Local Identity Identification & Assessment

The Theory, Methodology and Practice of Discovering Local Identity in Yantai, China

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Abstract

The purpose of this thesis is to establish a formal definition of the term *Local Identity* and develop an efficient methodology to identify and assess such local identities. This can help to underpin an understanding of the importance of local identity in modern urban design processes and to help protect such identities to form a better urban environment. The thesis first formalises the definition of local identity and points out its importance via a thorough literature review, and then applies the panoramic photo elicitation interview (PPEI) technique developed in this thesis to a case study in Yantai (China) to investigate ways of identifying and assessing local identity. An efficient data analysis approach is also proposed to visualise and investigate research data effectively.

Local identity plays an important role in improving and maintaining the quality of urban environments and enhancing the quality of human life. However, there has not been a formal definition of the term. In addition, various similar ideas have been set out by different researchers, thus, bringing confusion and ambiguity to the various terms defining local identity and this confusion has always been an issue in the realm of landscape study. Due to this lack of clarity, practitioners have not realised the importance of local identity during their developing process. And because of globalisation, more and more cities are starting to redevelop by copying other successful cities, resulting in a considerable number of cities being similar, sometimes even identical. Such phenomenon has caused a vast amount of local identities to vanish in the last 10 years. Therefore this thesis concentrates on crystalizing the formal definition of local identity and, most importantly, explains its importance in the process of urban development in relation to human society.

This research commences with a solid review of relevant literatures on local identity to understand the background. After the understanding and importance of local identity is established, the thesis then focuses on developing an effective methodology to identify and assess such identity. This is in regard to the practical use of local identity. Subsequently, the PPEI technique was developed and used to better identify and assess different elements that could represent local identity from various aspects effectively. The PPEI provides particular insights into the overall thoughts on local identity elements of participants with different backgrounds.

As a comparative study between different groups of participants, this thesis has applied a case study to Yantai (China) to testify the validity of the method developed. Based on data analysis, a representative set of ranked tables and mappings have been developed to help users to visualise both positive and negative identities on the local map.

The case study in this thesis identified a number of potential parameters in local identity, which can be used for improving landscape study and urban design process. The roles of local identity, its importance, and the effectiveness of the thesis methodology are discussed in order to ascertain the ways in which local identity can be promoted in landscape study and urban development process. Certain benefits and obstacles in both local identity and thesis method are also discussed to investigate potential opportunities in the future. Furthermore, the meanings of research findings are addressed from different perspectives in order to explore the importance of such findings from all angles in both academic and practical use.

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Abbreviations

Photo Elicitation Interview: PEI
Panoramic Photo Elicitation Interview: PPEI
Field of View: FOV
Single-lens Reflex:SLR

Chapter 1 Introduction

This research carried out an intellectual inquiry in an attempt to not only define "local identity" to a clearer and more formalised context, but also to develop a conceptual framework from it so that it could be applied in the field. A methodology has been developed by this research to apply such conceptual framework of local identity into practical use. Through the application of the methodology, the concept of local identity is further developed, refined and approved. More importantly the methodology developed by this research has not only showed a way to identify and apply local identity in practical use, but also a way to assess the quality of local identity which provides a way to evaluate the uniqueness of urban places.

Local identity is a vital component in urban development and acts as an important aspect to the quality of functionality in landscape. It can create an image of a place that people could relate highly to in their daily lives. A good local identity is a major attraction for people and businesses as well as supporting cities in engineering social and economic transformation of the local site. However, the term "local identity" is vaguely defined, and due to the diversification of all the literature on different aspects of identity, it is currently very hard for both academics and practitioners to identify the correct identity that they can focus on when developing urban places, and due to globalisation local identities are vastly ignored and vanish (Kinoshita et al., 2012). Hence the purpose of the research is to provide a guideline to identify and assess unique local identity to better protect the uniqueness of each local place during the urban development process.

This chapter provides an outline of the research beginning with a general theoretical background on the importance of local identity, followed by the approach of the study, aims and objectives of the research and concluding with an outline of the thesis.

1.1 Background to the Research

Council of Europe (2000) pointed out that landscape is an important contributor to the quality of life for people, especially in local areas. A key aspect in building the distinctiveness with each area is to provide a better sense of identity and to help in the understanding of the identity of such a place. However, such identity has been partially lost due to the urban development process, and the loss of uniqueness has become a common problem that global urban places are facing. Hence, it is important to first understand the problems that the world is facing.

In the urban development process, identity is the key to a subjective reality and all subjective realities are in a dialectic relation with the society (Christmann, 2003). It has been recognised as an important factor with which a city or region can build, modify or reshape a close relationship with their citizens and businesses through pride. It increases citizens' willingness to advocate the place. Selman and Swanwick (2010) have also suggested the importance of realising landscape uniqueness in modern landscape development processes to increase ties between residents and the environment. To identify the identities that are recognised by the citizen can help developers and designers to improve the image of the place towards the desired quality, and therefore distinguish the city from other towns and regions in the global competition, which will enhance citizens' sense of belonging and attract skilled people and investments.

However, due to the dynamic characteristics of the identity, it is not possible to define it precisely. Identity has multiple levels and it changes with surrounding factors, such as environment and time (Lin, 2002). It is a production process that is never completed (Hall, 1997).

Identity of a place is also viewed in relation to the historical heritage and the traditional characteristics of the region (Deffner, 2007). Therefore the local identity should provide continuity for development, preserving the traditions of local communities as the city changes over time; most importantly it provides possibilities for urban rehabilitation to develop a sense of home, security and community for the local residents. The term "landmark" and its ability to represent cities were first introduced by Lynch (1960) in his seminal work, Image of the City. Lynch (1960) also first introduced the analogy of representing cities via unique buildings or "landmarks"; such uniqueness was later commonly used as "Identities", (Pritchard and Morgan, 2001).

Identities have not only been viewed as a heritage characteristic but also the combination of various elements of the region. Pritchard and Morgan (2001) used the relationship between culture, place identity and participants' representation to support that the view of local identity is a combination of historical, social, economic and political processes. Various types of identity have been classified throughout time such as place, urban, regional, national, cultural, personal, community and landscape etc. All these identities have been proven to contribute to the identity of a local place.

With the development of landscape studies, different levels of identities have been introduced, each focus on a different scale of the identities e.g. national identity focuses on the big scaled territorial identity such as a country, whereas urban identity focuses on the city level that is relatively small scale (Christmann, 2003). With globalisation, more researchers and designers have realised the loss of distinctive urban identities and started to focus on smaller scale identities that would benefit the local citizens --- Local Identity. For example, Thwaites (2007) discussed the idea of improving urban sustainability by focusing on the development of small-scale community characteristics. However, there has not been a solid definition for local identity. Therefore, different terms and levels of identities will be formalised and introduced, and the definition of local identity, which is a combination of physical, social, sensory and memory local characteristics will be derived and introduced in this research. With a solid definition and aspects of its characteristics of local identity, it will help researchers and designers to enhance their studies of local sites to enhance the ties between the local area and its residents.

In this context, this research provides a formal and clear definition for the term "local identity" and categorises the components of such identity, which could be used as a guideline when pinpointing local identity. In this way, it will formalise the various contexts of identities, and help academics, designers and developers to better identify the uniqueness of the local site that they are focused on.

1.2 Scope of Problems: The Loss of Local Identity in China

Apart from formalising local identity to help people understand and realise its importance, the research is trying to contribute to the broader problem --- the loss of local identity in urban places, for example, China.

Due to the globalisation effect, urban places have modernised in a robust pace in the last 10 years, and during that period, cities, which used to have only minor connections to the global community, are now deeply intertwined with global influence. Globalisation has strong effects on the physical development of cities as more and more cities start to build up their own places by copying other successful cities, which results in a considerable amount of cities being alike, sometimes even identical. With the globalisation process, the gradual formation of a single type of living environment is making the cities monotonous. Areas become increasingly similar with similar architecture and urban squares (Kinoshita et al., 2012). While these areas are designed for a global audience, the fact that physical development is geographically fixed means it is also often used and given meaning by local residents. Globalisation therefore results in the destruction of the dominant culture. However, there has been much research on the possibility of merging these influences to create areas that have a hybridised identity that is both local and global. There is also research that argues that globalisation does not represent the end of local distinction, but instead offers a broader scale of influences that affect identity and place, bringing together global and local influences (Amin and Thrift, 1994). They suggest that globalisation encourages local areas to react to public pressure to create a place that better meets the needs and desires of the residents, thus, extending the identity of the city and not simply extorting or negating it. Such hybridised identity can be achieved through both the physical design and the narratives associated with the physical reality.

Place is defined by Relph (1976) to be an entity which gained its meanings through its historical continuity, unique character, and opportunity for rest. However, considering the increased mobility, globalisation, growing homogeneity of places and the loss of their cultural specificity, the meaningful relations between people and place face the threat of being destroyed. In places affected by globalisation, western countries have noticed the loss of each city's unique identity and started to either protect the identity or further develop it to make the city stand out. Such cities, have adopted strategies and initiatives to limit the negative effects of cultural globalisation, and increase a sense of individuality and distinctiveness. As an example, the City Council of London constantly carries out protection works on the buildings along historical streets and buildings, e.g. South Kensington District beside Buckingham Palace. New York City also emphasises modernisation by further developing itself to be the leader in modernised cities. The first National Place Identity Conference took place in Manchester on 2nd October 2009 and was the first event to bring together urban designers, economic development officers and tourism professionals to debate the importance of identity for urban places. The event was concentrating on the improvements of the character of individual areas, and initiatives that enhance local identity together with effective marketing strategy to fulfill the maximum benefits on investment realised from the local area. This move explicitly expressed the concerns of western countries on the loss of local identity.

However, there are still countries that have not yet realised loss of their unique elements and focus on constantly redeveloping the city to match the developed countries. Among those cities that are losing their unique identity during the modernisation, China is a typical example (Chen, 2006). How to create local identity in rapidly developing Chinese cities is a difficult but fundamental and contemporary issue. Due to the discontinuity of historical, cultural and social structures created by colonisation, modernisation and globalisation, and people's indifference to their own cultural, historic and social heritage, locality is being rapidly lost in China (Yu, 2006).

During the process of modernisation China tried to copy western elements without much reflection. Thus the discontinuity of tradition led to disorder in the urban landscape. Due to urbanisation as result of population growth and economic development after the Second World War, medium and high-rise buildings have been abruptly introduced to Chinese cities. All the natural elements have been put aside for roads for traffic and other infrastructure required by contemporary urban developments (Yan and Tao, 2009). A good example is the three-storied courtyard condominium project built in Beijing to replace the old hutong (one-storied courtyard family houses), designed by professor Liangyong Wu et al. and now there is a big debate on the project as more people realise that the traditional hutong should be seen as a protected historical relic. Also the massive high-rise elevator housing has eliminated much of the neighborly human contact, such space is no longer conducive to intimate and casual human contact and communality.

In China, the developments of cities are centralised to the government policy—"Urban and Rural Planning Law of the People's Republic of China". This is the first layer of urban control governing in China. The urban planning system is centralised so that every city in the entire country is built according to the same law. Due to the effect of all the planning works being based upon the same legislation, Cities in China tend to develop in very similar ways, which makes it very difficult for them to differentiate themselves with others. Figure 1 represents the typical four-step reconstruction process in China: Original old landscape; Destroy the old landscape; Reconstruction; Refined new landscape. The figures show the urbanisation process in China, which got applied uniformly across all Chinese cities. Because the focus is on the standard process, the originality and heritage characteristics have been vastly destroyed and resulted in similar districts or cities across the whole country**.**

Figure 1 The Development Process of North Yujia in Yantai: a typical urban development process in urban China

Furthermore, below, in Figure 2, the identities of these places are no longer distinguishable. Such phenomena is still ongoing at a fast pace in China, which leads to the urgent requirement for related research to be carried out in order to protect the originality of the country.

Figure 2 New Districts of Four Different Cities: different cities with new physical appearance

In recent years, the accustomed diversity of the population living in the old city has changed in China. The mass migration between cities caused the settlement of different groups, from different regions of the country, with different cultural characteristics that they had brought with them when they came to the city. Several cities have spread consensus regarding the conversion into a global city such as Shanghai and Beijing. This resulted in a massive loss of the original city identity as they try their best to catch up with the western countries, which are crowed with concrete jungles, making those cities to start to look alike.

Currently in China, when planners or designers carry out the urban planning project or the urban design work, their major concern is always to better suit the investors' financial needs, which is normally to maximize the space used to boost the revenue form the work. Hence, lack of planning and even design has always been a major problem in Chinese urbanisation, which results in homogeneous local structural and functions, which have an irreparable effect on local identity. Figure 3 explicitly shows the problem that China is facing --- loss of uniqueness.

Figure 3 Similar Areas in Different Cities: the four urban living districts in different cities look remarkably similar

Since 2000, Chinese urban landscape has started to suffer from fast construction plan alterations. Each newly elected government would halt any ongoing constructions that were approved by the previous government leaders and start a new plan to express their view on the local development issue to better improve their political reputation. This has also resulted in duplicated local images. For example, almost every major city would have a "public park" and "business venue" and "image of the city" architecture. Hence, One of the current urban planning and urban design trends in China is for cities to generate "Cityscape" plans. These plans are not required by the urban planning law but many city governments are commissioning them to both better represent their city and help guide its competitive future. However, the focus for those "Cityscapes" is majorly concerned with building new high-rise architecture more outstanding than the rest, rather than revamping the city's heritage or integrating the current local identity to better represent the city (Bryce, 2012).

There are a lot of elements that have been ignored by Chinese local government during their city's revamping processes (Bryce, 2012):

1. The geographical features of the city. Each city will have its own internal and external geographical identities, even the cities that are close to each other. Internal geography normally has a big impact on the city people's day-to-day life. E.g. a city built in a relatively flat area would have a relatively high bicycle population, as people live in the area are more likely to use bicycles as their day to day means of transport. The external geography deals with a city's location in surrounding landscape and the relationships between internal and external geographical features. E.g. a city beside the seaside would normally be famous for its fishing industry and seaside tourist business.

2. A major factor that differentiates "identical" cities is the historical cultural heritage. Two physically identical cities would still have different activities and events due to their different regional histories. Many local traditions have become symbols for individual cities. E.g. some cities would have its own annual festival, which attract a huge amount to tourists, and make the city famous.

3. Historical architectural heritage is also important, as the architecture would be different. The most famous example would be the Forbidden City in Beijing as the entire local region is protected as they were a thousand years ago, and now the region has become a surrogate and symbol of China among the world.

4. The crucial component that drives all the aspects of local uniqueness is, of course, people. It is people that decide how to build and develop a city, how to use the land, and how it could be related to surrounding landscapes. It is people's activity that creates the history, to pass traditions from one generation to the next. It is also people who make, enforce, and obey the laws that have made so many cities very similar to each other.

