was highly aggregated in the royal precinct. The identified spots were the Sultan Ibrahim Mosque and other religious buildings in the old town. These results were likely related to the strong associations of participants in perceiving the spiritual value in the existing faiths in Muar.

Allerton (2009) has stated that the religious significance of a place and landscape projected the idea of the spiritual for the natives when defining the spiritual landscapes of Southeast Asia from an anthropological perspective. This significance was due to the influence of the Mandala, inherited from Hinduism and Buddhism philosophies before the propagation of Islam in the 13th century across the region. The Mandala concept highlighted the cosmological concept of spatial planning (Xu, 2010), a hierarchical political system and local beliefs (Muhamad *et al*., 2016). This influence was interpreted in Muar in the way the people perceived the mosque and other religious buildings as sacred and as indicating spiritual significance in their daily lives.

Based on the map for symbolic value, most of the places and spaces that represented the identity of the Sultan were aggregated in the royal precinct and several spots in Muar town. These spots included the monument of the royal town and the Sultan Ibrahim bridge.

The results clearly revealed that the identity of the Sultan was exhibited through the erection of important buildings in Muar. These comprised government buildings, palaces, civic buildings and landmarks that either held the patronage of the Sultan or the local council. The monument of the royal town was one of the developments proposed by the local council to elevate and highlight Muar as a royal town. This finding was consistent with that of Saleh (1998), who discovered that the prominent traditional structures of a place help citizens to recognise the identity of the place.

The distribution of spatial aggregation for intrinsic value was visually consistent across the old town and the royal precinct. Both these areas were perceived to attract people to them, hence they possessed essential attributes that stimulated people’s social and psychological attachments to these places.

Norman (2011) has suggested that the intrinsic value of, and attachment to, a place is connected with aesthetic pleasure embedded in the place. The satisfactory and self-driven attraction to these places in Muar may have resulted from the outstanding landscape and

physical values located within the areas. Therefore, such attributes of the place need to be highlighted as they sustain the image of Muar as a royal town.

7.3.2.2 Reflections on Social Interaction / Activities Dimension and Cultural & Historical Dimension in Portraying the Image and Identity of Muar as a Modern Royal Town

The royal precinct in Muar, similar to other royal towns, was a symbol of the political entity of the Sultan. It was perceived to be important to the participants based on the provided landscape values. In contrast, many of the identified physical elements that were selected during the photo-elicitation were strongly associated with people's identity. This association could be observed from the functions and roles of these buildings that have been used to support local activities in this coastal town.

These two findings reflected the importance of both areas in depicting the distinctiveness characteristic of Muar. They mirrored the philosophy of 'the king and his subjects remain as one', as both areas were pivotal in emphasising the image and identity of Muar, based on the place identity approach.

7.4 Reflections on Finalising the Image and Identity of Muar as a Modern Royal Town

This part intends to respond to **Research Objective 3**, which was: **To investigate the contributions of place identity in displaying the royalness image and identity of Muar as the only modern royal town in Malaysia.** As described earlier in Chapter 1, the royalness identity and image of Muar have been vaguely interpreted due to the lack of recognising the symbolic mutual relationship between the Sultan and his subjects in the planning, design, preservation and conservation of Muar as a modern royal town. Muar as other royal towns in Malaysia does not possess a clear boundary demarcation- such as complete intact city wall, which is common in the European historic cities. Hence, the findings of this study proposed a way to protect and preserve the royal town identity via both proposed methods.

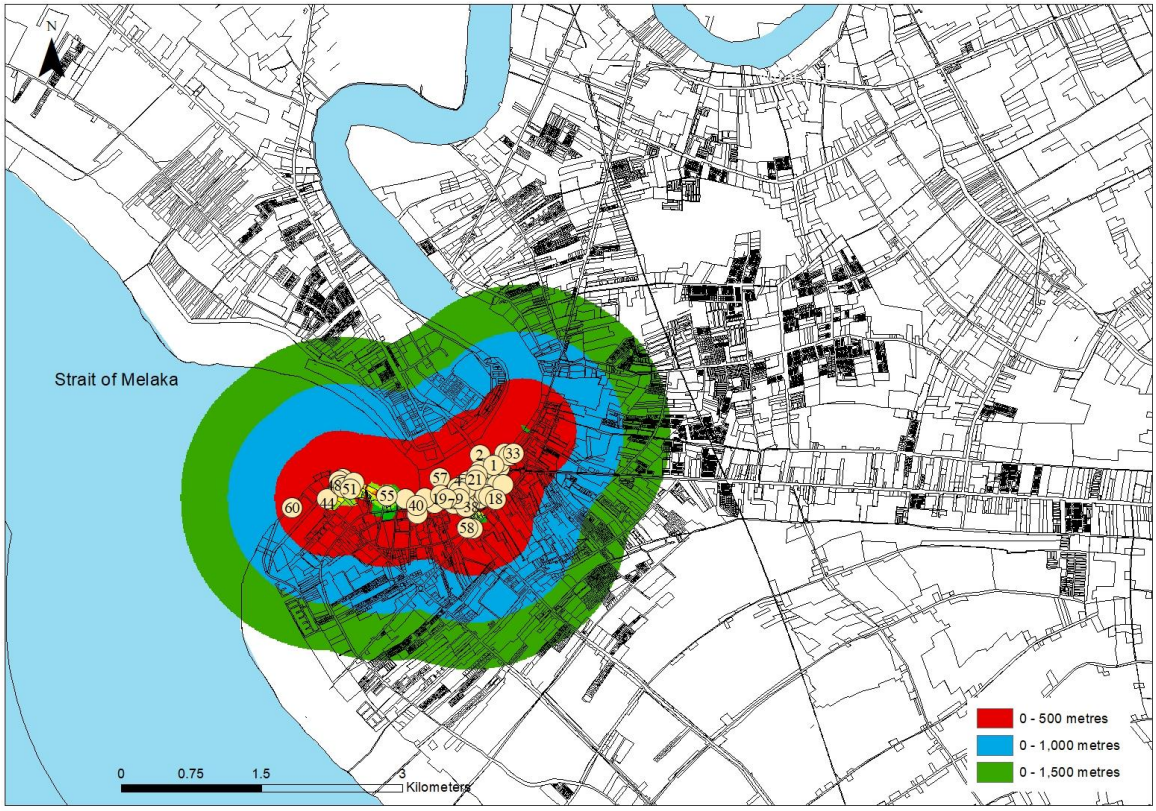


Figure 7.1: Boundaries and zones proposed by this study

Based on the findings from both methods above, the final map illustrated the proposed three different zones and boundaries of Muar as a modern royal town derived from people's preferences and perceptions. The map was significant in at least two major aspects.

First, these zones were part of visualising the symbolic interaction between the Sultan and his subjects. Before this study, the zoning areas proposed by the local authority emerged from the location of the Sultan's palace. It may be argued that this approach would be ineffective in reflecting the real situation in Muar. The reason is that the Sultan's palace in Muar has never represented the overall image of Muar as a modern royal town. In contrast to other royal towns, Muar's identity and image are complicated. The palace is merely a symbol of the Sultanate's sovereignty. At the same time, the royal palace of Bukit Serene in Johor Bahru is still pivotal for the sultan to accommodate his royal functions.

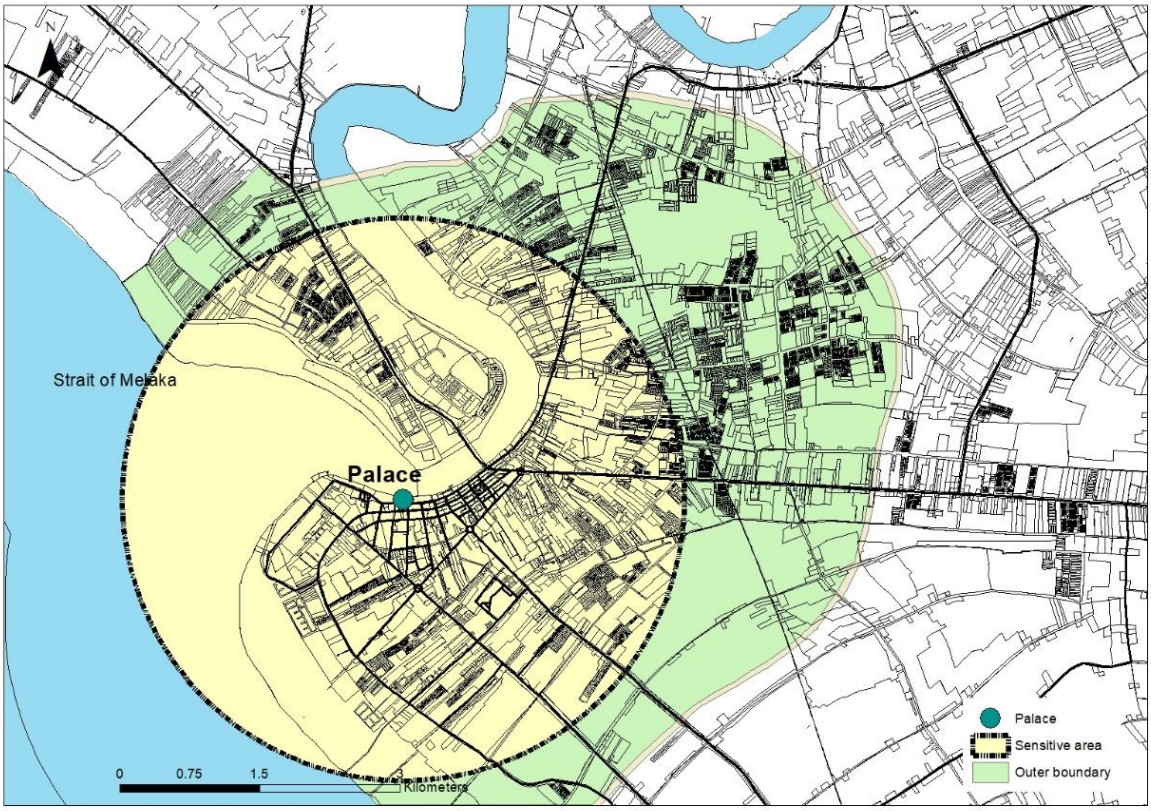


Figure 7.2: Boundaries and zones proposed by the local authority

Source: *Laporan RKK Bandar Maharani Bandar Diraja* (2015)

Based on the place identity approach, this study has found that both royalness and the people's associations with specific places and spots are the essences of the identity and image of Muar. Therefore, in addition to the palace, the proposed zoning areas emerged from the identified places and spots.

Second, the findings revealed that the study's proposed zones are smaller than the proposed zones and boundaries developed by *Majlis Perbandaran Muar* (Muar Local Authority). The fact that the size of the zones has decreased substantially could provide benefits to the areas and the local authority. A smaller area leads to more manageable and realistic preservation and conservation approaches. The local authority could focus on improving and highlighting the distinctive characteristics of the place rather than focusing on the regional aspect.

This is in parallel to one of the targets of the *Laporan Rancangan Kawasan Khas Bandar Maharani Bandar Diraja* report, which aims to establish Muar town as a unique royal town, and as a hub to support physical, economic and social growth for the local community.

Furthermore, the boundaries proposed by the local authority represent an expert-orientation approach, without integrating local insights into the process. In contrast, the identified zones and boundaries from this study have acknowledged the significant roles of the people's preferences and perceptions in preserving and conserving the identity and image of the royal town. The European Landscape Convention (ELC) has emphasised the legal cognition of landscape surroundings from people's perspectives. The surrounding landscapes are an expression of their culture and heritage and the foundation of both people and place image (Jones, 2007). Thus, this study has empowered local engagement in the decision-making process, especially in establishing the royalness identity and image of Muar as a modern royal town.

CHAPTER 8

CONCLUSION

8.1 Introduction

To date, Muar's image and identity have been ambiguously characterised due to a lack of understanding of its royalness as the only modern royal town in Malaysia. It was important to identify its true royalness identity and image as Muar holds special value for both the Sultan and the local population of Muar. Hence, the place identity approach was used to assess the royalness of Muar while highlighting the mutual relationship between the Sultan and his subjects.

This approach particularly emphasised how locals' preferences and perceptions influenced their attachments and associations as part of empowering local engagement in the process of characterising the identity and image of the royal town of Muar.

8.2 Review of the Research

This research aimed to identify the image and identity of Muar as the only modern royal town in Malaysia by examining the concept of place identity. This study addressed three main issues, which were:

1) To investigate the relationship between place identity and Muar's identity and image as the only modern royal town in Malaysia.

2) To develop a methodology to assess the image and identity of Muar as the only modern royal town in Malaysia, based on the identified dimensions of place identity.
3) To investigate the contributions of place identity in displaying the royalness image and identity of Muar as the only modern royal town in Malaysia.

To address these issues, this study was tailored into three different steps, which were:

1) The literature review of relevant topics, such as the theoretical concept of identity and place association as well as the relationship between place identity and people's preferences and perceptions regarding place identity. At the same time, the relevant dimensions of place identity were identified, which were the physical, emotional, people's activities/social interaction and lastly, historical and cultural dimensions. These dimensions were integrated into the framework of place identity for this study.
2) The development of the methodology, for which photo-elicitation interviews and cognitive mapping surveys were selected to assess the identified dimensions of place identity based on the relevant literature review. Both the methods were supported by a series of interviews conducted with experts and locals in order to empower the locals in the decision-making process.
3) The results of the study, which have advanced constructive ideas for improving the current ascertainment of the identity and image of Muar. The results have also led to the recommendation of new boundary demarcations in Muar as part of conserving and preserving the distinct royalness image of Muar.

8.3 Implications of the Study

8.3.1 Place Identity as the Research Framework

In general, place identity has been regarded as a concept to describe people's associations, engagements and feelings of belonging to a particular place, which is evoked by two factors—people's emotional attachments and the effects of physical attributes in the landscape. However, this study has revealed that in order to revive the identity and image of a particular place, other factors such as people's activities/social interaction, and cultural and historical values, are worth integrating into the framework of place identity.

These values or dimensions, in addition to the physical and emotional dimensions, have been extended from the concept of place proposed by Montgomery (1998). All of the identified dimensions have been considered as vital components to evaluate people's preferences and perceptions in Muar since have been associated with the dynamism of the local identity. Furthermore, the dimensions affected the selection of the proposed methods, which were photo-elicitation interviews and cognitive mapping surveys.

Additionally, this study has enhanced existing place identity theory by integrating Breakwell's identity process theory (IPT) into the photo-elicitation interviews. The reason behind this integration was to provide a systematic and comprehensive assessment based on place identity during the interview. This has allowed place identity, in this case, people's emotional attachments and physical attributes, to be investigated in a more detailed and rational way.

Similarly, landscape values for the list of indicators in the cognitive mapping surveys were aimed to serve the same purpose as in the photo-elicitation interviews. Instead of proposing the landscape values based on an expert-oriented approach, this study decided to incorporate both experts' and locals' insights, supported by the literature review. This step was part of providing a holistic assessment to evaluate peoples' preferences and perceptions regarding Muar's distinctive royalness identity and image.

Overall, theoretically, this study has enhanced the knowledge of the fundamental aspects of place identity, particularly in acknowledging other existing dimensions of place identity that are important to understand how people and place interaction shape the identity and image of a place. From the technical viewpoint, the proposed methods have been tailored and customised to lead to better protection of Muar's identity and image in the future.

8.3.2 Practicality of the Methods

Utilising both photo-elicitation interviews and cognitive mapping surveys as the methodology for this study provided a platform to investigate people's preferences and perceptions regarding the royalness image and identity of Muar. The methods were integrated with a face-to-face interview approach, as it was an effective way to engage the participants during the

process. In addition, the methods were supported by a series of site observations to identify and engage diverse groups of participants for the surveys.

The study also utilised tablet PCs in both surveys to test the effectiveness of technology in engaging people. During the photo-elicitation interview sessions, technology improved the effectiveness and interactiveness of the interviews, especially in assisting the participants during the photo selection.

However, it turned out that the advancement of technology in cognitive mapping was not fruitful and feasible for the participants. As mentioned earlier in Chapter 5, online mapping via the tablet PC was difficult for particular groups of participants, such as the elderly. Thus, the combination of both conventional mapping and online mapping techniques catered to different groups of participants, which was crucial in investigating place identity and its relationship with the image and identity of Muar.

8.4 People Engagement in Constructing the Image and Identity of Muar as a Modern Royal Town

This study revealed the importance of people engagement in portraying Muar's royalness identity and image. People's observations, as well as those of experts, provided insights into the essence of the mutual relationship between the Sultan and his subjects that was intangibly embedded in Muar.

Since Muar did not possess the typical characteristics of the royal town, inputs from the people's perspective, particularly their preferences and perceptions, were an appropriate way to explore Muar's royalness image and identity. In Chapter 2, people's experiences, memories, social intactness and culture were highlighted to construct the image and identity of a place. Their preferences and perceptions were assessed through both methods—photo-elicitation interviews and cognitive mapping surveys.

Following on, this study proposed three different layers to signify the sensitivity of areas, based on existing guidelines such as those from UNESCO and local planning reports. These zones were developed based on the combination of both the photo-elicitation and cognitive

mapping results. These findings would improve the current zoning practices in Muar, which used an expert-orientated approach. Furthermore, this study recognised the importance of local engagement in the decision-making and planning process in Muar in portraying the image and identity of Muar as the modern royal town. Faro Convention in 2015 has stressed on how people's diversity and plurality values, perspectives, aspirations and identities are critical in ensuring the survival of local heritage, identity and image of a place (Fairclough *et al.*, 2014).

8.5 Place Identity as the Guidelines to Preserve and Conserve the Image and Identity of Muar as a Modern Royal Town

This study acknowledged the importance of Place Identity in developing the guidelines and policies to preserve and conserve the image and identity of Muar. In this case, the proposed zoning areas could help to shape the guidance of architectural, planning and urban design of the protected area.

Defining these zoning areas help the policy-makers, planners, urban designers, architects and landscape architects in understanding of how people relate their associations and attachments to local character, image and identity of the place. The context for people and place interaction is identified to influence people's preferences, perceptions and cognitions and thus, provide a new perspective for future planning and development in Muar.

An excessive tourism industry, especially in the existing historic towns and cities across Malaysia, is reporting to severe the distinctive characters, image and identity of a place (Zakariya *et.al.*, 2015). For instance, the excessive tourism industry in Penang has endangered both of its unique tangible and intangible characteristics. (Ghaderi *et al*, 2012; Omar *et al.*, 2013). The lack of understanding of people and place interaction in the planning context has contributed to this matter.

Therefore, to cope with the emergence of Malaysia's tourism industry, a proper guideline and policy regarding Muar's future planning is a must. A better understanding of people and place interaction in Muar helps the experts in thinking about regeneration, protection, conservation of the identified images of Muar as the modern royal town. This is to ensure that the identified

distinctive image and identity (e.g. historic buildings, landscapes and people's activities) are not being excessively exploited for the benefits of the local tourism industry.

8.6 Recommendation for Future Studies

This study identified several prospective areas for future research in relation to the place identity approach and its association with the identity and image of Malaysian royal towns. These areas are described below.

8.6.1 Improve Research Participant Sampling

Future studies could look into several ways to improve research participant sampling, especially in ensuring a balanced proportion of demographic factors. Factors such as language and cultural barriers between the interviewer and the interviewees during the data collection process should be thoroughly considered. In the present study, although the participants were expected to respond either in English or Malay during the interviews, some of the participants experienced difficulty in expressing their thoughts and feelings. This was due to their lack of proficiency in both languages. Thus, it would be wise to hire a research assistant from each ethnicity, which could reduce these barriers.

8.6.2 Engage and Share the Findings with Local Authority, Experts and Local Participants

Due to time constraints, the study was not able to proceed with a workshop to engage, and share the findings, with practitioners and local participants. A series of dialogues between both parties could be held to discuss the relevancy of the outcomes within the current context of Muar's planning and policies. Furthermore, this would create a sense of empowerment and pride among the local participants due to their contributions to the process.

For practitioners, the dialogues would help them understand the aspirations of the people, and especially, recognise the significant roles of people's attachments to, and associations with, particular elements and spaces in Muar.

8.6.3 Potential Improvements to Research Method Used

If factors such as time and finance are not major obstacles, such as they were in this study, 3D technologies would be worth exploring. This exploration could be in terms of investigating the practicality of 3D technologies such as simulation or virtual reality in imitating the existing context of Muar. Instead of providing the participants with a list of photos, the participants would be free to explore the elements in 3D and from different angles and perspectives. Many studies have acknowledged the benefits of these 3D technologies in improving people's participation, as well as providing an interactive and realistic experience for participants.

In addition, future studies could evaluate the possibility of integrating 3D simulation into cognitive mapping. This would increase participants' sense of orientation and wayfinding. Hence, this would improve the efficiency of this method of assessing people's preferences and perceptions.

8.6.4 Applying the Methodology

Future investigations could also assess other aspects of the image and identity of Malaysian royal towns based on the place identity approach. A cross-case analysis using the same methodology as the present study, within the same category of royal towns, could provide interesting findings. For example, the similarities and dissimilarities of image and identity of the selected royal towns could help to strengthen the definition and classification of existing royal towns.

This is because the existing definition and classification have been solely interpreted based on physical characteristics. The integration of the four different dimensions of place identity, as well as acknowledging the pivotal role of public engagement, could lead to a better understanding of the true essence of these royal towns in the Malaysian planning context.

8.6.5 Enhance the Data Gathering in Determining the Identity and Image of the Royal Towns

It has been claimed that, theoretically, the royal towns represent the heritage and legacy of the Malay sultanates. Hence, the integration of social media, such as Facebook, Twitter and the like, especially in the initial stage of the study, could provide a wider perspective on this issue. The rise of social platforms as social networks could be used to provide a good medium to explore Malaysian society's preferences, perceptions and cognitions regarding the image and identity of the royal towns in Malaysia. Social media could also be used to identify and connect both experts and locals as the majority of Malaysians are actively involved with these platforms.

8.6.6 Comparing People's Preferences and Perceptions Before and After the Proclamation of Muar as the Modern Royal Town

It will be interesting to figure out how the proclamation of Muar as a modern royal town has influences people's preferences and perceptions about the identity and image of the place. This can be looked into the similarities and dissimilarities of people's preferences, perceptions, place meanings and the way how their interaction with particular places before and after the proclamations. This will provide a further platform for future studies to identify the essence of people and place interaction in Muar, such as how the evolution of local identity and image contributes to the place's royalness.

8.7 Summary

The present study embarked on a journey to explore the role of place identity in discovering the image and identity of Muar as the modern royal town of Malaysia. To this end, the study addressed several important dimensions to assess the relationship between place identity and the royalness image and identity of Muar. This endeavour was one of the strategies used to strengthen the existing theoretical framework of place identity.

Furthermore, the study proposed a research methodology that allowed people's preferences and perceptions to be integrated into current planning and policies in Muar. The research also enabled the visualisation of the royalness image and identity of Muar through its proposed methods, which were photo-elicitation and cognitive mapping. In addition to the determination of image and identity, the study elevated and empowered people's preferences and perceptions as the main components of the preservation and conservation process in Muar.

Hence, the findings of this study could benefit policymakers and urban planners, as well as the local community. Moreover, the findings could contribute to recognising the importance of local engagement in the decision-making and planning processes. Local insights, attachments and associations would be significant in reflecting the royalness image and identity of Muar and symbolising the mutual relationship between the Sultan and his subjects.

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Appendices

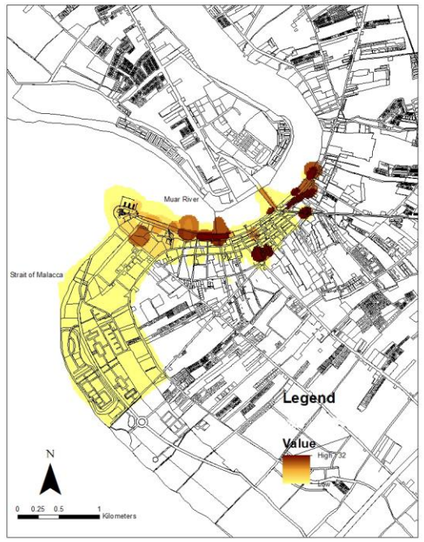
Appendix A: The matrix for case study identification and selection

Aspect of study	Criteria	Sub-criteria	Parameter	Sub-parameter		Methods
History and background of the royal town	Socio-political	History	The aim of the establishment	Symbol of political autonomy		Literature review/interview with experts
				Political legitimacy		
				Malay heritage		
		Cultural heritage	Royal ceremonies	Coronation		
				Wedding		
				Funeral		
				Receiving delegates		
				Royal proclamation		
Intangible characters of the royal towns	Socio-economic	People activities	Traditional craft/food			Site Observation/interview with experts
			Daily activities			
			Cultural and custom			
Tangible characters of the royal towns	Physical elements	Man-made	Palace			
			Mosque			
			Market			
			Traditional settlement			
			Royal Mausoleum			
			Square/*padang*			
			Harbour			
		Natural	River/coastal			
			Vegetation			
Morphology of the royal towns	Philosophy	Hinduism	Doctrine of orientation	Based on caste and eight cardinal orientation		
			Site planning	3D	Topography	
				2D	*Sarvatobhadra*	
					Nandyavarta	
					Dandaka	
					Prastara	
					Chartumukka	
					Swastika	
					Karmuka	
					Padmuka	
			The proportionate measurement of building	Local wisdom measurement		
			The aesthetic	Architecture design	*Meru chanda*	
					Khanda meru	
					Paataka chanda	
					Sushi chanda	
					Udista and nanda chanda	
			The six canon of Vedic architecture	Architecture principles	Base	
					Column	
					Entablature	
					Wings	
					Roof	
					Dome	
		Islam	Religious belief	*Qiblah* orientation		
				Daulah		
				Mosque		
				Market		
			Natural law	Climatic factors		
			Social principles	Different ethnic quarters	Topography	
				Gardens/ open spaces		
			Sharia law	Respecting the ownership		
				Private and communal space		
		Colonial	Urban planning	Compact city		
				Shophouses		
				Public buildings		
				Modern amenity		
			Architecture	Indo-saracen design		
				Western architecture		
				Brick buildings		
			Landscape	Public parks and gardens		
				Square		

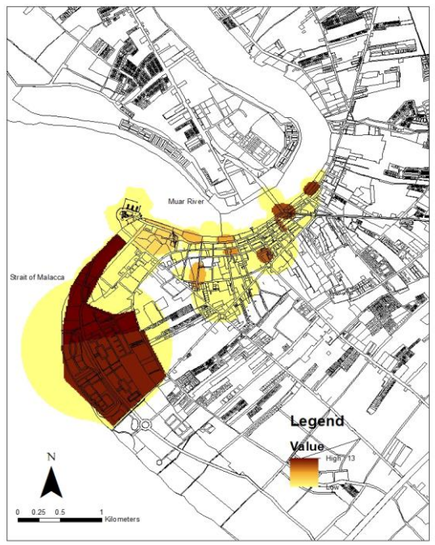
Appendix B: The mapping of similarities and dissimilarities of people's preferences and perceptions based on the participants' demographic characteristics