As areas of towns and cities become increasingly similar, with high buildings and urban squares prominent on many urban streets, there is growing recognition that places, which retain character and local identity, are developing a competitive advantage. They score in terms of visitor economy success and as desirable places to live, work and spend leisure time in. This has led to the emergence of new disciplines around defining and managing the identity of a place, and new thinking about initiatives to improve the appeal of urban areas. Improvements to the character of an area and initiatives that aim to enhance local identity need to be communicated effectively as part of an overall marketing strategy if their full benefits are to be felt and a return on investment realised. Towns and cities now commonly use place marking as a strategic approach to the promotion of their area in the competition for visitors, investors, residents and businesses (Chen and Thwaites, 2013).

In the past 20 years China has been experiencing the largest scale urbanisation in its history. Because the urbanisation process started without solid planning there are many defects still on the way and there is a deep concern on how the country could maintain its dramatic development speed along with the protection of its own local identity. The practice of other global projects shows that various manifestations of local identities can be a valuable tool to support civic pride and to create an image for a place. A good local identity is a major force to bind and attract people and businesses as well to support the cities in engineering social and economic transformation of urban areas. Therefore, it is vital for China to know its own identity and act accordingly to either protect the identity or further develop it to support people's needs or attract more people and gain global competitiveness.

For identity to be used as an asset, it must be managed and include considerations beyond the physical environment. In particular the varying perspectives of urban identity of the various stakeholders have to be considered, as local identity is perceived on a subjective level. This means to be able to manage local identity, and be able to answer the following questions:

- What is the current local identity?
- What kind of identity is needed and for which party?
- What factors influence the local identity?

- How can the local identity be formed or steered to achieve the desired identity?

Over the next 20 years, future development will become better and better in China; it is essential for China to find the correct concept and method to solve its theoretical and practical obstacles in its urbanisation progress. How to create local identity for rapidly transforming Chinese cities is an acute and fundamental issue. Especially when it comes to medium and small cities, the situation is almost tragic in that the erstwhile identities of cities have been lost dramatically and unnecessarily in recent history through what one could call "Westernisation", which is almost synonymous to "Modernisation" and "Globalisation". Therefore to find a way to identify the actual uniqueness at each region or local site, and then integrate the elements accordingly to make the cities stands out via its own heritage would be a beneficial step to the country's urbanisation process in the future. There is no simple way to combat the problem. One would need to compare different sites, new uses, events, and results of efforts to anchor the past identity in different ways and, over a period, observe the changes of identity of the former sites and the effects provoked by changes over time. These efforts and results need to be seen in a wider context of local identity development, or redevelopment, management of identities of other cultural heritage sites, and even of the cultural diversity of China.

1.3 Research Aims

Based on the above problem, the aims of this research is formalising a solid definition for local identity, categorising its different aspects and developing a methodology to identify and assess such identities and aspects through the study carried out in Yantai (China), which could provide a better way to identify and protect local identity and contribute to the protection and refinement of local identity.

The interaction of local people and places also plays an important role in the development of local identity and its evolution throughout time. Such a view is further approved via a user-interactive approach through the methodology development in this research, e.g. the user experience under different environment for the same place is also considered in the process of identifying local identity.

In order to consider both the academic and practical use of local identity, the thesis is divided into three parts. The first part of the research considers the definition of local identity. Because there has not been a formal definition of the term, local identity is normally ignored or ambiguously considered in both academic and practical use, which the main cause of the loss of local identity. Hence, the fundamental question is: What is local identity and its importance? The components of local identity are first identified through a solid literature review on relevant literature findings in Chapter 2, and the importance of each aspect of local identity is analysed separately in their corresponding sections.

The second part of the research focuses on the identification and assessment of local identity. During the investigation of methodological possibilities (Chapter 3), the research has not found that an entirely suitable approach currently exists. Therefore, this research will seek to develop specific methodological tools that are better equipped to meet the aims of the research. An account of this process with certain hypotheses made will be found in Chapter 3, e.g., participants group and the assessment quality. More importantly, the methodology would help to apply the concept of local identity into

practical use, reflect the principle of local identity and provide potential refinement of guidelines on the evolvement of local identity.

And after the first two parts are successively achieved, it would form a general guideline on the identification and assessment of local identity. The third parts of the thesis would then explain how to use such concepts and methodology in order to protect and help to evolve current local identity in practical use.

1.4 Research Objectives

Each part of the research aims to achieve certain objectives. Research objectives are specified in three sections: theory, practice and usability. A definition of local identity is established to differentiate from other levels of identities. The research discovers the context of local identity in Yantai (China), and other types of identities are reviewed in terms of how they are commonly formed, which leads to the development of how all different levels of identity are formed by different components and what these components are. The first two objectives contribute to the above theory building on local identity.

More importantly, a methodology is developed to not only identify local identity and the different components that form the local identity, but also has the ability to identify the representative elements from all components that could best represent the uniqueness of the local identity and visualise them explicitly on a map of a local site. A rank of the importance for the key elements that represent local identity is also developed by the method, which could potentially help academics and practitioners to study local identity more effectively. Such aims are addressed through objectives 4, 5 and 6. One important fact to note is that the data analysis in this thesis is also a part of methodology that is developed via the research. In summary, the objectives are:

1. Formalise a definition of "Local Identity", in a way that distinguishes it from other levels of identities.
2. Identify the main components that form the local identity.
3. Develop a methodology to identify local identity and establish the corresponding elements for each component for the local identity.
4. Provide a way of assessing the importance of different elements of the local identity.
5. Visualising local identity on maps makes assessment of local identity easier because the information is clearly displayed.
6. Consider the practical application of theory and methodology of local identity in modern landscape study and urban design processes.

1.5 Thesis Structure

Figure 4 outlines the overall structure of the thesis and the three parts of the research are laid out accordingly.

The thesis first focuses on building the theory background of local identity because understanding of the term forms the foundation of this thesis. Relevant literature is reviewed to help set up the theoretical concept for local identity in Chapter 2. The confusion between these identities is clarified through literature review and a system is introduced to explain how each identity interacts with the others. The conceptual framework of local identity is built which helps to understand the structure of local

identity and aspects that contribute to the term. This chapter is important to the thesis in a way that it investigates the current different identities to develop the definition of local identity for this research, and also it provides the theoretical support to categorise local identity into four different aspects, namely physical, social, sensory and memory.

After local identity is formally defined and a conceptual framework is developed, it is used as a guideline to develop a methodology that could identify local identity based on such a framework and assess their corresponding qualities. Chapter 3 explains the research method, and related methodology literature is also included in this chapter to support the method used in this research. Because no pre-existing methodology exists, this chapter also includes a pilot study to prove the validity of the method. And then the actual methodology is applied in Chapter 4 through a case study in Yantai, China. Data collection will also be shown in this chapter. Chapter 5 gets the results through analysis and discusses data collected in Chapter 4 and tries to answer objectives 3, 4 and 5. Through the methodology developed in this thesis, this chapter will show the local identity in Yantai, and the key elements identified for each aspect. It also provides a way to assess the local identities by ranking the key elements via their importance and explains the findings. In addition, this chapter would provide an important visual way to identify local identities, which has great potential in practical use. In this chapter it would show how the results from the research method could be interpreted and the potential to approve and refine local identity.

In Chapter 6, the conditions for thesis results are explained; the results are discussed through both individual aspect and overall views; and the limitation of methodology and hypothesis will also be discussed. Chapter 7 discusses the practical application of the theory and methodology, its importance to modern landscape study and the urban design process. It will also discuss how such methods will help to resolve the loss of local identity expressed and its meanings in future planning and design practice.

Finally, the research is reviewed in Chapter 8; end with future work recommendation and improvement to the methodology developed from both academic and practical perspective.

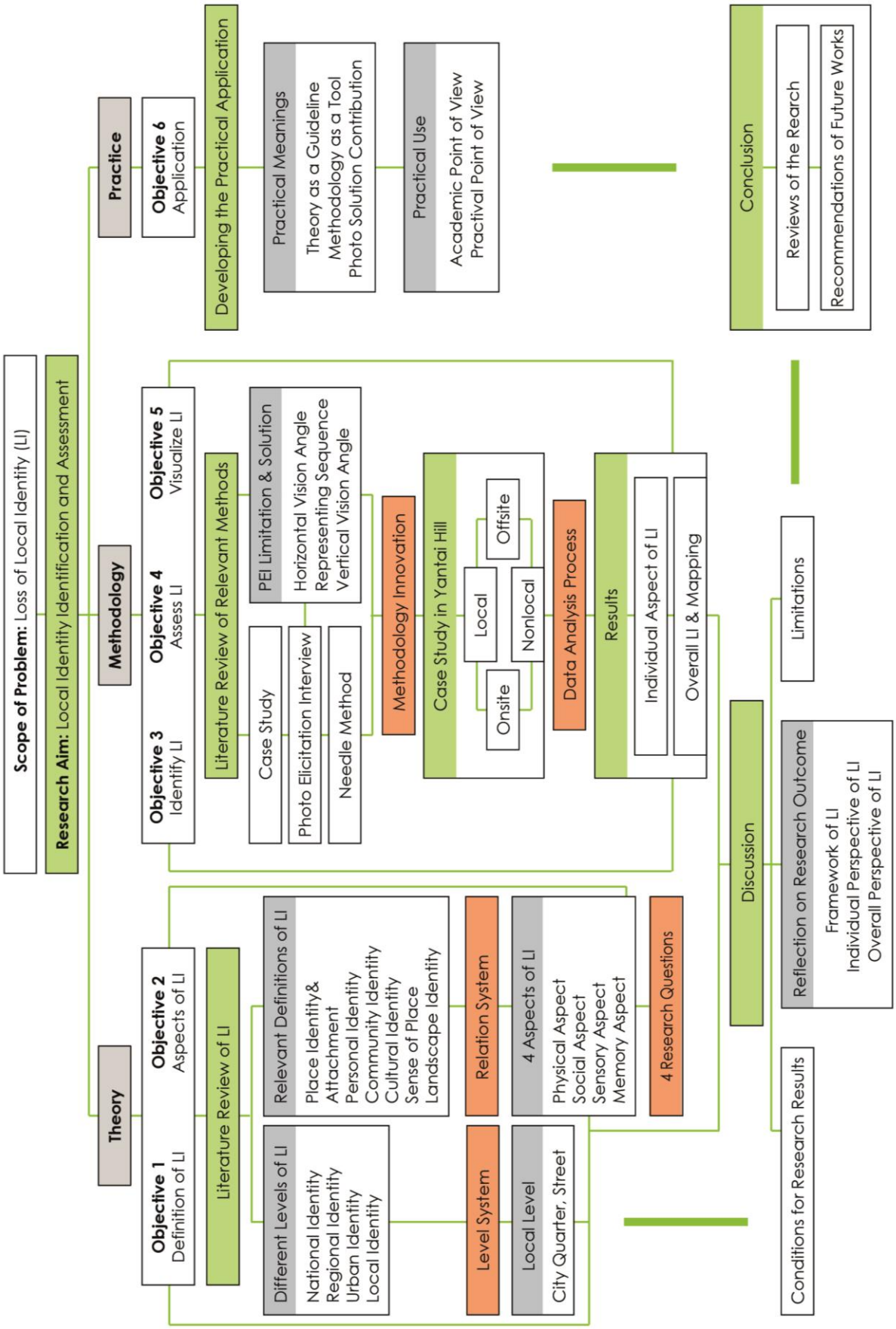


Figure 4 Thesis Structure

Chapter 2 Literature Review of Local Identity

2.1 Introduction

The ultimate goal of the research is to help protect local identity. The primary reason for the loss of local identity is the lack of understanding of the term and confusion between similar terms defined by various academics. Therefore before identifying and assessing local identity, it is essential to understand what local identity is and clear up the confusion between different and similar terms. The first part, this chapter, is hence to clearly define local identity via literature review.

The concept of defining the local identity forms the basis of this dissertation and differentiates it from other levels of identities, namely: national, regional and urban. Despite the vague definition of local identity, the other three types have all been formally defined. Therefore it is the objective of the literature review to investigate all different identities and formulate the local identity. Besides, due to the ambiguous terms available relevant to local identity, e.g. place identity and place attachment, they would be useful to derive the formal definition of local identity. And also, as the identity can be reflected from different aspects, e.g. physical appearance or local unique culture, it is also important to understand the different aspects of local identity and how these aspects form the term. At the end of this chapter, a conceptual framework is developed and a formal definition of local identity is proposed.

2.2 Different Levels of Identity

Relevant concepts of identities have been identified with globalisation; concepts of national identity, regional identity, urban identity and local identity have been introduced with their different physical site scale (Dredge and Jenkins, 2003). Christmann (2003) introduced the different levels and identities and testified their unique focuses based on different physical scale and cultural differences. Various researchers have already introduced the idea of these different identities: Geertz (1963) defined the term of National identity; Paasi (1986) has carried out work on regional identity; Tuan (1977) has addressed the importance of urban identity.

In spite of the fact that the first three identities have been the main focus in urban development, "local identity" has not only been vaguely defined but is also constantly ignored. The confusion between different levels of identities is commonly disregarded; therefore it is important to separate out these different levels to distinguish local identity from a fundamental perspective. One of the defining features of local identity is its concentric character: smaller places that are incorporated within larger scales (Altman and Low, 1992, Relph, 1976, Tuan, 1974). In this section, different levels of identity will be introduced and reviewed.

2.2.1 National Level: National Identity

National identity as a concept is logically inseparable from concepts such as nation and nationalism. There are almost 200 countries in the world and each has its own identity. Countries are rooted in a common history and particularly strong in terms of group

social identity. Hence, evoking strong emotional reactions (Lewicka, 2011). "Country" as a target of identity has usually been studied via its symbolic meanings rather than its environmental and physical dimensions. The visible symbols of national identity take many forms, objects and events, monuments and ceremonies, all contribute meaningful symbols to the national identity (Vale, 2008).

Geertz (1963) identified six important attributes that derive the symbols of national identity in his essay "The integrative Revolution: Primordial Sentiments and Civil Politics in the New States":

1. **Assumed blood ties**: blood ties that are "thought to be true" with untraceable sources. With such ties, despite the trueness of the quasi-kinship ties are questionable; people expressed a strong belief in such blood ties.
2. **Race**: ties that are derived from phonotypical features such as skin color, facial form. Stature or hair type. This is the most commonly used tie that allows people to distinguish themselves from foreigners.
3. **Language**: ties based on the primary means of linguistic communication. This feature allows people to further distinguish the outsiders, who share similar phonotypical features with the local people.
4. **Region**: ties that concern a more general geographical aspect and based on topographical features, such as island or intervening mountain ranges.
5. **Religion**: ties based on cultural, common activities and most importantly, systems of belief, such as Buddhism, Christianity and so on.
6. **Custom**: ties based on patterns of behavior that are developed and defined by people themselves throughout the history, especially important where one group believes itself to be the bearer of civilization. Dress and personal adornment, and food habits are the most common elements that show the difference.

In addition to the above statements, national identity is not an attribute that is gained naturally with the statehood formation, but a long time process that has to be cultivated after a regime or culture has gained political power (Vale, 2008). The term "long time process" emphasises that national identity is a natural process that needs a considerable amount of time and history to accumulate and evolve. The number of common attributes that contribute to the national identity also have the ability to strengthen the bond of national people: their language, culture, history and political aspirations (Stebelsky, 1994). The elements all help people to realise their nation as a whole and make them willing to protect "their own nation". Such identity is especially highlighted during wartime.

Because of the number of attributes to national identity, it can take many different forms (Daniels, 1993). It is not only inflected by other kinds of cultural, class, gender, race and religion, but also by other forms of cultural-geographic identity, of region and locality. Smith (1991) described the national identity as an arguable characteristic that is "so global a condition and so explosive a force". Smith differentiated the national identity, between a predominantly genealogical ethnic national identity (commonly known as a community of descent), and a territorial civic national identity (usually a state of common institutions). However, he also points out that any one national identity is always consciously evolved with both a historical and a geographical heritage, which is the point that Vale makes (Vale, 2008).

At a national level, mentality is the main factor of national identity and it has two dimensions as cultural and political. National identity is often understood to refer to national features that are important for individuals, such as the success of 'our' artists,

athletes or academic scholars in the international scene that means the cultural aspect of the identity. While the political aspect of national identity means that different countries have their own government and its own particular policies, the politics of national identity plays differently in each country (McCrone and Bechhofer, 2010).

2.2.2 Regional Level: Regional Identity

As discussed in the above section, due to the six attributes in the national identity, people tend to naturally further distinguish themselves via those attributes and tend to form their own community based on the region in which they carry out their daily activities, for example.

The word 'region' is frequently used but difficult to define. It is well known as a common definition for a set area that a group of people commonly uses. However it is a flexible term because there is no agreement as to what scale of territory may be covered by it (Pollard, 1998). Most researchers understand the term as "social constructs", however, it is not always clear what such an expression means in practice (Paasi, 2010, Allen et al., 1998).

Similar to national identity, regional identity has been defined as a special kind of phenomenon that is formed throughout historical and territorial socialisation (Raagmaa, 2002). The regional identities are 'mental' products if societies interact with their physical and social space (environment) and the mental reflection of the space in people's mind and memories (Raagmaa, 2002, Paasi, 2003) which means that social-economic processes are deeply integrated to the regional (Castells, 1983). Regional identity may also place emphasis on local cultural or regional peculiarity, sometimes even expressed in political and cultural actions.

Regional identity is expressed in different ways. It could be simply a regional inferiority complex or regional pride, or more intensely it could be expressed in a certain sense of belonging. Paasi (1986) identifies in his four shapes model in regional identity formation:

1. **The constitution of the territorial shape:** In such shape, the region achieves its boundaries and is identified as a territorial unit in the spatial structure, which identifies itself from the others.
2. **The symbolic shape:** Such symbols include: local language, the landmarks, the nature and infrastructures. They can also be material, such as politicians and writers. Most importantly, the name of the region is a very noticeable symbol for all the regions.
3. **The institutional shape:** Such shape, compromises the established organisations and practices, such as neighborhoods, schools, firms, etc. such institutional expression not only help the region gain economic means, but also helps the identification of people with a region.
4. **The socio-spatial consciousness:** The emerging socio-spatial consciousness of the inhabitants and the establishment of the region/locality in the regional system. This is the result of the continuous transformation and institutionalisation of the region. This focuses on the importance of social and historical processes and the ability of the people to alter the identity throughout the history, hence the importance of interaction between people and the region.

In terms of social space in regional identity the phrase "structures of expectation" has been developed in which the regional identity with its 'institutional thickness' based on common social space and local culture are combined to form such identity (Paasi, 1986). In Maslow's pyramid of needs, the need to belong follows the basic needs (the physiological needs to survive and the need for safety), and can be considered, as the strongest social need (Maslow, 1973). In essence, when a personality knows where he belongs and who he is, he would want to claim for merits in the society to fulfill the self-realisation. Due to the essential basic needs before the social needs, social groups are always rooted to the space where they act. Although social space and identities are not permanently set, they change throughout time, but belonging always exists like the need for food and safety. Therefore people's needs should be fulfilled from both a physical and cultural perspective. The identifiable communities are healthy, democratic and self-sufficient with a clear sense of identity and belonging (Williamson et al., 2003). Therefore, to improve local people's life standards, it is essential to understand the different ways local people live and interact with their environment.

As one of many identities that distinguish the place, regional identity has been focused by urban developers, especially for urban designers who have been focusing on numerous problems of rapid globalisation affecting developed and developing countries. In search of regional values, many designers have tried to learn from local cultures, tradition and vernacular architecture. In order to achieve this objective, not only a region's physical characteristics need to be concerned, but also the social activities in the region are indispensable in the interactions between people and places (Bonnes and Secchiaroli, 1995). Hence, from a regional level, identity includes the participation of the region in physical, cultural and social life. However, the process of discovering identity at a regional level is far too big as it is hard for people to experience (Tuan, 1977). Hence, it is also a common practice to use empirical data to find out that regions are perceived as less important objects of emotional attachments or identity for place identity investigation (Lewicka, 2008).

The formation of regional identity is a phenomenon that combines social, spatial and historical aspects of the region and it contains a stabilising, destructive and constructing character. Its people are also developing it in a continuous manor.

2.2.3 City Level: Urban Identity

Tuan (1977) described city as the center of meaning. They can be found on maps and therefore easily become visible. "City is the one environment created exclusively for human use…" compared with other level of regions, which are often changing their borders, city is more stable and continuous through time (Lewicka, 2008).

The formal way of describing city level identities is urban identity, it is one of the essential parameters in achieving a good living environment as it encourages people to care and feel responsible for the environment that belongs to them (Oktay, 2002). Because cities are constantly changing, and evolving new forms, the complex interaction between natural, social and built elements has created urban identity (Oktay, 2005). The most significant determinant of the urban identity is the local urban context that is formed by all physical and natural elements, in particular the urban environment created over generations. Besides, the term is highly related to the residence's living period: the longer one has lived in the city, the more attached they feel to it. However, the shape of urban identity tends to increment the most in the first several years of residence (Lalli, 1992).

Similar to national and regional identity, urban identity is also viewed as a development of local characteristics through history, but from a much smaller scale which involves more interactions between the local environment and its residents. In terms of urban environment, it has to be considered from a historical perspective as cities never stop changing, which is an important factor that affects the cultural association of a local site throughout time (Relph, 1976). It is a mutual effect because culture also helps the local environment to gain a stable system of places that provide emotional attachment and identity to the place (Trancik, 1986).

Apart from history and culture, cities are identifiable in terms of their geographical settings from a fundamental level, but built elements can be influential to the identity within a short period of time. And there are differences in people's experiences of surrounding environments, which will influence their feelings to the urban living place (Oktay, 2005). Hence, it is not only considered from the historically significant buildings, but also through the evolution of the local urban context with respect to human activity, built form and nature, which are also significant in the creation of 'a sense of place'.

Therefore, urban identity is a complex and multi-referential context that provides the linkages between the physical and spiritual aspect of the city. It develops in time and is affected by change through many factors. Physical context strongly affects the image of a city in people's minds, the style, proportions of the buildings, color and materials, attractiveness, skyline are all important in forming an image for people to understand the city. However, as "identity" of a city is much more complicated than its appearance, its historical content, social activity and aesthetic characters also need to be considered, which mainly contributes to the spiritual dimension of the urban identity.

2.2.4 Local Level: Local Identity

The concept of identity in many researches across different academic fields is not so much related to the whole city, on the contrary, it is used together mainly with urban parts and neighboring settlements. The concept has been developed as early as the mid-nineties, Lynch (1960) has recognised the same definition as a quarter. He defined a quarter as the place that has calm and safe streets, accessibility to daily business that proved capable to support one's life on a day-to-day basis, and such capability of providing necessary services is considered as an identity. Later on, Zube (1991) claimed that one cannot understand global phenomena without looking into the local dimension, which brought the focus of landscape identity to a much smaller scale which is more closely involved with citizens' life.

Because people's opinion on local area is the major concern when investigating local identity, many researchers have used the "neighborhood" as their research region, which has the same meaning as "local", to investigate the interaction between people and the local area (Bonaiuto et al., 1999). 75% of the works done with residential place attachment researches have used neighborhood as their primary research site (Hidalgo and Hernandez, 2001, Lewicka, 2011). However, there has still been no formal definition of the term. The term "local" has been defined in terms of neighborhood that includes micro settings, street blocks, walking distance neighborhood and enclaves (Kusenbach, 2008). The concept of neighborhood can be very broad as the border area could be constantly changing during the development period (Lewicka, 2011). Based on such limitations, city quarters and streets have been introduced as an intermediary to represent local identity; in other words, they represent "neighborhood".

2.2.4.1 City Quarters and Streets: The Best Way to Represent Local Identity

The basic elements of the city are the district and the public domain, the street and the square. The majority of modern districts are scattered with slab-like buildings, which can hardly be identified (Oktay, 2005). Consequently, distinguishability of the districts is lacking and buildings are built with little concern on the impact of the quality of the city. Spaces among recently built buildings become undesirable and useless, more importantly meaningless to the development of the identity.

District is the identifying symbol for both sustainable urban development and evaluation of the city. On top of that, a creative and responsive design attitude towards the districts by reinforcing their strengths can heighten local distinctiveness and create memorable places, which would play an important role in strengthening place identity (Moughtin, 2005). In addition, from an identity aspect district neighborhood is not only seen as a means for participation but also a vehicle for strengthening the relationship between residents and the local environment (Kallus and Law-Yone, 1997). From this perspective, district planning is seen as a way to support the true requirement, expectation and lifestyle of local residents.

Below the district layer, there are streets and squares, which form the district. Streets have been treated as an open space for human beings, and they are constantly revamped to make it more attractive to the citizens of the community (Barnett, 1982, Moughtin, 1992). They normally play an important role due to the identical qualities played in people's day-to-day life; hence it is influential on the image of a city and orientation of people. Because streets' characteristics are normally related to its architecture, it is the first image that people can recall when mentioning the city's name (Jacobs, 1961, Lynch, 1960) E.g. typical canal streets in Amsterdam and streets with White Victorian terrace houses on the side in London. As such, streets are the most dominant elements in the forming of the city image and therefore the design needs to pay particular attention to them (Lynch, 1960). However, despite the true importance of a street being its ability to represent the local area as the image of the city (Lynch, 1960), for many generations streets' main function has been cast as providing paths between points and acting as the public open space outside people's homes (Norberg-Schulz, 1971)

All streets combined form squares, which are other important distinct elements of the urban structure. The difference between squares and streets is that buildings within a square would form a continuous boundary around the space. Oktay (1998) described a square as the prime exterior open space of the city and an intrinsic component of the urban identity. Many squares are linked with historical aspects of the city, as they are built throughout the local history. In many historical cities, one square could serve as a symbol of the town, region or even the nation, which greatly helps the area to identify itself. Due to the historical aspect of the square, there are dangers when attempting to transfer the design concepts from one area to another, because different history could form different culture in different regions (Moughtin, 1992).

2.2.4.2 Elements of Local Identity

Local identity has then been discussed from physical, historical, social and aesthetical aspects (Oktay, 2005). Among the local identity contents, the physical form of the local environment played an important role. It is not only the physical appearance of the site, but also the sensory experience, for example, sounds and smells (Manley and Guise, 1998).

Another aspect of the definition of "local" is to have shared characteristics within one community. The identity of a place and its relationship with the community matters, because it is a direct expression of the community and also a part of the community's sense of belonging in which the buildings respond to their physical and psychological needs. The way a community can be identified through its identity can be found in its history, the way the identity is seen every day or the special aspects about the community life. Because healthy and happy people who live in a desirable environment are more likely to contribute to their community, it is necessary for a healthy environment to delight and uplift the spirit of the people by improving the local identity (Barton et al, 2003, Sassi, 2006).

Nature also makes a difference in the city. Marcus and Sarkissian (1986) and Berglund (1998) have carried out research on natural elements in support of the development of community's cultural creation. As culture is developed during the continuous interaction between place and residents, the identity is not only expected to become the local culture's creation but also the aesthetic product from the natural resource. As Berglund (1998) emphasised "old trees, old houses, and old places, urban places as well as parks are all symbols of survival. They remind us of those who lived before and those who will live after us".

In essence, local identity is identity that represents a small-scaled place, e.g. city quarter or street level, to provide residents with feelings of calm, safety and pride while they live at the place. It is the components that distinguish both the place and residents themselves to the other places and present a strong independent image for which people can develop strong identification and affection from.

2.2.5 Summary

For all the major identities: national, regional, urban or local identities are phenomena where people identify themselves with the social system of a certain scale of region with its people, culture, traditions, landscape, etc. The bigger the area represented on the map, the bigger the role of symbolic aspects of the environment. Hence, different transactions with places are subject to different cognitive and motivational consequences (Lewicka, 2008). From the definition of each identity, the boundaries between certain identities are often not very well identified, for example, the common attributions of national and regional identity are explicitly expressed: Both identities focus on an area from its historical, cultural aspect, and most importantly, they focus on the political and governance aspect. However, there are also absolute differences between the two.

Figure 5 shows the difference and relationships between these different levels of identities that are reviewed and discovered in this chapter: National identity focuses on the symbols of blood ties, races, language and regions, where the area or region is commonly identified as a country or a nation. Whereas the regional identity focuses more on the level of how people interact with their environment from a smaller scale compared to a country and people's lives in the same region tend to share a similar language and religion, a province for example. In spite of the forming process from a historical heritage point of view, regional identity focus on a more narrative range of people compared with national identity. Therefore regional identity is more subjective to the sub-regions that form the national identity.

The urban identity narrows the area down further from a regional level to a more specific city level. E.g., the city of Sheffield is an urban place in the region of Yorkshire. Urban identity focuses more on how local people interact and therefore forms its own identity, which then forms the regional identity. As regional identity could be vaguely defined, urban identity can be very specific in a city level.

Finally, local identity forms the urban identity, which acts as a basic principle for all three former identities. It focuses on people who participate in a very narrative scale of area, e.g. a neighborhood in a city. Such identity acts as the principle that constructs the urban identity. It focuses on how people, who live in their own community, interact with the local environment and further divides the urban identity into small sections, therefore making it easier to identify and evaluate. Local identity is the basic of all the other bigger scale identities. Although, arguably, a bigger level identity can more meaningfully represent a country or city, in modern globalisation, a change in a much smaller area would make the local region, even the country stand out from the crowd.