1. Age Group

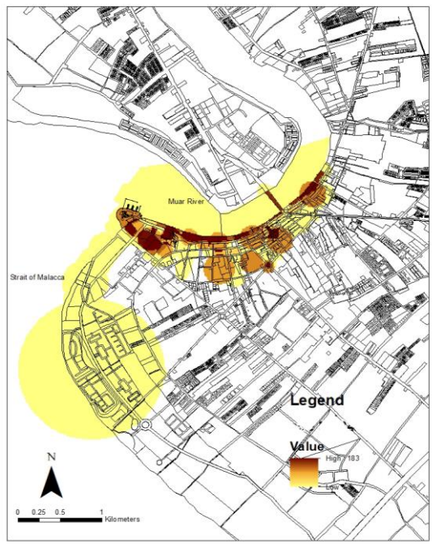
18-22 years



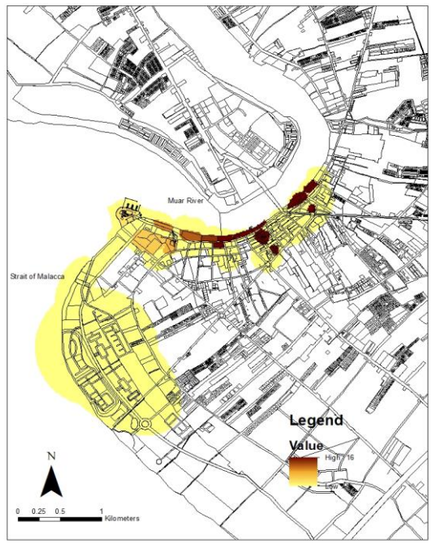
23-27 years



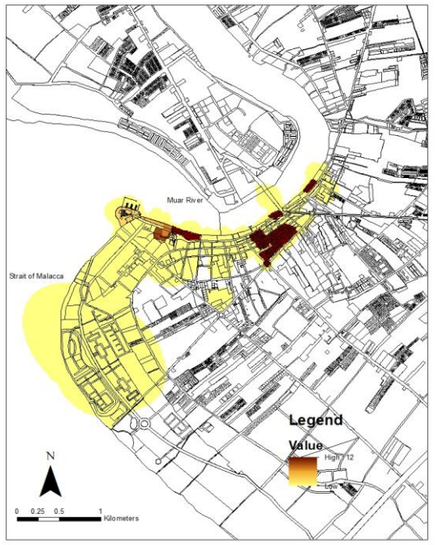
28-32 years



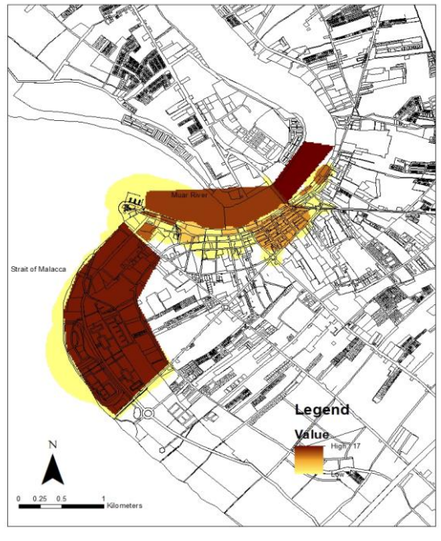
33-37 years



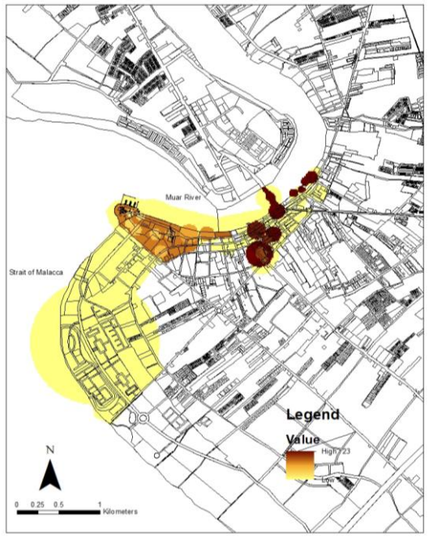
38-42 years



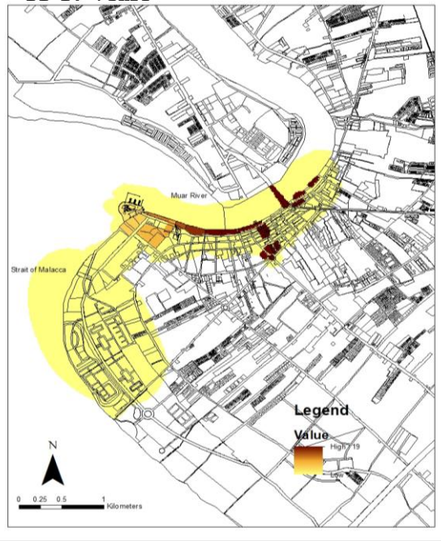
43-47 years



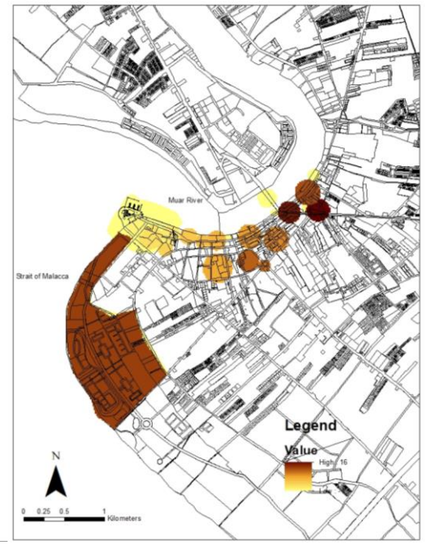
48-42 years



53-57 years

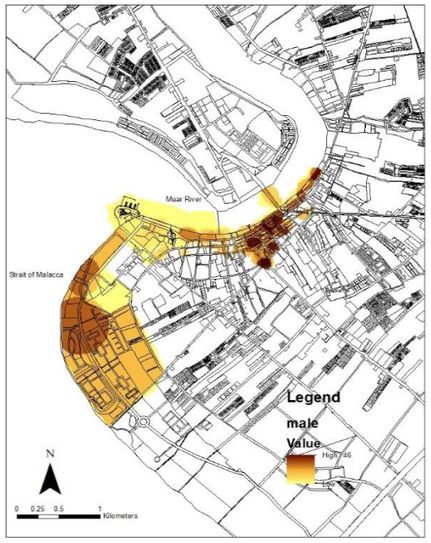


58 and above

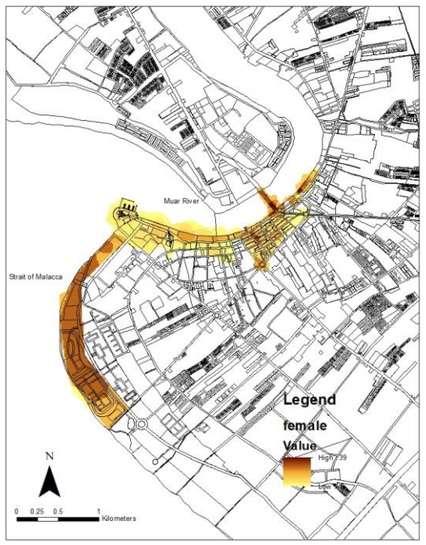


2. Gender Group

Male

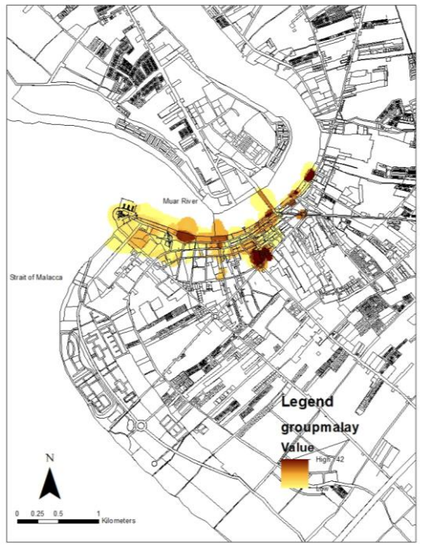


Female

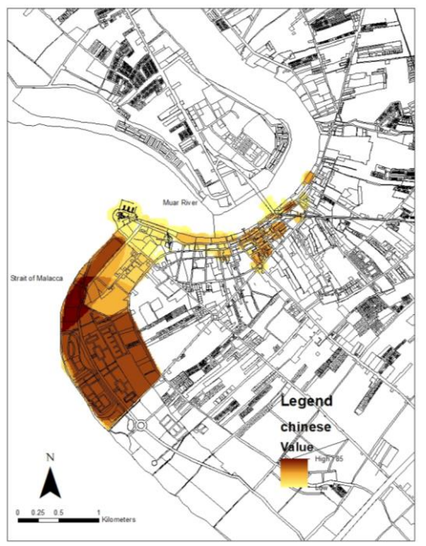


3. Ethnicity

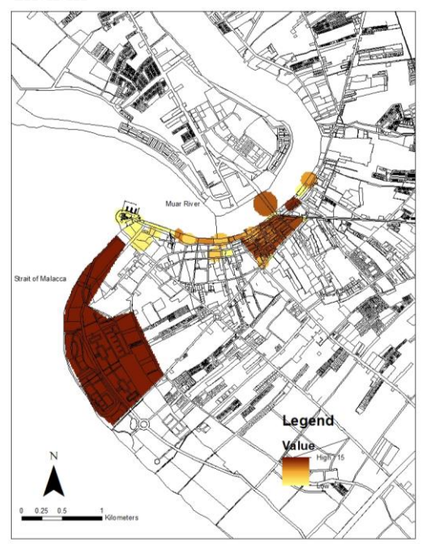
Malay



Chinese

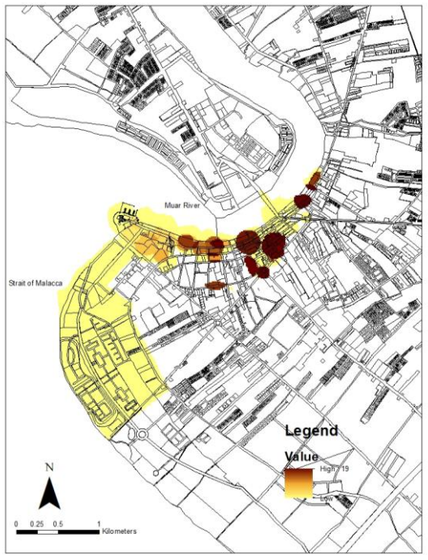


Indian

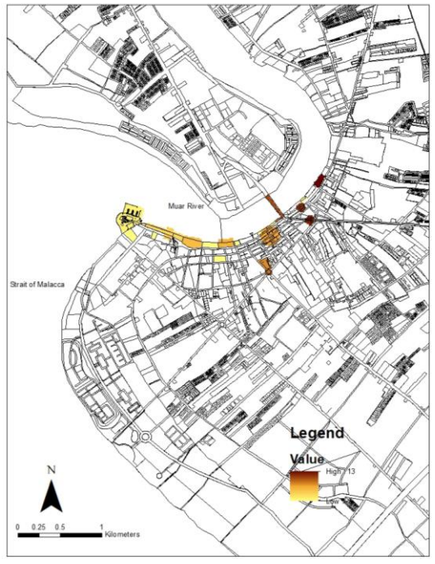


4. Occupation Group

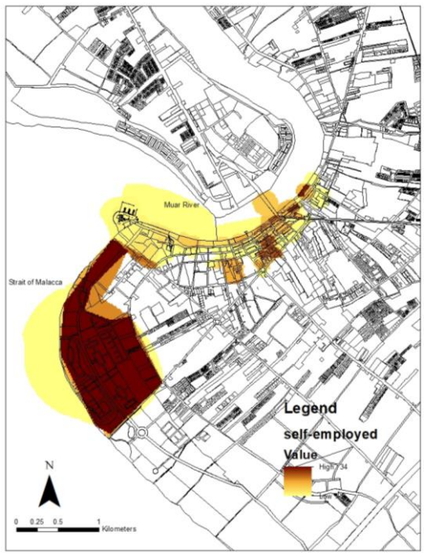
Full- Time Student



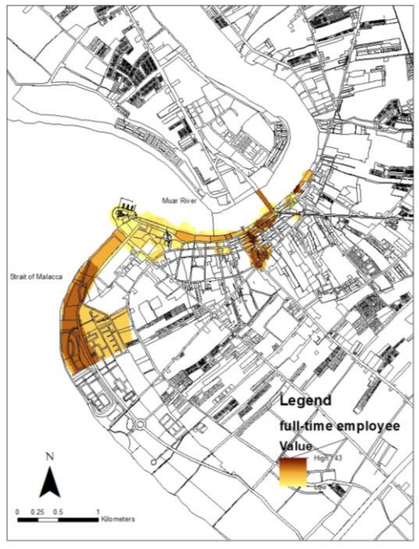
Part- Time Student



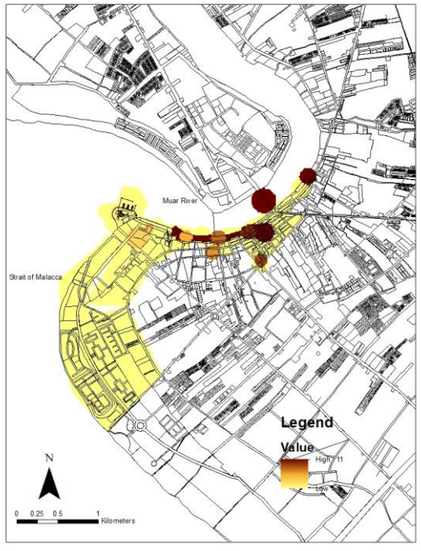
Self-Employed



Full- Time Employee

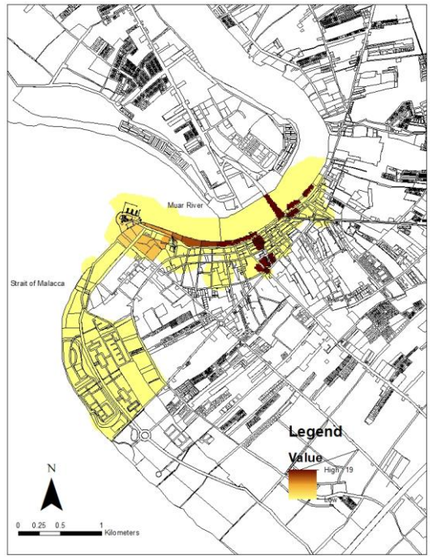


Part- Time Employee

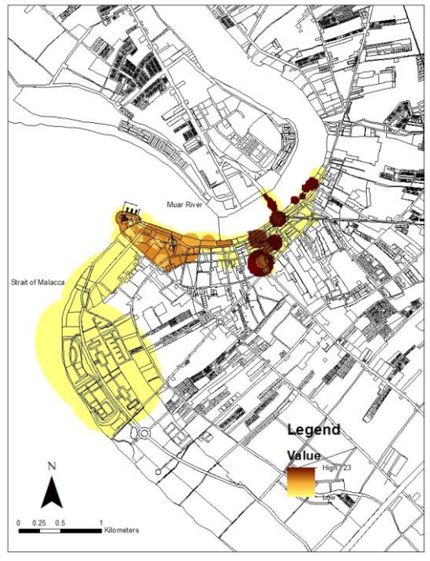


5. Income Group

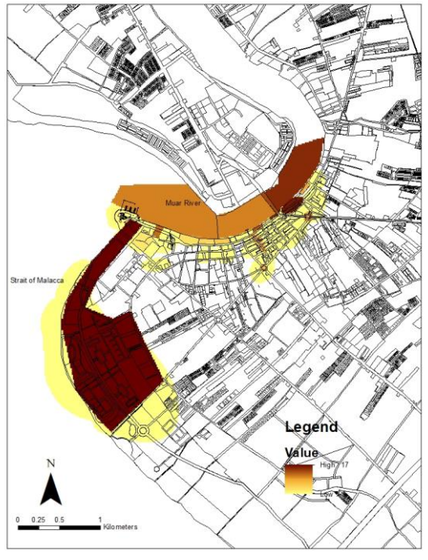
Retired



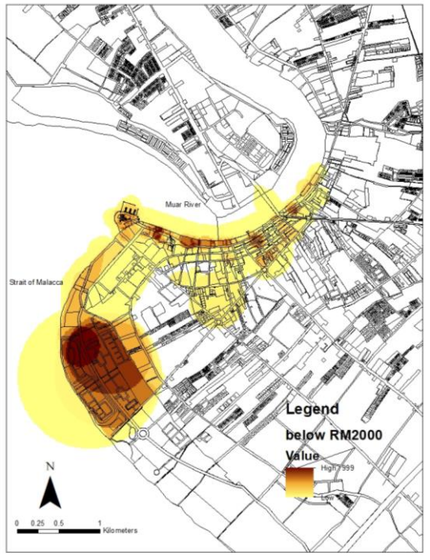
Currently Not Working



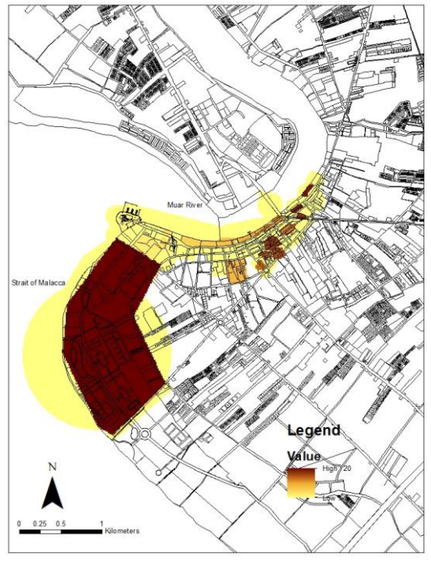
Others



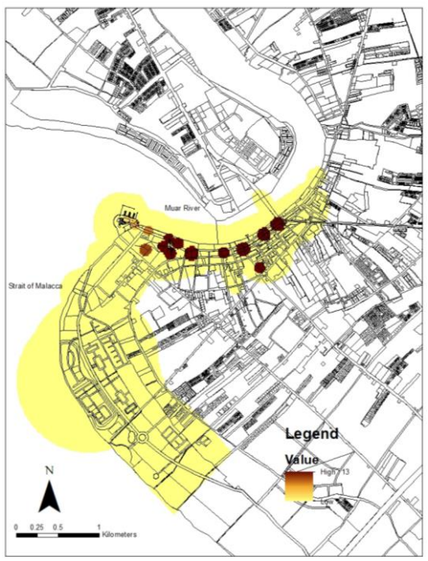
RM 0- RM 2000



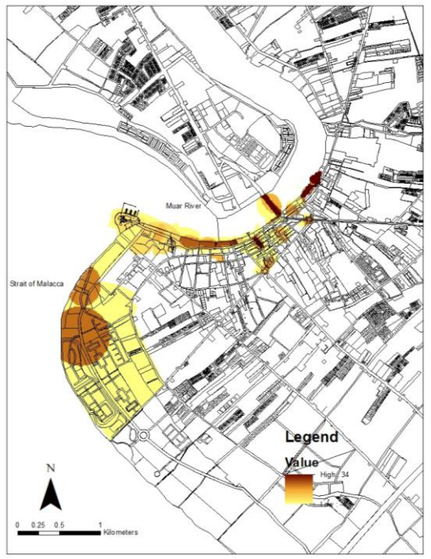
RM 2001 - RM 4000



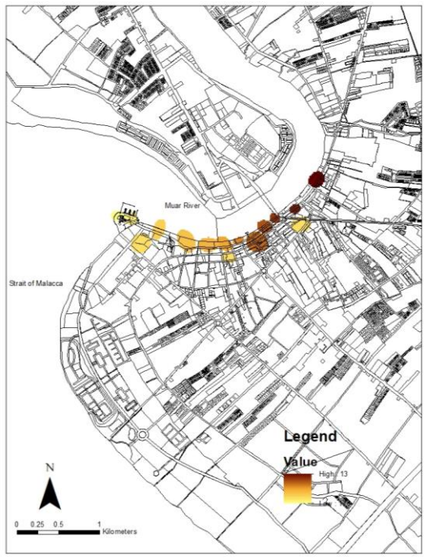
RM 4001- RM 6000



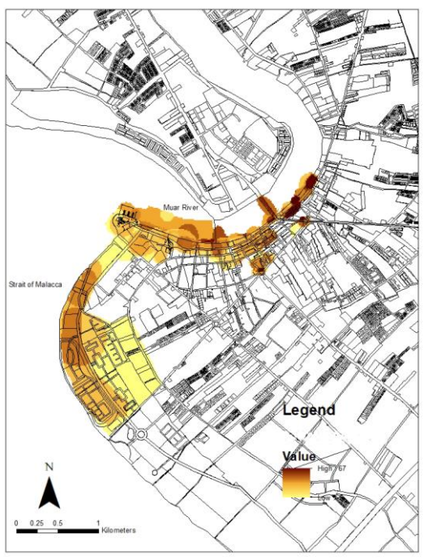
RM 6001- RM 8000



RM 8001- RM 10000

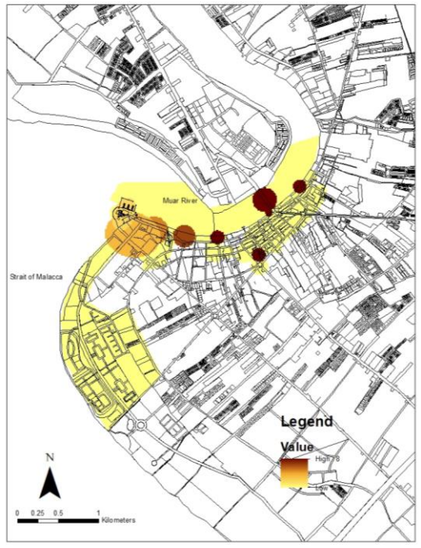


Confidential

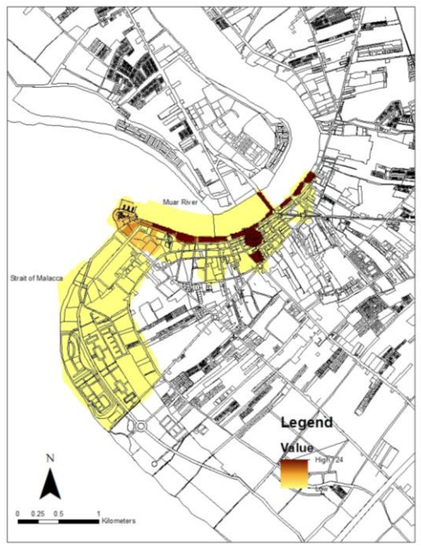


6. Income Group

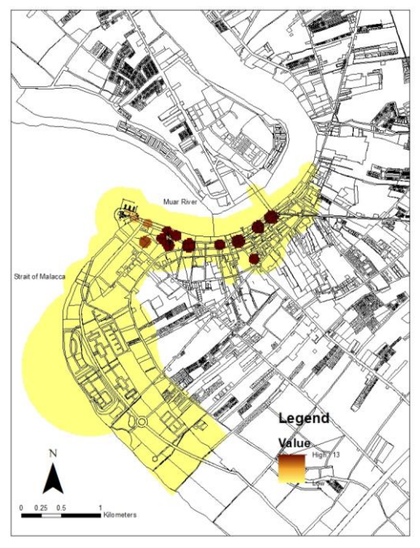
Primary Leaver



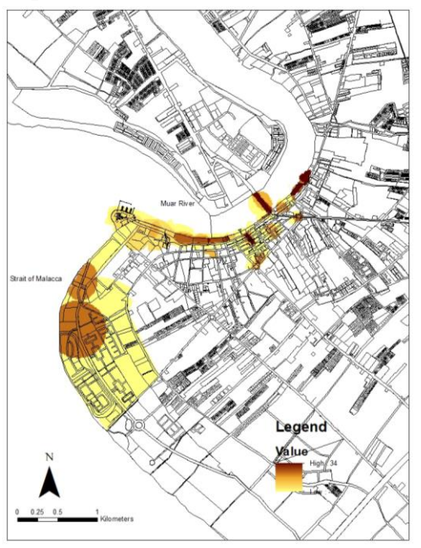
Secondary Leaver



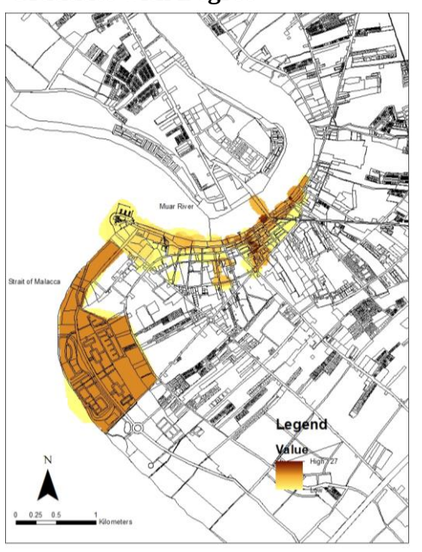
Certificate Holder



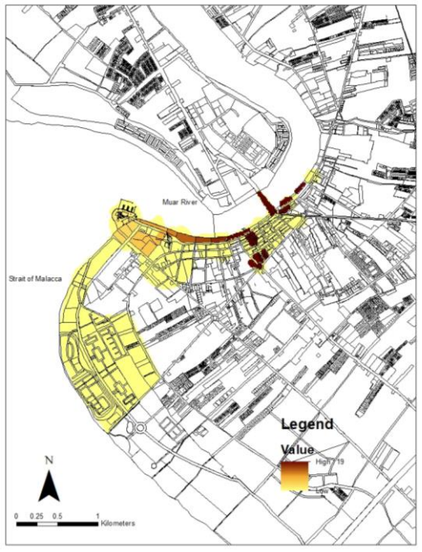
Diploma Holder



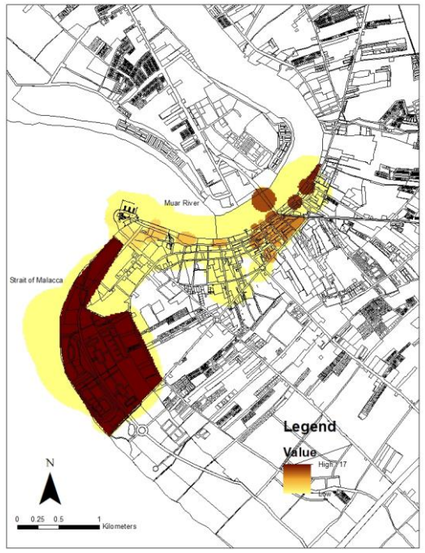
Graduate with Degree



Graduate with Masters

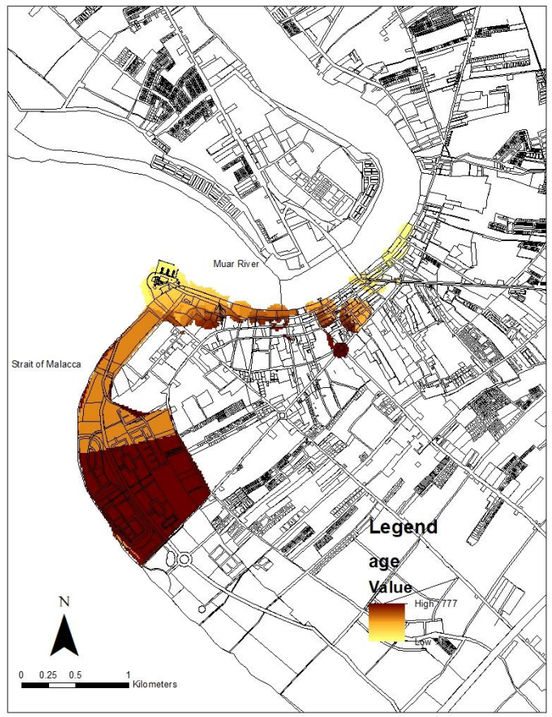


None of these

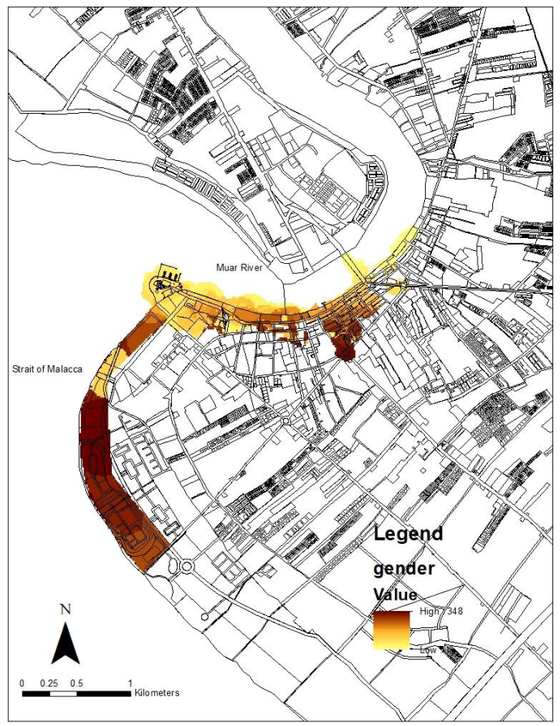


Appendix C: The mapping of preferences and perceptions' similarities within each group

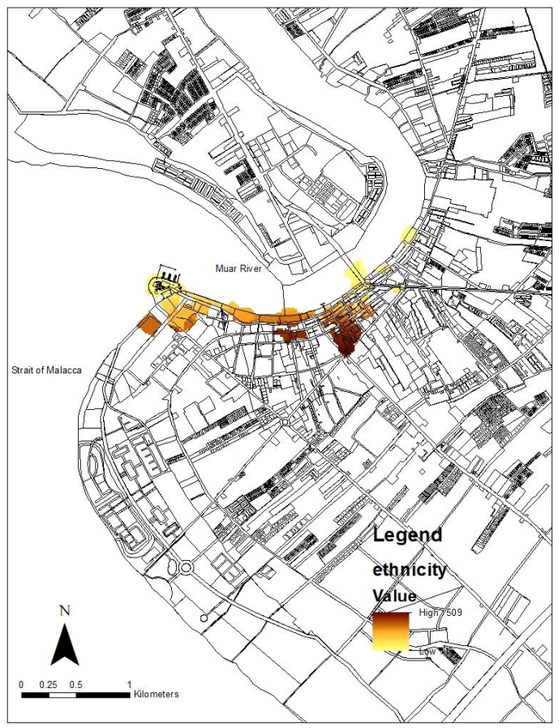
Age



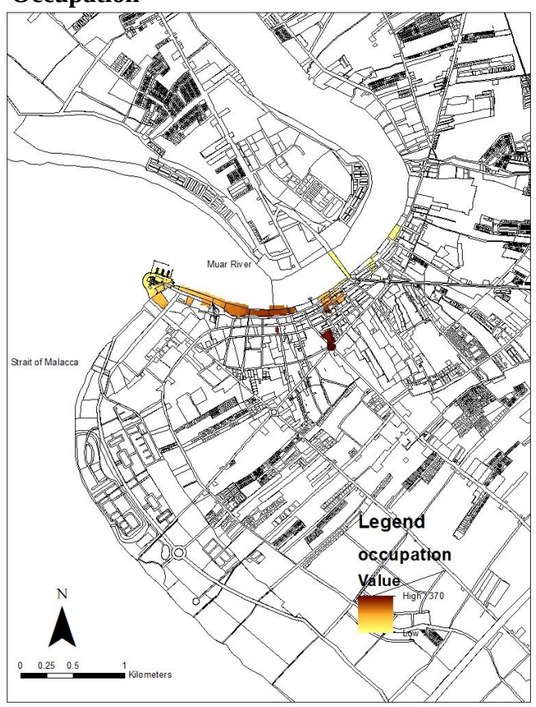
Gender



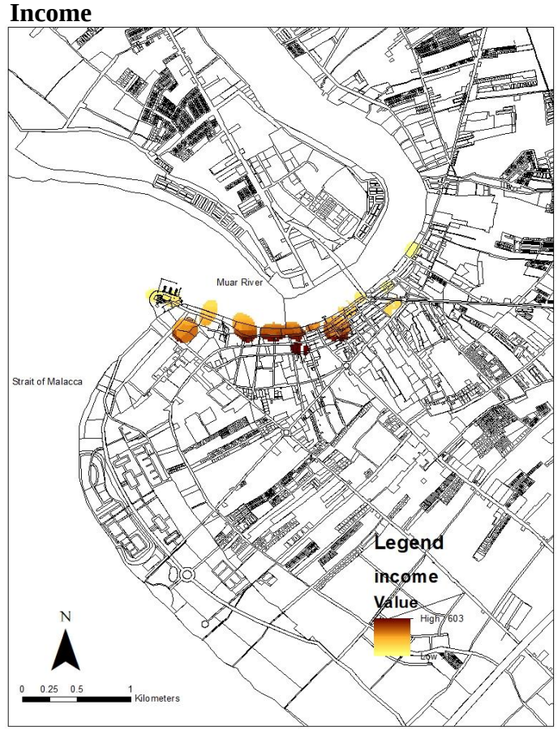
Ethnicity



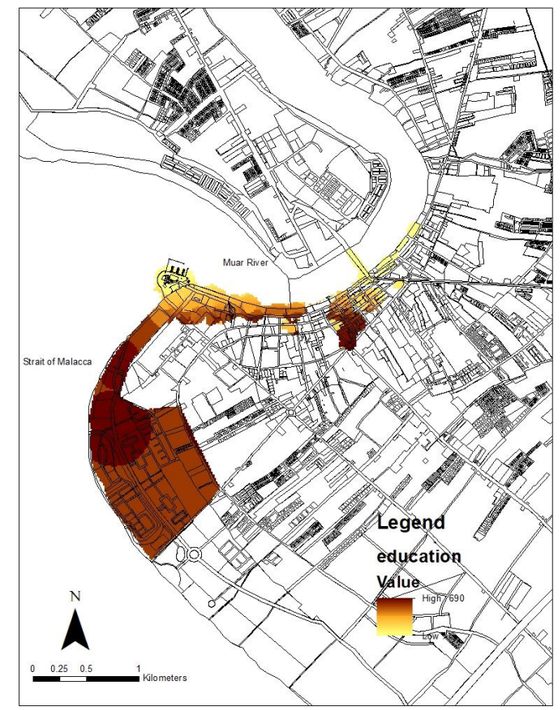
Occupation



Income



Education



Appendix D: The photo elicitation survey form

Photo Elicitation Survey

Dear participants,

you are being invited to take part in a phd research project entitled; The Image and Identity of Muar as the Modern Royal Town of the Johor Sultanate, Malaysia: From the Perspective of Place Identity. The project aims to identify the characteristics of Muar as the modern royal town in Malaysia by looking into the concept of place identity.

If you are willing to be involved in this research, you will be asked to participate in a photograph based survey. This survey will last for a maximum 30 minutes. This survey is provided in two languages: Malay and English. Please note that your responses will be strictly confidential and anonymous. Your details will be not passed to anyone beyond this study. You are free to withdraw at any point during or after the study, in which case all data provided by you will be destroyed.

Data from the research will be used in the production of the PhD thesis and will also be presented at academic conferences and published in research journals.

The Department of Landscape Research Ethics Review Committee approves this project as behalf of the University Research Ethics Committee. The University Research Ethics Committee monitors the application and delivery of the University Ethics Review Procedure across the University.

For any inquiries or comments, you can contact
Muhamad Solehin Fitry bin Rosley: Tel: +447932389963, +6019742911,
Email: msfrosley1@sheffield.ac.uk
Contact details for research supervisors
Eckart Lange: Email: e.lange@sheffield.ac.uk
Kevin Thwaites: Email: k.thwaites@sheffield.ac.uk

You will be given a copy of this information sheet and a signed consent form to keep

Kaji Selidik Bergambar

Kepada peserta,

Anda dijemput untuk mengambil bahagian di dalam projek kajian PhD yang bertajuk; *The Image and Identity of Muar as the Modern Royal Town of the Johor Sultanate, Malaysia: From the Perspective of Place Identity*. Matlamat kajian ini adalah untuk mengenalpasti ciri-ciri pembentukan Muar sebagai bandar diraja di Malaysia bersandarkan konsep Identiti Setempat.

Jika anda berminat untuk terlibat dalam kajian ini, anda diminta untuk mengambil bahagian di dalam kaji selidik bergambar yang memakan masa sekitar 30 minit. Kaji selidik ini disertakan dalam dwi bahasa: Bahasa Melayu dan Inggeris. Untuk makluman, segala maklumbalas anda adalah terpelihara, sulit dan hanya untuk digunakan di dalam kajian ini sahaja. Anda berhak untuk menarik diri ketika atau selepas kaji selidik kajian berlangsung. Segala maklumat yang diberikan akan dilupuskan serta -merta.

Segala maklumat untuk kajian ini akan digunakan dalam penulisan tesis PhD, perbentangan persidangan akademik dan penerbitan jurnal- jurnal penyelidikan.

Jawatankuasa Semakan Etika Penyelidikan Jabatan Landskap telah meluluskan kajian penyelidikan ini dengan mewakili pihak Jawatankuasa Semakan Etika Penyelidikan Universiti. Jawatankuasa Semakan Etika Penyelidikan Universiti adalah pihak yang bertanggungjawab memantau permohonan dan kelulusan Prosedur Semakan Etika Penyelidikan di seluruh University of Sheffield.

Sebarang soalan dan cadangan, anda boleh terus menghubungi
Muhamad Solehin Fitry bin Rosley: Tel: +447932389963, +6019742911,
Email: msfrosley1@sheffield.ac.uk
Maklumat lanjut berkaitan penyelia penyelidikan
Eckart Lange: Email: e.lange@sheffield.ac.uk
Kevin Thwaites: Email: k.thwaites@sheffield.ac.uk

Anda akan diberikan satu salinan maklumat kajian dan borang persetujuan untuk simpanan

Participant Consent Form

Title of Research Project:
THE IMAGE AND IDENTITY OF MUAR AS THE MODERN ROYAL TOWN OF THE JOHOR SULTANATE, MALAYSIA: FROM THE PERSPECTIVE OF PLACE IDENTITY
Name of Researcher: MUHAMAD SOLEHIN FITRY BIN ROSLEY

Participant Identification Number for this project: Please initial box

I confirm that I have read and understood the information sheet and I have had the opportunity to ask questions about the project. ☐

I understand that my participation is voluntary and that I am free to withdrawat any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

Please contact MUHAMAD SOLEHIN FITRY BIN ROSLEY at msfrosley1@sheffield.ac.uk or +447932389963,+6019742911

I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name not be identified oridentifiable in the report or reports that result from the research. ☐

I agree for the data collected from me to be used in future research. ☐

I agree to take part in the above research project ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Muhamad Solehin Fitry bin Rosley (Lead Researcher)	Date	Signature

To be signed and dated in presence of the participant

Copies:
Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Borang Persetujuan Peserta

Tajuk Kajian Projek Penyelidikan:
THE IMAGE AND IDENTITY OF MUAR AS THE MODERN ROYAL TOWN OF THE JOHOR SULTANATE, MALAYSIA: FROM THE PERSPECTIVE OF PLACE IDENTITY

Nama Penyelidik: MUHAMAD SOLEHIN FITRY BIN ROSLEY

Nombor Rujukan Peserta untuk kajian projek:

Sila tandatangan kecil di kotak

Saya akui bahawa telah membaca dan memahami segala maklumat yang tertera di dalam salinan maklumat kajian dan berpeluang untuk menyuarakan sebarang soalan berkaitan dengan projek kajian ini. ☐

Saya sedar bahawa penyertaan saya adalah secara sukarela dan berhak untuk menarik diri dari kajian ini tanpa sebarang alasan dan mengundang sebarang kesan buruk di atas tindakan ini. Di samping itu, saya berhak untuktidak menjawab sebarang soalan yan diajukan jika saya berhasrat sedemikian. ☐

Sila hubungi MUHAMAD SOLEHIN FITRY BIN ROSLEY di msfrosley1@sheffield.ac.uk atau +447932389963,+6019742911

Saya faham segala maklumbalas yang diberikan adalah terpelihara dan sulit.Saya membenarkan maklumat yang diberikan adalah untuk kegunaan ahli-ahli projek kajian. Saya juga maklum bahawa nama saya tidak akan didedahkan di dalam laporan ini atau mana-mana laporan yang berkaitan dengan kajian ini. ☐

Saya bersetuju bahawa data yang diambil dari pihak saya untuk digunakan untuk kajian masa hadapan. ☐

Saya bersetuju untuk mengambil bahagian di dalam projek kajian. ☐

_____	_____	_____
Nama Peserta	Tarikh	Tandatangan
_____	_____	_____
Muhamad Solehin Fitry bin Rosley	Tarikh	Tandatangan

(Ketua Penyelidik)
Untuk ditandatangan beserta tarikh dihadapan peserta

Salinan:
Setelah ditandatangani oleh semua pihak yang berkaitan, peserta berhak mendapat sehelai salinan borang persetujuan yang telah ditandatangani beserta tarikh , surat berkaitan/ salinan maklumat kajian dan sebarang maklumat bertulis untuk simpanan peserta. Satu salinan borag persetujuan mestilah disimpan di dalam rekod utama projek (spt. fail kajian tapak), dan disimpan di tempat yang selamat.

PART A: PARTICIPANT'S BACKGROUND [LATAR BELAKANG PESERTA]

Please fill in the blank____, or tick [⁄] the appropriate answer.
[Sila isikan tempat____, atau tandakan [⁄] pada jawapan yang sesuai.]

1. Gender (Jantina): ☐ Male (Lelaki) ☐ Female (Perempuan)

2. Age (Umur):

☐ 18-22 ☐ 23-27 ☐ 28-32 ☐ 33-37 ☐ 38-42
☐ 43-47 ☐ 48-52 ☐ 53-57 ☐ 58 and over (58 dan ke atas)

3. Ethnicity (Kaum) :

☐ Malay (Melayu) ☐ Chinese (Cina) ☐ Indian (India)

☐ Bumiputras ☐ Others, please specify (lain-lain, sila nyatakan)_____

4. Which of these best describe you (Yang mana berikut menggambarkan anda)

☐ Full-time student (Pelajar sepenuh masa)
☐ Part-time student (Pelajar separuh masa)
☐ Self-employed (Bekerja sendiri)
☐ Full-time employee (Bekerja sepenuh masa)
☐ Part- time employee (Bekerja sepenuh masa)
☐ Retired (Bersara)
☐ Currently not working (Tidak bekerja)
☐ Other (Lain-lain)

5. What is your monthly income (Berapakah pendapatan bulanan anda)

- ☐ Below RM 2000 (kurang dari RM 2000)
- ☐ RM 2001-RM 4000
- ☐ RM 4001-RM 6000
- ☐ RM 6001-RM10000
- ☐ RM 10 001 and above (RM 10001 dan ke atas)
- ☐ rather not to say (sulit)

6. Which of these is your highest level of educational?

- ☐ Primary leaver (Sekolah rendah)
- ☐ Secondary school leaver (Sekolah menengah)
- ☐ Certificate holder (Sijil)
- ☐ Diploma holder (Diploma)
- ☐ Graduate with degree (Ijazah)
- ☐ Graduate with masters (Ijazah sarjana)
- ☐ Graduate with PhD (Ijazah kedoktoran)
- ☐ None of these (Bukan yang disebutkan)

PART B: PHOTOGRAPH SURVEY AND PLACE MEANING

Please select the coded photographs **(CP)** when answering the questions and your **reasons (**For example: reflect your childhood memories, a place that you spend your time with friends) in the space below.

[Sila jawab soalan-soalan berikut berdasarkan pemilihan gambar-gambar berkod **(CP)** dan berikan **sebab-sebab pemilihan** (Sebagai contoh: tempat yang bermakna ketika zaman kanak-kanak, tempat anda selalu berkumpul bersama rakan-rakan) diruang yang disediakan]

Can you identify a maximum of five different photographs plus reasons that demonstrate each of the following features:

[Bolehkah anda mengenalpasti semaksimum 5 gambar yang berbeza untuk mewakili setiap satu penyataan dibawah dan nyatakan sebab-sebab bagi setiap pemilihan gambar anda:]

The buildings, structures or landscape features that **can be only found/ unique** in Muar Town [bangunan-bangunan, struktur-struktur atau persekitaran yang **hanya terdapat**/ **unik** di Bandar Muar]	
CP	**Reason [Sebab Pemilihan]**

The buildings, structures or landscape features that are **special to you** in Muar Town**]** bangunan-bangunan, struktur-struktur atau persekitaran yang **istimewa bagi anda** di Bandar Muar]	
CP	**Reason [Sebab Pemilihan]**
The buildings, structures or landscape features that make **you feel proud/ impress** about Muar Town [bangunan-bangunan, struktur-struktur atau persekitaran yang **membuat anda berasa bangga/ tertarik** dengan Bandar Muar]	
CP	**Reason [Sebab Pemilihan]**

The buildings, structures or landscape features that require **maintenance and protection in** Muar Town [bangunan-bangunan, struktur-struktur atau persekitaran yang perlu **dijaga dan dipelihara** di Bandar Muar]	
CP	**Reason [Sebab Pemilihan]**

Thank you for your cooperation. All of your answers contribute to the identification of characteristics of Muar as the modern royal town of Johor Sultanate.

Terima kasih atas kerjasama yang diberikan. Semua jawapan anda menyumbang kepada mengenalpasti identiti Muar sebagai bandar diraja moden Kesultanan Johor.