Hence, in the modern urban design process, developers and designers generally focus on local level design projects, e.g. city quarter's planning and design projects or streetscape design projects. A successful design would not only help to form and further develop the existing local identity but would also make it so important that the bigger region would recognise the identity as its own, for example, Big Ben is not only the symbol of Westminster but also of London and, more importantly, of the UK. Therefore, this research has decided to focus on the investigation on local identity due to its importance and major influence on modern urban design process.

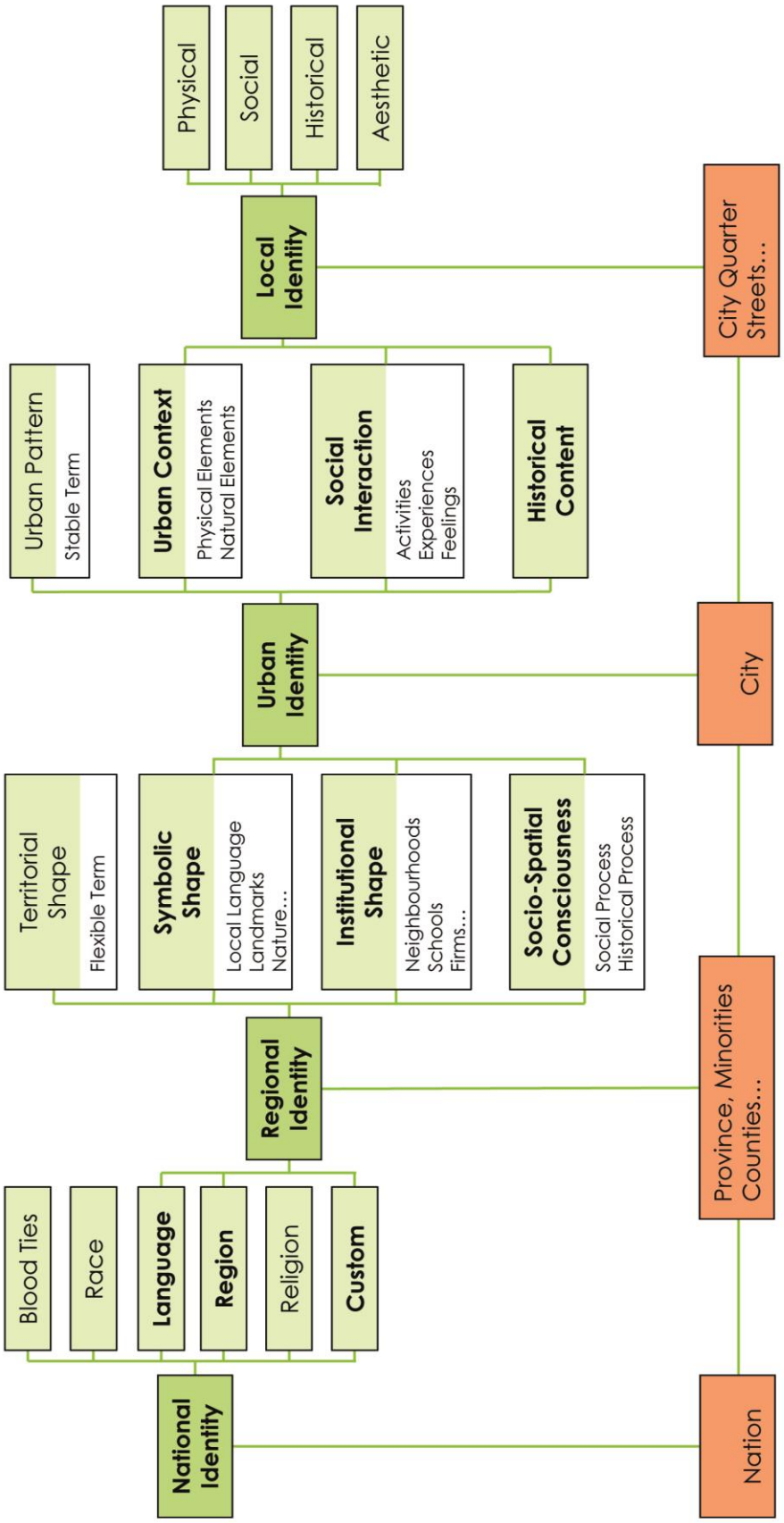


Figure 5 Different Levels of Identities in Landscape Study

2.3 Definitions of Local Identity

Even after the fundamental of local identity have been clarified, there is still confusion between other identity terms related to a similar scale e.g. street and city quarter level. In order to clear the confusion between different ideas related to local identity, relevant definitions of local identity and reviews of how they are related to local identity are needed. As described in Chapter 1, the definition of the term "local identity" has been ambiguous in the past; the lack of a formal definition makes it hard to recognise such an identity. However, other terms have been introduced that describe similar ideas of local identity, which focus on developing an identity that applies to a small-scaled place, for example a city quarter or a street. These identities all describe a subset or an aspect of local identity. Their content will be rigorously reviewed in this section of the chapter. The aim of reviewing these identities is to extract and analyse the common and distinctive features from each of them in order to evaluate and form a true definition of local identity, which will be defined explicitly in Section 2.5.

2.3.1 Place Identity and Place Attachment

2.3.1.1 Interpretation of Place Identity and Place Attachment

Places are formed by the physical form, activity and meaning (Montgomery, 1998). Among them, meaning is concerned as individuals own psychological and social processes that provide perception (Stokols and Shumaker, 1981, Stedman, 2002).

- **Place identity**
  Place identity was first mentioned by Proshansky (1978) as "those dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideals, beliefs, preferences, feelings, values, goals and behavioral tendencies and skills relevant to this environment". Lynch (1981) later defined the term as 'the extent to which a person can recognise or recall a place as being distinct from other places'. It leads to urban identity, which is tightly bound up with urban sustainability. McCarthy (1984) also suggests that place based meanings can be more effective than other identities as they are more stable than other environmental symbols. Place identity is an important factor to enhance the quality of urban life in cities that embrace environmental, economic and social aspects. It is developed when a place is viewed as a significant part of life by the residents and able to fulfill their behavioral goals better than any alternatives (Williams et al., 1992, Stedman, 2002). On the other hand, place identity is more than an attachment to a place; it influences an individual's personal identity, community identity and behaviors (Hallak et al., 2012). It is the connection between people and a collection of "memories, interpretations, ideas and related feelings about physical settings as well as types of settings" (Proshansky et al., 1983). Therefore local identity should have at least two aspects: continuity and uniqueness.

- **Place attachment**
  Place attachment was first introduced by Stokols and Shumaker (1981), and defined as an affective bond that people establish with specific areas where they prefer to remain and where they feel comfortable and safe (Hidalgo and Hernandez, 2001, Altman and Low, 1992, Manzo, 2003, Williams et al., 1992). The term has been commonly related to place identity (Proshansky et al., 1983), because it helps to tighten the behavioral relationships between people and their environment (Cuba and

Hummon, 1993). Various research has been carried out on place attachment (Bonaiuto et al., 1999, Félonneau, 2004, Kyle et al., 2004b, Shamai, 1991, Shamai and Ilatov, 2005, Williams and Roggenbuck, 1989). However, place attachment does not always focus on positive feelings, as it might also include negative feelings on the surroundings (Hernández et al., 2007, Manzo, 2003).

2.3.1.2 Aspects of Place Identity and Place Attachment

Although place identity and place attachment have been defined ambiguously, they both share common aspects that link them to each other. A considerable amount of research has proved the above two common aspects in detail from different ways: Proshansky (1978) has evaluated the place identity from three aspects: cognitive, affective and objective. The cognitive aspect focuses on the attributes of physical space, e.g. color, size, distance, and the conscious beliefs of how to use a particular place (Proshansky et al., 1983). The affective aspect emphasises the 'feelings and preferences' of a particular place, such as sight, smell or sound. Whereas the objective requirements concentrate on how one can use the functionality provided by the place identity. Scannell and Gifford (2010) have also declared that the strength of place attachment depends on their scale, size, physical and social characteristics.

- **Physical Appearance**
  The physical appearance of a local place plays an important role in influencing the place identity. The physical aspect of a place contributes to making it more comfortable to the users in terms of layout and functionality, which can be manually altered and can be identifiable (Lynch, 1960). Place identity helps people to orientate themselves and be influenced by paths, edges, districts, nodes and landmarks. Moreover, history is another important aspect of place identity (Lynch, 1972). Because not only fixtures of the local environment (bricks, steel, stone and so on) make a contrast and comparison to current times after a period of time, but also local culture and society change dramatically throughout history. Hull et al. (1994) have also used physical urban symbols in comparison with time to underline the physical aspect of place identity. Therefore, place identity stands out throughout time.

- **Individual Experiences and History**
  Besides individual experiences also have an effect on place identity such as memories, which play a crucial part in constructing place identity (Riley, 1992). Due to the effect of time, people living at one place are more interested in the place's past and in their own roots than people with less emotional bonds. Hence, this further proves that history is another aspect of place identity (Lewicka, 2005). Therefore, it is often observed that people who have lived longer in a place feel a greater attachment to it (Riger and Lavrakas, 1981, Taylor et al., 1984).

- **Functionality**
  In addition, a responsive place will have the ability to accommodate the diverse user's day-to-day activities (Jacobs, 1961, Montgomery, 1998). Diversity is a vital attribute in place identity that provides a degree of choice and the range of uses available to the residents (Bentley, 1985). The diverse functionality of the place makes users feel more comfortable. Such functionality is also a component of place identity, which includes environmental factors, physical, social and psychological comfort (Carr et al, 1992, Carmona et al, 2003).

- **User Interaction**
  Users are also a key attribute of the place. One of the factors that affects place identity is, of course, user interaction. There are researchers who define place identity as a component of place attachment based on the nature of interactions between residents and environment (Wester-Herber, 2004, Bernardo and Palma, 2005). In essence, a strong sense of place attachment could be influenced by racial, ethnic or class identity (Rose, 1995). Swanwick (1989) pointed out that the quality of landscape, such as how satisfied residents are, could be assessed via physical interaction between human and landscape. Additionally, culture can also influence the user interaction dramatically, which involves shared meanings related to the environment and activities associated with a place (Gustafson, 2001, Altman and Low, 1992) hence influencing place identity (Rapoport, 1977).

Although there are various definitions on how to define the concept of "place" and how it differs from the definition of "space" (Altman and Low, 1992, Relph, 1976, Tuan, 1977), a person may feel attached to places with very different features, but place attachment arises, among other variables, e.g. shared meanings and social belonging (Hay, 1998a). A large amount of research exists on how people interact with the environment (Kyle et al., 2004a, Hidalgo and Hernandez, 2001, Manzo, 2003, Shamai and Ilatov, 2005, Stedman, 2002, Patterson and Williams, 2005). Although they have defined the word in different ways from different aspects, they all have one aspect in common; that development of emotional bonds with places helps people to overcome identity crises and provide the sense of stability that people need in the ever-changing world (Rowles, 1990).

2.3.1.3 Relationship between Place Identity and Place Attachment

More recently, researchers have indicated that place attachment is a major contributor to the making of place identity (Ujang, 2012). Due to the features of place attachment it has been used as a measurement of place identity (Moore and Graefe, 1994). This follows the notion that place identity is not only influenced by the physical aspect but also emotional aspects of the experience. It is an important expression of relationships that gives meaning and purpose to life and indicates the sense of belonging (Shamai, 1991). Based on the same fact, there are researchers who have cast the place identity to be a component of personal identity, which develops according to the interaction between people and the environment (Wester-Herber, 2004, Bernardo and Palma, 2005). However, the definite separation between place attachment and place identity has been very vague. For example, Lalli (1992) suggests that place attachment is a component of place identity, whereas others have considered them as dimensions of sense of place (Hay, 1998b, Jorgensen and Stedman, 2006, Kyle et al., 2004a) proposed to see placed attachment as a multidimensional construct that incorporates factors of place identity. The relationships between place attachment and place identity can be concluded into five major types (Hernández et al., 2007):

- They can be considered as the same concept (Brown and Werner, 1985).
- Place attachment can be a component of place identity (Lalli, 1992).
- Place identity can be a component of place attachment (Kyle et al., 2004a).
- Both concepts are only dimensions of a supra ordered notion (Jorgensen and Stedman, 2001).
- Both concepts are dimensions of sense of place (Hay, 1998b, Jorgensen and Stedman, 2001, Jorgensen and Stedman, 2006)

Therefore it is easy to see that place attachment and place identity are two concepts that frequently overlap due to the samples used in most of the research (Hernández et al., 2007). However, the two terms share two common concepts: an affective dimension that is the emotional bond between people and place, and a cognitive dimension related to the physical space that influences people's lives (Rollero and De Piccoli, 2010).

In essence, place identity and place attachment are the physical environment that produce an emotional bond between people and place by influencing people's life through physical interaction.

2.3.2 Personal Identity

2.3.2.1 Interpretation of Personal Identity

Hume (1896) first introduced personal identity in philosophy back to the 17th century (Locke, 1975). Originally the term is related to how people recognise one another by their appearance, e.g. their physical appearance, their voices or how they behave. It is also recognised as a bond to personal history and experiences (Williams, 1973). For example, a person will be seen as having his own personal identity if he had a unique physical appearance; feels differently on the same subject; or behaves differently from other people due to his unique life experiences. In essence, it is how people recognise the world and makes each other unique through their interaction with the surrounding world from both a physical and spiritual aspect.

Later on, Proshansky (1978) further differentiated the personal identity in landscape study to how people "feel" about the surrounding environment through their feelings with the physical world and life experiences. Personal identity has been defined as personal feelings gained via interaction with the physical features of the place (Proshansky, 1978, Proshansky et al., 1983). Belk (1988) and Sack (1988) has described the personal identity as the roles people play; the groups to which they belong; the places they remember and so on. It represents the extent to which individuals believe the landscape informs their self-identity and also allows people to both personalise the environment to better suit their functional needs and allow the place identity to shift according to people's requirements (Proshansky et al., 1983). This is due to the fact that people's perception of their own environment influences their behaviors when facing demanding or challenging situations (Breakwell, 1992). As mentioned in the previous section, place attachment and place identity focuses on how people interact and feel on the local site (Hidalgo and Hernandez, 2001), hence it is not hard to see that people's identity is highly related to the physical environment and individuals often identify with places that reflect their own uniqueness (Kyle et al., 2004b).

2.3.2.2 Aspects of Personal Identity

Personal identity is the way people describe the place. A place is seen as integrated to one's personal identity as reflected in "I" and "me" statements regarding the place (Pretty et al., 2003). This is because the respect to the place is a clear indication that a person's personal identity has included the place. The major aspect of personal identity focuses on the personal feelings gained from two concepts:

- **The Five Senses of Human Nature** (Proshansky, 1978, Sickels, 1868).