Appendix E: The cognitive mapping survey form

Cognitive Mapping Survey

Dear participants,

You are being invited to take part in a PhD research project entitled; The Image and Identity of Muar as the Modern Royal Town of the Johor Sultanate, Malaysia: From the Perspective of Place Identity. The project aims to identify the characteristics of the royal towns in Malaysia by looking into the concept of Place Identity.

If you are willing to be involved in this research, you will be asked to participate in a place mapping survey to indicate places and spaces that are significant to the identity of the royal town. This survey will last for a maximum 20 minutes. This survey is provided in two languages: Malay and English. Please note that your responses will be strictly confidential and anonymous. Your details will be not passed to anyone beyond this study. You are free to withdraw at any point during or after the study, in which case all data provided by you will be destroyed.

Data from the research will be used in the production of the PhD thesis and will also be presented at academic conferences and published in research journals.

The Department of Landscape Research Ethics Review Committee approves this project as behalf of the University Research Ethics Committee. The University Research Ethics Committee monitors the application and delivery of the University Ethics Review Procedure across the University.

For any inquiries or comments, you can contact
Muhamad Solehin Fitry bin Rosley: Tel: +447932389963, +60197429117,
Email: msfrosley1@sheffield.ac.uk
Contact details for research supervisors
Eckart Lange: e.lange@sheffield.ac.uk
Kevin Thwaites: k.thwaites@sheffield.ac.uk

You will be given a copy of this information sheet and a signed consent form to keep

Kaji Selidik Pemetaan Kognitif

Kepada peserta,

Anda dijemput untuk mengambil bahagian di dalam projek kajian PhD yang bertajuk; *The Image and Identity of Muar as the Modern Royal Town of the Johor Sultanate, Malaysia: From the Perspective of Place Identity*. Matlamat kajian ini adalah untuk mengenalpasti ciri-ciri pembentukan bandar-bandar diraja di Malaysia bersandarkan konsep Identiti Setempat.

Jika anda berminat untuk terlibat dalam kajian ini, anda diminta untuk mengambil bahagian di dalam kaji selidik pemetaan tempat yang memakan masa sekitar 20 minit. Kaji selidik ini disertakan dalam dwi bahasa: Bahasa Melayu dan Inggeris. Untuk makluman, segala maklumbalas anda adalah terpelihara, sulit dan hanya untuk digunakan di dalam kajian ini sahaja. Anda berhak untuk menarik diri ketika atau selepas kaji selidik kajian berlangsung. Segala maklumat yang diberikan akan dilupuskan serta -merta.

Segala maklumat untuk kajian ini akan digunakan dalam penulisan tesis PhD, perbentangan persidangan akademik dan penerbitan jurnal- jurnal penyelidikan.

Jawatankuasa Semakan Etika Penyelidikan Jabatan Landskap meluluskan kajian penyelidikan ini dengan mewakili pihak Jawatankuasa Semakan Etika Penyelidikan Universiti. Jawatankuasa Semakan Etika Penyelidikan Universiti adalah pihak yang bertanggungjawab memantau permohonan dan kelulusan Prosedur Semakan Etika Penyelidikan di seluruh University of Sheffield.

Sebarang soalan dan cadangan, anda boleh terus menghubungi

Muhamad Solehin Fitry bin Rosley: Tel: +447932389963, +6019742911,
Email: msfrosley1@sheffield.ac.uk
Maklumat lanjut berkaitan penyelia penyelidikan
Eckart Lange: Email: e.lange@sheffield.ac.uk
Kevin Thwaites: Email: k.thwaites@sheffield.ac.uk

Anda akan diberikan satu salinan maklumat kajian dan borang persetujuan untuk simpanan

Participant Consent Form

Title of Research Project:
THE IMAGE AND IDENTITY OF MUAR AS THE MODERN ROYAL TOWN OF THE JOHOR SULTANATE, MALAYSIA: FROM THE PERSPECTIVE OF PLACE IDENTITY

Name of Researcher: MUHAMAD SOLEHIN FITRY BIN ROSLEY

Participant Identification Number for this project: Please initial box

I confirm that I have read and understood the information sheet and I have had the opportunity to ask questions about the project. ☐

I understand that my participation is voluntary and that I am free to withdrawat any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

Please contact MUHAMAD SOLEHIN FITRY BIN ROSLEY at msfrosley1@sheffield.ac.uk or +447932389963,+6019742911

I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name not be identified oridentifiable in the report or reports that result from the research. ☐

I agree for the data collected from me to be used in future research. ☐

I agree to take part in the above research project ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Muhamad Solehin Fitry bin Rosley (Lead Researcher)	Date	Signature

To be signed and dated in presence of the participant

Copies:
Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Borang Persetujuan Peserta

Tajuk Kajian Projek Penyelidikan:
THE IMAGE AND IDENTITY OF MUAR AS THE MODERN ROYAL TOWN OF THE JOHOR SULTANATE, MALAYSIA: FROM THE PERSPECTIVE OF PLACE IDENTITY

Nama Penyelidik: MUHAMAD SOLEHIN FITRY BIN ROSLEY

Nombor Rujukan Peserta untuk kajian projek:

Sila tandatangan kecil di kotak

Saya akui bahawa telah membaca dan memahami segala maklumat yang tertera di dalam salinan maklumat kajian dan berpeluang untuk menyuarakan sebarang soalan berkaitan dengan projek kajian ini. ☐

Saya sedar bahawa penyertaan saya adalah secara sukarela dan berhak untuk menarik diri dari kajian ini tanpa sebarang alasan dan mengundang sebarang kesan buruk di atas tindakan ini. Di samping itu, saya berhak untuktidak menjawab sebarang soalan yan diajukan jika saya berhasrat sedemikian. ☐

Sila hubungi MUHAMAD SOLEHIN FITRY BIN ROSLEY di msfrosley1@sheffield.ac.uk atau +447932389963,+6019742911

Saya faham segala maklumbalas yang diberikan adalah terpelihara dan sulit.Saya membenarkan maklumat yang diberikan adalah untuk kegunaan ahli-ahli projek kajian. Saya juga maklum bahawa nama saya tidak akan didedahkan di dalam laporan ini atau mana-mana laporan yang berkaitan dengan kajian ini. ☐

Saya bersetuju bahawa data yang diambil dari pihak saya untuk digunakan untuk kajian masa hadapan. ☐

Saya bersetuju untuk mengambil bahagian di dalam projek kajian. ☐

_____	_____	_____
Nama Peserta	Tarikh	Tandatangan
_____	_____	_____
Muhamad Solehin Fitry bin Rosley	Tarikh	Tandatangan

(Ketua Penyelidik)
Untuk ditandatangan beserta tarikh dihadapan peserta

Salinan:
Setelah ditandatangani oleh semua pihak yang berkaitan, peserta berhak mendapat sehelai salinan borang persetujuan yang telah ditandatangani beserta tarikh , surat berkaitan/ salinan maklumat kajian dan sebarang maklumat bertulis untuk simpanan peserta. Satu salinan borag persetujuan mestilah disimpan di dalam rekod utama projek (spt. fail kajian tapak), dan disimpan di tempat yang selamat.

PART A: PARTICIPANT'S BACKGROUND [LATAR BELAKANG PESERTA]

PART A: PARTICIPANT'S BACKGROUND [LATAR BELAKANG PESERTA]

Please fill in the blank____, or tick [⁄] the appropriate answer.
[Sila isikan tempat____, atau tandakan [⁄] pada jawapan yang sesuai.]

1. Gender (Jantina): ☐ Male (Lelaki) ☐ Female (Perempuan)

2. Age (Umur):

☐ 18-22 ☐ 23-27 ☐ 28-32 ☐ 33-37 ☐ 38-42

☐ 43-47 ☐ 48-52 ☐ 53-57 ☐ 58 and over (58 dan ke atas)

3. Ethnicity (Kaum) :

☐ Malay (Melayu) ☐ Chinese (Cina) ☐ Indian (India)

☐ Bumiputras ☐ Others, please specify (lain-lain, sila nyatakan)_____

4. Which of these best describe you (Yang mana berikut menggambarkan anda)

☐ Full-time student (Pelajar sepenuh masa)

☐ Part-time student (Pelajar separuh masa)

☐ Self-employed (Bekerja sendiri)

☐ Full-time employee (Bekerja sepenuh masa)

☐ Part- time employee (Bekerja sepenuh masa)

☐ Retired (Bersara)

☐ Currently not working (Tidak bekerja)

☐ Other (Lain-lain)

5. What is your monthly income (Berapakah pendapatan bulanan anda)

- ☐ Below RM 2000 (kurang dari RM 2000)
- ☐ RM 2001-RM 4000
- ☐ RM 4001-RM 6000
- ☐ RM 6001-RM10000
- ☐ RM 10 001 and above (RM 10001 dan ke atas)
- ☐ rather not to say (sulit)

6. Which of these is your highest level of educational?

- ☐ Primary leaver (Sekolah rendah)
- ☐ Secondary school leaver (Sekolah menengah)
- ☐ Certificate holder (Sijil)
- ☐ Diploma holder (Diploma)
- ☐ Graduate with degree (Ijazah)
- ☐ Graduate with masters (Ijazah sarjana)
- ☐ Graduate with PhD (Ijazah kedoktoran)
- ☐ None of these (Bukan yang disebutkan)

PART B: COGNITIVE MAPPING [PEMETAAN KOGNITIF]

Please refer to the list of landscape values given to indicate the significance of the spaces within the provided map. Feel free to indicate as many landscape values if you find the landscape values are relevant to the spaces. You can always use the acronym/ number of the landscape value to mark any spaces that meaningful to you.

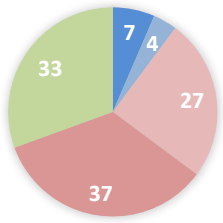
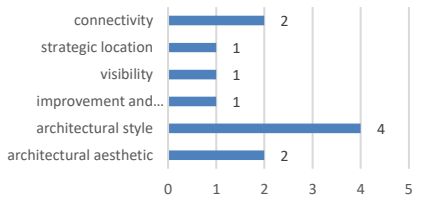
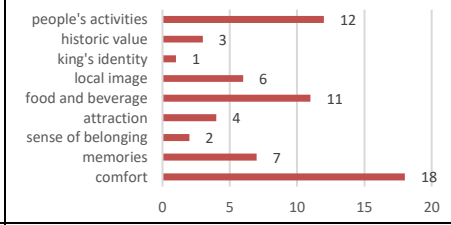
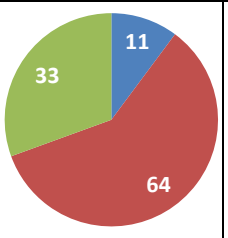
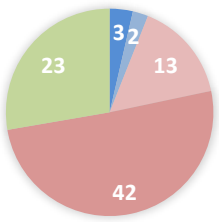
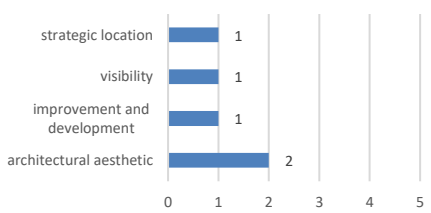
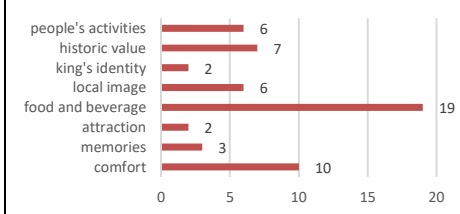
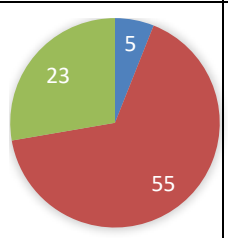
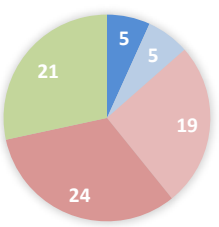
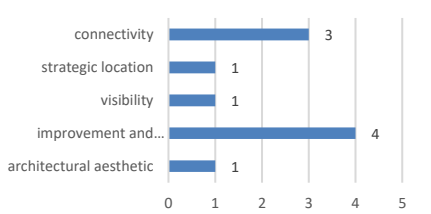
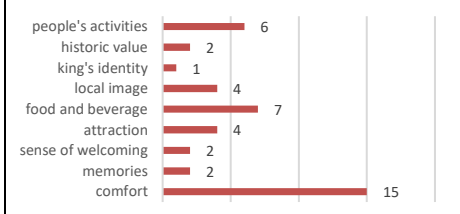
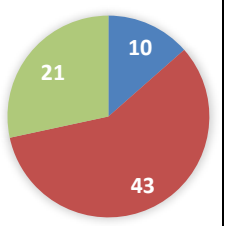
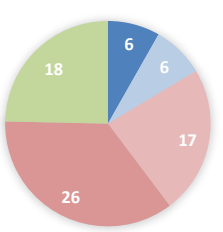
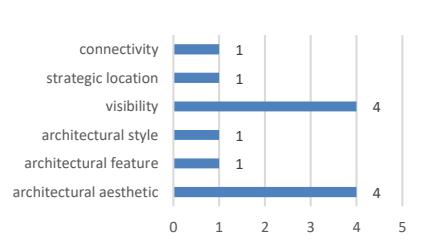
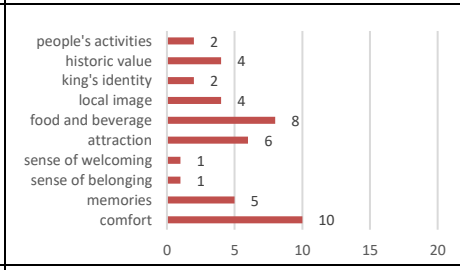
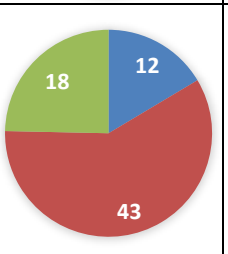
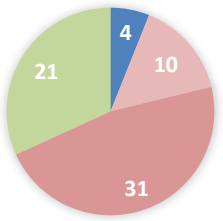
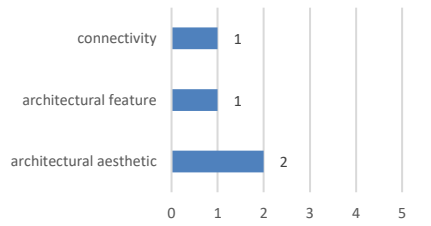
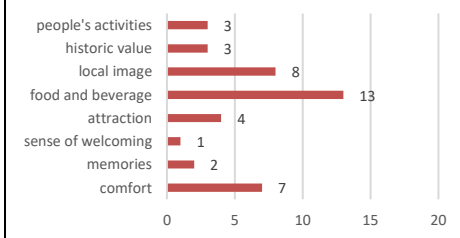
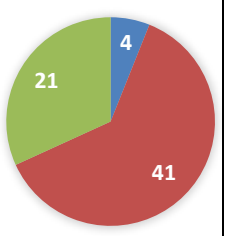
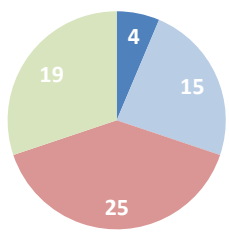
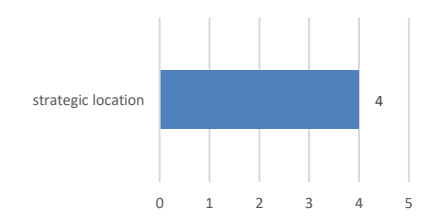
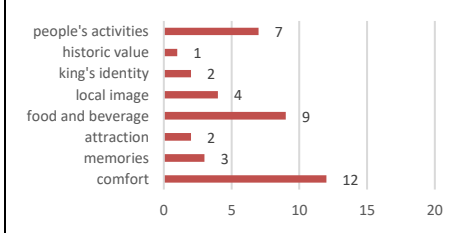
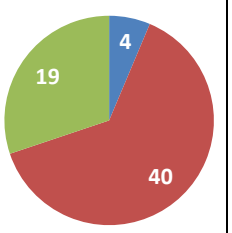
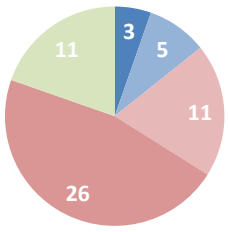
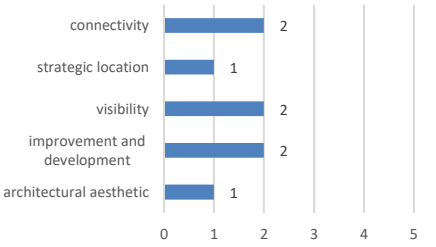
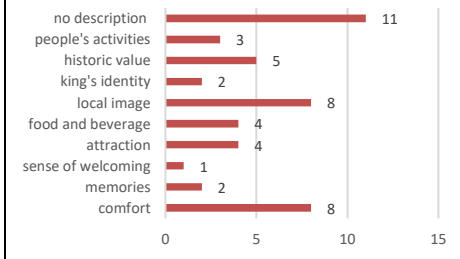
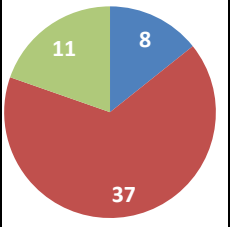
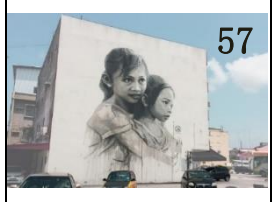
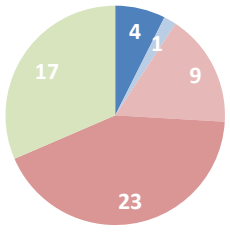
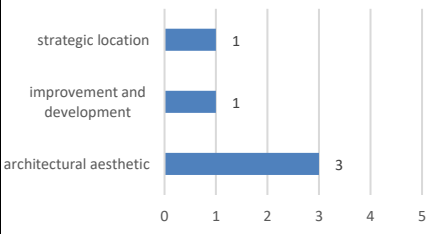
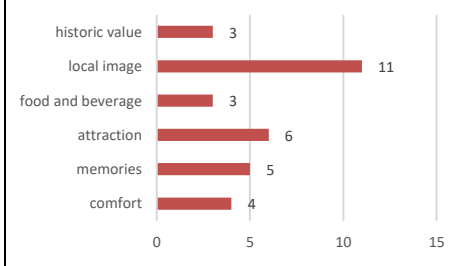
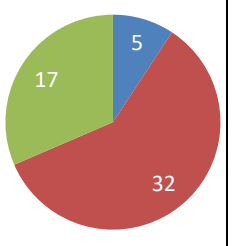
Sila rujuk kepada senarai nilai-nilai landskap yang diberikan untuk menunjukkan tempat atau ruang yang signifikan di dalam peta yang disediakan. Sila tanda seberapa banyak nilai-nilai landskap yang anda rasakan nilai-nilai landskap ini relevan kepada tempat tersebut dengan menggunakan singkatan nama/ nombor bagi nilai-nilai landskap untuk menunjukkan tempat yang bermakna pada anda.

Number (Nombor)	Landscape value (Nilai landskap)	Definition (Definasi)
1	Aesthetic **(AE)** (Aestetik)	I value these areas because of these are the most scenic areas in Muar. [Saya menghargai tempat ini kerana mempunyai pemandangan yang tercantik di Muar]
2	Economic **(EC)** (Ekonomi)	I value these areas because of economic properties such as business and tourism that are important to Muar. [Saya menghargai tempat ini kerana kepelbagian aktiviti perniagaan dan pelancongan kepada Muar]
3	Recreational **(RC)** (Rekreasi)	I value these areas because of these areas support recreational activities in Muar. [Saya menghargai tempat ini kerana menyediakan aktiviti lasak dan rekreasi di Muar]
4	Naturalness**(NT)** (Semulajadi)	I value these areas because they provide sanctuary for various flora and fauna in Muar. [Saya menghargai tempat ini kerana menjadi kawasan perlindungan kepada flora dan fauna di Muar]
5	Spiritual **(SP)** (Kerohanian)	I value these areas because these places are sacred, holy and spiritually special for me in Muar . [Saya menghargai tempat ini kerana ia mulia, suci dan mempunyai nilai kerohanian kepada saya apabila berada di Muar]
6	Intrinsic **(IN)** (Intrinsik)	I value these areas just because these areas are important to me in Muar. [Saya menghargai tempat ini kerana sifat istimewa dan tarikan yang padanya yang menyebabkan saya tertarik untuk mengunjunginya bila berada di Muar]
7	Historic **(HI)** (Bersejarah)	I value these areas because these places contain historical natural and man-made objects that important to Muar. [Saya menghargai tempat-tempat ini kerana mengadungi elemen sejarah sama ada semulajadi atau binaan manusia yang penting di Muar]
8	Relaxation **(RX)** (Ketenangan)	I value these areas because they make people feel better, physically and emotionally when they are in Muar. [Saya menghargai tempat-tempat ini kerana tempat-tempat ini merupakan kawasan yang penting kepada fizikal and emosi kepada sesiapa di Muar]
9	Culture **(CT)** (Budaya)	I value these areas because people can continue to pass down wisdom, traditions, and ways of life in Muar. [Saya menghargai tempat ini masyarakat boleh mewarisi kepakaran tempatan, budaya dan cara hidup masyarakat di Muar]
10	Symbolic **(SY)** (Simbolik)	I value these areas because they are symbolic and represent the identity of the Sultan in Muar. [Saya menghargai tempat ini kerana tempat ini menjadi simbol dan melambangkan identiti Sultan di Muar]

Thank you for your cooperation. All of your answers contribute to the identification of characteristics of Muar as the modern royal town of Johor Sultanate.

Terima kasih atas kerjasama yang diberikan. Semua jawapan anda menyumbang kepada mengenalpasti identiti Muar sebagai bandar diraja moden Kesultanan Johor.