- **Seeing:** The sense by which people distinguish objects via the physical observation through their eyes.
- **Hearing:** The sense by which people distinguish sounds, and are capable of enjoying or disliking the charms of the surrounding environment.
- **Smelling:** The sense by which people distinguish odors of the environment, the various kinds of which contribute to different impressions in their own consciousness.
- **Tasting:** The sense helps people to make a differentiation in the choice of local culture, which makes the local cuisine distinguishable from outside areas.
- **Feeling:** The ability that enables people to distinguish the different qualities of physical environment through physical contact, such as temperature, hardness and softness, roughness and smoothness, solidity, etc.

- **The Memory of Earlier Experiences** (Locke, 1975).
  Because personal identity focuses on feelings toward the physical environment from a personal level, another major feeling could be gained through the memory of their own experiences, which focus on the consciousness over a period of time. In this process, the surrounding environment has attached to the memory of the person. Therefore, when facing or feeling certain familiar environments, the environment would act as a trigger for people to recall their memories. These memories are also personal identities that distinguish people from each other due to the different memories each person has of the same physical environment.

Although personal identity is related to general place identity in the physical terms, which reflect citizens' unique experiences of the place in the particular environment as well as others living in their unique regions (Proshansky, 1978). Personal identity is also expressed by a complex pattern of beliefs, values, feelings, expectations, and preferences relevant to the physical world.

2.3.3 Culture Identity

2.3.3.1Interpretation of Cultural Identity

Oktay (1998) stated that to get familiar with a place not only requires walking through its squares and streets, but also engaging with its people. It is the culture that forms the local character and the identity. Krause (2001) also supported this point by introducing the idea that landscape does not only have spatial and structural characteristics, but also that cultural aesthetic expressions play an important role in landscape image and identity development. A city is within the integrity of the cultural meaning and significance of its region. The cultural integrity is influential in the development of the city; it is related to the historical events and it cannot be separated from its historical past. Based on this urban culture, cultural identity is created within the frame of urban life. Cultural identity is an undisturbed existential possession that is inherited from the past, and it is a benefit of traditional long dwelling of the community. It is a collective treasure of the local community and is normally expressed through physical and spiritual heritage, e.g. monuments, historical sites and local festivals.

2.3.3.2 Aspects of Cultural Identity

- **Heritage**

New Charter of Athens 1998 states that heritage is the key element to define culture, and culture is the character that expresses the wellbeing of city life and its special distinctiveness (Griffiths et al., 1998). The cultural identity is strongly related to people's personal identity; it makes citizens proud of their local heritage and identifies themselves with their towns. Cultural heritage also serves to develop a positive image to external people as a unique location factor in the global competition. Therefore cultural heritage is steadily gaining importance as a development asset through providing elements that give strength to a distinct urban identity, particularly in the context of globalisation, as it provides the feeling of home and to be recognised. Though globalisation has been judged as involving a general process of loss of cultural diversity, there are cases that a better cultural identity has been formed during the process. Because culture planning not only helps to encourage place marketing but also contributes to the sense of place (Murray, 2001). Therefore to get to know its cultural identity would be another premier goal when new design or planning works are proceeding.

Cultural identity is not an aggregation of personally perceived urban space qualities, but rather a human perception. The terminology can have both positive and negative experiences (Jorgensen and Stedman, 2006). As contributing to the urban space is an important indicator of the cultural identity, signs in the landmark, care for the local place, or local festival events could distinguish cultural identity, and often refer to historical events.

- **Memory**

  Throughout the historical time frame, culture has largely embedded into people's memory, therefore, memory plays an important role in the cultural identity. Not only the person-environment interaction contributes to the place bond, but also the memories of those experiences and memories of significant events, stories or people all contribute significantly to building the places identity (Rowles, 1983, Vorkinn and Riese, 2001, Mesch and Manor, 1998, Hidalgo and Hernandez, 2001).

  - **Place Memory**

    The term "place memory" refers to people's memories of the place content (Lewicka, 2008). Places absorb the history and memory through their architectural styles and monuments, etc. (Hayden, 1997). Although some of the architectural traces are made intentionally by people, e.g. historical monuments or streets named after famous people, but the majority is natural traces: architecture from different time periods, characterful public buildings, etc. These place memories either directly influence people's local memory by conveying historical information, or indirectly by attracting the attention of people to discover the place's forgotten history.

  - **Human Memory**

    Apart from place memory, human memories have been seen as the main force in the evolvement of cultural identity. Human memories are social memories; it is less a product of direct personal experiences and more of the interaction in social life (Paez et al., 1997). Hence there are auto-biographical memories (Halbwachs, 1925) and socio-biographical memories (Zerubavel, 2003). The former focuses on the memories from direct observation, and the latter is as known as "social memory", which is the memory shared by groups or societies. There is more research that focuses on the socio-biographical memory. It is concerned with the events that occurred during people's lives or that took place before they were

born, hence it is concerned also with a historical point of view (Connerton, 1989, Devine-Wright and Lyons, 1997, Fentress and Wickham, 1992, Paez et al., 1997). In addition, local memory lies in the depths of the psyche of each citizen, which has been absorbed into the subconscious by people who have shared the same cultural experiences (Nagashima, 2010).

However, autobiographical and socio-biographical memories still have certain analogies. In both cases, the memories are all created from strong emotional reactions to certain significant events (Pennebaker and Banasik, 1997), which happened during the identity formation process (Conway, 1997). Liu et al. (1999) carried out research in New Zealand and found out that memories of events that happened before the group settled down in a place are mentioned less frequently than the events that are a part of the group history, which further proves that social memories are more focused on the history which had direct interaction with the local people (Liu et al., 2009). Based on the above fact, it is shown that social memories tend to be biased as most historical reports are reinterpreted and filtered accordingly (Liu and Hilton, 2005). The process of filtering can be either explicitly blatant or through selectively forgetting some of the historical events (Baumeister and Hastings, 1997).

Moreover, social memory bias can be caused by ethnic bias. Lewicka (2008) introduced the ethnic bias in social memory. He mentioned that cities that have changed their state belonging have a natural bias in interpretation of city history with ethnic differences. The main bias is that a group can provide historical evidence to prove that they are the rightful owner of the place originally, regardless of whether the historical record is correct or not. Ethnic bias can be observed in one-sided history books, in removal of traces left by past residents (architectural ornaments, foreign monuments etc.), and finally in biased memories of present inhabitants. And in terms of generating accurate historical knowledge, it would be more appropriate to direct contacts with previous residents of the city who are witnesses to past events. However, newcomers to the place are more interested in finding out the local history than those who have roots at the place (Lewicka, 2005).

Based on the above literature, it is explicit that social memories are deeply embedded in local history, which contributes to the distinctiveness of the local place (Connerton, 1989, Conway, 1997, Devine-Wright and Lyons, 1997, Liu and Hilton, 2005). Different people, different ethnic or religious groups will also have different memories, even at the same place, and they all contribute to the place's distinctiveness and continuity in time. This characteristic of cultural identity explains and supports the term "diversity" that was mentioned in the section on place identity.

2.3.4 Community Identity

2.3.4.1 Interpretation of Community Identity

Community is described as "a set of people with various kinds of shared elements, which can vary from a situation such as living in a particular place, to other interests, beliefs or values" (Obst and White, 2005). Each community has their own characters, which leads to different landscape characteristics (James and Gittins, 2007). People develop relationships within a group and then use this relationship to distinguish

themselves from the outside world (Tajfel, 1978). Thompson and Travlou (2007) in their book "Open Space : People Space" provided empirical evidence of the benefits people could gain via interaction with local natural resources, but failed to provide sufficient findings to assess such interactions in practice.

Community identities are related to tangible environments, events, and history. It has been mentioned as a "sense of community" (McMillan and George, 1986) and more recently as "community identity" (Puddifoot, 1994). Smith et al. (2011) defined community identity as the beliefs about the extent that landscape contributes to local culture, character and identity. It is the environments and events that link the past with the present resulting in a felt sense of coherence (Cuba and Hummon, 1993, Linde, 1993). Besides, community identity contains both residents' perception of the physical distinctiveness and an evaluation of the quality of the community (Puddifoot, 1995). Swanwick (2009) also suggested that communities are formed via physical and social interaction between humans and landscapes, such society factor are one of the major factors that affect the preferences for land and landscapes. It attempts to gauge the contributions from the landscape to the local identity.

A number of studies have referred to the term "community identity" as the way citizens feel about their community, it is illustrated as the way people interact with their own communities (Lofland, 1991, Cuba and Hummon, 1993, McCool and Martin, 1994, Huang and Stewart, 1996, Woldoff, 2002, Brown et al., 2003). In many countries, the boundaries of urban areas are moving outwards due to the fast residential development of the local area. Communities once outside each other start to be combined to form a larger community; hence, different communities may have conflicts or struggle to adapt to newly acquired culture or identity from another community. For the same reason, conflicts among landscape change are often caused by inconsistent community identity (Bridger, 1996). Therefore, during community landscape changes, e.g. two communities merged together due to the development expansion, people only support changes that enhanced a sense of locality in which landscapes act as a connection between people and their environment (Stewart et al., 2004). Another general finding is that long-term residents in the community tend to have the highest indicators of attachment and identity (Kasarda and Janowitz, 1974, Sampson, 1988, Goudy, 1990, Rowles, 1990), which can be related to the history and memories of their life at the place (Rubinstein and Parmelee, 1992).

2.3.4.2 Aspects of Community Identity

- **Environments and Events**
  A growing area of study involves the investigation of local forces (environments and events) that influence people's views regarding their community (Chavis et al., 1986). As residents use the surrounding environments and events to link the past and present, they become emblematic of stories that residents use to explain their values. Hence, environments and events of community life have the potential to create and reinforce community identities (Stewart et al., 2004).

- **Heritage**
  Apart from environment and events, community identity is also a reflection of heritage, which is a major concern of the community's culture. In such sense, landscape features may improve in terms of newer buildings and infrastructure, but if the context of change is not linked to the core community values, e.g. the community

culture, such "enhancement" has a risk of destroying a sense of community identity (Stokowski, 1996).

Because of the dual interaction between people and the environment in a community, it provides the ability for people to change the community factors to enhance the community identity (Pretty et al., 2003).

2.3.5 Sense of Place

2.3.5.1 Interpretation of Sense of Place

Sense of place is one of many characteristics that developed through the interactions between people and local identity; it is a measure of the psychological comfort of people at a particular place. Altman and Low (1992) referenced the term as how people become emotionally involved in places in which they have a sense of belonging. It is also described as the distinctiveness that emerges from the particular histories or environment at the local place. It is not only an important factor concerning the modern landscape planning process that maintain and forms the community's special places but also a good estimator of how people will interact with the surrounding environment (Kaltenborn and Bjerke, 2002).

Sense of place has been favored as a useful tool when examining concepts such as place preferences, landscape and natural meanings, and culture in terms of resource use. In particular the concept provides a way to examine the social and cultural influence on landscape valuation (Cheng et al., 2003, Kruger and Jakes, 2003, Patterson and Williams, 2005). It is a multidimensional construct representing beliefs, emotions and behavioral commitments concerning a particular geographic setting (Jorgensen and Stedman, 2006). The sense of place has been viewed as a concept of place identity, incorporated with place attachment (Proshansky et al., 1983), which refers to connections based on activities that take place in a setting, reflecting the importance of a place in providing support to people's needs, it is usually associated with people's self-fulfillment through place experiences (Schreyer et al., 1981). The term also indicates that residents who have lived longer in a place are more likely to have developed significant relationships with other residents as well as the surrounding environment (Lalli, 1992).

Relationships between people and places are also being studied as a "dynamic" process throughout human history and looking into the future (Manzo, 2003, Butz and Eyles, 1997, Kruger and Shannon, 2000). For landscape designers, it is important to understand how a sense of place is formed and maintained. Although the term "special place" normally refers to smaller-scale sites, it is the place where people and communities have forged strong attachments (Brown and Raymond, 2007, Bricker and Kerstetter, 2002, Eisenhauer et al, 2000). Hence, in addition to the general attention that people and communities establish with their local area, the concept of sense of place helps the designers to pay attention to certain specific sites where attachments to place are particularly strong.

2.3.5.2 Factors of Sense of Place

Sense of place has four distinctive factors: continuity, distinctiveness, self-esteem and self-efficacy; a robust sense of place helps people to integrate their surrounding environment, attracts newcomers and makes people feel proud to live there(Twigger-Ross and Uzzell, 1996). A vast amount of research has been carried out on interoperating the factors that contribute to the sense of place:

- Physical appearance and human perception (Dale et al., 2008, Stedman, 2003a, Shamai, 1991, Vogt and Marans, 2004).
- Geographical characteristics (Brown et al., 2002, Norton and Hannon, 1997).
- Residence history (Relph, 1976, Tuan, 1977).
- Individual's preferences (Hidalgo and Hernandez, 2001).
- Activities carried out at the place (Eisenhauer et al, 2000).
- Environmental relationship with the residents (Vorkinn and Riese, 2001, Kaltenborn and Bjerke, 2002).

Jorgensen and Stedman (2006) established the physical and environmental attributes of sense of place and more recent research has tried to find out how much sense of place is determined by physical characteristics and how much is associated with social activities (Raymond et al., 2010, Soini, 2001). In physical attributes, physical characteristics, such as property architecture, exerted direct effects on sense of place to the local people as well as indirect effects via symbolic place meanings. However, it is arguable that the physical attributes both restricts and directs the way that sense of place is developed (Dale et al., 2008).

Sense of place is expected to embed with people and nature, thereby contributing to the aesthetic quality of the landscape (Cross et al., 2011, Kaltenborn, 1998, Stefanovic, 1998, Walker and Ryan, 2008, Stedman, 2003b). By combining the physical attributes, they form the overall environment. The Environmental attributes are mainly concerned as a factor that can influence people's relationship with the place (Vorkinn and Riese, 2001, Stedman, 2003a). For example, in Stedman (2003b) research, the Norwegian participants' attitude toward hydropower development plans in Norway was significantly affected by the environmental impact on the local environment. Hence, it positively influences the sense of place.

However, while existing research has devoted extensive efforts to work on the sense of place at different geographical scales, the connections between the dimension of different geographical scales and sense of place is not been investigated thoroughly. Sense of place should be considered with a multi-scalar character of the construction of sense of place, because the interaction between different geographical places can also influence one's sense of place (Qian et al., 2011). The best example is university students' place attachment to the university campus can be escalated to the love of the city where the university is based, the same idea has been verified by Tuan (1974) on the story of the survival of Heidelberg during the Second World War.