Appendix F: Data Categorisation for Self-Esteem

Self-Esteem						
Photo	Elements	Physical attributes	Emotional Attributes	Overall	Sum	Rank
					**108**	**1**
					**83**	**2**
					**74**	**3**
					**73**	**4**
					**66**	**5**
					**63**	**4**
					**56**	**5**
					**54**	**6**
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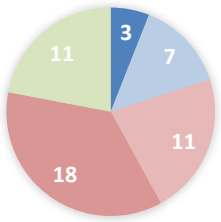
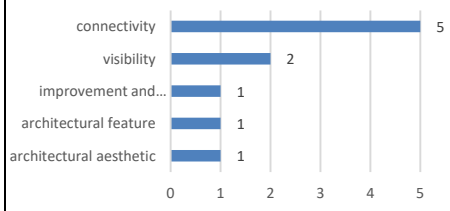
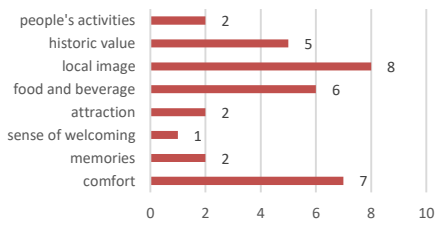
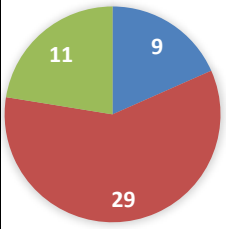
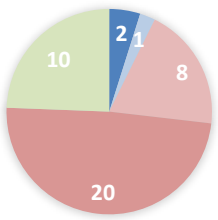
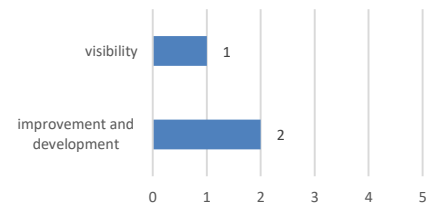
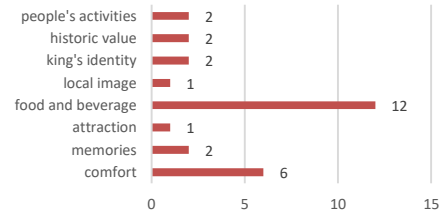
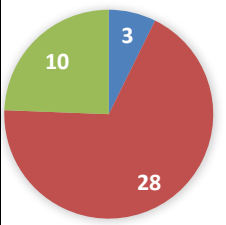
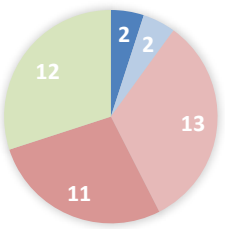
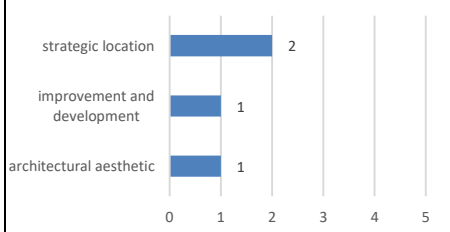
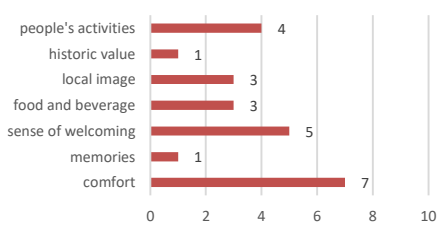
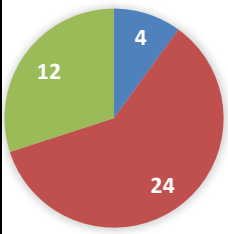
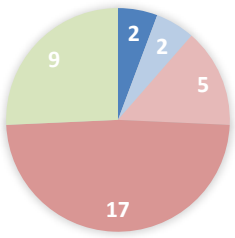
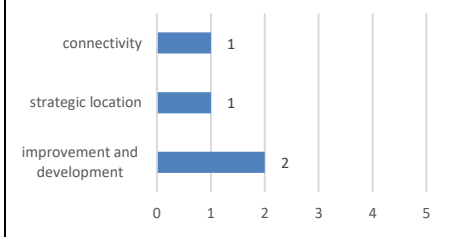
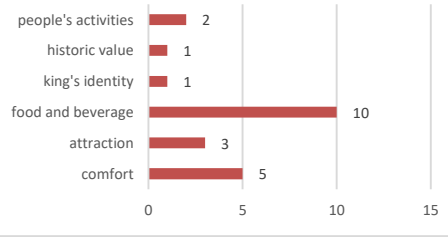
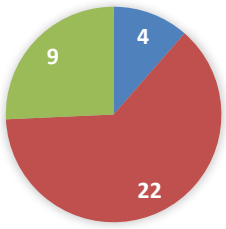
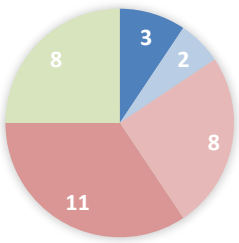
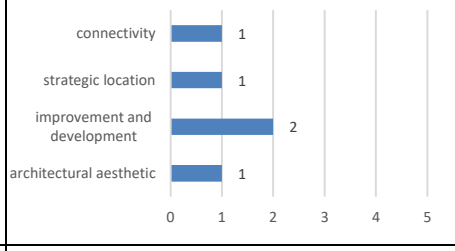
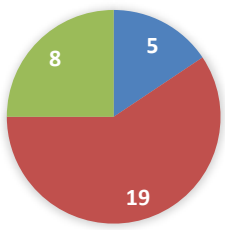
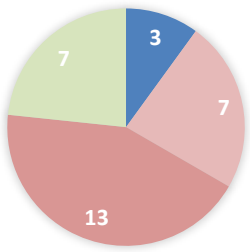
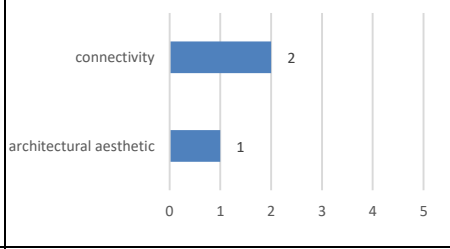
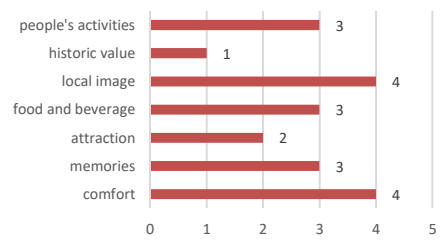
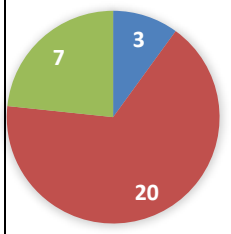
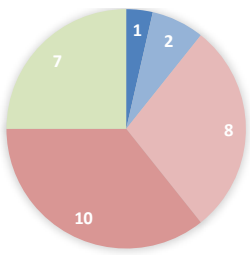
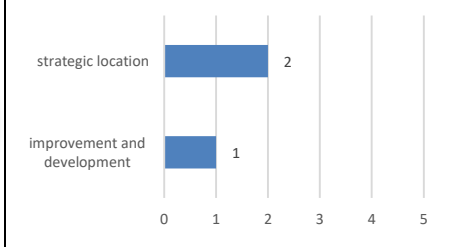
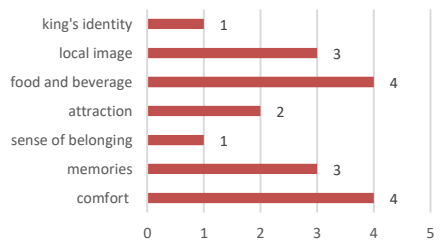
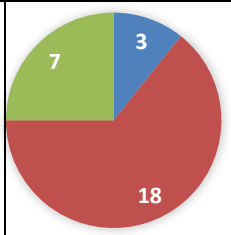
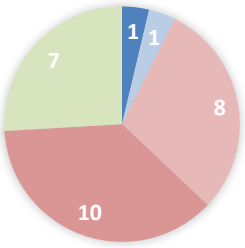
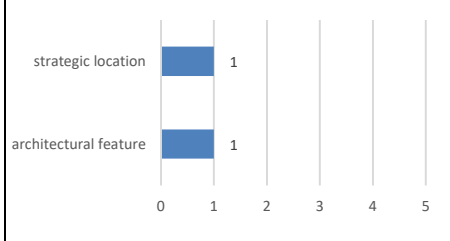
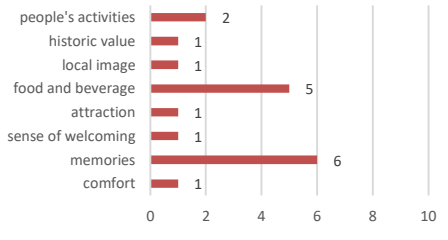
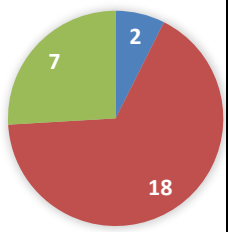
					**49**	**9**
					**41**	**10**
					**40**	**11**
					**35**	**12**
					**32**	**13**
					**30**	**12**
					**28**	**13**
					**27**	**12**
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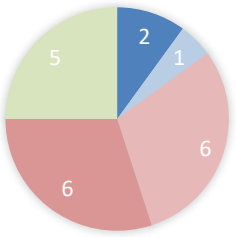
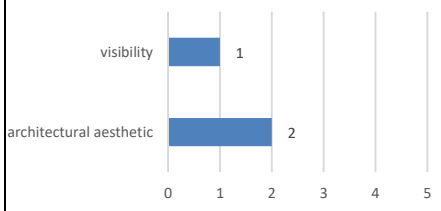
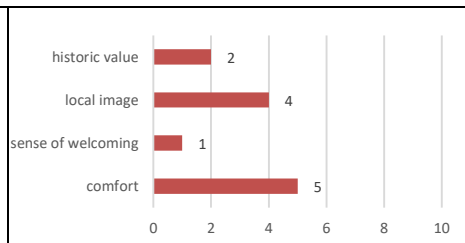
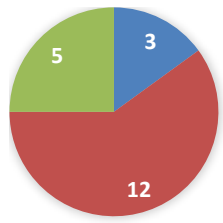
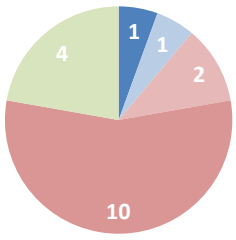
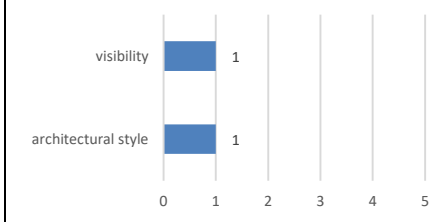
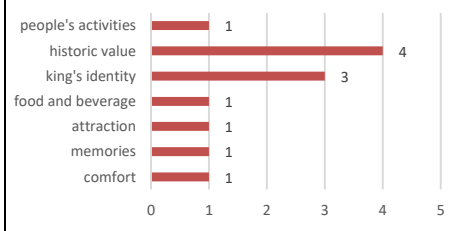
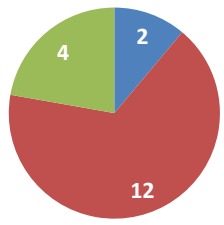
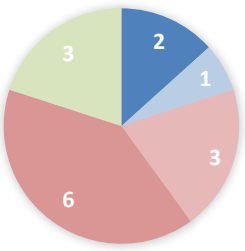
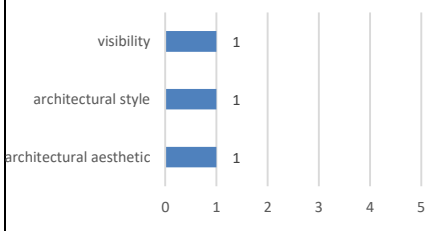
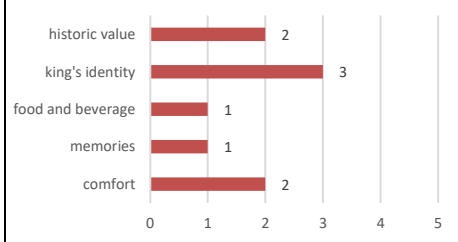
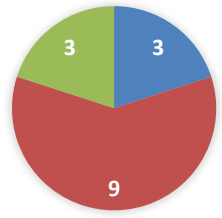
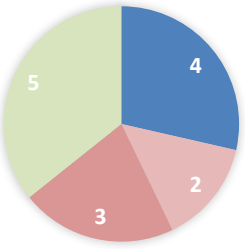
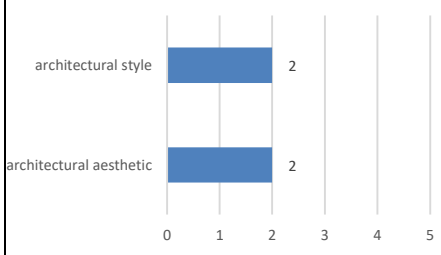
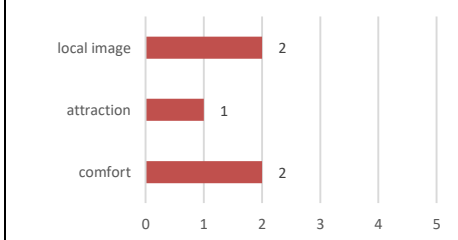
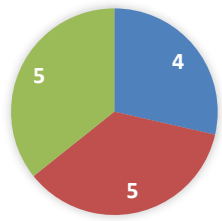
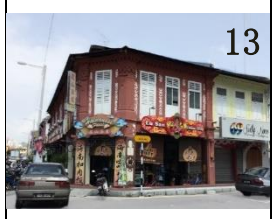
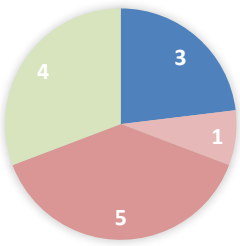
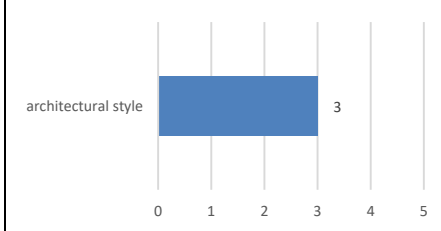
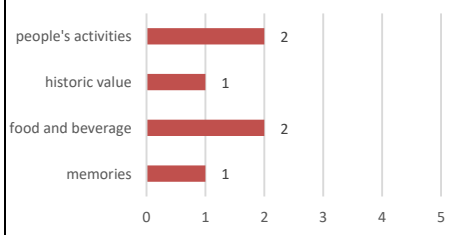
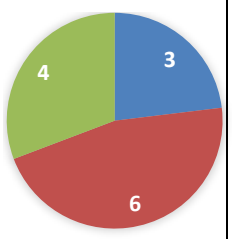
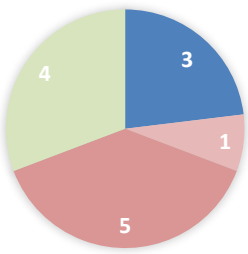
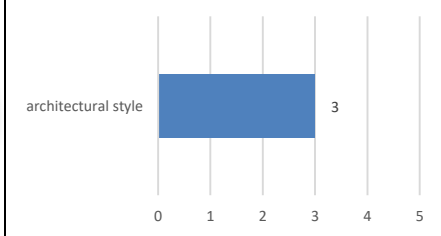
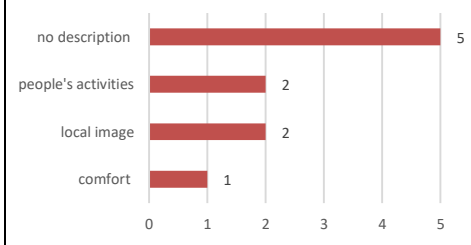
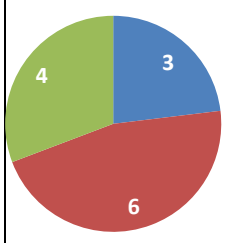
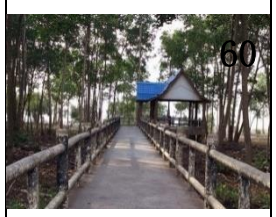
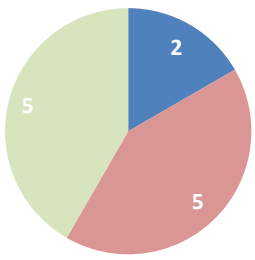
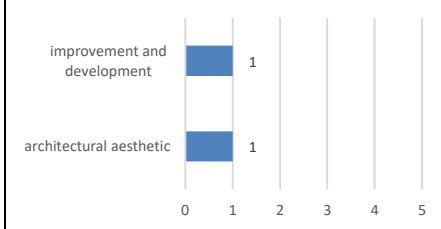
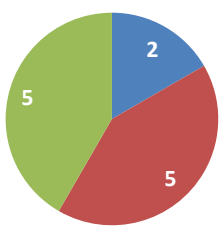
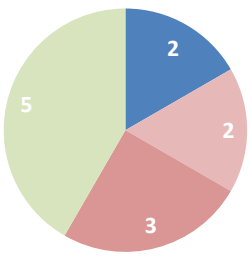
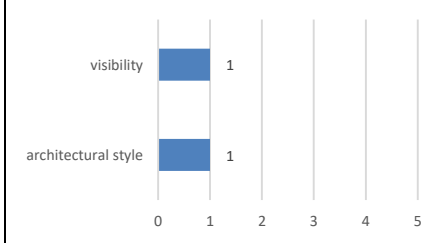
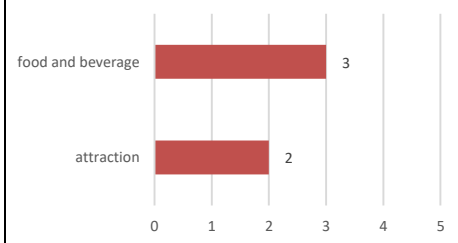
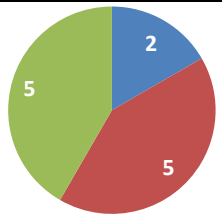
					**20**	**14**
					**18**	**16**
					**15**	**17**
					**14**	**18**
					**13**	**19**
					**13**	**19**
					**12**	**21**
					**12**	**21**
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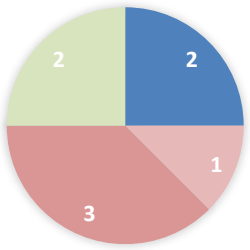
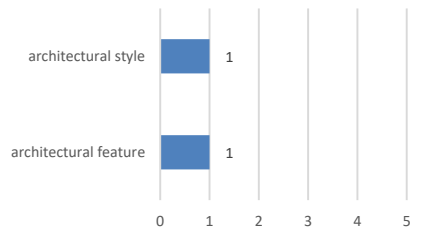
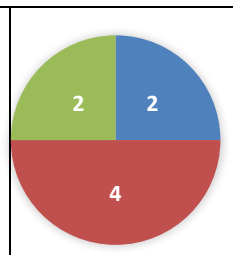
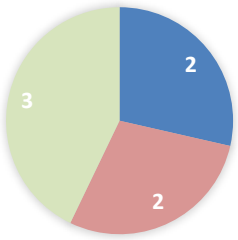
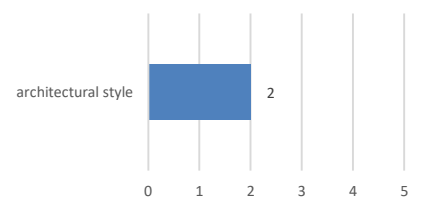
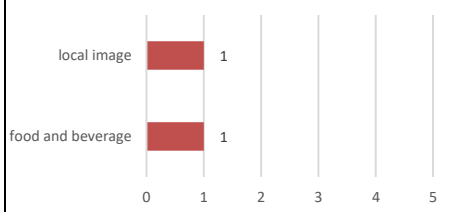
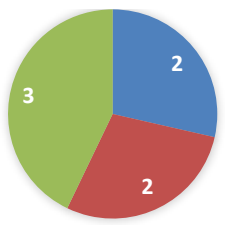
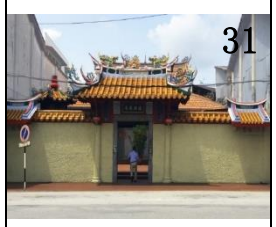
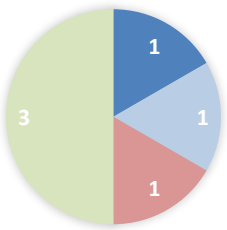
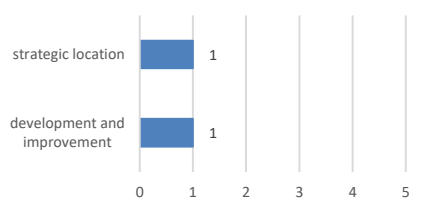
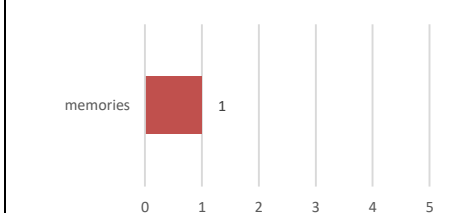
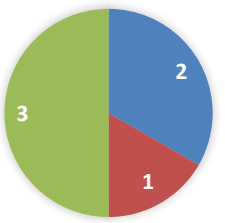
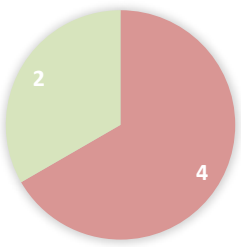
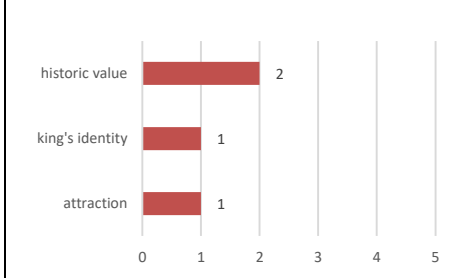
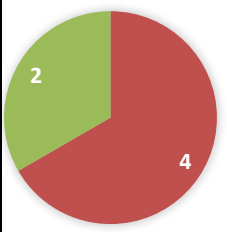
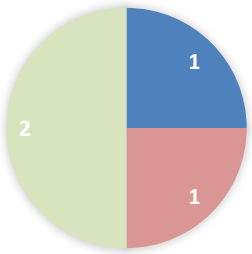
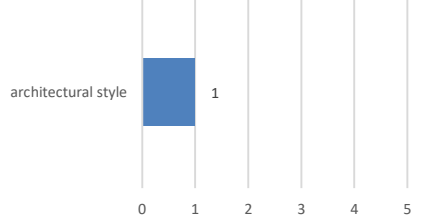
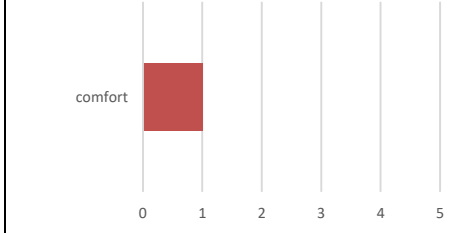
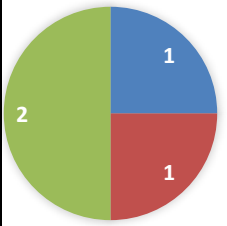
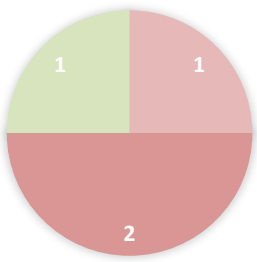
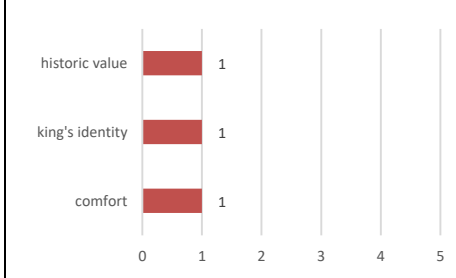
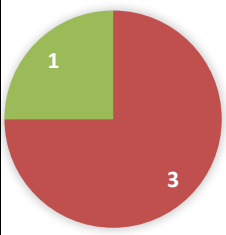
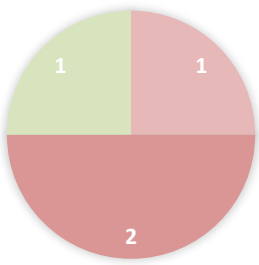
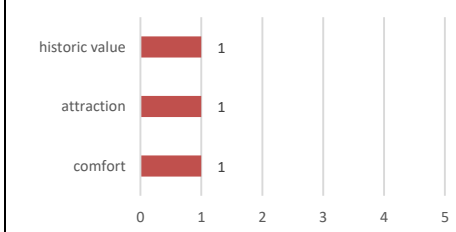
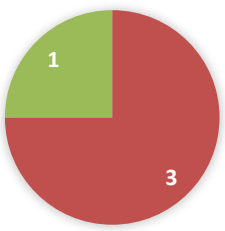
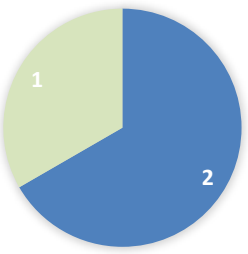
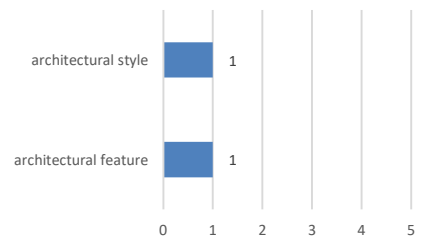
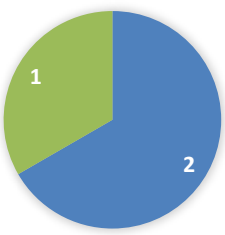
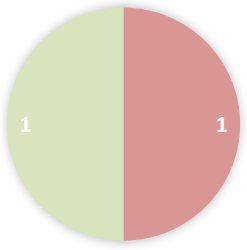
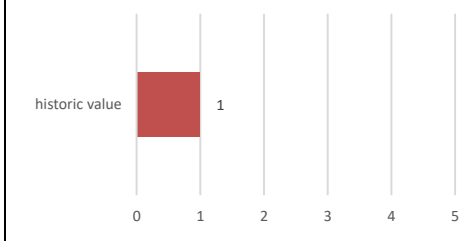
					**8**	**24**
					**7**	**26**
					**6**	**27**
					**6**	**27**
					**4**	**29**
					**4**	**29**
					**4**	**29**
					**3**	**32**
					**2**	**33**
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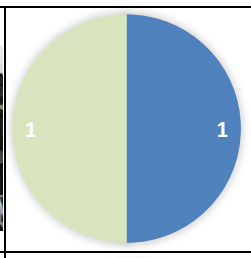
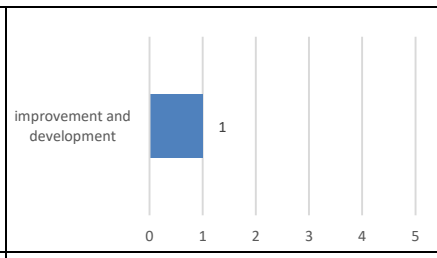
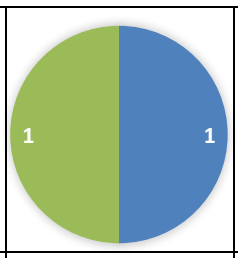
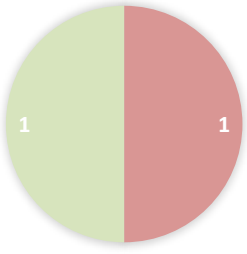
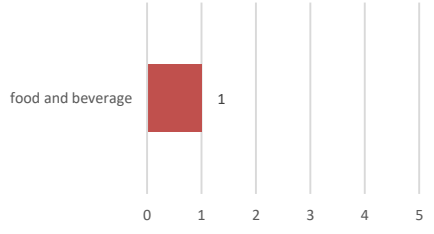
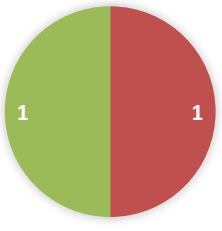
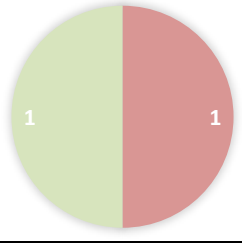
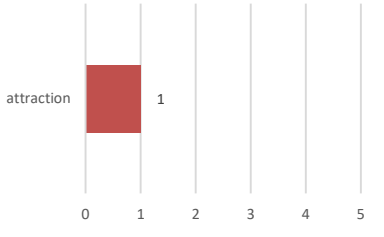
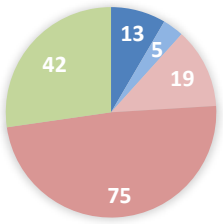
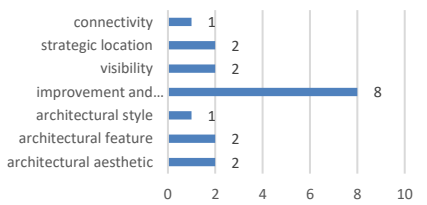
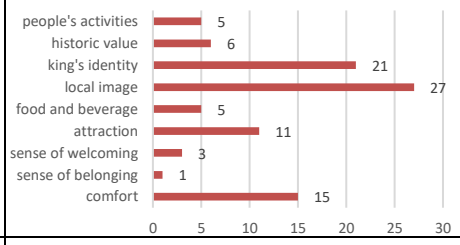
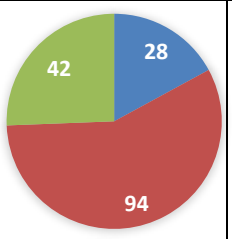
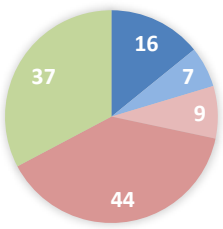
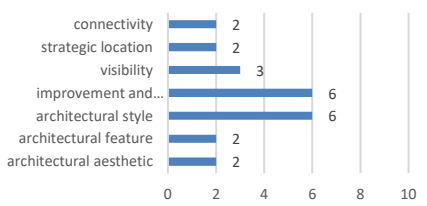
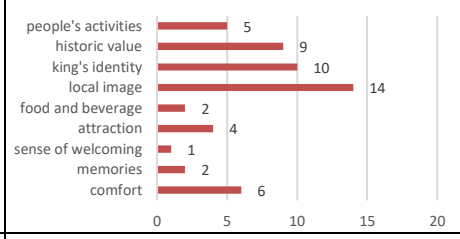
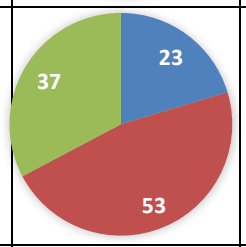
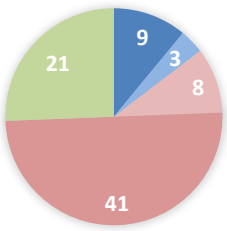
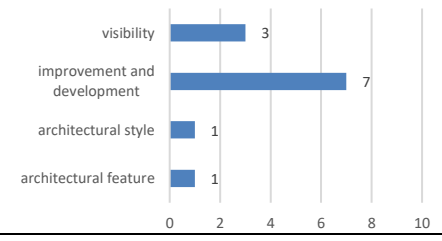
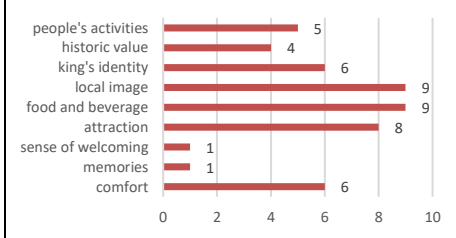
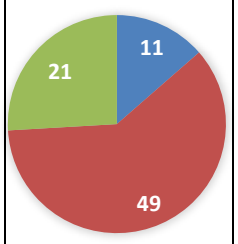
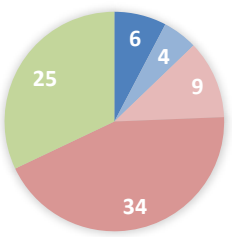
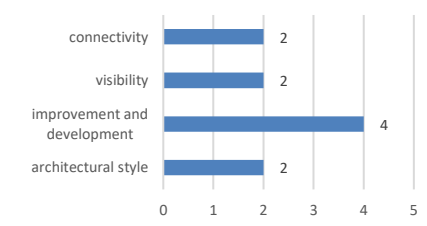
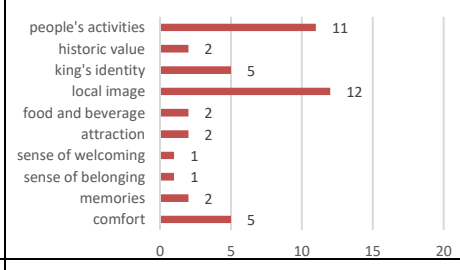
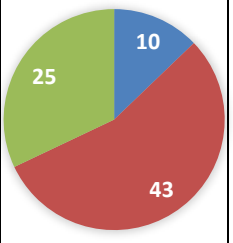
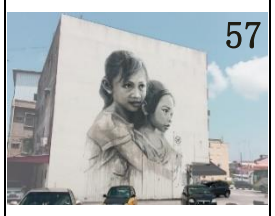
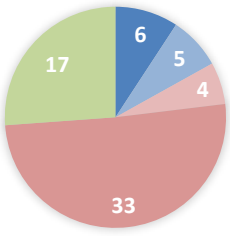
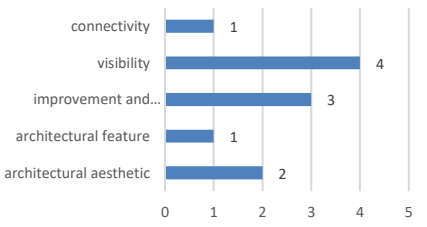
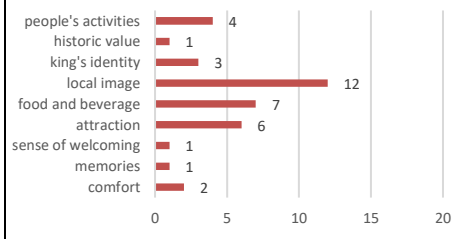
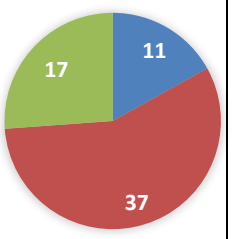
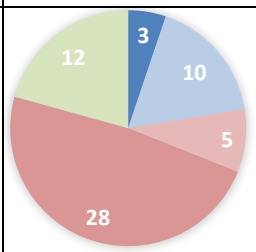
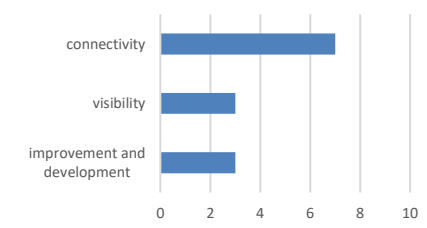
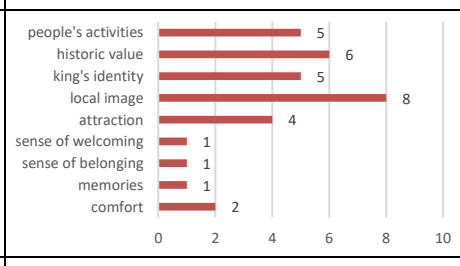
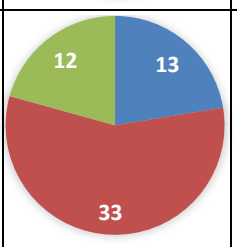
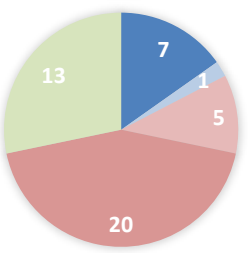
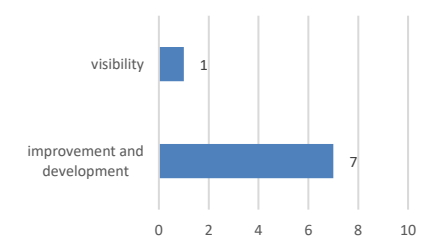
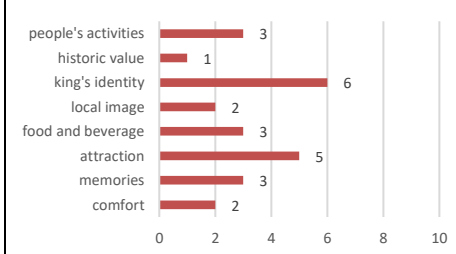
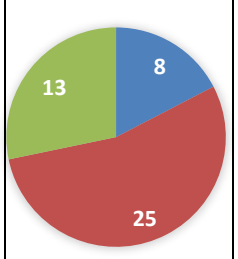
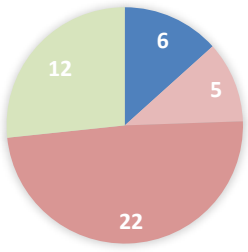
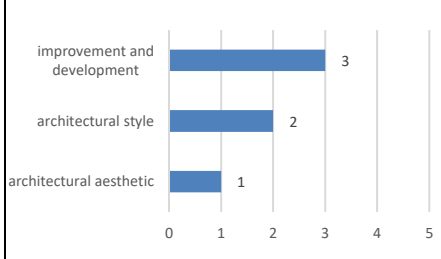
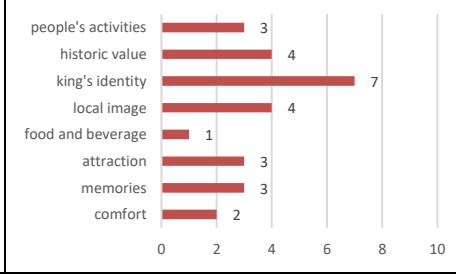
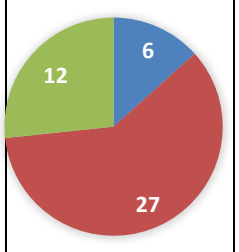
 21	 1 1	 improvement and development 1 0 1 2 3 4 5		 1 1	**2**	**33**
 36 KIM SAN PUBLIC COOKED FOOD MARKET	 1 1		 food and beverage 1 0 1 2 3 4 5	 1 1	**2**	**33**
 52	 1 1		 attraction 1 0 1 2 3 4 5	 1 1	**2**	**33**

Appendix G: Data Categorisation for Self-Efficacy

Self-efficacy						
Photo	Elements	Physical attributes	Emotional Attributes	Overall	Sum	Rank
 38					154	1
 54					113	2
 33					81	3
 51					78	4
 57					65	5
 2					60	6
 16					46	7
 42					45	8
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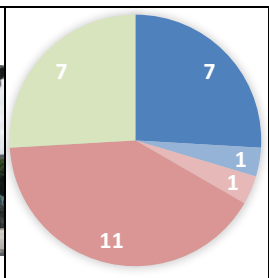
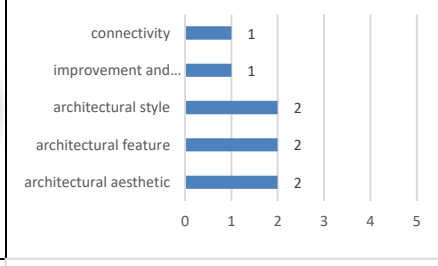
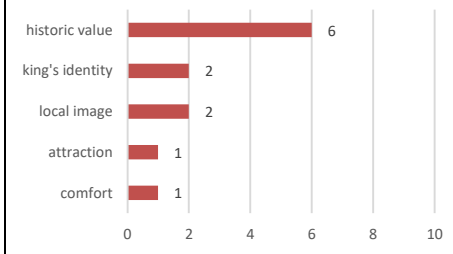
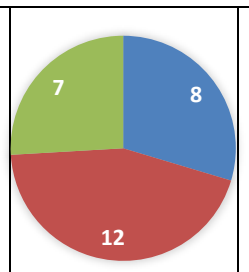
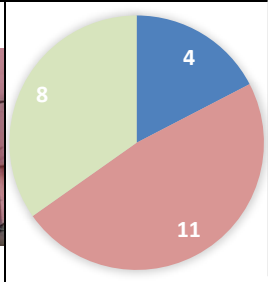
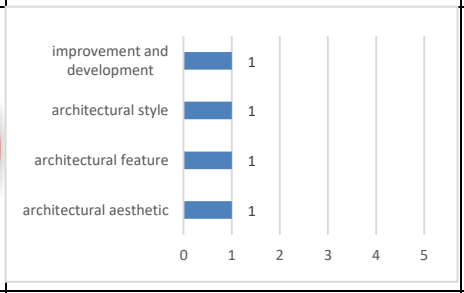
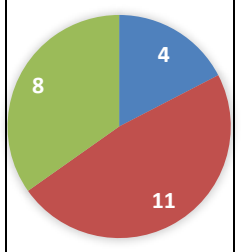
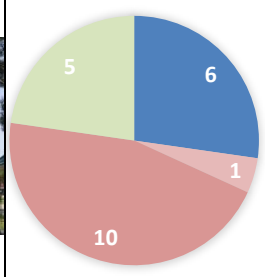
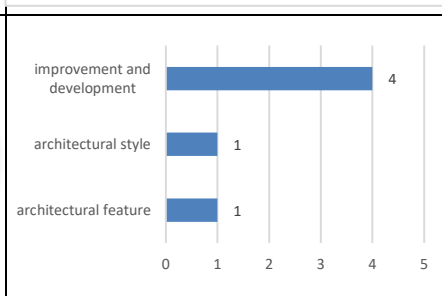
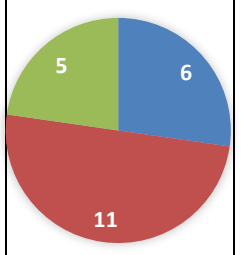
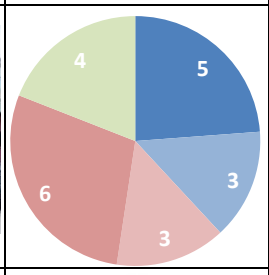
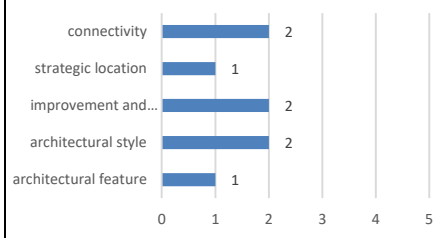
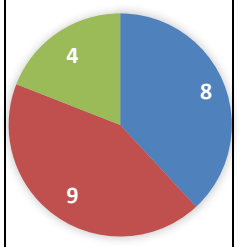
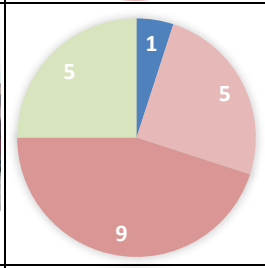
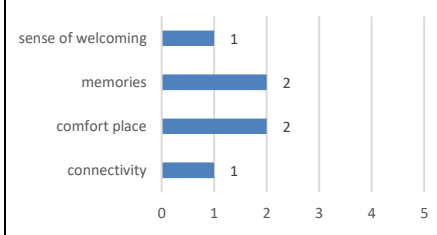
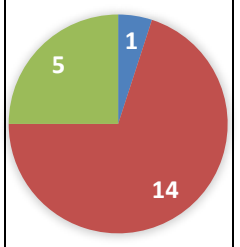
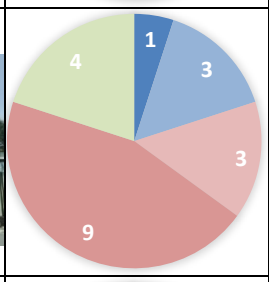
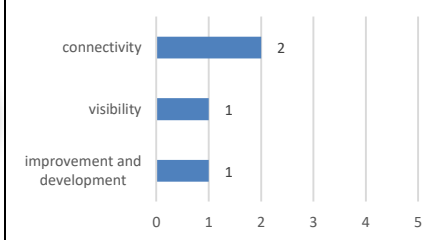
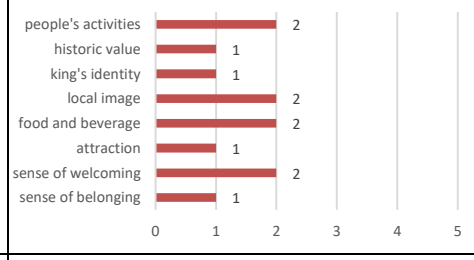
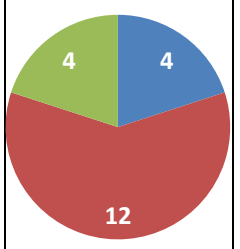
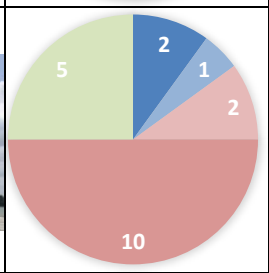
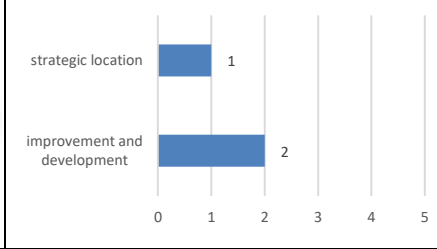
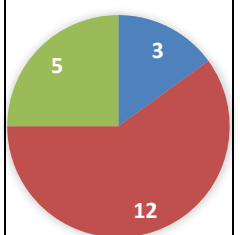
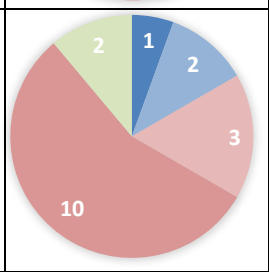
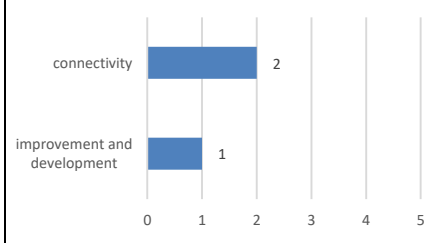
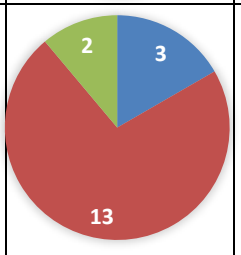
46					39	10