On a personal level, human preference for nature is linked by how their needs are satiated (Kaplan and Kaplan, 1989). The desire of human attachment to the local place is subject to how local natural environment can meet their specific needs. And natural sources offer a variety of psychological, social, and physiological benefits to humans, which tighten the bond between people and the environment.

Apart from the physical aspect, sense of place is not only an interaction between people and the geographic characteristics, but also dynamic contexts of social

interaction and memory with surrounding natural resources (Stokowski, 2002). Although natural resource is a traditional source for understanding sense of place, the paradigm places would have greater emphasis on the interaction with subjective, emotional and symbolic natural places and personal bonds (Williams and Vaske, 2003).

It has been realised that sense of place is essential to human well-being and community identity, and loss of sense of place has become an increasingly serious problem around the world (Altman and Low, 1992). Hence, it is the key for understanding, maintaining and planning for the reestablishment of the local place.

2.3.6 Landscape Identity

2.3.6.1 Interpretation of Landscape Identity

There has been a considerable amount of research studies that are focused on landscape identity (Brace, 1999, Breakwell, 1986, Cuba and Hummon, 1993, Devine-Wright and Lyons, 1997, Haartsen et al., 2000, Korpela, 1989, Jorgensen et al., 2007), however, there has not been a solid definition on the concept whereas the concept has been widely used. The concept has been discussed in various forms, e.g. region's character or landscape character.

Turner (2006) defined the landscape identity as "a form of active material culture that has both shaped people and has been shaped by them". There are also multiple researches that put the identity as an interaction between the physical world and people (Korpela, 1989, O'Brien, 2006, Proshansky et al., 1983). Until recent years, Stobbelaar and Pedroli (2011) re-organised past research and defined the idea to be "the perceived uniqueness of a place" as a working definition. They also emphasised that the definition cannot be absolute as perceptions of different people do not coincide and the concept is rather a dynamic process.

Landscape identity is a social and personal construction in which the physical features of the area are components in the construction process (Haartsen et al., 2000). There are also different scale landscape identities such as place, region, county or country, whereby larger scales contain smaller ones (Stobbelaar and Hendriks, 2004). Due to the fact that people contribute to landscape identities from social and cultural aspects, landscape identity has been seen to unite inhabitants to each other and also distinguish them from other areas (Haartsen et al., 2000). Landscape is also considered from the past to the future, history and future considerations also played an important role in defining the landscape identity. Due to differing opinions on the history and future, different people will have different opinions of the same landscape identity, hence the identity is sometimes contested (Darby, 2000, Frouws, 1998, Saugeres, 2002).

2.3.6.2 Factors of Landscape Identity

Stobbelaar and Pedroli (2011) have identified four major identities that contribute to the landscape identity: Existential Identity, Spatial Identity, Personal Identity and Cultural Identity.

- **Existential Identity**

Existential Identity is defined as the interaction between human and physical environment (Gualtieri, 1983, Mansvelt and Pedroli, 2003) which they declare also be known as "place identity" (we have discussed this in great detail in Section 2.3.1 (Place Identity and Place Attachment). The context of existential identity is not only considered as the feature from physical environment but also the associations, memories and symbolic meanings attached to the physical world. It is considered as an inherent quality of the landscape as perceived by people (Schama, 1995, Setten, 2004, Olwig, 2002). The main focus of existential identity is how people absorb the physical aspect of local environment.

- **Spatial Identity**
  Spatial Identity focuses on how people ascribe identity to their environment, in other words people can merge into the landscape, dwelling in it, and existentially perceiving its inheritance. The identity is based on forms, patterns and elements, features by which people recognise landscapes (Stobbelaar and Hendriks, 2004). The identity is not only known as spatial identity, but also landscape character (Antrop, 1998, Wascher, 2005) or just landscape identity (Palmera and Lankhorstb, 1998). On the spatial scale, spatial identity has been partitioned into place identity and regional identity level (Mucher and Wascher, 2007), with place identity referring to a smaller scale in the landscape, particularly to striking, unique or historical objects that attracts people's attention. For example, church towers, farms, rivers, etc., add regional identity to a larger scale that is more attached to geographical, natural and cultural heritage.

- **Personal Identity and Cultural Identity**
  Personal Identity and Cultural Identity have been discussed in great detail in the previous sub-sections. The main difference between the two is that personal identity focuses on the perception an individual has in relation to the experience at the place, whereas cultural identity emphasises the human consensus about the stories at certain landscape (Quayle and Lieck, 1997, Dixon and Durrheim, 2000, Buijs et al., 2006, Jacobs, 2006).

One of the important aspects of landscape identity is that it provides insight into the interaction between people and the place from different dimensions.

2.3.7 Common Factors and Relations between Different Identities

From the above literature review on relevant identities to local identity, local identity can be summarised as a distinct, recognisable and consistent pattern of elements in the small-scaled place, e.g. a city street that is distinguishable from another. Each different identity is inter-related with another, and together, they form a systematic circulation that explains the entire structure of local identity as shown in Figure 6.

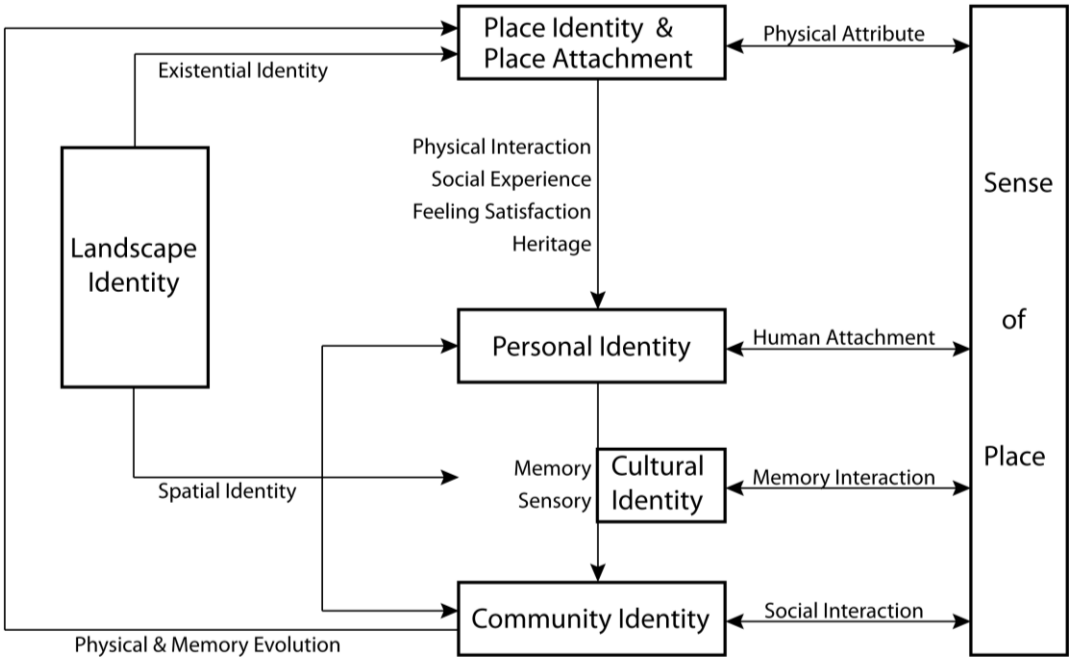


Figure 6 Relationship between Different Identities

To explain, landscape identity is the overall general term that includes all other identities as its sub-identities, and it has different levels of identities such as regional level and local level. Such levels are explained in section 2.2. All our literature is focused on the local level of the landscape identity.

At a local level, Place Identity/Attachment is the identity that focuses on more fundamental issues, such as physical interaction, social experiences, residents' feelings of satisfaction and historical heritage. With these aspects together, they influence personal identity, which also concerns the interaction of people and the environment but more importantly emphasises how people "feel" about the local area, and can be affected by both sensory and memory aspects of experience of the local place.
Because cultural identity focuses on the historical heritage effect of the local area in people's memory it has an interaction with the memory aspect of personal identity. Together with personal identity, they would help to form a "community" and the community identity. Besides, personal and cultural identity will not only form the community identity, but also help to evolve community identity.

During the process of the evolution of community identity, both physical and memory will be improved to better satisfy people's needs and preference, hence a better interaction across all aspects between physical environment and people will be established, thus improving place identity/attachment. In such a way, a systematic circulation is formed.

Besides the circulation system between place, personal, culture and community identities, sense of place acts as a guideline to affect and absorb from each of the identities in the circulation. Its physical attributes will be interacting with place identity; human attachment attributes will interact with personal identity; memory interaction with cultural identity; social interaction will co-operate with community identity. Each link acts as a bridge that incorporates the two sides. Similarly, landscape identity will also interact with place identity via its existential identity, and its spatial identity interacts with the other three identities through its sub-divisions. The idea of interaction between human, place and space from different perspectives to derive a better quality of living environment was also mentioned by Thwaites and Simkins (2007). In their book

"Experiential Landscape", they suggested a deeper understanding of interaction between human and environment from multiple dimensions can ultimately feed in to the dynamic change of the evolvement of local uniqueness.

Overall we have formed the relationship between different identities. Another interesting fact this system shows is that among all the effective factors / components on the body of the arrows can all be summarised into four aspects: physical, social, sensory and memory, which are the conceptual framework of local identity (Figure 7):

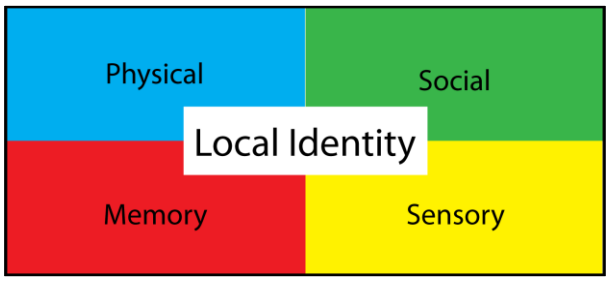


Figure 7 Aspects of Local Identity

- **Physical Aspect:**
  - Existential Identity (mentioned in Landscape Identity);
  - Physical Interaction (mentioned in Place Identity and Place Attachment);
  - Physical Attribute (mentioned in Sense of Place)

- **Social Aspect:**
  - Spatial Identity (mentioned in Landscape Identity);
  - Social Experience (mentioned in Place Identity and Place Attachment);
  - Social Interaction (mentioned in Sense of Place);
  - Community Identity

- **Sensory Aspect:**
  - Spatial Identity (mentioned in Landscape Identity);
  - Sensory (mentioned in Personal Identity);
  - Feeling Satisfaction (mentioned in Place Identity and Place Attachment);
  - Human Attachment (mentioned in Sense of Place)

- **Memory Aspect:**
  - Spatial Identity (mentioned in Landscape Identity);
  - Heritage (mentioned in Place Identity and Place Attachment);
  - Memory (mentioned in Personal Identity);
  - Cultural Identity; Memory Interaction (mentioned in Sense of Place)

Despite the development above conceptual framework, it is still essential to understand the logic of how each component from the different identities, above related to the four aspects of local identity, because such components form the conceptual framework of local identity.

2.4 Aspects of Local Identity

From the review of relevant literature on local identity, it can be explicitly seen that all different aspects relate back to four major concepts namely: "Place Identity / Attachment", "Personal Identity", "Cultural Identity" and "Community Identity".

However, despite the common concept of the four terms, it would still be ambiguous to use such terms to identify different concepts in local identity. Therefore a more explicit term to categorise the four concepts is needed to better describe different aspects that contribute to local identity.

As summarised at the end of the last section, local identity is the identity that repreaents a small-scale place, e.g. city quarter or city street level, to provide residents with feelings of calm, safe and pride whilst they live at the place. It is the components that distinguish both the place and residents themselves to the other places and present a strong independent image from which people can develop strong identification and affection.

The subdivision of the broad range of meanings encompasses local identity into different fields of connotation. Research approaches generally describe what the corresponding identity is that they are investigating, the relevant components contributing to such identity, and an outlay of the general term—"Identity", yet a concrete definition for the term "Identity" itself is lacking.

The development of the concept of local identity is dynamic and ongoing in many different aspects following a circular system, as we have seen in the previous sections. Within these aspects, the debate can be found to progress in many different ways. Reviewing the relevant definitions of local identity, it is not hard to see that there has been a remarkable amount of research focusing on the concept of place identity, although some of them regard the term as "existential identity", and the concept has been continuously a subject of discussion for the relationship between people and the physical environment, whereas the concept of social activity, sensory and memory are rarely mentioned or are often taken for granted. These aspects all play an important role that makes one place dissimilar to another. However, most studies are oriented toward implementing these factors rather than discussing them. The factors have been building into different definitions of local identity, but are yet to be formally discussed.

Therefore it is essential to reorganise all the different definitions that are related to local identity, and subtract their common factors and collateralise these factors in to four major aspects, as named above.

2.4.1 Physical Aspect of Local Identity

Although there has been much debate on the difference between place identity, sense of place and landscape identity, they all focus on one major concept: the interaction between humans and the physical environment, from both a physical observation and a spiritual feeling aspect. In all of the relevant identities, major literatures have all mentioned the concept of "physical environment has a large influence on local people's feelings and how they view their identity to the place". Therefore it is obvious that physical aspect is truly a major aspect in local identity.

- **In Place Identity and Place Attachment**
  In place identity and place attachment, it has been proved that physical environment is one of the two main influencing factors to the people's attachment to the place. Lynch (1960) even defined the physical aspect as fundamental to making places comfortable to the users that construct the place identity. As people's daily activities allow large amount of time to interact with the local environment, it absorbs people's attention and makes them feel comfortable by continuously meeting their needs,

hence, developing emotional bonds with people to provide a sense of stability. The physical settings in place identity have been mentioned in great detail in all the foundational literature in the place identity research. Despite concentrating on resident's feelings about place attachment, which has been cast as a subdivision that contributes to place identity, the physical aspect has also been mentioned as one of the main factors as places are formed by the physical form and the activity needs to be carried out at the physical place that contributes to the people's attachment to the place. The cultural characteristics in place identity are based on the physical site as well. It was defined as the perceptions of individual's functional needs from the physical environment.

- **In Personal Identity and Cultural Identity**
  Personal identity and cultural identity are both emphasised on the resident's feelings throughout their life, however, the identity is usually formed by physical and natural elements in particular the environment created over generations proving that the physical aspect is also a reflection of the history at a local place. E.g. the architecture inherits its aesthetic looks from the local history.

- **In Community Identity**
  In spite of the concentration on social activity in community identity, it is mentioned that all the activities are carried out at the physical site, and how the site physically satiates residents' activity needs played a fundamental role in building the community identity.

- **In Sense of Place**
  Regardless of the difference between sense of place and place identity, sense of place provides a measurement of the psychological comfort of people on a particular local place. It is a reference of how people become emotionally involved in places they have a sense of belonging to. The physical aspect as well as the other identities largely influences theses senses. It has been established that physical attributes both restrict and direct the way sense of place is formed. It has also been considered as the factor that influences people's relationships with the place.