					**27**	**11**
					**24**	**12**
					**22**	**13**
					**21**	**14**
					**20**	**15**
					**20**	**15**
					**20**	**15**
					**18**	**18**
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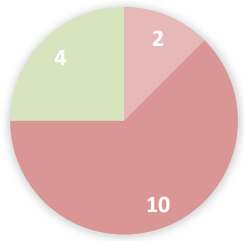
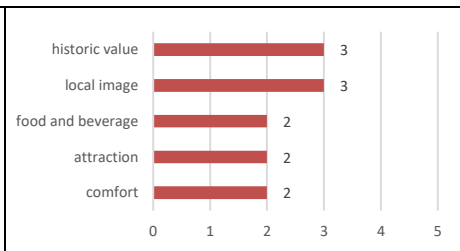
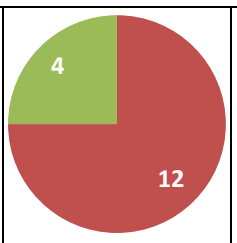
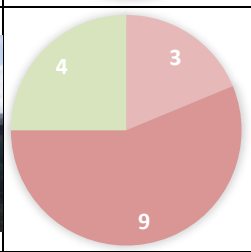
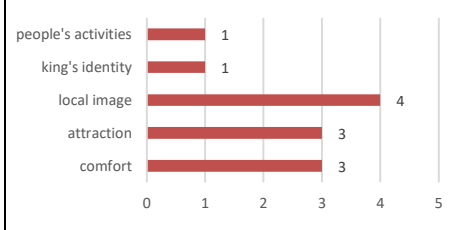
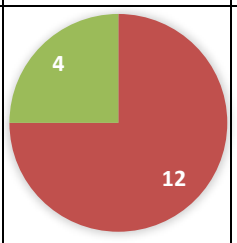
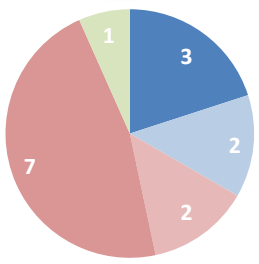
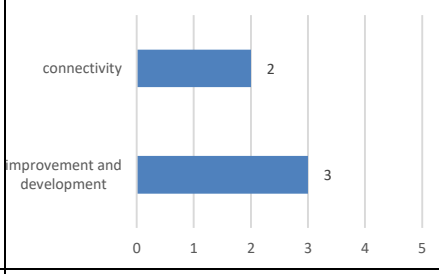
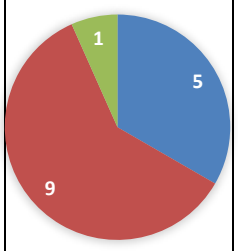
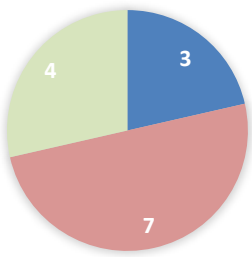
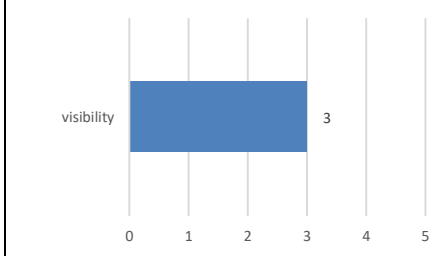
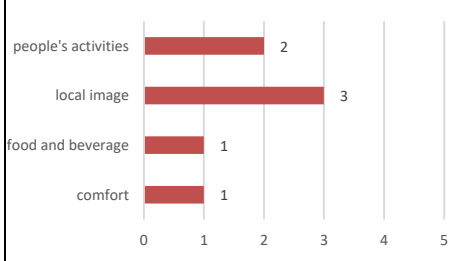
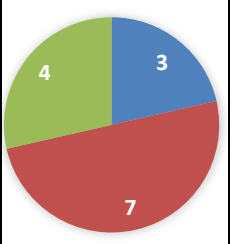
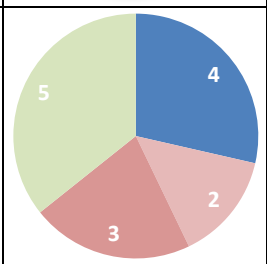
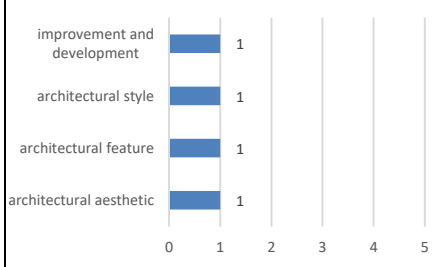
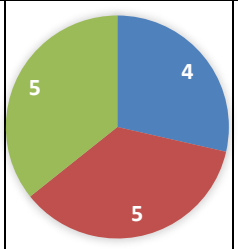
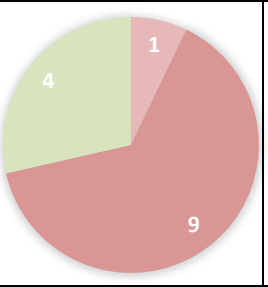
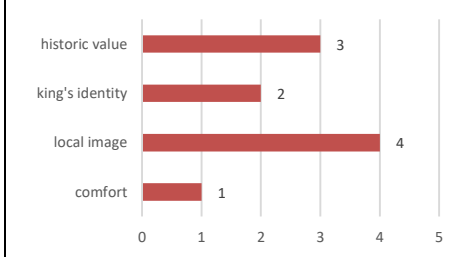
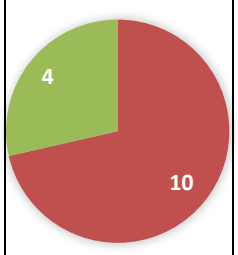
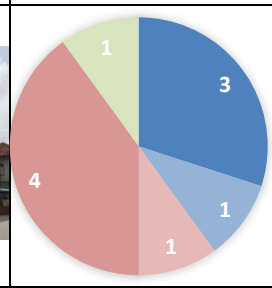
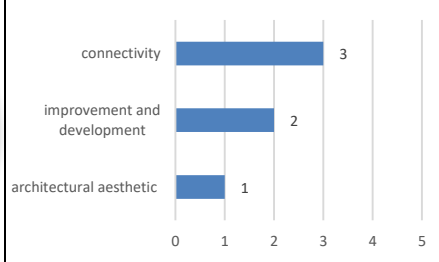
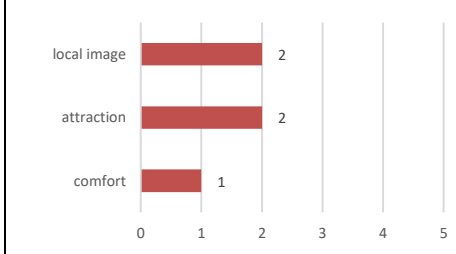
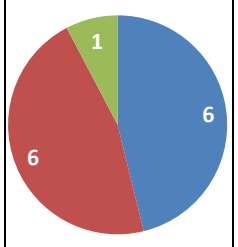
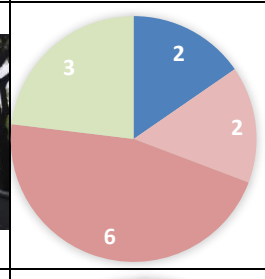
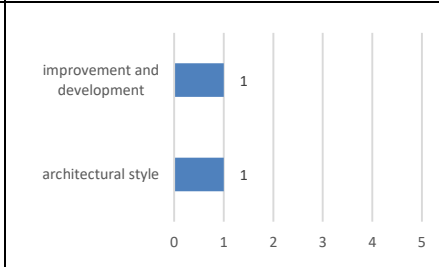
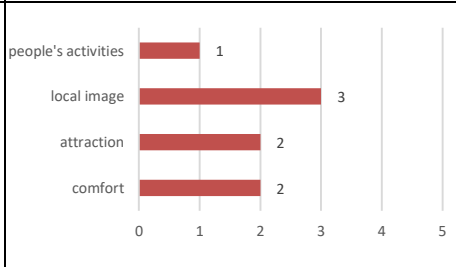
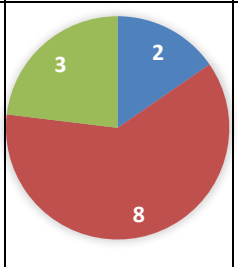
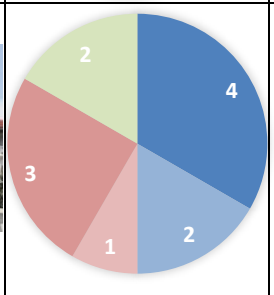
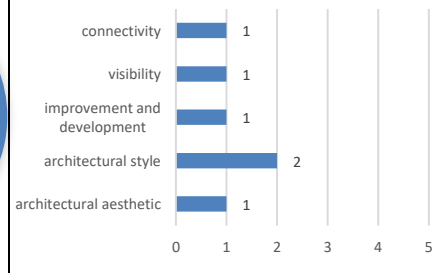
 15					**16**	**20**
 85					**16**	**20**
 6					**15**	**23**
 21					**14**	**24**
 37					**14**	**24**
 49					**14**	**24**
 18					**13**	**27**
 23					**13**	**27**
 41					**12**	**29**
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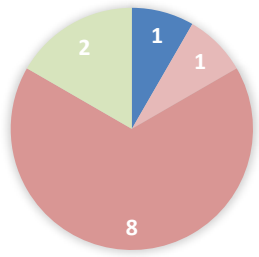
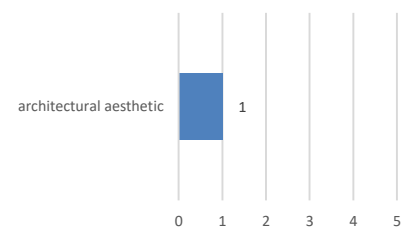
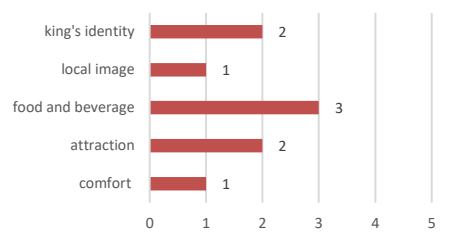
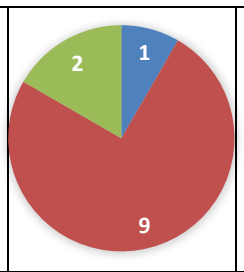
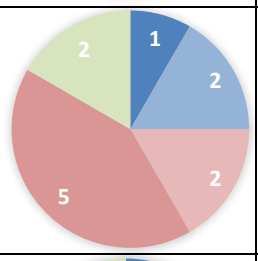
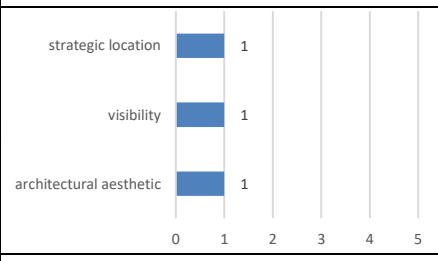
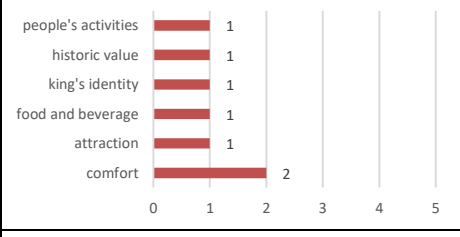
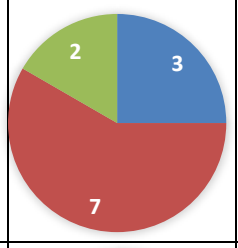
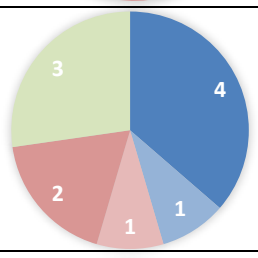
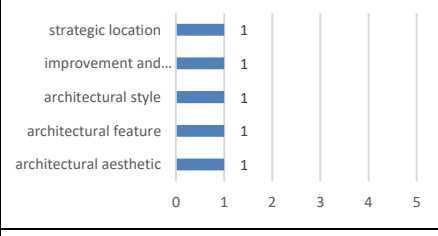
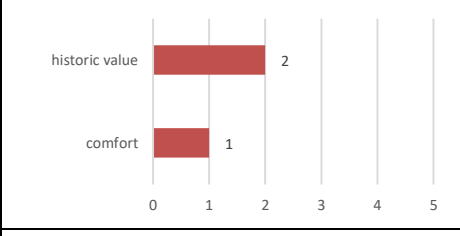
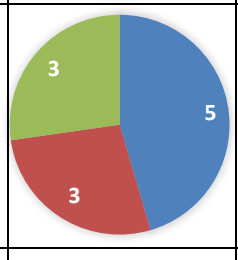
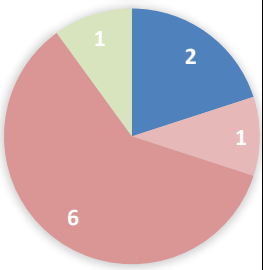
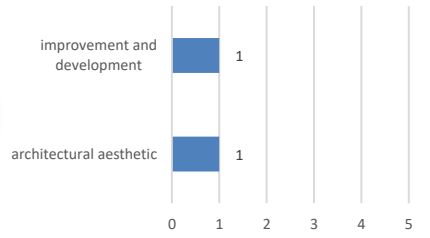
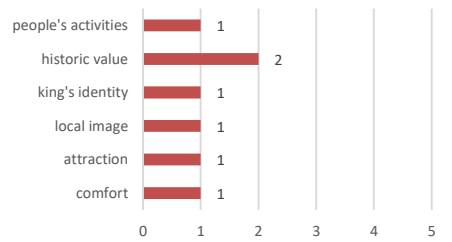
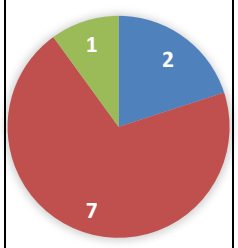
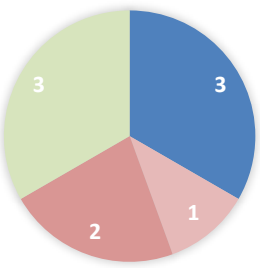
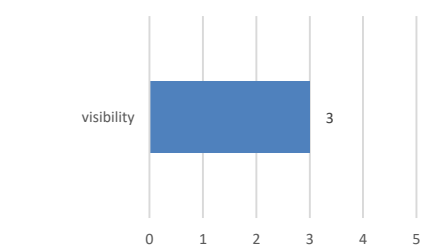
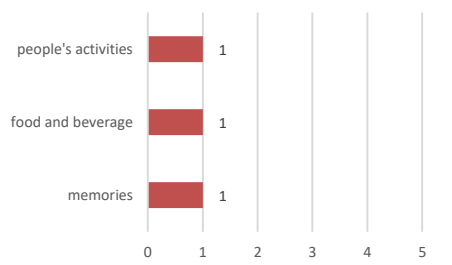
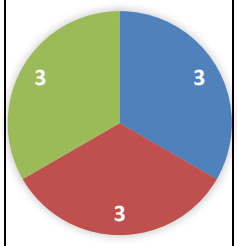
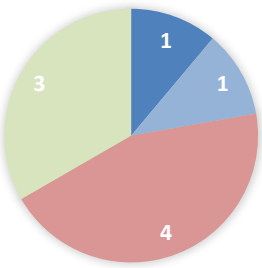
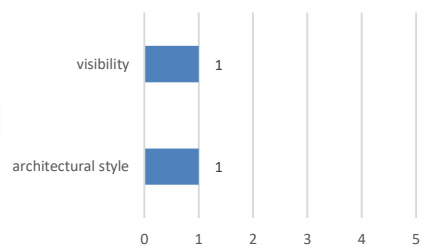
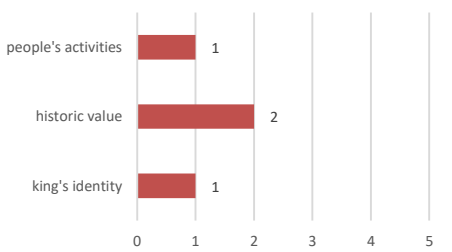
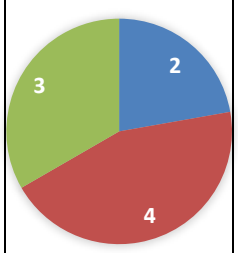
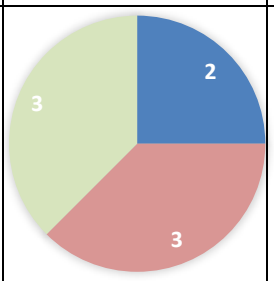
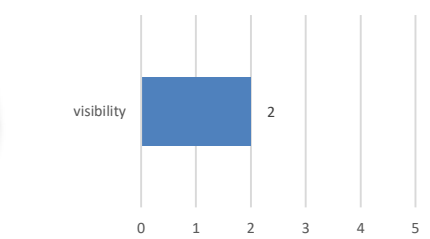
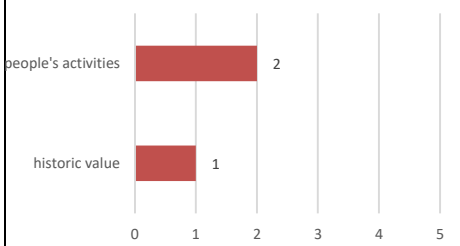
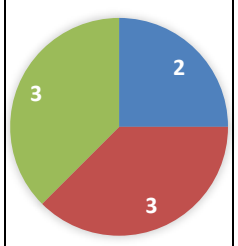
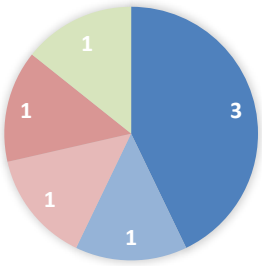
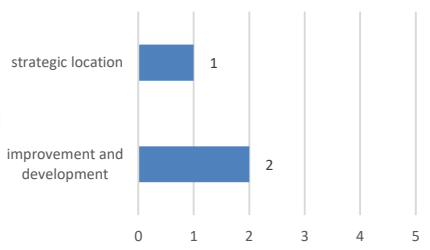
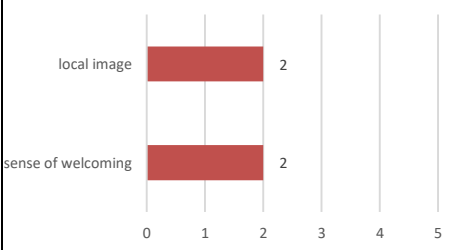
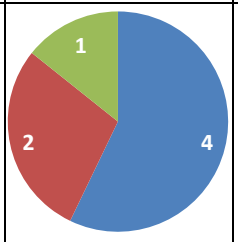
					**12**	**29**
					**12**	**29**
					**11**	**33**
					**10**	**34**
					**9**	**35**
					**9**	**35**
					**8**	**37**
					**7**	**38**
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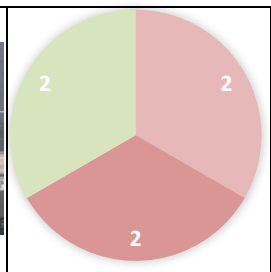
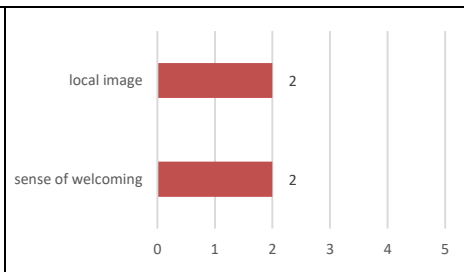
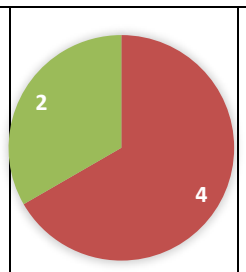
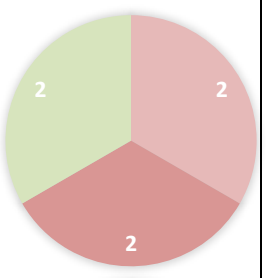
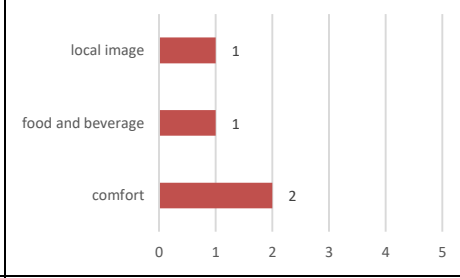
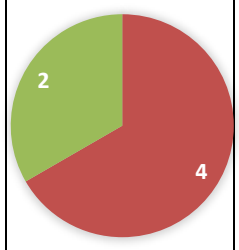
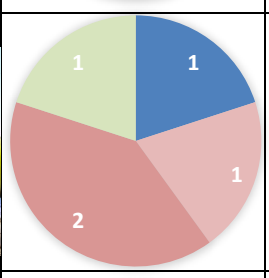
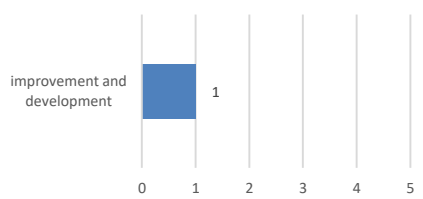
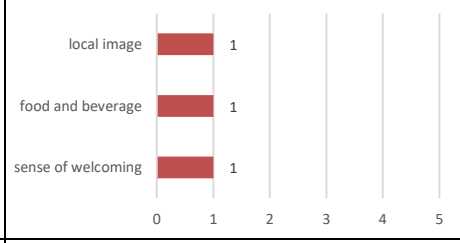
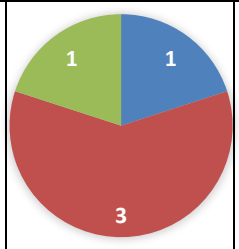
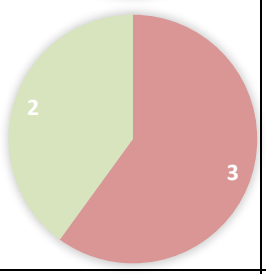
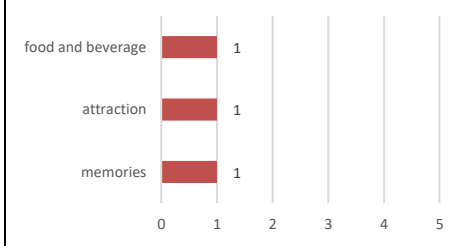
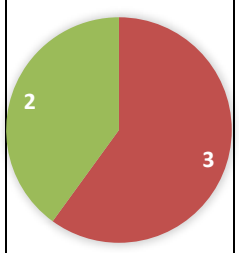
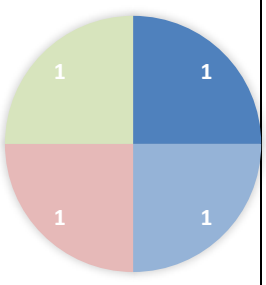
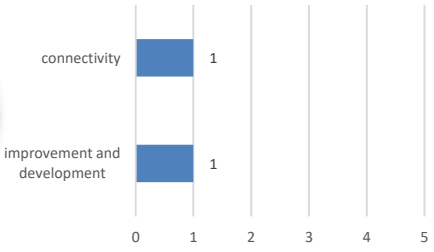
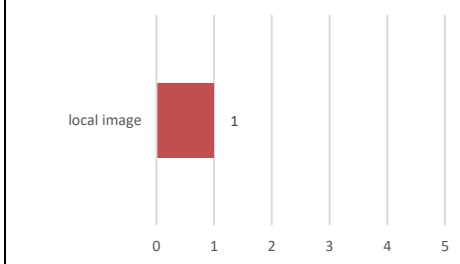
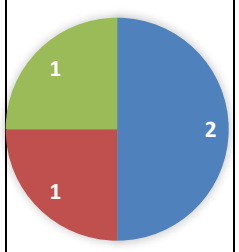
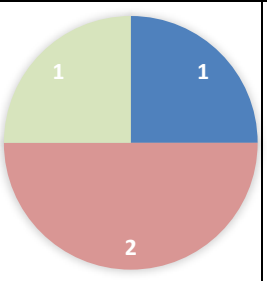
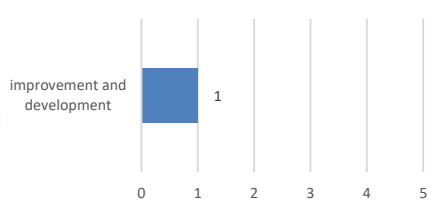
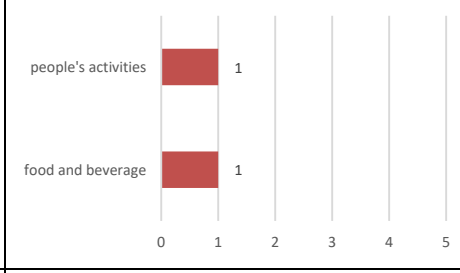
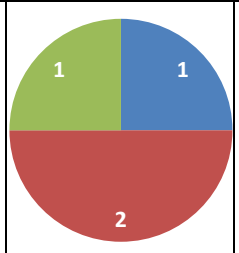
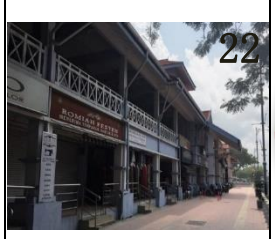
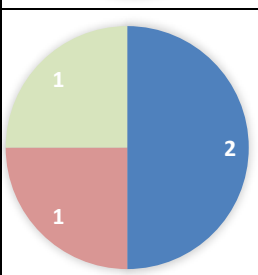
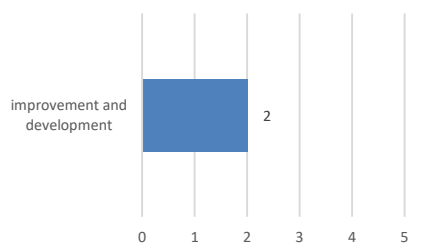
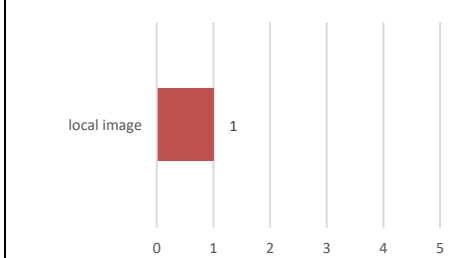
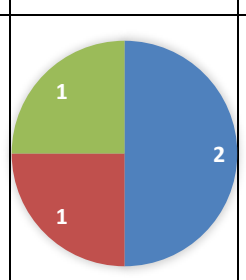
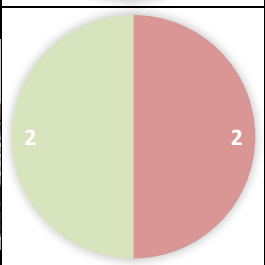
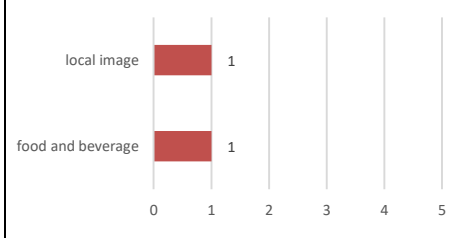
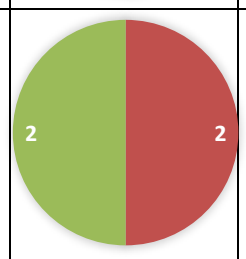
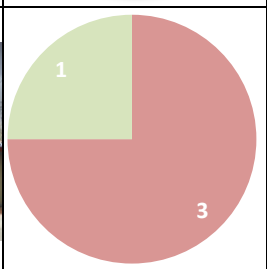
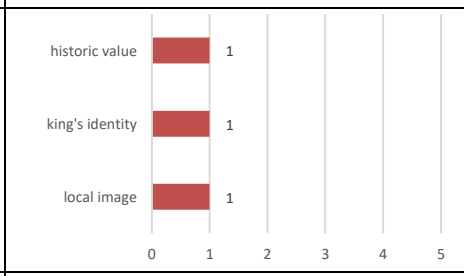
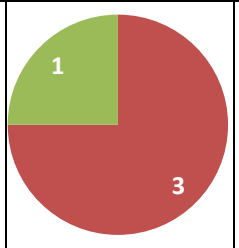
					**6**	**39**
					**6**	**39**
					**5**	**43**
					**5**	**43**
					**4**	**45**
					**4**	**45**
					**4**	**45**
					**4**	**45**
					**4**	**45**
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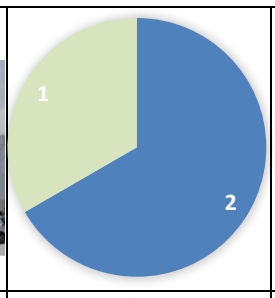
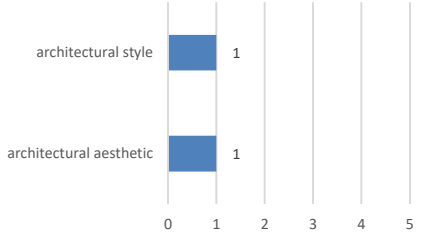
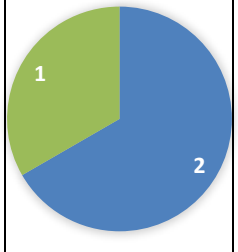
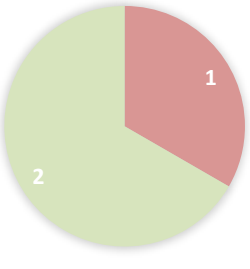
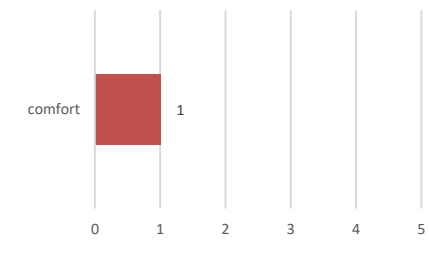
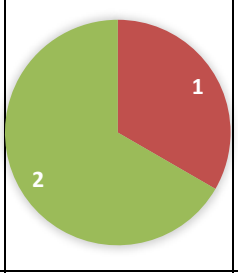
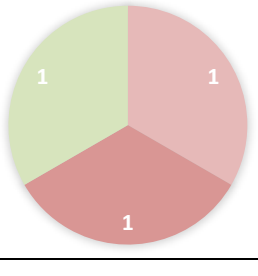
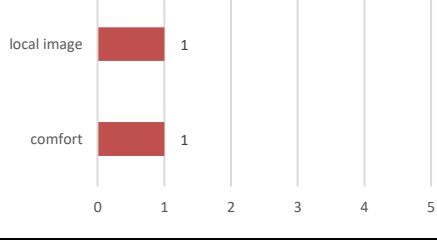
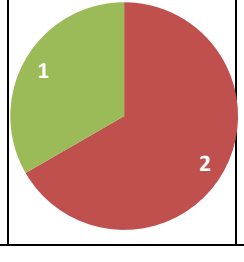
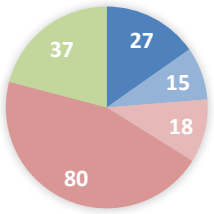
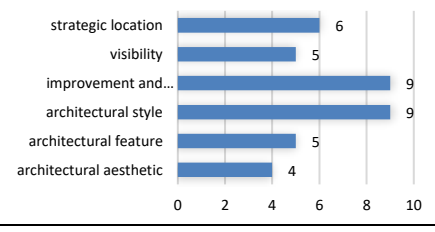
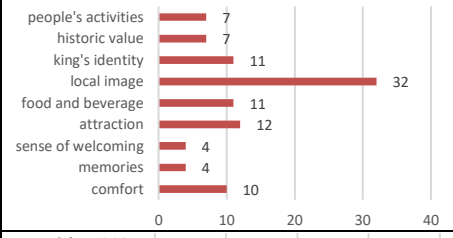
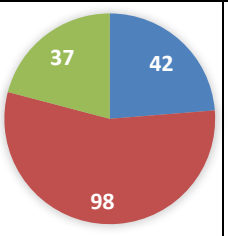
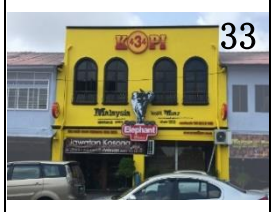
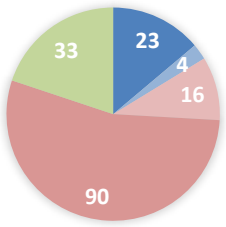
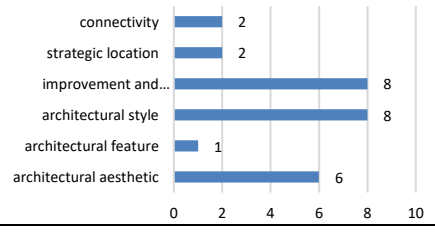
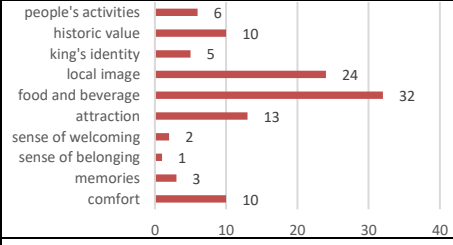
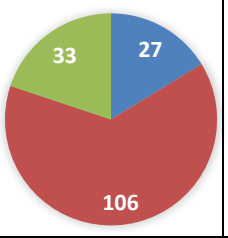
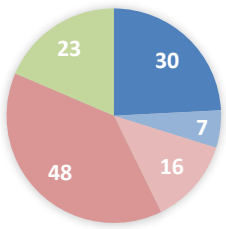
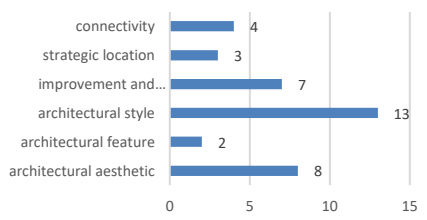
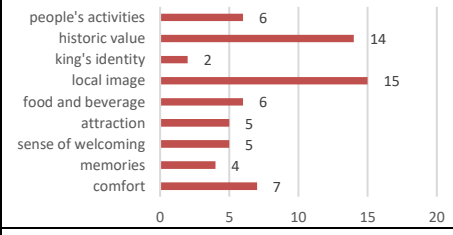
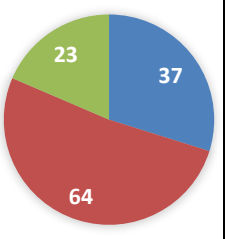
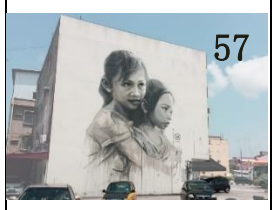
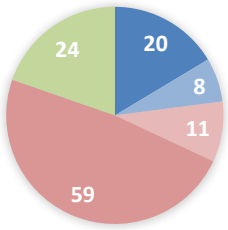
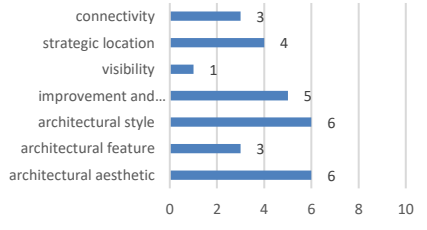
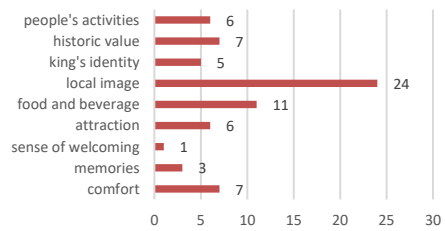
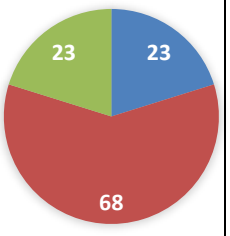
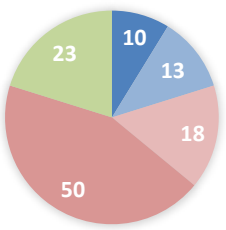
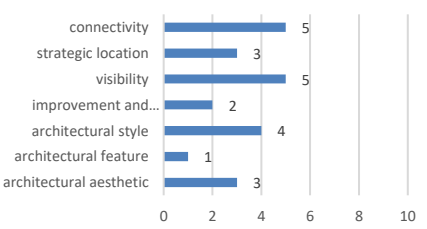
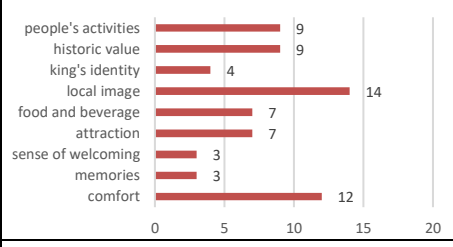
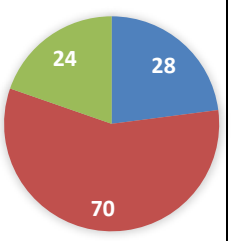
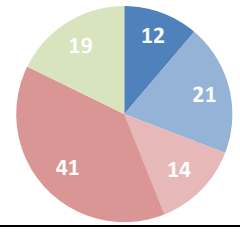
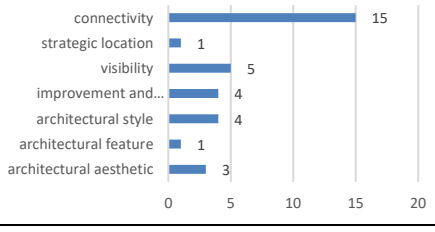
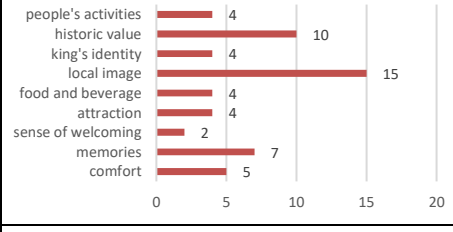
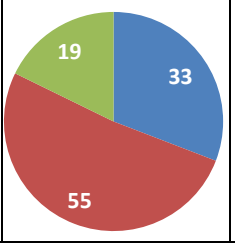
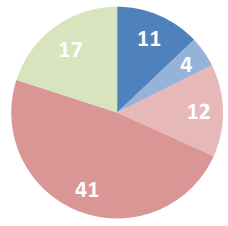
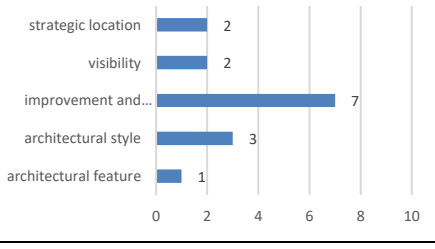
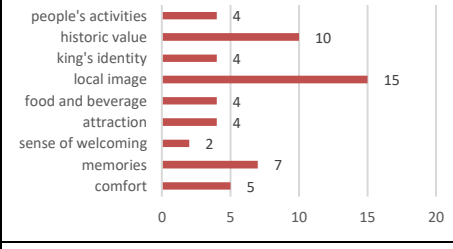
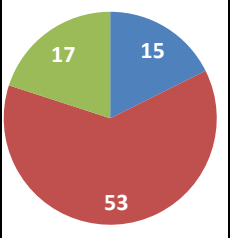
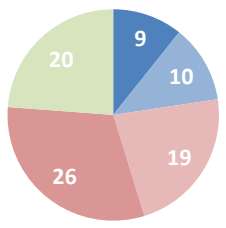
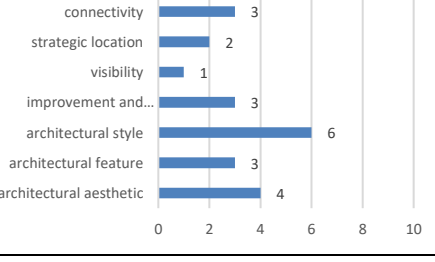
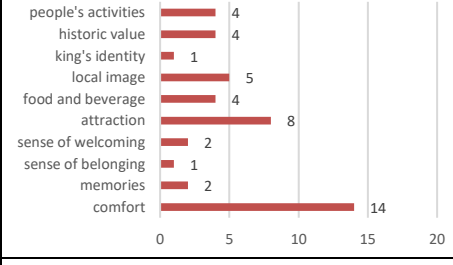
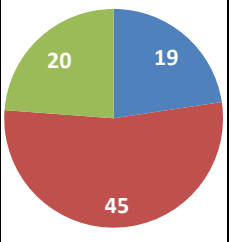
					**3**	**51**
					**3**	**51**
					**3**	**51**