- **In Landscape Identity**
  The existential identity in landscape identity purely focuses on the interaction between human and local physical environment and such identity is one of the two factors that forms landscape identity. Although physical environment is only a part of the major factors contributing to existential identity, the main focus of existential identity is still on how people absorb and get satisfaction from the physical aspect of local environment.

Therefore, it is clearly seen that the physical aspect is a vital part in the formation of local identity; it is fundamental to all the other identities. By introducing the word "physical aspect" to local identity, it does not only point to the surrounding geographical environment, but also to the way the place is formed, the style of architecture at the local place and all the other tangible physical features that are visible at the local landscape. The main elements of physical aspects are architecture environment and landscape environment. Architectural elements have played a key role in shaping the local identity of the place, for example, housing types, settlement patterns, colors, materials and structures etc. Landscape elements are also important when forming local identity, such as, topography, green infrastructure, landmarks and waterscape etc. (Figure 8).

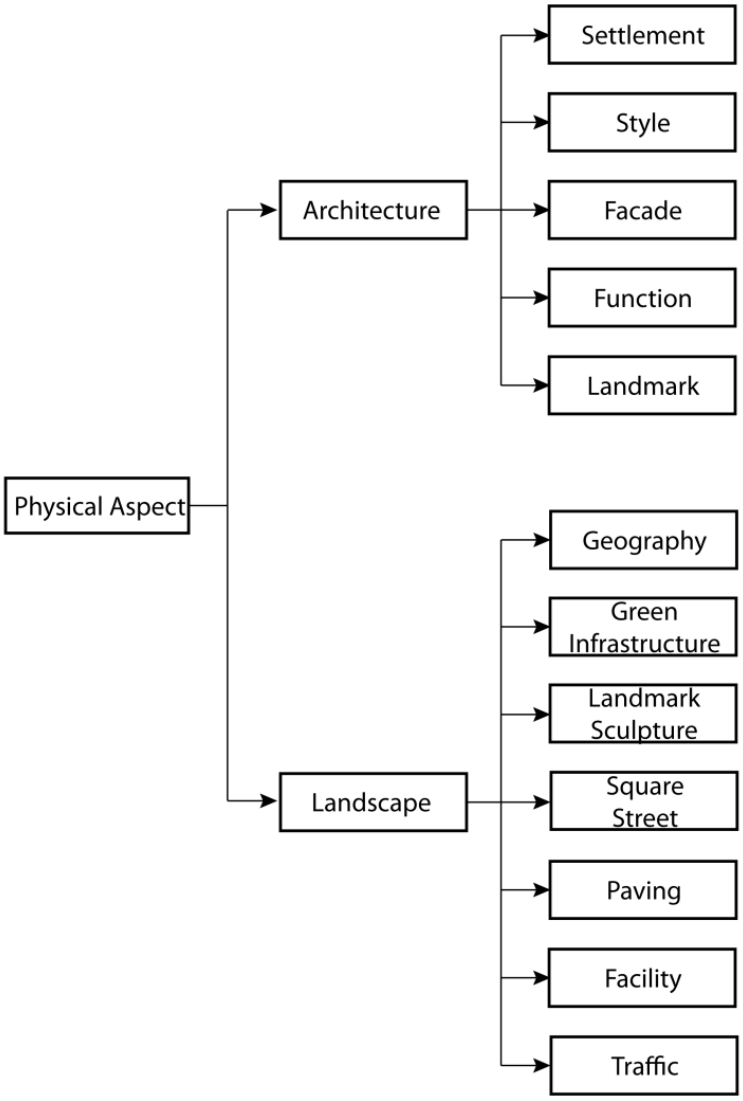


Figure 8 Physical Aspects of Local Identity

2.4.2 Social Aspect of Local Identity

Users are the key attribute of urban places. Although each landscape could have its own physical uniqueness, without users who see and use the identity, the term "local identity" would lose its meaning. Tajfel (1978) established the importance of social activity in identifying local communities as early as 1978. It has then been seen as relationships that people developed with tangible environments, events and history surrounding their day-to-day life. In all the major literature on local identity, the authors all mentioned that local identity is not only about how physical environment contributes to the people but also how people contribute to the environment to make the place more attractive and distinguished to the outside world, from the latter prospective, social activity has been seen as an important way in which local people interact with their place to make it unique (Lynch, 1960, Altman and Low, 1992, Stedman, 2003a, Proshansky et al., 1983, Hidalgo and Hernandez, 2001, Stedman, 2002, Zube, 1991).

When people carry out their own social activities at the landscape, they are creating a unique identity for the landscape. For example, if a local festival was only carried out once a year at one place in a certain region, the festival itself would become the identification of the landscape; hence contributing to the local identity. Notting Hill

Carnival is a famous example of this. In the background of globalisation where major cities start to look alike, social activity becomes a main force that could distinguish different landscapes from one another, not only between different regions in macro level, but also between different areas in the same city.

- **In Community Identity and Personal Identity**
  Among all the different identities related to local identity, community identity and personal identity have explicitly discussed the importance of social activity in terms of forming the local identity.

  - **Community Identity**
    Community has been seen as the meaning that represent beliefs on one's social groups, it gauges the contributions from landscape to local identity, and also emphasised that due to people's activity at the local area, the activities start to form a unique community where people share representative elements, interests and beliefs. Social activity is a reflection of how people feel about their community; it is illustrated as the way people interact with their own community. An important discussion in community identity is when urban areas expand outwards due to the development at the local area, there were often conflicts between different communities at the boundaries of the area (Bridger, 1996). The reason for this is that different communities would have different social activities and different thoughts, and they often struggle to adapt to each other when their communities are merged into one. Such conflict also emphasises how important social activities are in terms of forming the local identity. The social activities contribute to local identity in a way that influences people's attachment to their own land in a tangible way. As people carry out their common activities frequently at the local site, they attach their feelings, when carrying out the activity, to the site.

  - **Personal Identity**
    Despite focusing on how social activities influence the local identity from a group level, personal identity concentrates on the aspect from an individual point of view. Proshansky et al. (1983) in his literature has emphasised that how people interact and feel about the local site plays an important role when forming their self-identity with their local environment. Local identity could be built into people's life from their day-to-day social activities. As residents interact with the area, they are not only feeling the area but also personalising the environment to better suit their functional needs. Hence, social activity is not only about how people interact with local place and form the local identity, but also helps to form a local identity that better suits their functional needs while making their place unique (Proshansky et al., 1983).

- **In Place Identity and Place Attachment**
  In place identity, social bonds were shown to be stronger in place identity, which highlights the importance of social environment in local identity (Hidalgo and Hernandez, 2001). In the place identity and attachment section, the term place attachment is seen as an important aspect of the identity, which concentrates on how local residents' psychological and social processes then provide perception to them. The reason place attachment has been seen as a measurement of place identity was because place identity is not only influenced by the physical aspect but also emotional aspects of the experience that local citizens have (Williams et al., 1995). The main aspect of place attachment is how the local landscape fulfills the residents'

daily activity so that they feel more attached to the area. Proshansky et al. (1983) see the place attachment as an important expression of the relationship that provides meaning to life and indicates people's sense of belonging. In essence, when people carry out social activities, because the area provided what they needed, people will establish a bond with specific areas where they prefer to remain and feel comfortable and safe.

- **In Sense of Place and Landscape Identity**
  Sense of place and landscape identity also have similar aspects to place identity in terms of how social activities influence the local identity.

  - **Sense of Place**
    Although sense of place focuses on how the senses contribute to the local identity, Stedman pointed out that the senses are gained through the daily interactions between the residents and the environment. Therefore without social activities, there would be no interaction between the physical world and people, hence eliminating the sense that people would feel from the local area. Therefore sense of place has suggested that social activity plays a fundamental role in terms of forming the local identity from a user's perspective.

  - **Landscape Identity**
    Landscape identity has been defined as a social and personal construction in which the physical features of the area are components in the construction process. Therefore social activity plays an important role in forming the identity, and it is named as "existential identity" in landscape identity.

Therefore, in terms of forming local identity through human interaction with physical environment, social activity plays an important role as it not only helps to build the bond between residents and the local area but also helps the local place to integrate both to better suit people's functional needs and make the site unique to other places (Figure 9).

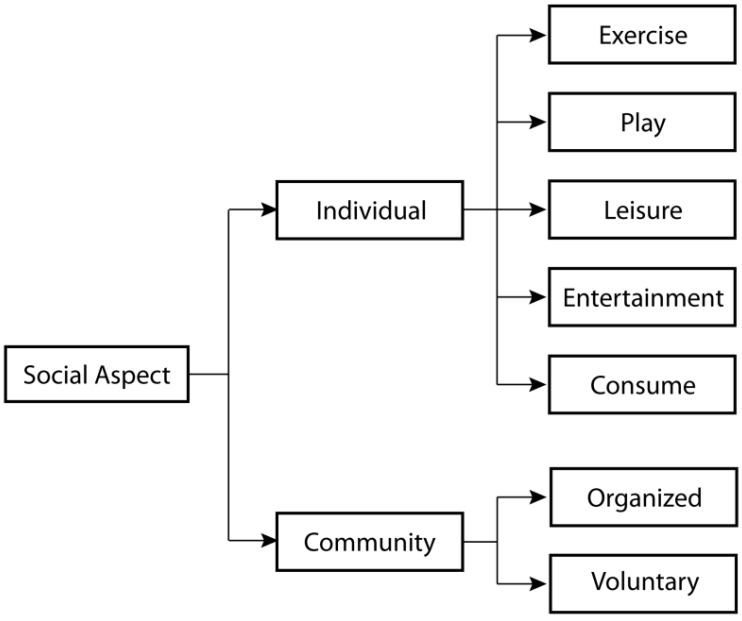


Figure 9 Social Aspects of Local Identity

2.4.3 Sensory Aspect of Local Identity

Places can be special to certain people because their biography is linked to these places (Korpela and Hartig, 1996, Pretty et al., 2003). Every human being has their own life experience in the past, composed the local landscape with their own personal meaning; in this research, this is referred to as sensory. The sensory significance of a landscape lies in the associations with the sites.

As users are a key attribute of urban places, local identity is not only about the uniqueness of the physical place and its functionality, but also the ability to provide psychological comfort (Jacobs, 1961, Carr et al, 1992, Carmona et al, 2003). Based on different experiences and habits, each individual user would feel differently regarding one place. They normally dramatically influence the interactions between the user and the environment.

- **In Place Identity and Place Attachment**
  Proshansky et al. (1983) cast place identity to three aspects: cognitive, affective and objective aspect. Among them, affective aspect focuses on the feelings and preferences that local residents have on the local area. As place identity focuses on the interaction between human and local environment, the feelings from the residents are seen as proof of how successfully the local place has become special/unique to the residents. Especially in place attachment, the term places emphasis on how one "feels" about a location. Because different people have different life experiences, they may have different feelings toward the same environment; the meanings of one site may vary from people to people. Therefore in terms of uniqueness, the same unique landscape may have different uniqueness to different people.

- **In Personal Identity**
  Personal identity has a major concern on how residents feel about the area in which they live, it is seen as a perception of one's own environment in their day-to-day life. Because personal identity is highly related to the physical environment and individuals feel when they interact with the environment both physically through natural sensory and from a memory aspect (Hidalgo and Hernandez, 2001). In this sense, one aspect of local identity would be how people physically feel about the site rather than its physical uniqueness, from the five basic human senses.

- **In Landscape Identity**
  Spatial identity in landscape identity also focuses on how people ascribe identity to the environment. It is people who use the land therefore it would also be people who decide if a place has its own uniqueness, and the way people decide such identity is normally through their direct feelings.

- **In Sense of Place**
  Sense of place is especially discovered in the research field to measure the psychological comfort of people on the place. Low & Altman explained the term as how people gained the sense of belonging through their interactions. Although there are conflicts between researchers on how to differentiate sense of place and place identity (Jorgensen and Stedman, 2006, Stokols and Shumaker, 1981), one aspect is certain that the sense of the local place is very important in the development of their own identity. In terms of identity development, a solid sense of a place helps people to integrate their surrounding environment, attract newcomers and make people feel proud to living at the place, hence, increasing the bond between residents and their

local area (Twigger-Ross and Uzzell, 1996). One important fact in their conclusion is that a good local identity will not only enhance the locals feeling to the area but also attract newcomers, a successful identity would provide identical feelings to all people with different backgrounds, hence, regardless of their cultural, habit or ethics, a good local identity would provide them with a feeling of comfort and satisfaction, hence attract them to either visit the place or live in the area.

Although many different identities have been defined for local identity that focuses on different aspects, it is clear that they all have one common aspect that is seen as an important factor in terms of forming local identity --- sensory. It is a feedback from both physical and spiritual interaction between humans and the environment, it provides a measure of how people attach to the area, and also an important foundation of how local identity evolves from time to time. Because local identity is also changing with the history development, sensory acts as a vital aspect that influences how people are changing the local identity and also how local identity adjusts itself to suit people's physical and psychological satisfaction (Figure 10).

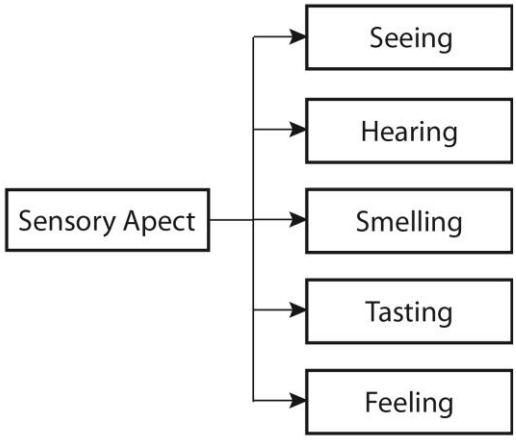


Figure 10 Sensory Aspects of Local Identity

2.4.4 Memory Aspect of Local Identity

The modern development of local identity focuses on the uniqueness of a micro area, such as a city or a district. Such an area is within the integrity of the cultural meanings as it is a product of residents' daily activities. An important part of an area is its inheritance from its past, which is a benefit of a traditional community having long dwelt there (Oktay, 2005). This is usually expressed through physical and spiritual heritage, historical sites and monuments for example. In principle, these tangible aspects are all a reflection of and extracted from people's memory.

- **In Cultural Identity**
  Cultural identity focuses on residents' memories in terms of forming a local identity. Historically, culture is the most efficient element that distinguishes different communities from one another. For example, in a macro level, western countries all have a completely different culture to eastern countries, not only from a historical point of view, but also their behavior and senses. It is the culture that forms the local architecture and identity which distinguishes the area (Oktay, 2005).