Appendix H: Data Categorisation Distinctiveness

Distinctiveness						
Photo	Elements	Physical attributes	Emotional Attributes	Overall	Sum	Rank
					**177**	**1**
					**166**	**2**
					**124**	**3**
					**122**	**4**
					**114**	**5**
					**107**	**6**
					**85**	**7**
					**84**	**8**
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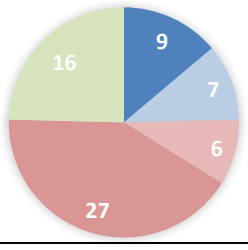
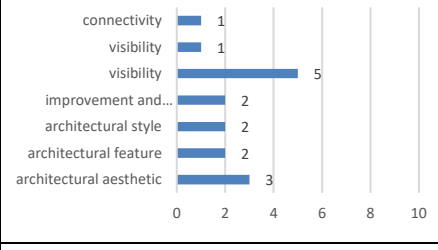
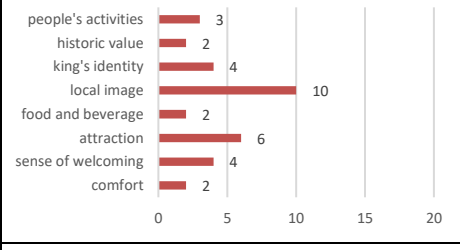
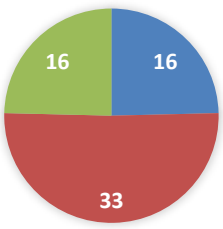
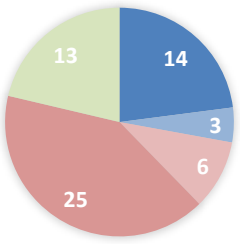
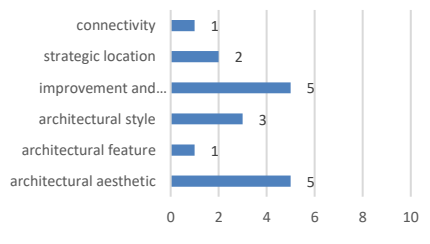
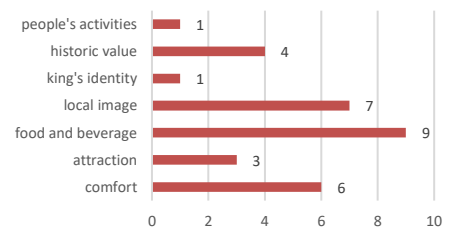
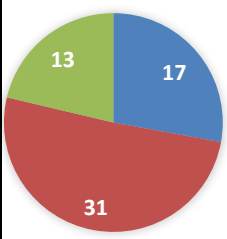
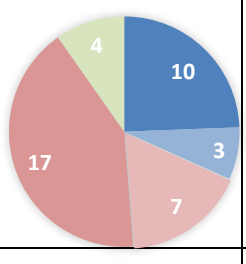
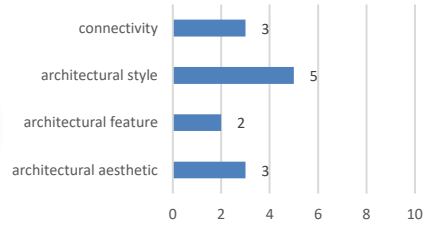
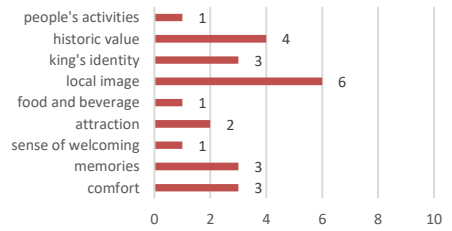
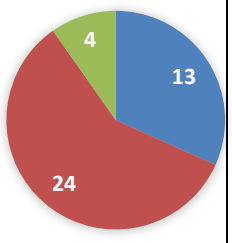
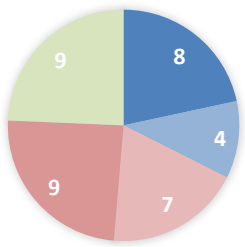
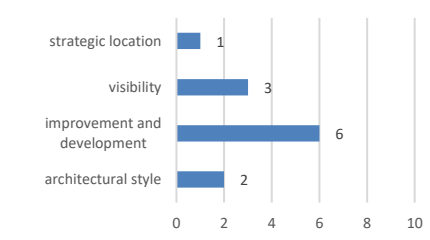
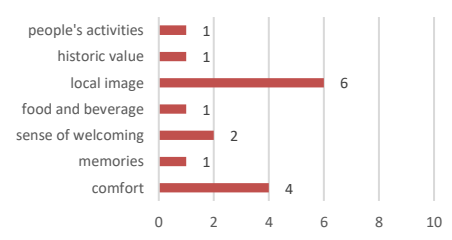
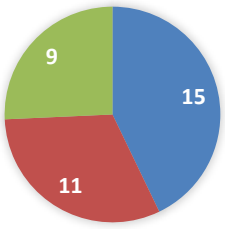
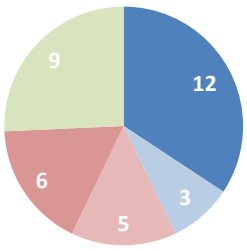
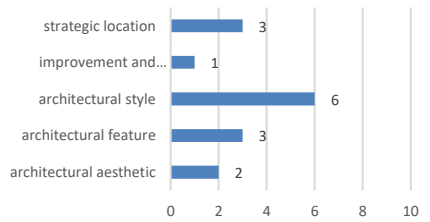
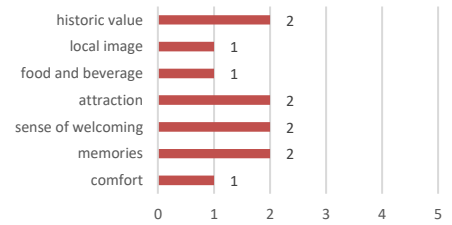
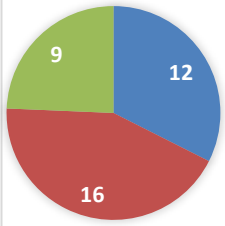
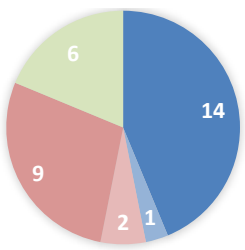
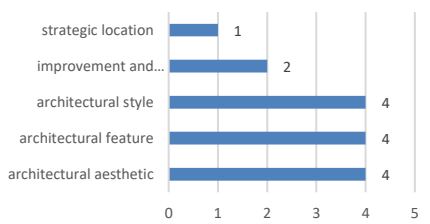
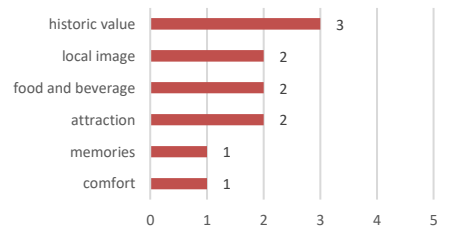
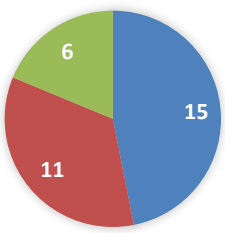
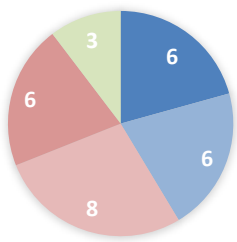
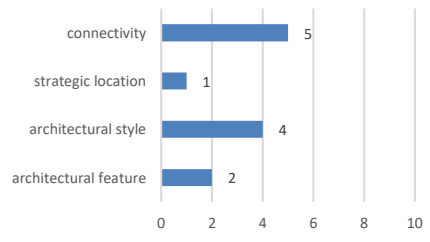
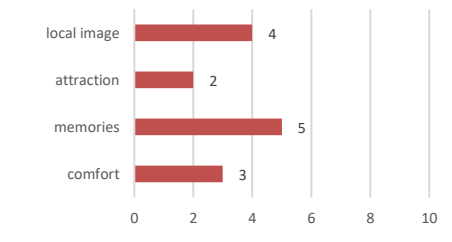
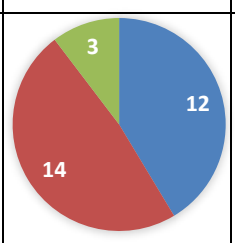
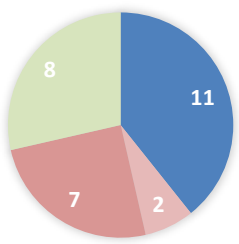
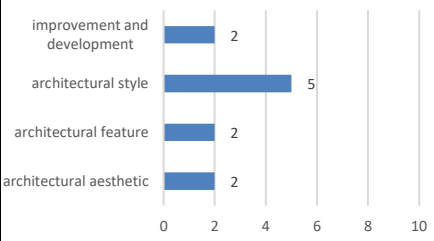
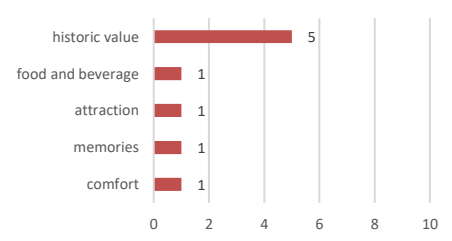
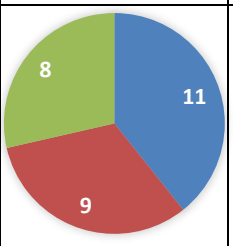
					78	**10**

					**65**	**11**
					**61**	**12**
					**41**	**13**
					**35**	**14**
					**37**	**15**
					**32**	**16**
					**29**	**17**
					**28**	**16**
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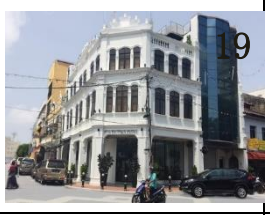
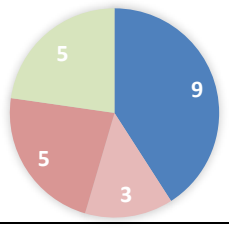
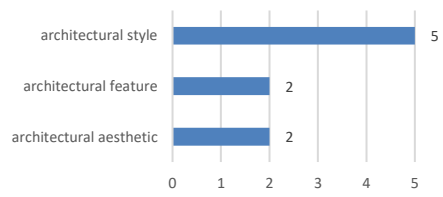
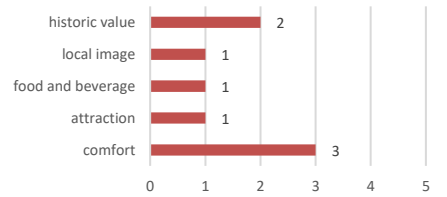
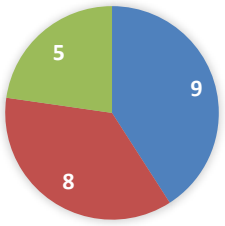
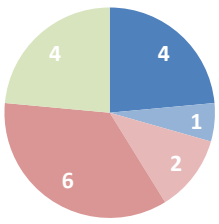
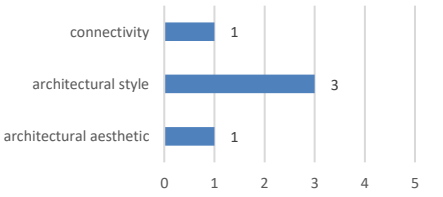
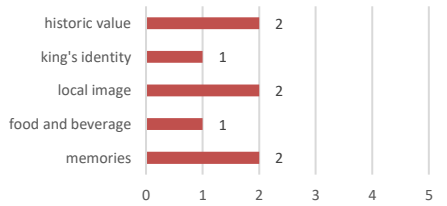
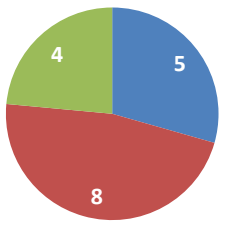
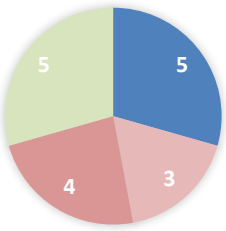
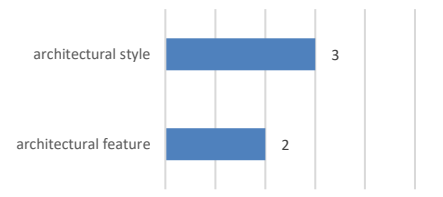
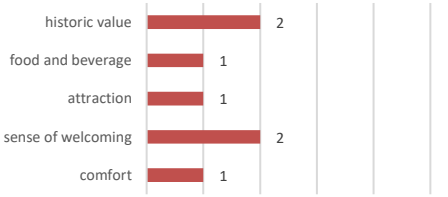
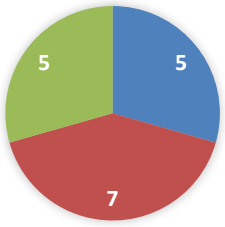
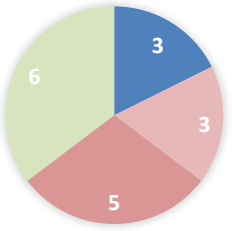
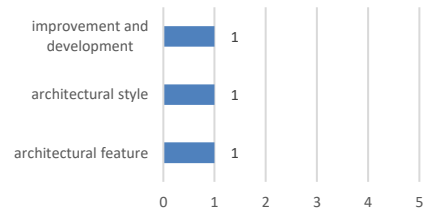
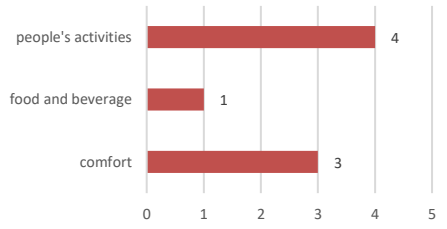
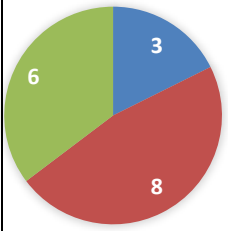
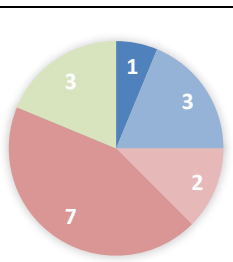
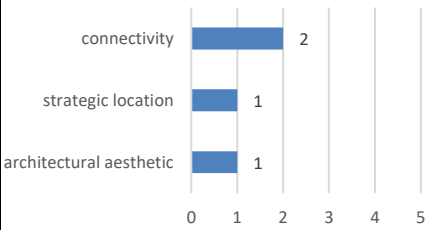
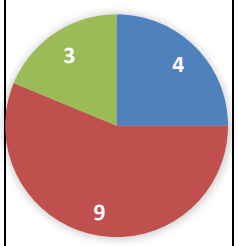
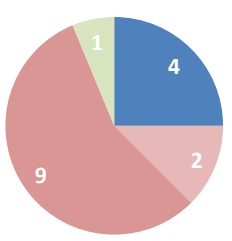
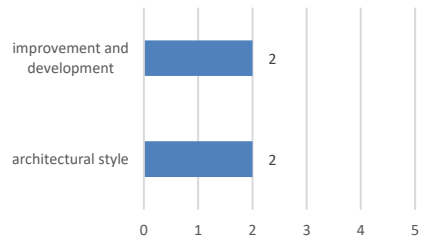
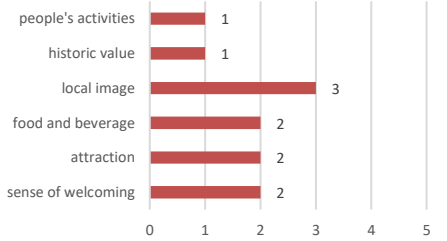
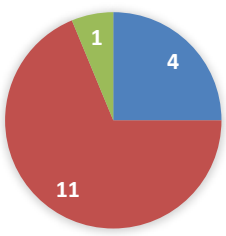
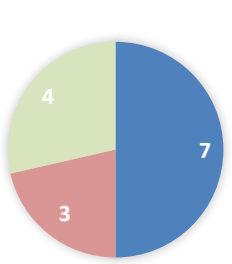
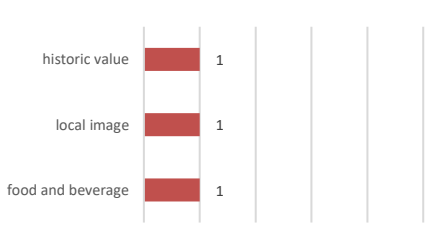
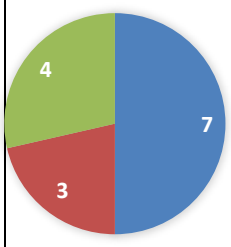
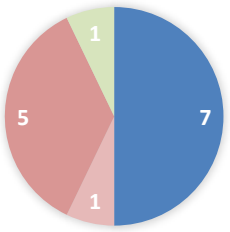
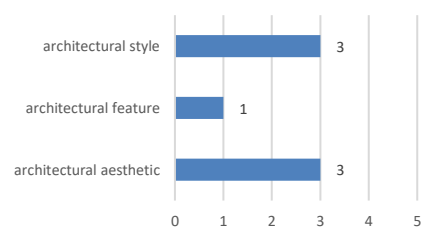
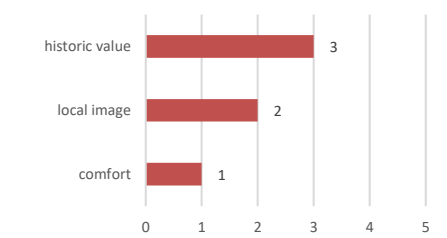
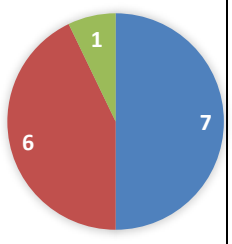
					**22**	**17**
					**17**	**18**
					**17**	**18**
					**17**	**18**
					**16**	**21**
					**16**	**21**
					**14**	**23**
					**14**	**23**
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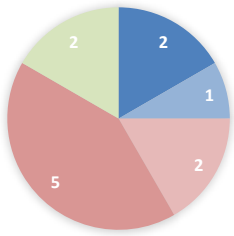

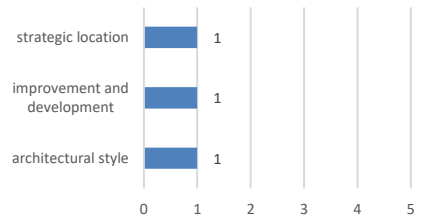

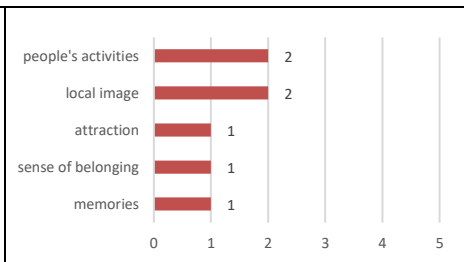

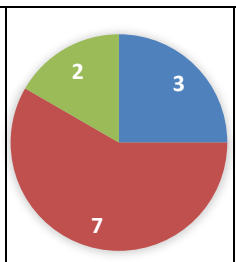

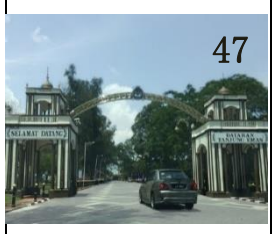

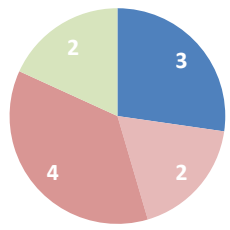

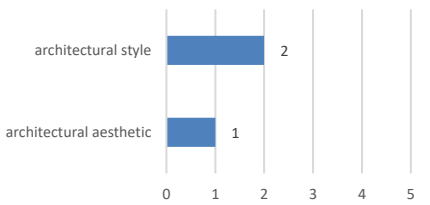

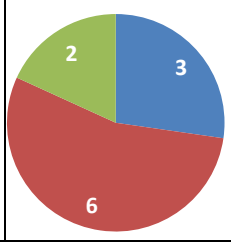

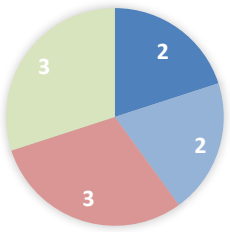

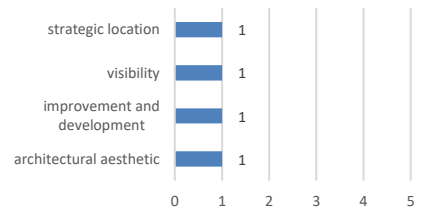

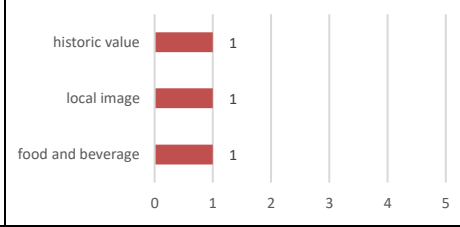

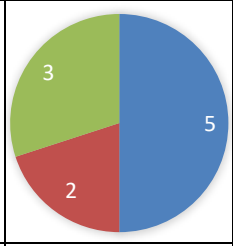

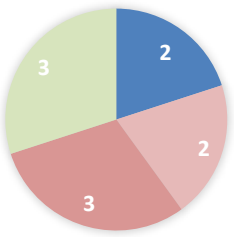

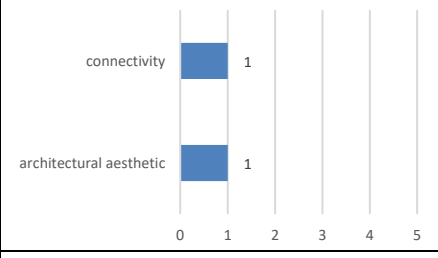

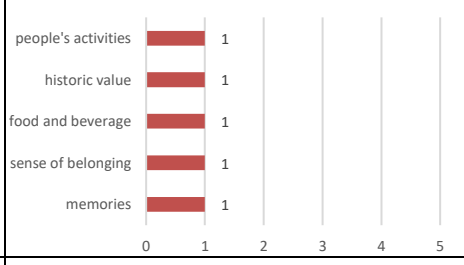

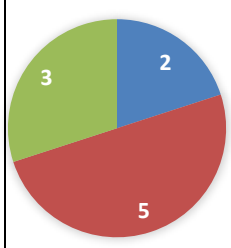

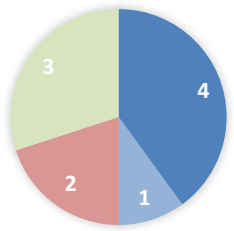

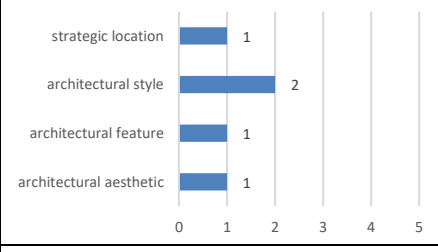

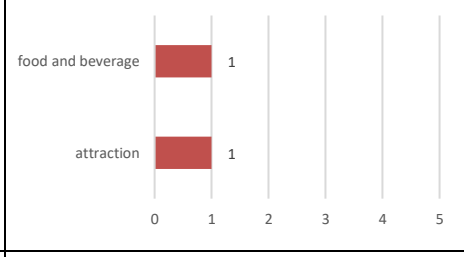

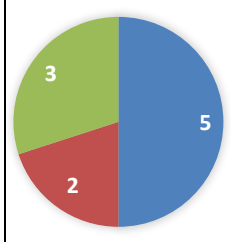

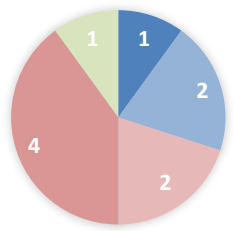

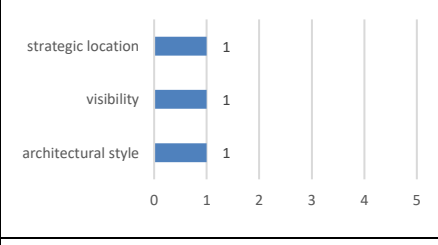

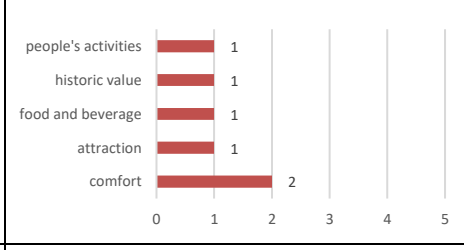

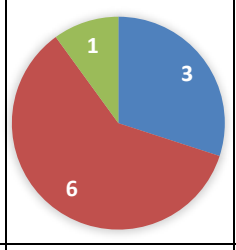

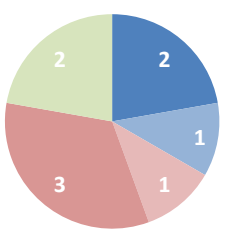

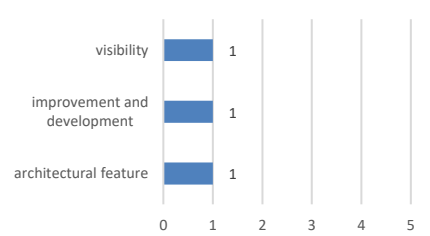

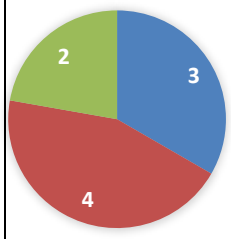

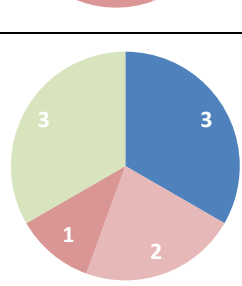

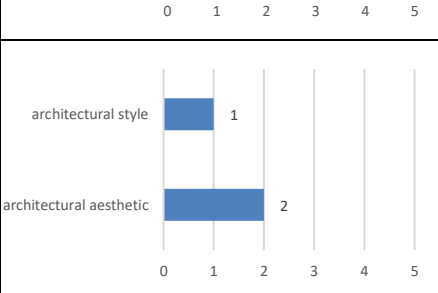

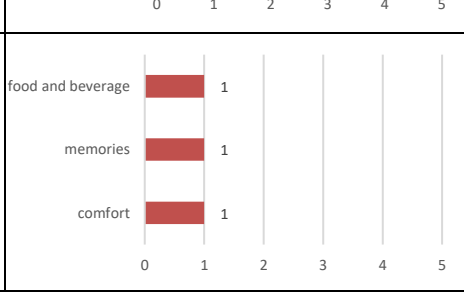

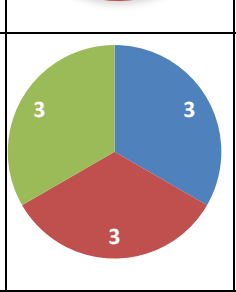

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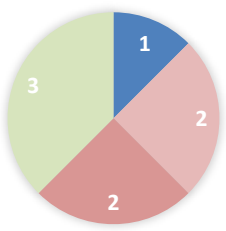
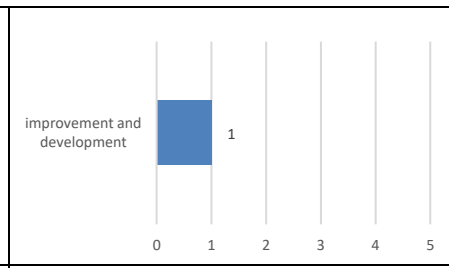
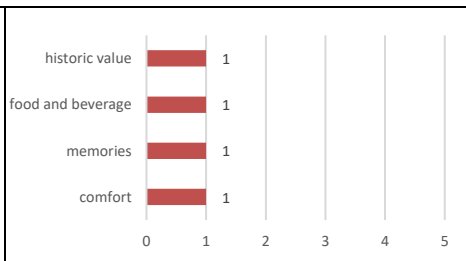
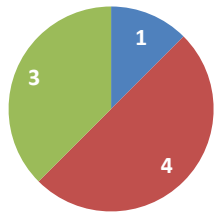
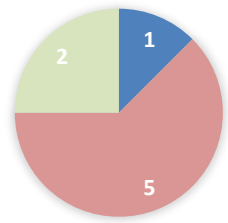
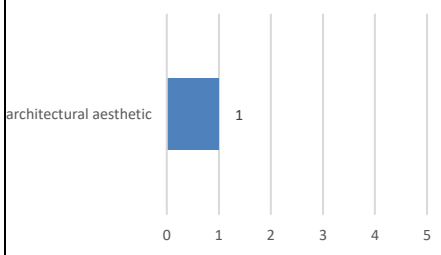
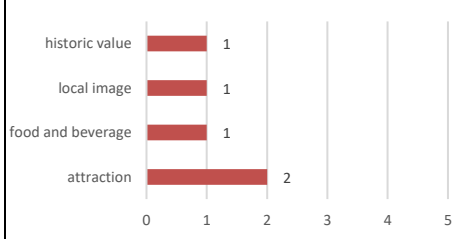
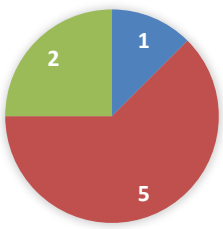
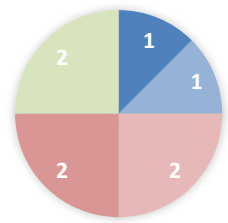
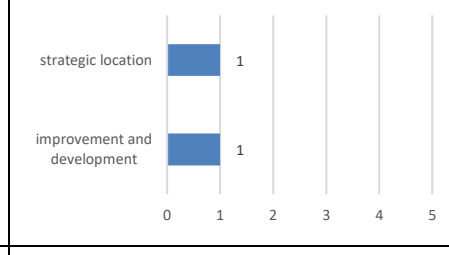
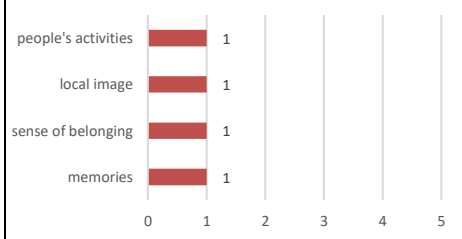
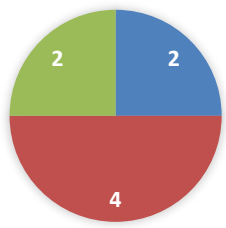
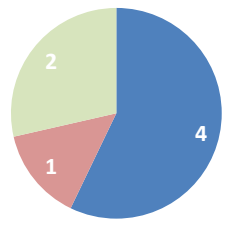
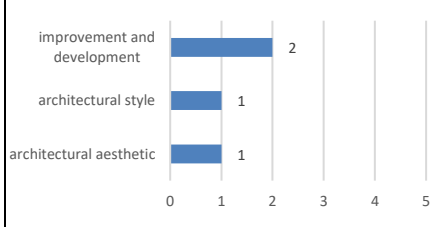
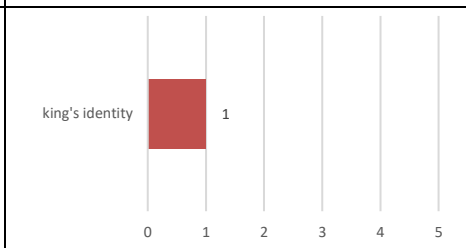
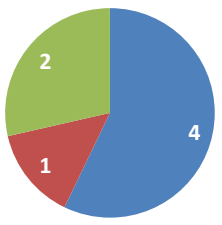
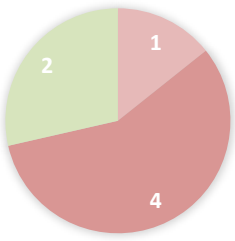
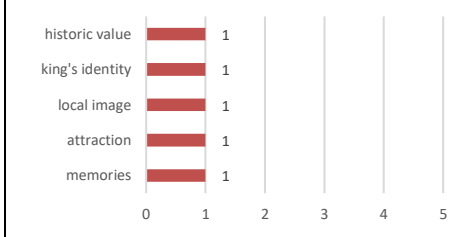
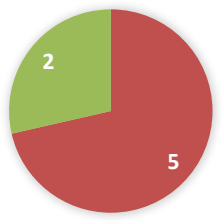
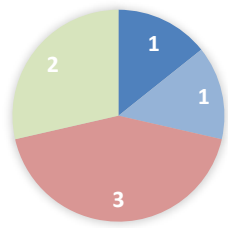
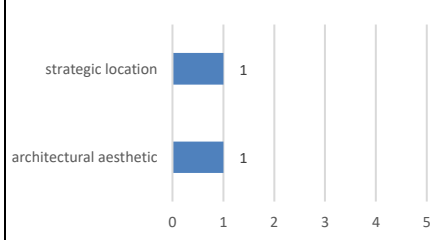
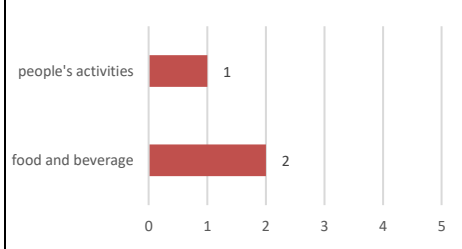
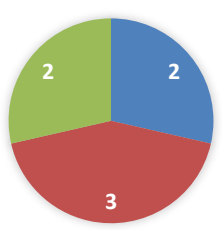
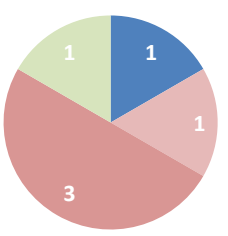
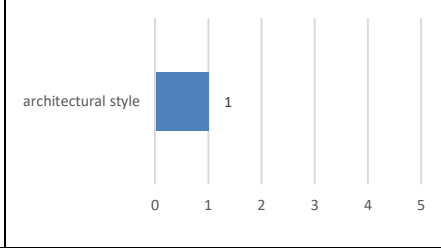
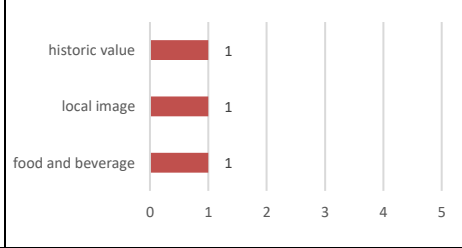
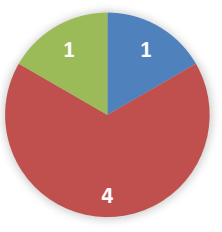
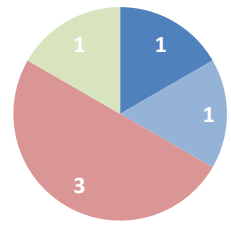
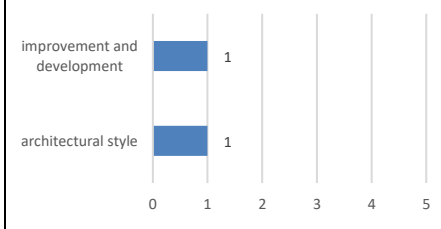
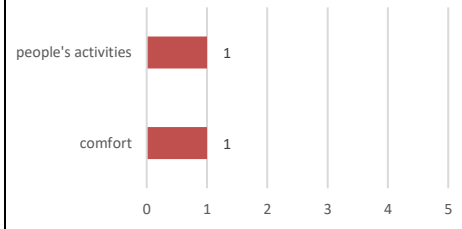
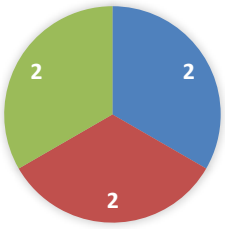
					**8**	**37**
					**8**	**37**
					**8**	**37**
					**7**	**40**
					**7**	**40**
					**7**	**40**
					**6**	**43**
					**6**	**43**
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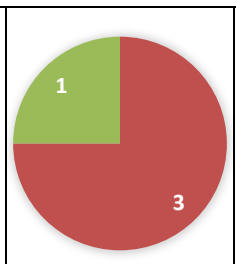
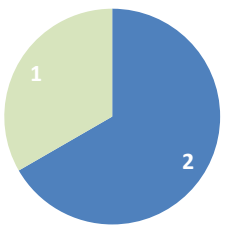
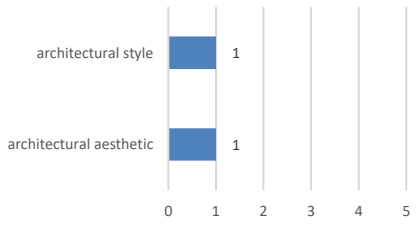
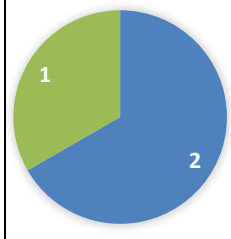
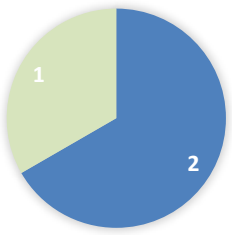
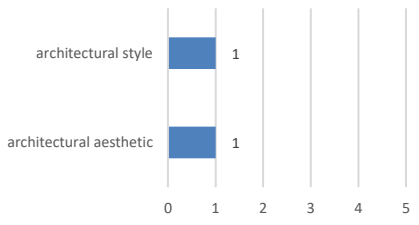
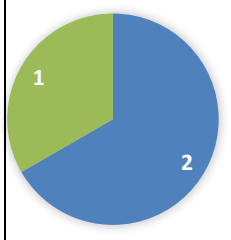
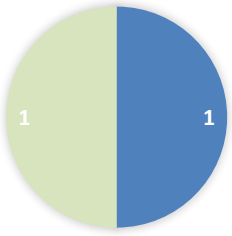
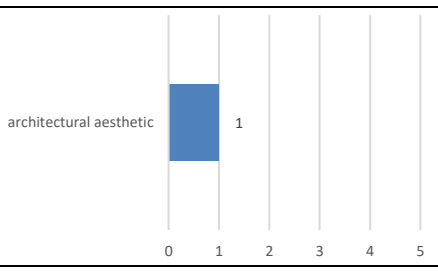
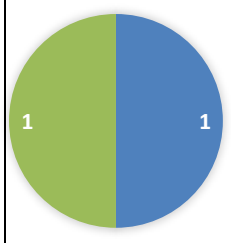
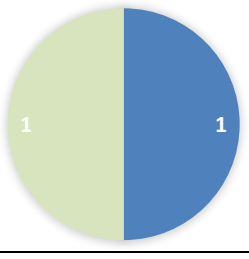
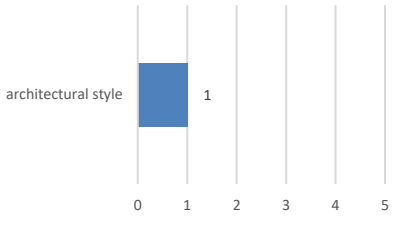
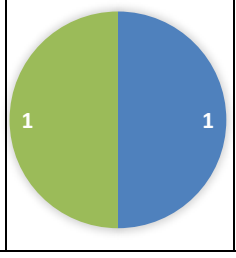
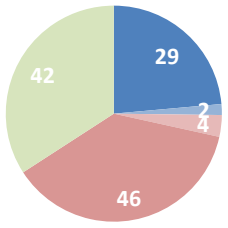
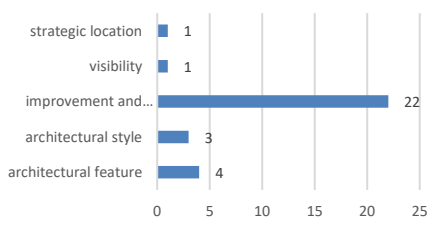
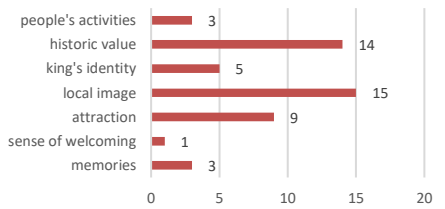
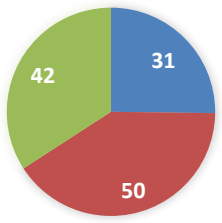
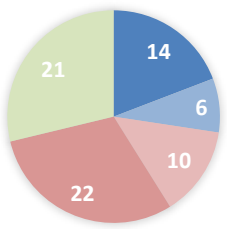
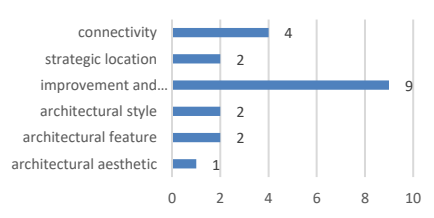
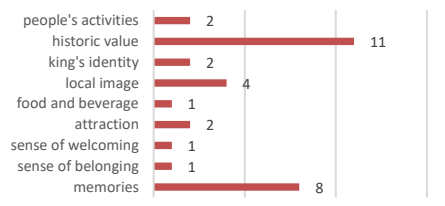
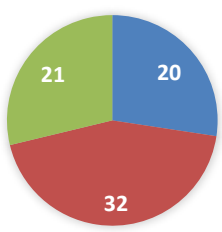
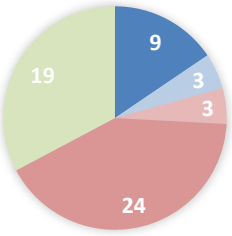
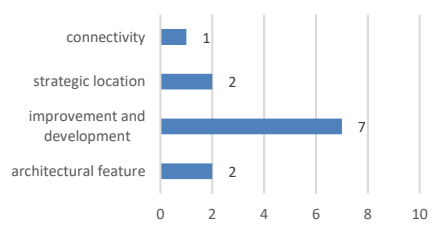
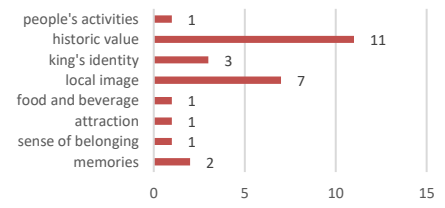
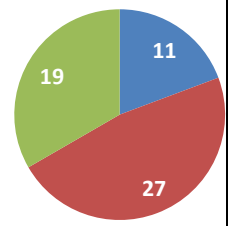
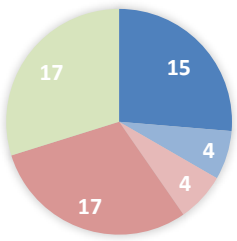
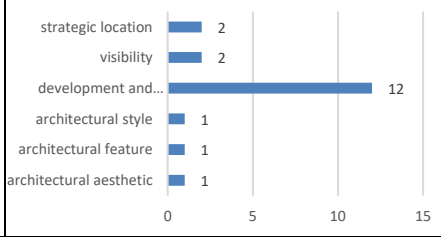
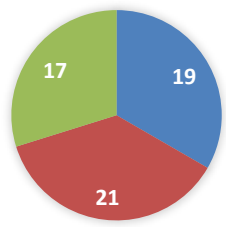
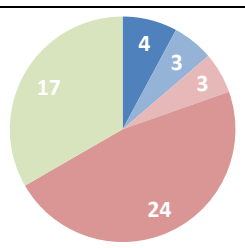
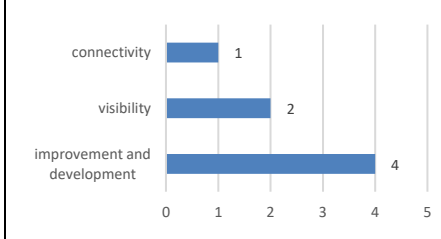
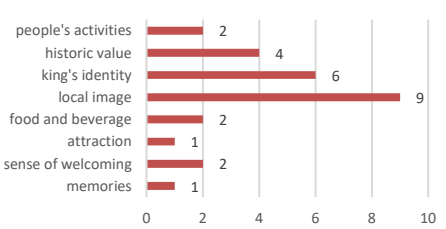
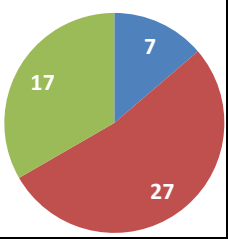
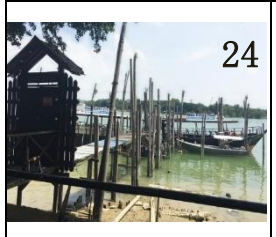
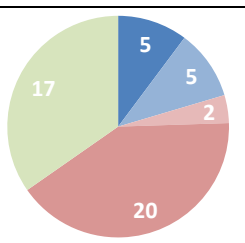
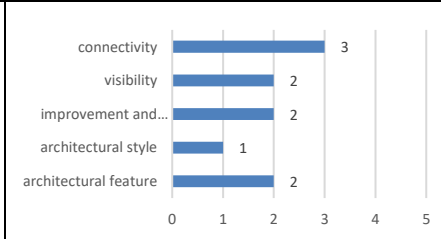
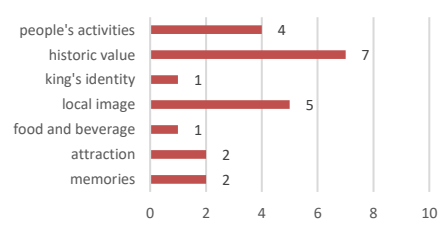
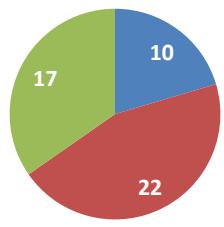
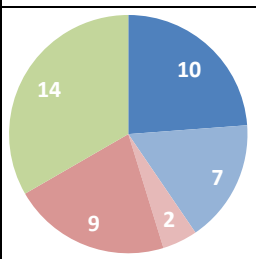
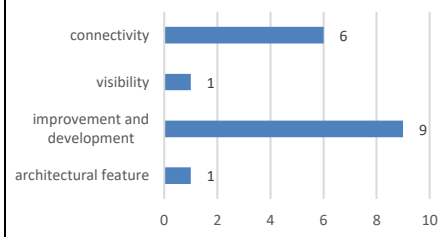
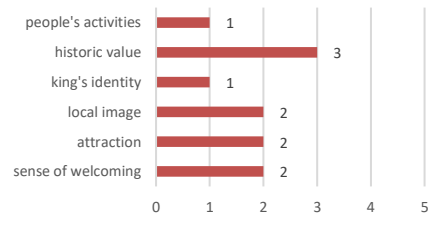
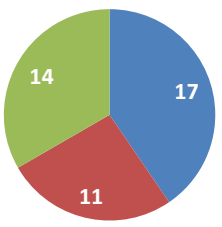
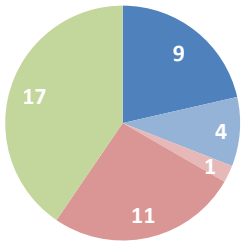
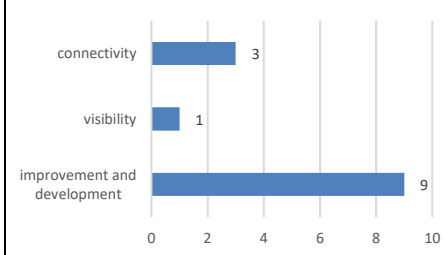
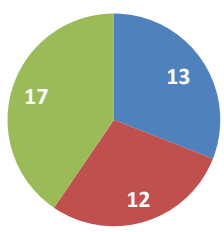
					4	**46**

					**4**	**46**
					**3**	**48**
					**3**	**48**
					**2**	**50**
					**2**	**50**

Appendix I: Data Categorisation Contuinity

Contuinity						
Photo	Elements	Physical attributes	Emotional Attributes	Overall	Sum	Rank
 54					123	1
 32					73	2
 49					57	3
 7					57	3
 38					51	5
 24					49	6
 2					42	7
 46					42	7
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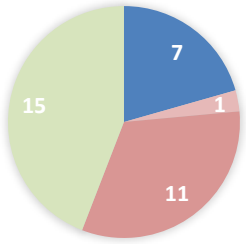
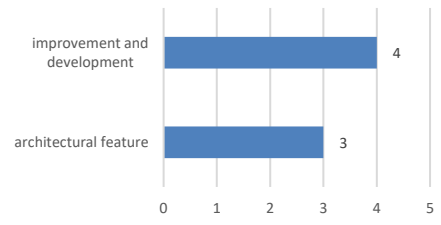
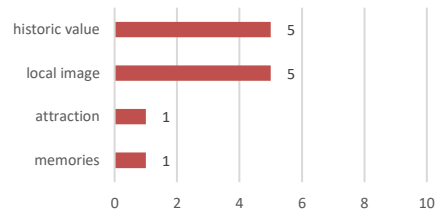
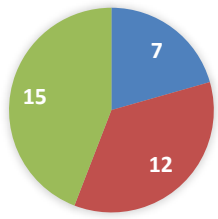
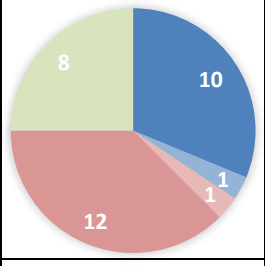
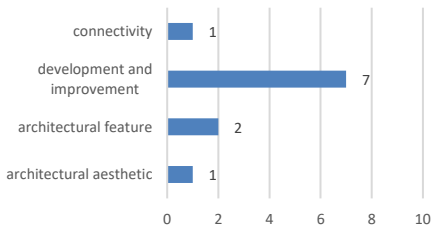
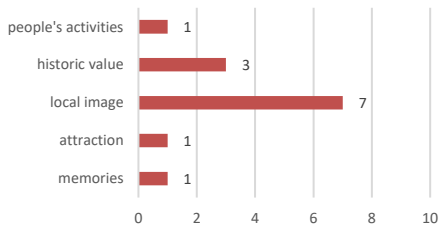
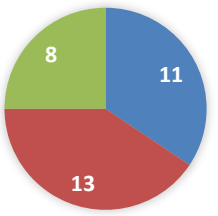
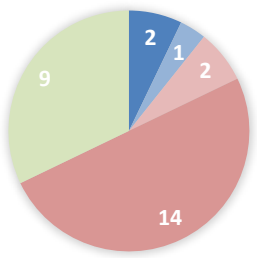
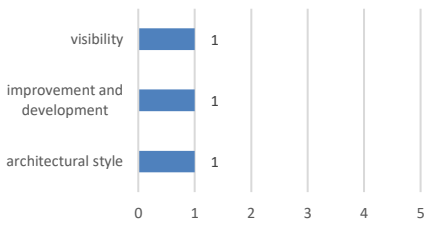
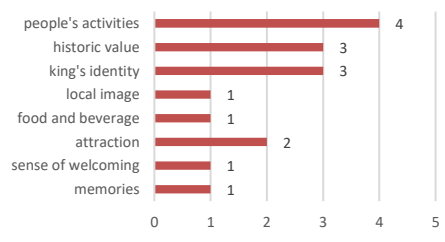
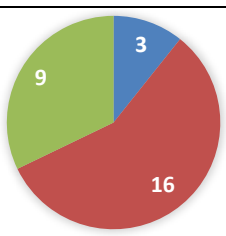
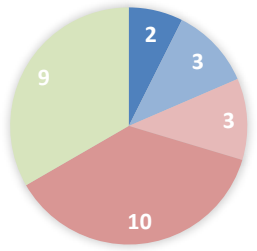
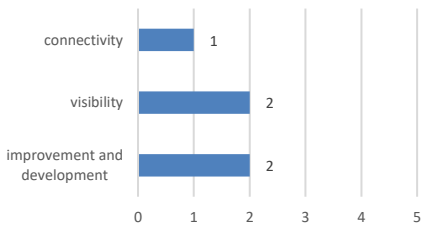
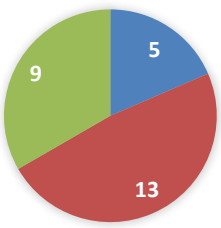
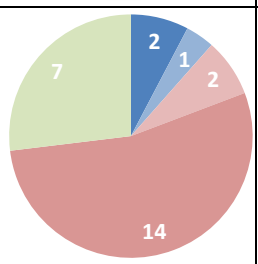
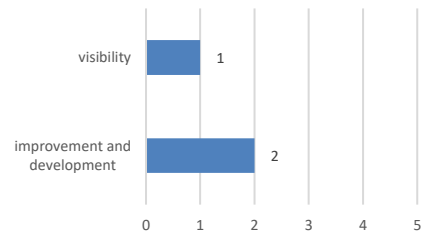
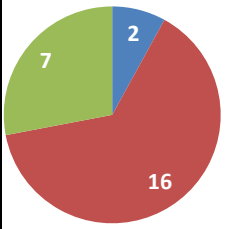
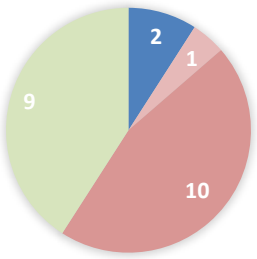
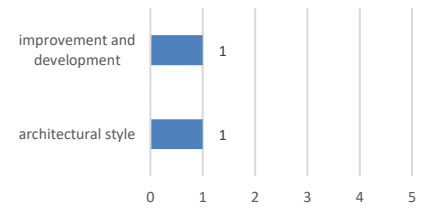
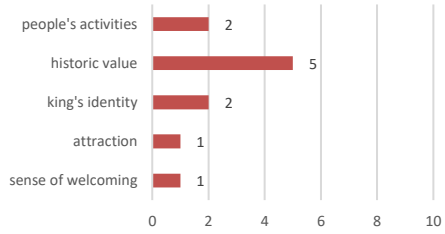
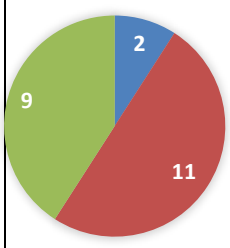
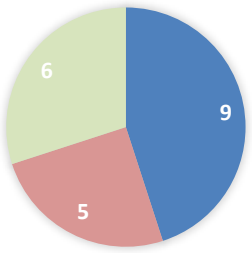
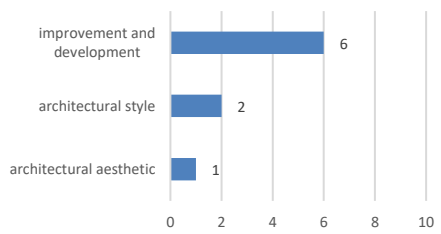
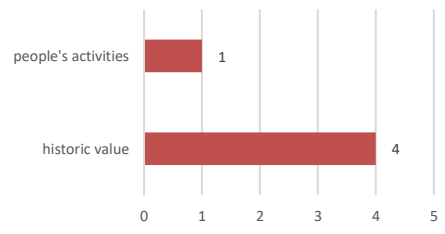
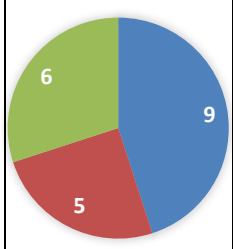
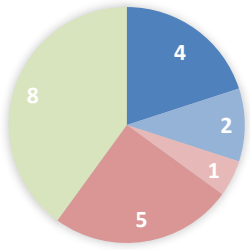
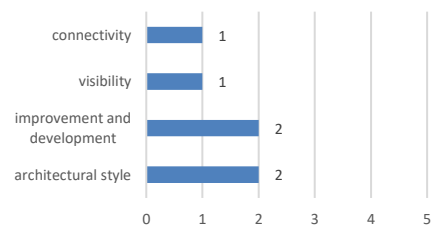
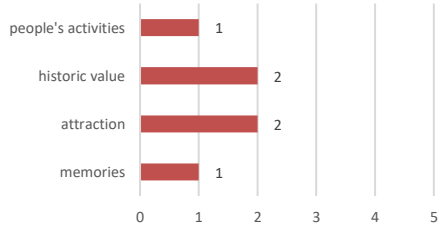
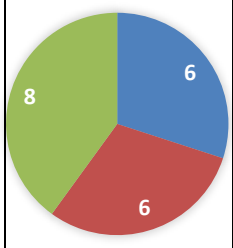
					**34**	**11**
					**32**	**12**
					**28**	**13**
					**27**	**14**
					**25**	**15**
					**22**	**16**
					**20**	**17**
					**20**	**17**
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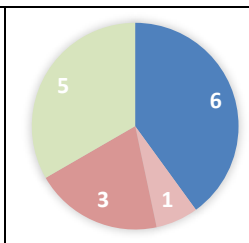
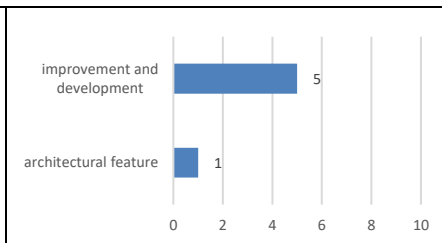
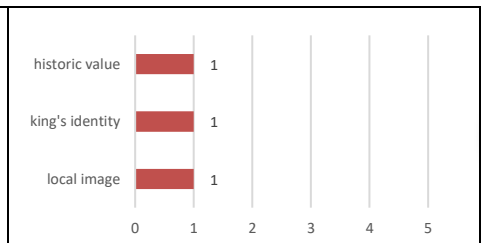
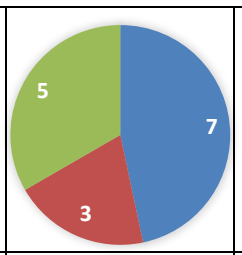
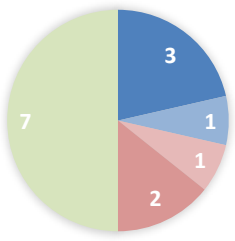
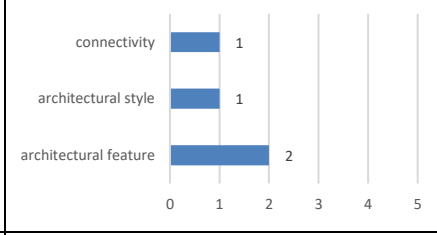
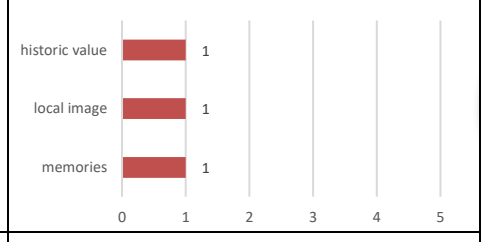
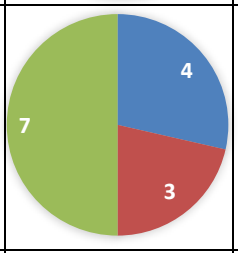
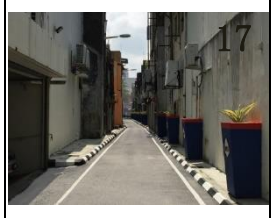
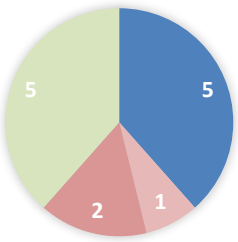
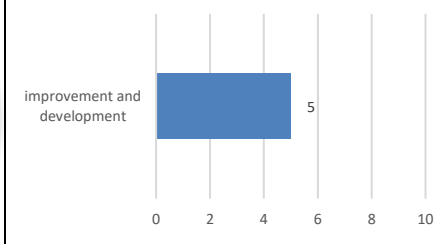
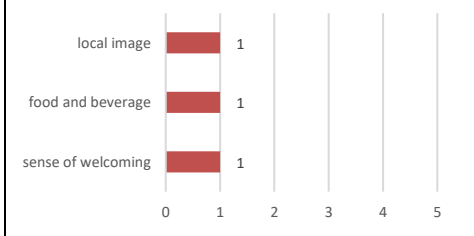
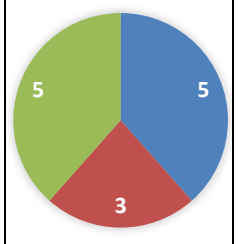
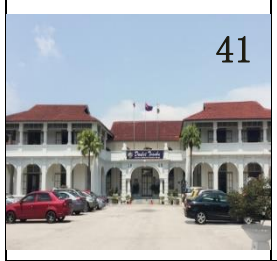
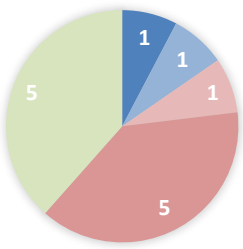
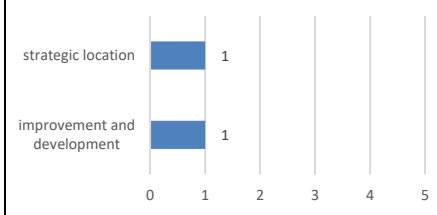
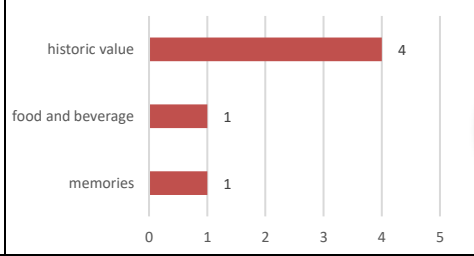
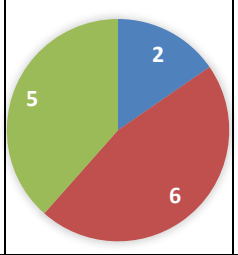
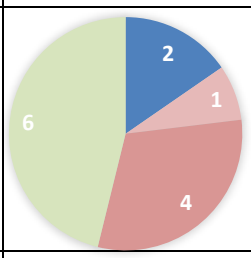
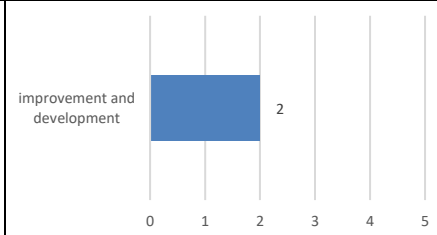
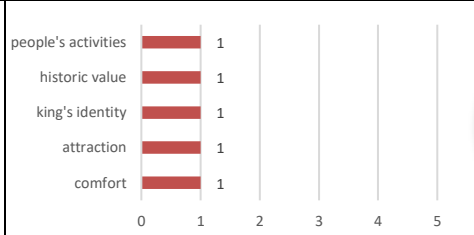
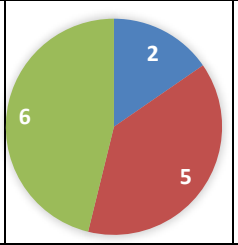
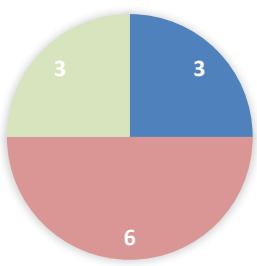
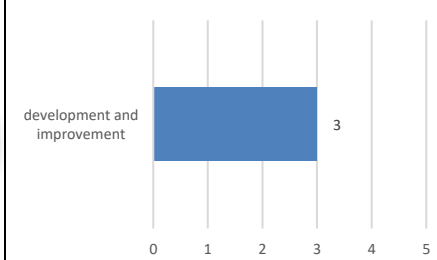
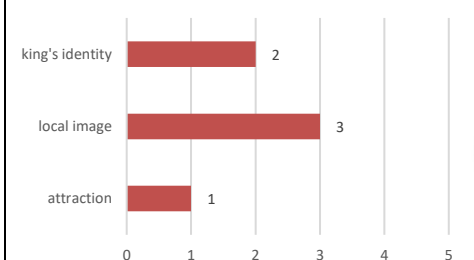
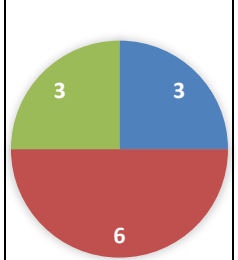
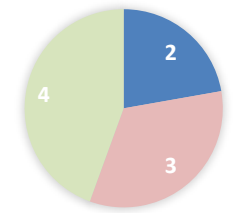
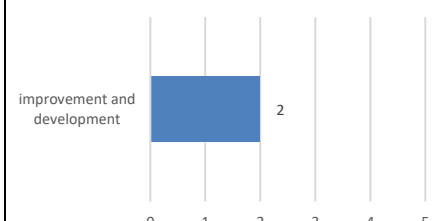
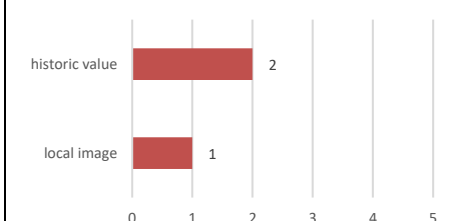
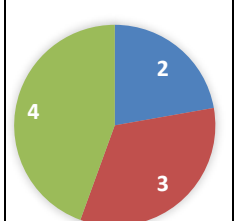
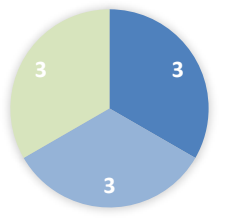
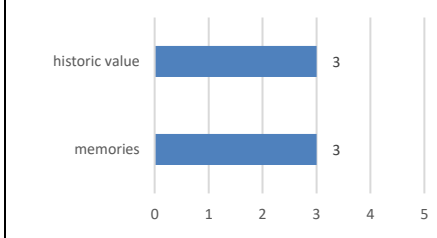
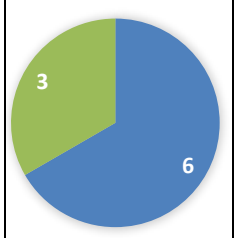
					**15**	**21**
					**14**	**22**
					**13**	**23**
					**13**	**23**
					**13**	**23**
					**12**	**26**
					**9**	**27**
					**9**	**27**
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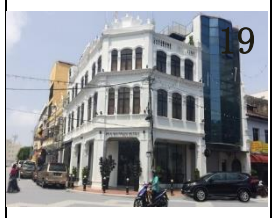
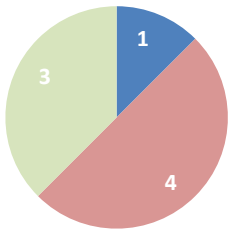
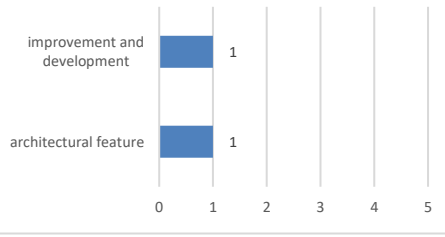
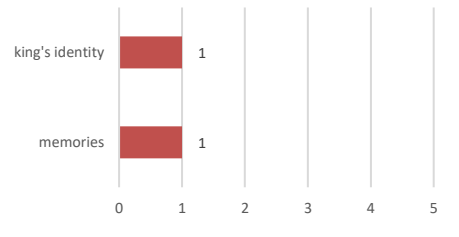
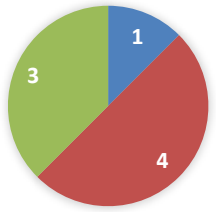
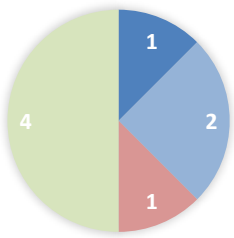
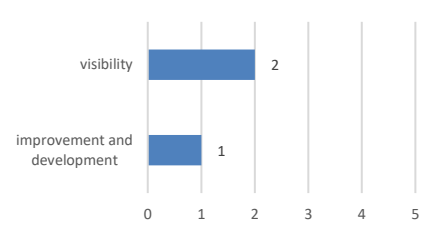
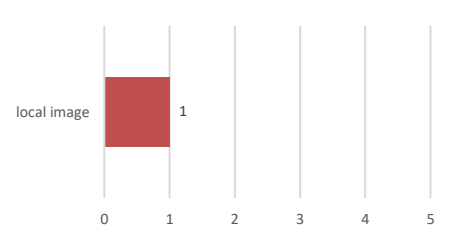
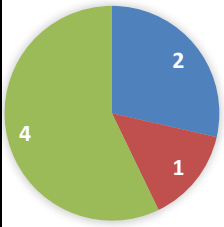
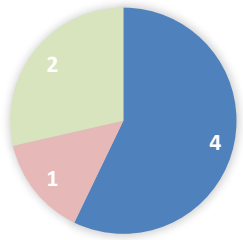
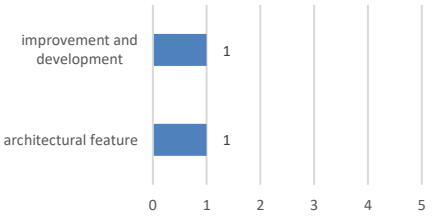
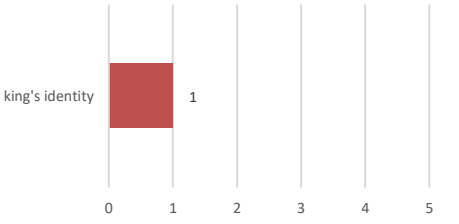
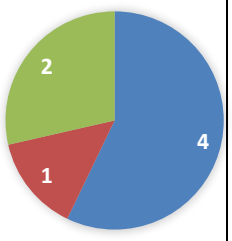
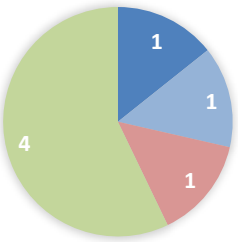
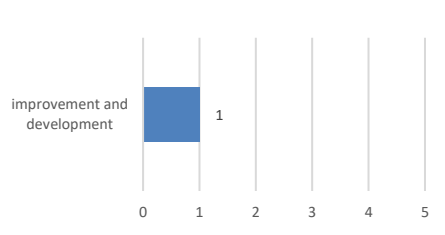
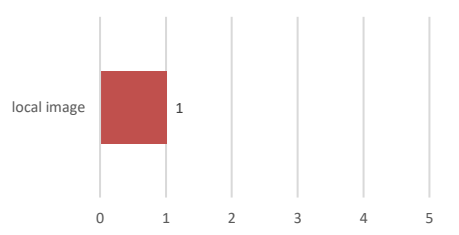
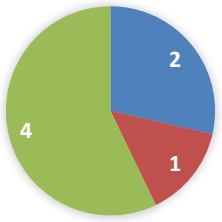
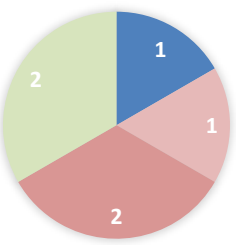
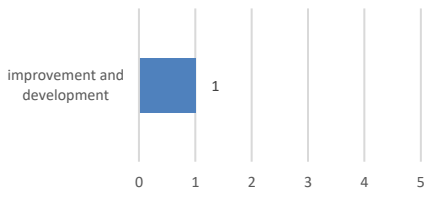
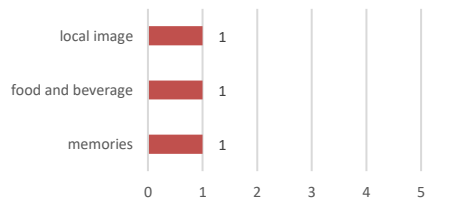
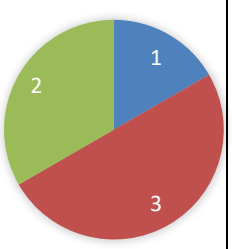
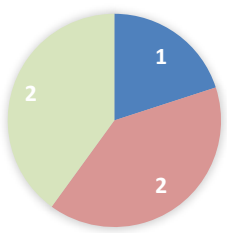
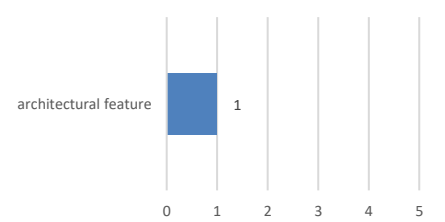
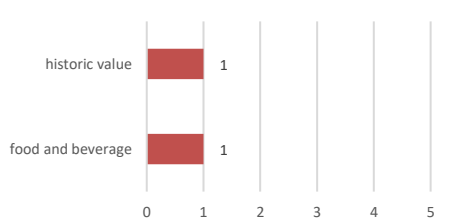
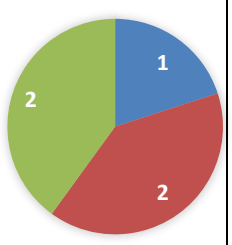
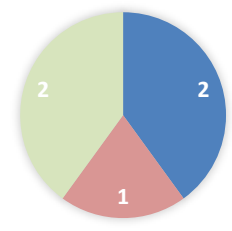
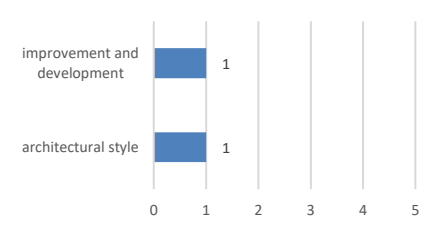
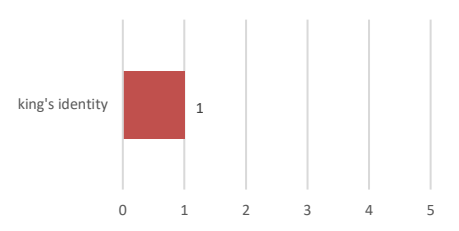
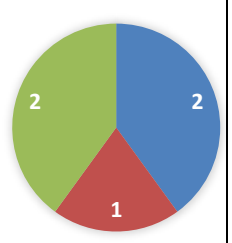
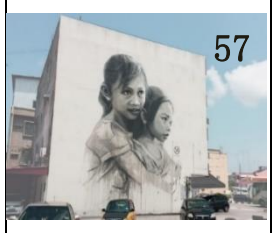
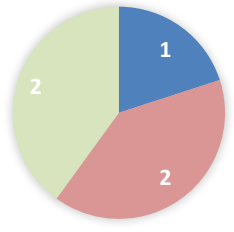
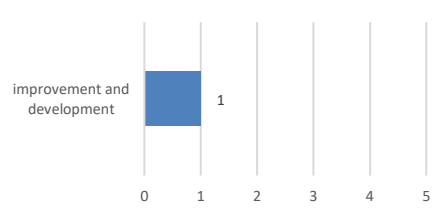
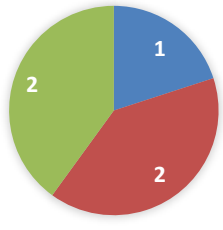
 19					**8**	**30**
 21					**7**	**31**
 15					**7**	**31**
 36					**7**	**31**
 47					**6**	**34**
 37					**5**	**35**
 44					**5**	**35**
 57					**5**	**35**
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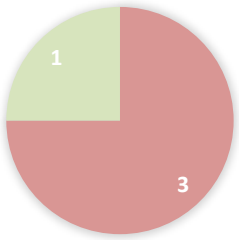
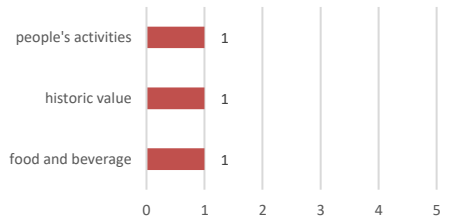
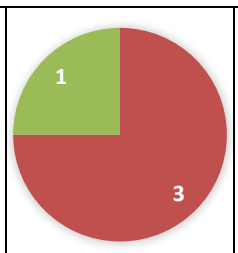
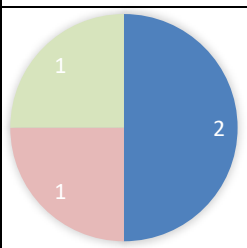
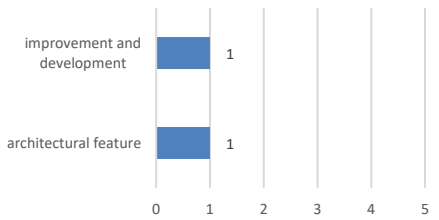
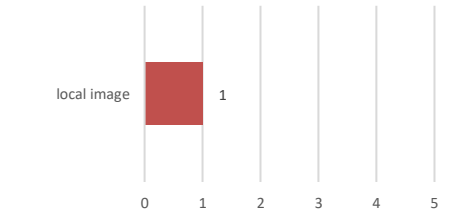
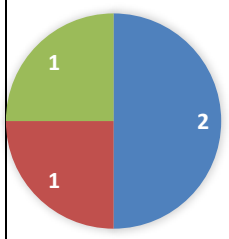
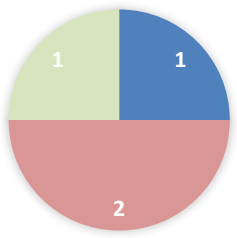
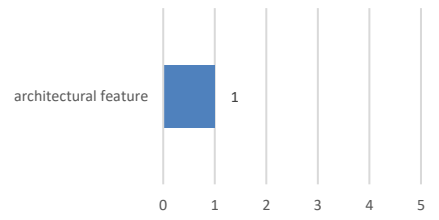
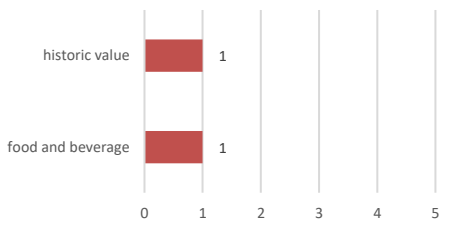
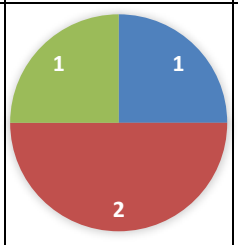
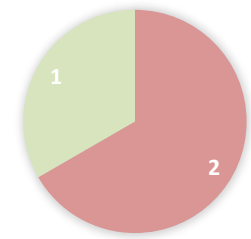
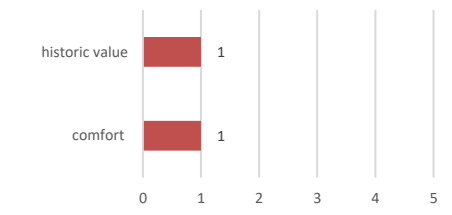
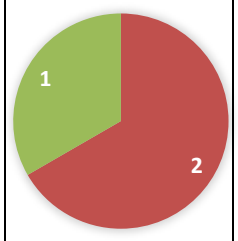
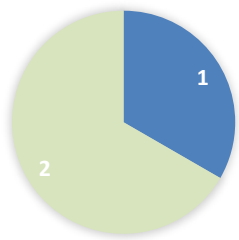
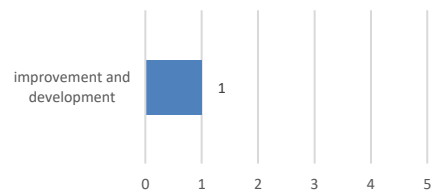
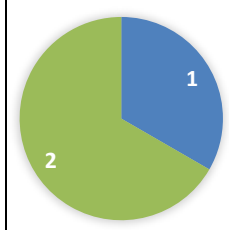
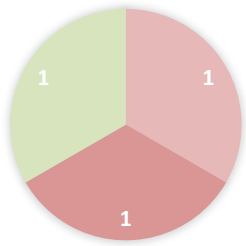
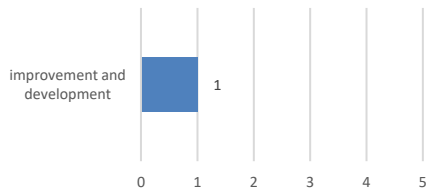
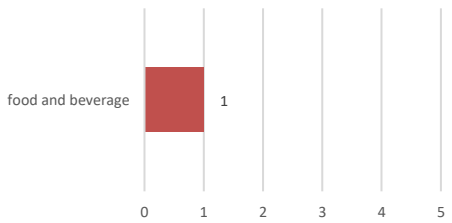
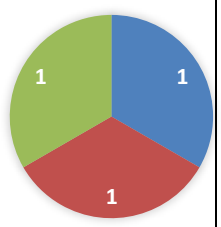
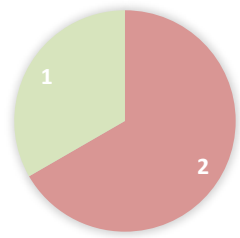
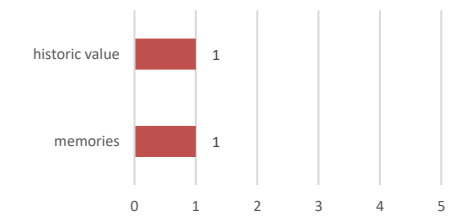
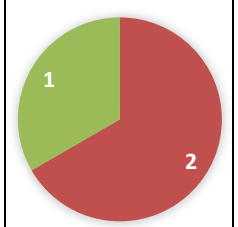
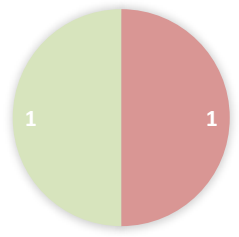
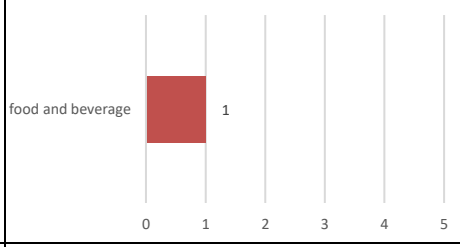
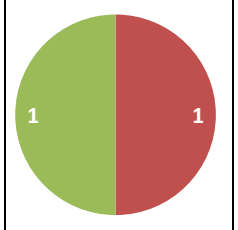
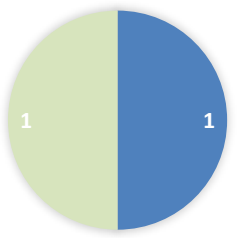
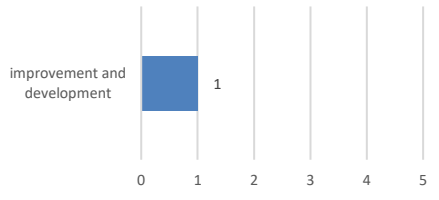
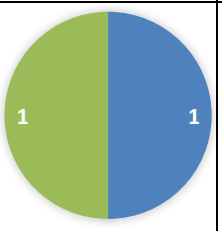
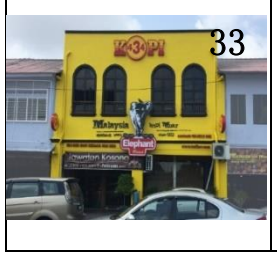
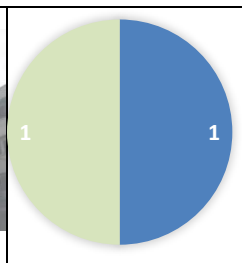
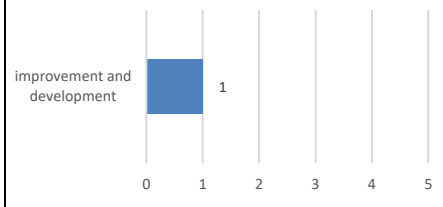
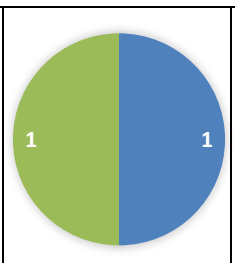
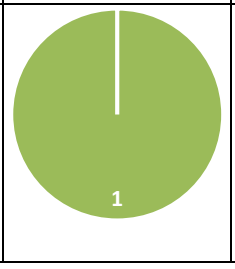
					**4**	**38**
					**4**	**38**
					**4**	**38**
					**3**	**43**
					**3**	**43**
					**3**	**43**
					**3**	**43**
					**2**	**47**
					**2**	**47**
					**2**	**47**

 53					**2**	**47**
 1					**1**	**51**

Appendix J: Demographic Attributes in Self-Esteem

Self-esteem

Photo	Rank	Sum	Dimension: physical	Dimension: emotional	Dimension: anonymous	Gender: Ma	Gender: Fe	Age: 1	Age: 2	Age: 3	Age: 4	Age: 5	Age: 6	Age: 7	Age: 8	Age: 9	Ethnicity: Mal	Ethnicity: Chi	Ethnicity: Ind	Occupation: 1	Occupation: 2	Occupation: 3	Occupation: 4	Occupation: 5	Occupation: 6	Occupation: 7	Occupation: 8	Income: 1	Income: 2	Income: 3	Income: 4	Income: 5	Income: 6	Education: 1	Education: 2	Education: 3	Education: 4	Education: 5	Education: 6	Education: 7	Education: 8
51	1	108	11	64	33	22	13	11	8	7	2	3		3		1	28	7		9		3	17	2	2	2		10	6	4	1		12	6	8	4	7	8	1		1
15	2	83	5	55	23	13	13	10	10	4	1		1				18	8		7	1	3	11	1	1	2		9	4	1			8	1	6	2	7	8	1		1
46	3	74	10	43	21	11	13	6	4	3	3	3	1	1	2	1	19	5		2		1	8	3	1	5	4	5	4	1			9		10		10	1			3
54	4	73	12	43	18	6	14	7	4	4	3	1	1				14	6		7		3	8			1	1	8	2		2		3		5	1	9		4		1
33	5	66	4	41	21	10	11	8	4	5		2	1	1			15	6		4	1	2	9	1		1		8	2	2			5		9	1	2	6	2		
50	6	63	4	40	19	10	10	5	7	1	1	2	1	1	1	1	15	5		5		5	9		1			8	4		1		5	1	7	1	6	3	1		1
38	7	56	8	37	11	5	9	1	4	1	2		1	1	4		12	2		2		2	5	1		3	1	5	2		2		4		6		4	2			2
57	8	54	5	32	17	8	9	5	6	2		1		3			10	7		2		3	10	1		1		6	1		3		6	3	7		5	1			1
49	9	51	3	36	12	8	7	3	3	4	1			4			11	4		3		3	5	1	1		1	5	2		1		4	1	5		5	3			
2	10	50	10	29	11	3	9	3	1	2	1				4	1	12			4			3	2		2	1	1	1	1	2		5	1	3	1	2	4			1
27	11	49	7	33	9	6	6	3	3	3			1		2		8	4		2		3	6				1	5	1		2		1		4	1	4	3			
48	12	41	3	28	10	8	4	1	5		3		1	2			9	3		1		2	7	1		1		3	5		1		2		3		3	4			2
47	13	40	4	24	12	8	6	3	4	3	1		1		1	1	11	3		3		4	4		1	2		5	1				3		7	3	2	1			
8	14	35	4	22	9	8	2	2	3			1	1	2	1		8	2		2			7	1				4	3		1		2	1	3		1	4	1		
16	15	32	5	19	8	6	3	2	2	1	2	1	1				7	2		3			4	2				1	3				5		2	1	6				
35	16	30	3	20	7	3	4	2	3						2		5	2		2		1	2			2		3	1				3		2		2	3			
10	17	28	3	18	7	4	4	2	3	1	1		1				6	2		1		1	5			1		5					2	3	3		1				1
32	18	27	2	18	7	4	3		3	1	1	1	1				5	2		1		1	3			1	1	1	1				4		3	1	1	1			1
55	18	27	3	19	5	3	4	1	1	2	1	1		1			3	4		1		2	3			1		1					4		3		2	1			1
24	20	20	4	11	5	1	5	1	3	1	1						3	3		1		3	1			1		2	1		1		1		3		2		1		
25	20	20	3	12	5	1	4		2						3		5					2	2		1			2	1		2				3			2			
41	22	18	2	12	4	2	3	2		1	1			1			5			2		1	1		1					1			3		1		1	3			
42	23	15	3	9	3	3	1			1	1	1			1		4					2	2						1	1			1		3			1			
7	24	14	4	5	5		5	2	2					1			5					2	1	2				4					1		3			2			
13	25	13	4	4	5	1	4	2	1			1		1			5					1	1	2	1			3					2		2		1	2			
37	25	13	3	6	4	2	2	1	1			2					4			1			3					1		2			1		1		1	2			
60	27	11	2	5	5	3	2	2	2	1							4	1		2	1		1	1				2		1	1		1	2	1		1		1		
34	27	11	1	6	3		3	2			1						3			1			2					2	1								1	2			
43	29	10	3	4	3	2	1	2						1			2	1					1		1	1		1					2		1		2				
17	30	8	3	3	2	2	1		1			1	1				1	2				1	1			1		1			1		1			1		1			1
53	30	8	2	4	2	1	1							1	1		1	1					2										2	1							1
29	32	7	2	2	3	1	1	1	1									2		2											1		1		1				1		
31	33	6	2	1	3	2	1	2								1	1	2		1				2									3	1	2						
44	33	6		4	2		2	2									2			2													2					2			
30	35	4	1	1	2	1	1	1	1									2		2											1		1		1				1		
39	35	4		3	1	1									1		1						1						1						1						
40	35	4	1	3			1		1								1										1	1									1				
12	38	3	2		1		1								1		1						1										1	1							
1	39	2		1	1		1				1							1								1							1								1
11	39	2		1	1	1							1					1					1					1									1				
21	39	2	1		1	1							1					1					1								1							1			
36	39	2		1	1		1					1						1					1							1								1			
52	39	2		1	1	1		1									1			1													1	1							

Legend

Attribute	Code	Meaning
Gender	Ma	Male
	Fe	Female
Age	1	18-22
	2	23-27
	3	28-32
	4	33-37
	5	38-42
	6	43-47
	7	48-52
	8	53-57
	9	58 and above
Ethnicity	Mal	Malay
	Chi	Chinese
	Ind	Indian
Occupation	1	Full-time student
	2	Part-time student
	3	Self-employed
	4	Full-time employee
	5	Part-time employee
	6	Retired
	7	Currently not working
	8	Others
Income	1	RM0- RM 2000
	2	RM 2001- RM 4000
	3	RM 4001- RM 6000
	4	RM 6001 - RM 8000
	5	RM 8001- RM 10000
	6	confidential
Education	1	Primary leaver
	2	Secondary leaver
	3	Certificate holder
	4	Diploma holder
	5	Graduate with degree
	6	Graduate with masters
	7	Graduate with Phd
	8	None of these

Appendix K: Demographic Attributes in Self-Efficacy

Self-efficacy

Photo	Rank	Sum	Dimension			Gender		Age									Ethnicity			Occupation								Income						Education							
			physical	emotional	anonymous	Ma	Fe	1	2	3	4	5	6	7	8	9	Mal	Chi	Ind	1	2	3	4	5	6	7	8	1	2	3	4	5	6	1	2	3	4	5	6	7	8
38	1	154	28	94	42	23	24	14	10	10	3	2	4	3	1		33	14		11	1	5	20	1	2	5	2	15	5	1	2		17	3	15	5	9	8	2		4
54	2	113	23	53	37	27	11	11	6	7	1	5		3	3	2	34	4		9		4	16	3	3	1	1	5	7	4	2		16	5	9		15	6	1		1
33	3	82	11	49	21	10	11	4	11	2	1	1		1		1	15	6		3		3	12	1	1	1		8	4		2		7	1	4		8	8			
51	4	78	10	43	25	9	17	10	8	1	3		2	1	1		21	5		10	1	3	9	1	1	1		11	1				12	2	12		8	3	1		
57	5	65	11	37	17	12	7	7	6	2	1	1	1	1			14	5		8		2	7			2		4	4	1	1		7		5		4	6			4
2	6	60	13	33	12	7	9	1	5	3	3		1	1	2		13	3		3		4	6			2	1	6	3				5		10	1	2	1	1		1
16	7	49	8	25	13	7	7	4	3	3	1	1		1	1		8	6		2		3	7	2				6	2	1	2		2	2	4		5	3			
42	8	45	6	27	12	3	10	3	4	2	2					2	13			2		4	5	1	1			5	3				4	1	5	2	3	2			
27	9	43	4	28	11	3	10	8	3	2							11	2		5	1	2	1	2		1	1	6					5	2	1		5	4	1		
46	10	39	10	15	13	8	5	5	2	2	1		2		1		7	6		1		2	6	2				5	1	1	1		2		8	1	2	2			
43	11	27	8	12	7	5	3	1	1	1		2		1	2		7	1		1			7					3		2	2		1		2		2	4			
12	12	24	4	11	8	2	6		4	1	1	2					4	4					5	1			2	5		1				2	2		3	1			
44	13	22	6	11	5	2	4	3		1	2						4	2		2			2	1		1		2	2				1		1		4	1			
14	14	21	8	9	4	3	3			1	2				2	1	5	1					2	1		2	1	2					3	1	4		1				
32	14	21	1	14	5	3	2	2	3								5			1		3	1					3	1				1		3		2				
47	16	20	3	12	5	1	4	1		1	1		1	1			4	1		2		1	2					1	1				1	1	1	1	1		1		
50	16	20	4	12	4	1	5		1		2	1		1	1		5	1				1	3	1			1	1	1		1		2	1	2		2		1		
34	18	19	3	13	2	1	4		1			1		1	2		4	1					2			2	1	2			1		2		4		1				
39	18	19	1	15	3		4	2	2								4			2		2						2							2	1	1				
60	20	18	2	10	6	2	4	2	2	1	1						4	2		3		2	1					1	1		1		1	1	2	1			2		
15	21	16		12	4	2	3		1	1	1	1		1			3	2				1	2		1		1	1	2	1			1				3	2			
35	21	16		12	4	4			2				2				1	3					4					3	1								1	2			1
6	23	15	5	9	1	1	3		1	1					2		4						1			3		1		1			2		2			1			1
21	24	14	3	7	4	3	1	1	3								4						4						3				1				1	3			
37	24	14	4	5	5	5				1		1	1	1		1	2	3				1	3		1				1		1		3		1			1			
49	24	14		10	4	3	1	2	2								4			2			2					2	0				2			3	1				
18	27	13	6	6	1		3			1					2		3						1			2			1				2		2			1			
23	27	13	2	8	3	2	1		2			1						3					3					2					1				1	2			
41	29	12	6	4	2	1	2			1			1	1			1	2					2			1							2		2						1
45	29	12	2	7	3		4	3	1								4			2			2					2					2		1	1	1		1		
48	29	12	1	9	2		3	2						1			3			2			1										1		1	1	1				
55	29	12	3	7	2	1	2	2								1	3			1	1				1			1					1		1		1				
40	33	11	5	3	3	1	2			1					2		2	1					3					1			2				1			2			
58	34	10	2	7	1	1	1	1				1					1	1		1			1					1					1		1		1				
24	35	9	3	3	3	3			1	1					1		2	1				1	1	1				2							2			1			
56	35	9	2	4	3	2	1		1	1					1		3					1	1						2						1			1			
52	37	8	2	3	3	1	2		2			1					3					3						2					1		3						
17	38	7	4	2	1	1	1		1	1							1	1					1			1		2							1						1
9	39	6		4	2		2	2									2							2				2										2			
29	39	6		3	3	2	1	1	1		1						1	2		1		1	1					1	1				1		2		1				
30	39	6		4	2		2	2									2							2				2										2			
36	39	6		4	2		2	1				1						2		1			1					1		1								2			
10	43	5	1	3	1		1	1									1	0		1								0								1					
19	43	5		3	2		2					2					1	1					1				1	1							2						
7	45	4	2	1	1	1			1								1			1								1													1
8	45	4		3	1	1			1								1									1							1					1			
22	45	4	1	2	1	1								1			1							1				1							1						
26	45	4	2	1	1		1											1								1									1						
31	45	4		2	2	1	1					1		1			1	1				1	1										2		1	1					
59	45	4		2	2	1								1			1						1					1							1						
11	51	3	2		1	1								1				1					1										1								1
20	51	3		1	2	1	1		1			1						2		1		1									1		1			1			1		
25	51	3	1	1	1		1					1						1					1							1								1			

Legend

Gender	**Ma**	Male
	Fe	Female
Age	**1**	18-22
	2	23-27
	3	28-32
	4	33-37
	5	38-42
	6	43-47
	7	48-52
	8	53-57
	9	58 and above
Ethnicity	**Mal**	Malay
	Chi	Chinese
	Ind	Indian
Occupation	**1**	Full-time student
	2	Part-time student
	3	Self-employed
	4	Full-time employee
	5	Part-time employee
	6	Retired
	7	Currently not working
	8	Others
Income	**1**	RM0- RM 2000
	2	RM 2001- RM 4000
	3	RM 4001- RM 6000
	4	RM 6001 - RM 8000
	5	RM 8001- RM 10000
	6	confidential
Education	**1**	Primary leaver
	2	Secondary leaver
	3	Certificate holder
	4	Diploma holder
	5	Graduate with degree
	6	Graduate with masters
	7	Graduate with Phd
	8	None of these

Appendix L: Demographic Attributes in Distinctiveness

Distinctiveness

Photo	Rank	Sum	Dimension			Demographic attributes: Gender		Age									Ethnicity			Occupation								Income						Education							
			physical	emotional	anonymous	Ma	Fe	1	2	3	4	5	6	7	8	9	Mal	Chi	Ind	1	2	3	4	5	6	7	8	1	2	3	4	5	6	1	2	3	4	5	6	7	8
38	1	177	42	98	37	27	18	14	15	4	3	2	3	2	2		37	8		9		10	19	2	3	1	1	16	13	1	1		11	3	11	2	16	10			2
33	2	166	27	106	33	23	21	8	12	9	4	5	2	2	2		32	12		6		4	25	3	1	4		19	6	3	3		10	6	12		9	11	2		3
54	3	124	37	64	23	12	21	5	8	4	4	3		3	6		23	10		6		5	11	3		6	2	7	4	2	4		12		13	2	7	7	2		2
57	4	122	28	70	24	20	11	8	6	5	3	4	2	1	2		23	8		4		6	13	1	2	4	1	10	6	2	1		11	1	9	4	8	4	2		3
51	5	114	23	68	23	13	17	11	10	5		2		1	1		20	10		6	2	8	10			2	2	13	2		1		8	3	12	2	9	4			
2	6	107	33	55	19	14	14	9	9	2	1	2	1	2	2		23	5		5	1	5	13		1	2	1	7	8		1		5	2	8	2	9	6			
16	7	85	15	53	17	11	11	5	2	1	2	5	1	1	4	1	14	8		2		1	13		2	2	2	6	2	2	3		6		14		1	6			1
46	8	84	19	45	20	9	14	7	3	5	4	1	1	1		1	18	5		4	1	5	9	2	1		1	8	4	2	2		3	2	9	1	9	2			
49	9	82	22	47	13	6	14	8	2	7	1		1		1		14	6		7		2	8		1	1	1	5	3		2		5	1	4	3	9	2	1		
24	10	78	26	39	13	7	12	8	5	1		2		1	2		15	4		5	1		9	2	1		1	4	4	1	4		6		4	1	3	9	1		1
27	11	65	16	33	16	8	9	3	12		1		1				12	5		2	1	5	7			2		10	3				3	1	3	4	2	5			1
15	12	61	17	31	13	10	7	7	4	1	1	2	1	1			12	5		2		2	11	2				11	1				5	4	5		6	2			
14	13	41	13	24	4	7	3		3	1	1			2	3		8	2				1	6	1		2		1	4				5	1	4		1	3			1
23	14	37	12	16	9	2	7	4	2		1	1				1	7	2		1		3	2	2	1			6	1		1		1		5		2	2			
7	15	35	15	11	9	7	3	2	2		3	2	1				8	2		3		2	5					1	2	1	1		2		4	1	3	2			
6	16	32	15	11	6	2	7	2	3		1			1	2		6	3				2	4	1		2		2					6	2	6		1				
32	17	29	12	14	3	5	2		4	1	1	1					7			2		1	4						4				2		2		1	4			
53	18	28	11	9	8		8	3	1	2		1		1			4	4		4			3		1			2			3		3		2		2	3	1		
25	19	27	11	13	3	8		1	4				1	1		1	5	3		1		1	3	2	1			4	1				3		5		3				
37	19	27	4	15	8	4	3		4			1			2		6	1				1	3			3		3					4		2	3	1	1			
19	21	22	9	8	5	1	5	2		1	3						4	2		2			1			2	1	1					3		2		1	2			1
13	22	17	5	8	4	4	1	1	3							1	5			3				1		1		2					3	1			1	2			1
43	22	17	5	7	5	2	3	1	1	1	1	1					4	1		2		1	2					1	1		1		1			1	1	1	2		
50	22	17	3	8	6	4	2	2	1	1		1		1			3	3					4					1	1		1		1		3		1		1		1
10	25	16	4	9	3	2	2	2				1				1	3	1		1		1	1		1								2	1	1	1	1				
42	25	16	4	11	1	1	3			2					2		3	1				1	2			1					2		1		2			2			
12	27	16	10	2	4	1	3	3					1				4			1			3					2	1				1				2	1			1
29	27	14	7	6	1	1	3		2						2		4			1						2	1	2					2		2		1				1
60	29	13	4	8	1	1	2		2	1							2	1					2			1		3							1		1				1
18	30	12	4	4	4	4		4									4			4													2	2			2				
35	30	12	1	7	2	1	2		2	1							3			1			1			1		1		1			1				2				1
47	32	11	3	6	2		3	1	1						1		3			1			1				1	1					2	1	1		1				
11	33	10	4	3	3		3	1	1						1		3			1			1				1	1					2	1	1		1				
41	33	10	3	6	1	3		1							1	1	2	1		1			1		1				1				2		3						
44	33	10	5	2	3	1	2	2		1							3			1			2					1		1			1				1	1	1		
56	33	10	2	5	3	2	1	2						1			1	2		1			1			1					1		1		2		1				
1	37	9	3	4	2		2	2										2		1				1				1					1		1			1			
31	37	9	3	3	3	2	1			1						1	1	2					1	1		1					1		1	1	1			1			
34	37	9	1	6	2	2	1	1			1					1	2	1		1		1			1				1				2	1			1		1		
52	37	9	3	5	1	1	1			1	1							2				1				1							1					1			1
3	41	8	1	4	3	3				1	1			1			2	1					3					1	2						1		2				
5	41	8	1	5	2	2			1	1							1	1					1					1					1		1						1
55	41	8	2	4	2	1	1		1	1							2			1			1							1			1				2				
17	44	7	4	1	2	1	1					1		1			1	1				1			1								2		1	1					
22	44	7		5	2	1	1	1	1								2			2													2		1		1				
36	44	7	5		2	1	1	1				1						2		1			1										2		1		1				
39	47	6	1	4	1		2			1				1			2			1			1					1						1					1		
40	47	6	2	2	2	2			1					1				2					2					1					1		1						1
8	49	5		4	1		2	1						1			2			1			1					2						1				1			
45	50	4	1	2	1		1	1										1						1									1		1						
48	50	4		3	1	1					1						1						1						1								1				
20	52	3	2		1	1	0			1							1						1							1								1			
26	52	3	2		1		1		1								1					1											1		1						
4	54	2	1	1		1				1							1																								
30	54	2	1	1		1			1	0							1			1								1													1

Legend

Attribute	Code	Description
Gender	Ma	Male
	Fe	Female
Age	1	18-22
	2	23-27
	3	28-32
	4	33-37
	5	38-42
	6	43-47
	7	48-52
	8	53-57
	9	58 and above
Ethnicity	Mal	Malay
	Chi	Chinese
	Ind	Indian
Occupation	1	Full-time student
	2	Part-time student
	3	Self-employed
	4	Full-time employee
	5	Part-time employee
	6	Retired
	7	Currently not working
	8	Others
Income	1	RM0- RM 2000
	2	RM 2001- RM 4000
	3	RM 4001- RM 6000
	4	RM 6001 - RM 8000
	5	RM 8001- RM 10000
	6	confidential
Education	1	Primary leaver
	2	Secondary leaver
	3	Certificate holder
	4	Diploma holder
	5	Graduate with degree
	6	Graduate with masters
	7	Graduate with Phd
	8	None of these

Appendix M: Demographic Attributes in Continuity

Contuinity

Photo	Rank	Sum	Dimension: physical	emotional	anonymous	Gender: Ma	Fe	Age: 1	2	3	4	5	6	7	8	9	Ethnicity: Mal	Chi	Ind	Occupation: 1	2	3	4	5	6	7	8	Income: 1	2	3	4	5	6	Education: 1	2	3	4	5	6	7	8
54	1	123	31	50	42	26	16	12	12	8	1	3	1	4	1		33	9		10	1	9	19	3				14	6	3	2		14	4	15	2	9	8	3		1
32	2	73	20	32	21	10	13	3	8	5	1	1		1	2	2	18	5		5		2	12		2	2		8	3		4		5	2	5	1	6	6	1		2
49	3	58	11	27	19	8	11	7	5	2	3	2					14	5		3		4	9	1		1	1	9	1	1			4	1	8	1	4	5			
7	4	57	19	21	17	11	7	2	4	1	5	3	1	2			11	7		1		4	9	3		1		6	5	2	1		3	2	4		7	3			2
38	5	51	7	27	17	9	8	8	1	3	1	2		2			14	3		6		1	7		1		2	4	2	1	1		8		8	2	3	4			
24	6	49	10	22	17	5	12	3	7	4	1				2		13	4		1		4	6			4	2	7	3				5		5		4	5	1		2
2	7	42	17	11	14	6	8	7	2	1	2	1		1			10	4		3		1	3	1		2	2	5	2				3		7		6	1			
46	7	42	13	12	17	7	10	6	4	2	1	2			2		12	5		4	1	2	9				1	8	3	1	2		3	2	4		6	5			
52	8	40	14	15	11	4	8	2	5	2	1				2		7	5		1		1	5			5		4	1		2		5		2		5	3			2
55	9	36	11	12	13	5	9	5	3	1	2		1		1	1	13	1		4	1	1	5	1	1		1	4	1		1		5	2	3	2	5	2			
12	10	34	7	12	15	5	10	2	7	1		3		1	1		12	3		3		3	6		2	1		5	2	2			6	3	3	1	2	5	1		
35	11	32	11	13	8	1	9	3	1	2	1			1	2		9	1		4		1	3		1	1		2	2		2		2		1	1	1	4	2		1
51	12	28	3	16	9	5	4	1	1	1	1	1	1	2	1		6	3		2		1	4		1	1		3	2		1		3	2	4		1	1			1
27	13	27	5	13	9	4	5	5	2			1		1			7	2		1	1	2	4				1	6			1		1		5	2	2				
48	14	26	2	16	7	3	4	1		3	1	1		1			6	1		1			6					3	2				2		4		2	1			
43	15	22	2	11	9	5	4	3	1	1		3			1		8	1		2		2	4	1				2	1	3	1		2		1		1	6	1		
39	16	20	9	5	6	3	4	1	2	2				1	1		3	4		1			5			1		2	1		2		1		2	1	2				2
56	16	20	6	6	8	6	2	1	3	1		2			1		6	2				2	5					2	2	2			1		2		2	3			
16	18	17	6	6	5	5		2	2					1			5					2	2		1			3	1				1			2	3				
60	19	16	2	6	8	3	5	6	1						1		7	1		4	1	1	1	1				1					7	3	4	1					
42	20	15	7	3	5	5		1		3				1			3	2				2	2		1			1	1				1	1	1		2	1			
14	21	14	4	3	7	3	4	2	1	2	1					1	4	3		1		1	1	1		3			1				5	2	3		1	1			
17	22	13	5	3	5		5	2		2	1						4	1		3				1		1			1						1	1	2		1		
41	22	13	2	6	5	3	2		1			2		2			2	3		1			4					1			1		3		1		1		1		2
50	22	13	2	5	6	3	3	1	1		1		1		1	1	4	2		2		1		1	1	1		1	1		1		2	1	1		1	1	1		
34	25	12	3	6	3		3	2		1							2	1					1	2				2					1		1			2			
18	26	9	2	3	4	3	1		2	1	1						2	2					4					3	1					2	1			1			
31	26	9	6		3	3			3								3						3						3									3			
45	26	9	2	4	3	1	2		1	1				1			3						3					2	1					1			2				
6	29	8	1	4	3	1	2	2		1							2	1					3							1	1		1				2	1			
19	29	8	4	2	2	1	1	1		1							2						2					1					1		1		1				
21	29	8	2	1	4		4		3	1							4					2	1				1	3	1						2		1	1			
15	32	7	1	3	2	1	1			1			1				1	1				1	1					1	1										1		1
36	32	7	2	3	2		2	2									1	1		2								1									1	1			
47	34	6	1	3	2	1	1				1				1		2							1	1				2						1		1				
37	35	5	1	2	2		2	1	1								1	1		1			1					2									1	1			
44	35	5	2	1	2	2			1	1							2			1													1				1				
57	35	5	1	2	2	2			1								1	1					2						1		1				1			1			
13	38	4	2		2	2		1	1									2					1			1							2		1			1			
25	38	4	2	1	1	1	1	1					1				1	1		1			1													1	1				
26	38	4	3		1		1			1							1						1					1									1				
29	38	4	2	1	1		1	1									1			1													1						1		
30	38	4	1	2	1		1	1										1		1								1										1			
5	43	3	2		1	1					1						1					1							1								1				
11	43	3	1		2	2						1	1					2				1	1					1					1			1	1				
20	43	3	1	1	1		1	1									1			1																	1				
59	43	3	2		1		1		1								1						1					1									1				
10	47	2	1		1		1	1										1					1								1						1				
23	47	2	1		1		1		1								1										1	1									1				
33	47	2	1		1		1							1			1						1										1		1						
53	47	2	1		1		1		1								1						1										1			1					
1	51	1			1																1																				

Legend

Category	Code	Description
Gender	Ma	Male
	Fe	Female
Age	1	18-22
	2	23-27
	3	28-32
	4	33-37
	5	38-42
	6	43-47
	7	48-52
	8	53-57
	9	58 and above
Ethnicity	Mal	Malay
	Chi	Chinese
	Ind	Indian
Occupation	1	Full-time student
	2	Part-time student
	3	Self-employed
	4	Full-time employee
	5	Part-time employee
	6	Retired
	7	Currently not working
	8	Others
Income	1	RM0- RM 2000
	2	RM 2001- RM 4000
	3	RM 4001- RM 6000
	4	RM 6001 - RM 8000
	5	RM 8001- RM 10000
	6	confidential
Education	1	Primary leaver
	2	Secondary leaver
	3	Certificate holder
	4	Diploma holder
	5	Graduate with degree
	6	Graduate with masters
	7	Graduate with Phd
	8	None of these