  Culture is a term that is largely embedded into and formed by people's memory. It has been cast into autobiographical memories (Halbwachs, 1925) and Socio-

biographical memories (Zerubavel, 2003), whereas the former focuses on the memories from direct observation and the latter focuses on the memories that are shared by the local society. The social memories contain history from before the residents were born. Hence through memory sharing, residents were able to absorb the history and form their own community through the interaction with the local environment. A vast amount of research suggested that culture influences how local uniqueness is formed e.g. architectural style or social activities, and culture is dramatically influenced by people's memories of significant experiences and events (Mesch and Manor, 1998, Hidalgo and Hernandez, 2001). Hence in essence, memory is acting as a principle of how culture influences the formation of local identity.

- **In Place Identity and Place Attachment**
  Memories are not only expressed in terms of the cultural or historical heritage, they are also expressed in other kinds of identities. In place identity, the aesthetics of local architecture are constructed from residents' memories. As different regions have their own history, residents tend to have different preferences in the style of their architecture. These styles are formed from the human memories that are inherited from local history, especially in place attachment, from the interactions between people and the environment, people are creating their own memory at the local site day by day. Hence gradually building up their bond, to a certain extent, one could judge that the bond in relation to residents and environment is built upon the memories that people have at the local site. Therefore memory plays an important role in creating place identity, especially for creating the feelings one could have to their local site. Hidalgo and Hernandez (2001) also point out that people who lived at the place for longer times expressed a deeper place attachment to the local site due to their unique memories and experience with the environment. Similarly, in sense of place, human memories help residents to gain a unique understanding of the environment as different people could have different memories of the same environment, hence influencing their sense of a specific place.

- **In Personal Identity and Community Identity**
  Proshansky (1978) indicates that personal identity focuses on unique experiences in a particular environment as well as others who live in their unique regions from the memories they have gained from living at the place. Similarly, community is created from a shared memory of a group of people while they lived at the same place for an amount of time. The general finding in community identity suggests that long-term residents in the community have the highest attachment to the place, which is related to the history and memories of their life there (Sampson, 1988, Goudy, 1990, Rowles, 1990). In addition, community identity is also a reflection of heritage, which is a major aspect of culture that is inherited from people's memory of the local sites (Stokowski, 1996).

- **In Landscape Identity**
  In Landscape identity, memory has contributed to both existential identity and spatial identity. In existential identity, it not only focuses on the feature from physical environmental interaction of the local residents, but also the memories locals gained from the interaction. The spatial identity focuses on the unique and historical objects that attract people's attention, and such unique objects are normally inherited from local residents' memories.

Although various literature has been discussed the bias in the social memories and people's personal memory, as they tend to be reinterpreted and filtered from history

(Liu et al., 2009, Liu and Hilton, 2005, Lewicka, 2008), the importance of memory in the local identity forming process is unshakable. It is clear that culture and history all remain in people's memory, and based on these factors each region will develop their uniqueness from both physical and spiritual (social and sensory) aspects. These aspects also play an important role in the forming of local identity (Figure 11).

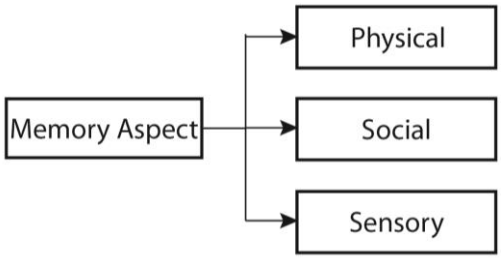


Figure 11 Memory Aspects of Local Identity

2.4.5 Interaction between Different Aspects

As the thesis has extracted and categorised different terminologies into four aspects, they are now all involved in the above four aspects, and a new conceptual framework is evolved by showing the interaction between each aspect. As the previous terminologies were interrelated, the new aspects would also have an influence on each other. From Figure 12, it can be seen that every aspect would either solely influence other aspects or affect other aspects in cooperation with another aspect.

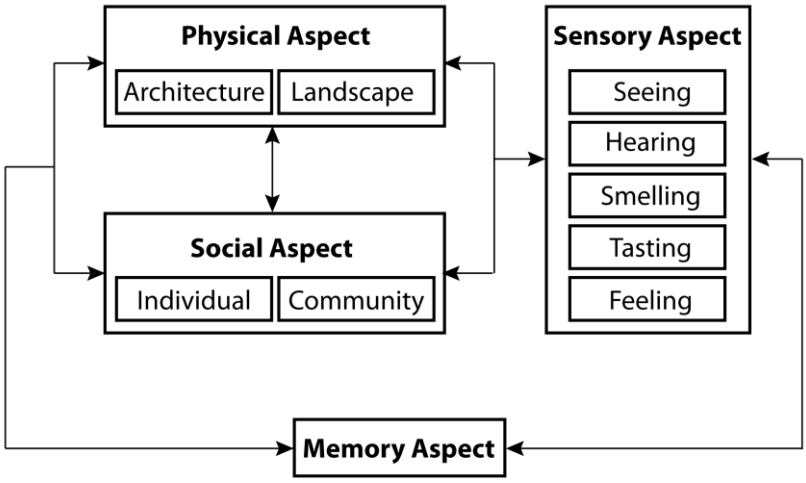


Figure 12 Conceptual Framework of Local Identity

- The physical aspect has a great impact on the social aspect due to human activity taking place at the site.
- Physical and social aspects can influence the sensory aspect due to the senses generated when activities are carried out at the physical site.
- Physical, social and sensory aspects work together to create the memory aspect throughout local history, this is because when local people carry out their daily activities at the local site, throughout time, it gives them a special sensory feeling and memories.
- Finally, people would tailor the place to better suit their daily activities or enhance the place to protect their precious sensory feelings and memory, therefore the physical aspect would evolve via the mutual effect of the other three aspects together.

Through this framework, local identity is formed and evolved throughout time from the interaction between its four aspects. Such findings reflect the original findings on the relevant literature on local identity, but from a more standardised and crystalised perspective. The way in which the local identity is formed, contributed and influenced is clearly expressed. More importantly it reflects the key nature of local identity --- its uniqueness is derived from people's daily interactions with the local place throughout time.

2.5 Summary

This chapter has outlined relevant concepts that are closely related to local identity and have influential meanings to the term, in both theoretical and practical notions. The chapter has also extracted the common factors from all these concepts in order to form a formal definition of local identity. All relevant concepts of different identities have been reviewed and unified into a conceptual framework that crystallises the inter-relationship of all different identities and discovered the true meaning of local identity. At the same time the framework developed in this chapter categorises relevant components into four identical aspects that form the local identity; each aspect has been rigorously reviewed in this chapter.

As a formal way to define and unify the meaning of local identity, the research proposes the below definition. However, due to the originality of this thesis, this definition can be viewed as provisional and has the potential to be further developed and refined. Subsequent research could further refine the definition, and make it more accurate and precise.

> **Local identity represents small-scale places, such as city quarters or street level, to provide features that create a recognisable image of the place and its residents to differentiate from other places. It provides special feelings through physical, social, sensory and memory perspectives; such feelings include both positive and negative emotions.**

With this clear definition, and the understanding of all the different aspects that contribute to local identity, it forms the basis for the development of the research methodology used in this thesis. They will be used as a guideline to identify and assess local identities. The definition will provide guidelines for the methodological identification process, and the conceptual framework provides the perspectives that the assessment process needs to concentrate on (the four aspects). For example: the method will identify the relevant factors that could represent the local site, and then assess such factors from the four different aspects that can represent the local site to its utmost, hence, increasing the efficiency and accuracy of the methodology developed by this thesis.

Chapter 3 Research Methodology Development

3.1 Introduction

This research has chosen qualitative research as the main methodology framework for the data gathering process and then quantified such data via an analytical system, which generates findings that are then qualitatively interpreted. The analytical system to interpret the data is discussed in detail in Chapter 5. Maxwell (1996) defined, below, the framework of qualitative research (Figure 13), and based on such framework, this research has the following structure (Figure 14).

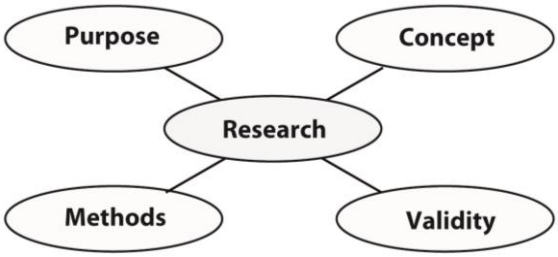


Figure 13 An Interactive Model for Research Design

Source: Joseph A. Maxwell, Designing a Qualitative Study, in Qualitative Research Design

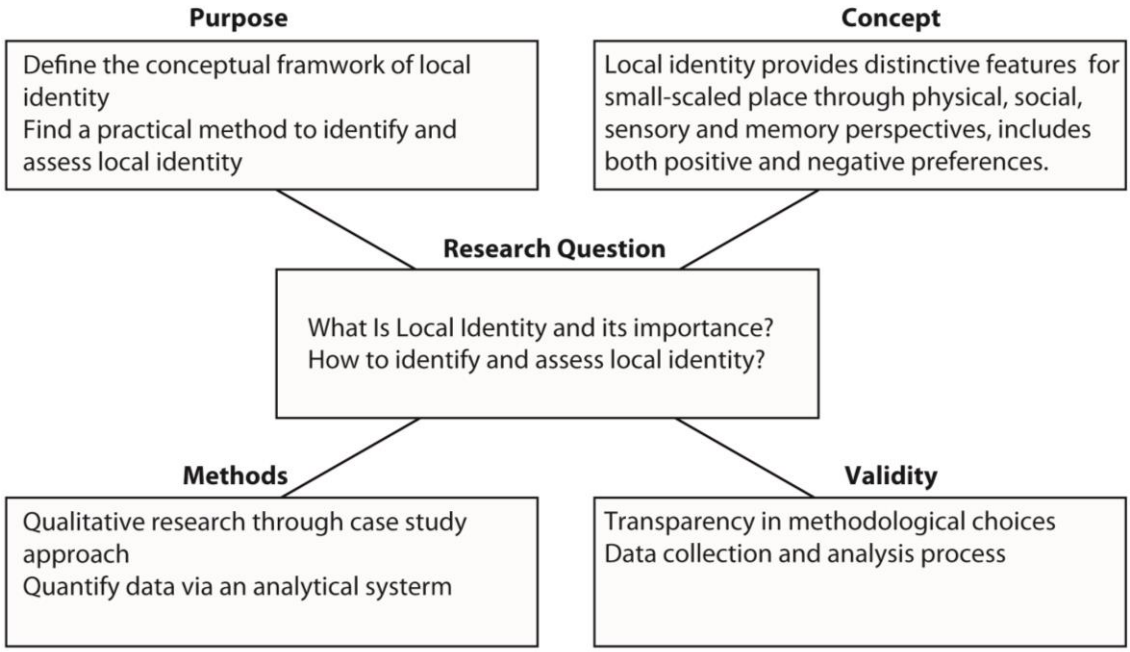


Figure 14 Research Design Framework of this Thesis

After the formal definition of local identity and its corresponding aspects and importance are understood, it comes to the thesis' second part --- How to identify and assess local identity. Therefore, this chapter aims to discover a valid methodology to determine local identity that could help practitioners and academics to identify and assess local identities, which allow them to apply the knowledge to practice. In spite of the current available research methodologies in landscape study, they all have their own limitations and drawbacks; besides, these methods are all fragmented, so they do not fully fit to the research aim. In order to achieve the research aim of developing a method

to identify and assess local identity these methods are re-invented and organised together to form the research method, which not only overcomes its own disadvantages but also combines them to make a workable method. Pilot studies are carried out to test the validity of the method before it is applied to the actual case study. This chapter contains the following sections:

- Section 3.2: Explain the logic of developing the research methodology process.
- Section 3.3: Review the literature on relevant methods that research methods are derived from.
- Section 3.4 & 3.5: Discusses the limitations current literatures have and propose ways to combat such limitations, which reorganise relevant methods and refine the final thesis methodology. Corresponding pilot studies are carried out to justify the validity of the methodology proposed in section 3.3.
- Section 3.6: Explain how the actual methodology will be conducted in practice.

3.2 Developing Research Method

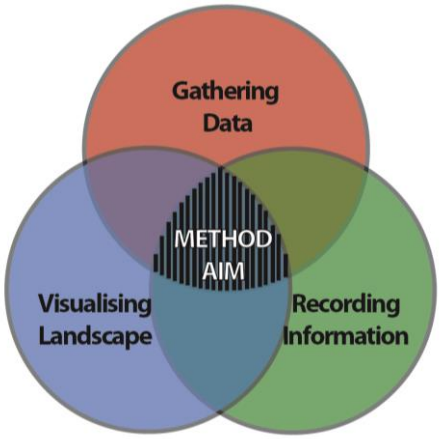


Figure 15 Research Methodology Aim: to sufficiently extract information from participants via landscape visualisation.

As finalised in Chapter 2, one of the principles of local identity is its focus on the interaction between people and the local environment. Therefore, it is essential to gather different people's opinions on the subject in order to identify local identity. Because the opinions are open ended and subject to participants' personal preferences, the goal can be best reached via an interview process in the qualitative research process (Collier, 1967). Using images in landscape research is commonly used to extract information form participants; this has been proven to be an efficient approach. Therefore, the research method is also going to focus on developing a new form of visual methodology to effectively gather accurate data from participants through recording information from the interview process and then focus on an analysis on the collective data (Figure 15). In order to achieve this aim, certain perspectives need to be considered.

3.2.1 Visual Method in Landscape Study

Using Images in landscape study was introduced decades ago. Linton (1968) used images to assess the quality of natural landscape as early as 1968. Then the use of photographs as proxies to simulate landscape has been further developed by various researchers since the 1970s (Shafer and Richards, 1974, Zube et al., 1974, Daniel and

Boster, 1976, Dunn, 1976, Shuttleworth, 1980, Nassauer, 1983, Zube et al., 1987) and there has also been extensive empirical studies using photo-realistic visualisation to represent the real environment in recent years e.g. (Bishop et al., 2001, Daniel and Meitner, 2001, Lange, 2001, Nakamae et al., 2001, Orlanda et al., 2001, Sheppard, 2001, Karjalainena and Tyrväinenb, 2002, Rohrmann and Bishop, 2002, Appleton and Lovett, 2003, Bishop and Rohrmann, 2003, Lim et al., 2006, Fujisaki et al., 2007, Williams et al., 2007, Ghadirian and Bishop, 2008).

It has been proven that using photography is a tool to generate judgments about the visual environments presented. Besides, a high correlation between photographs and landscapes has been found in other literature (Schroeder and Daniel, 1981, Kaplan and Kaplan, 1989, Roth, 2006, Walker and Ryan, 2008). Dunn (1976) introduced the use of photographs to assess people's preferences on landscape evolution in 1976. Later on, (Shafer Jr. and Brush, 1977) used the same technique to measure the preference for photographs of landscapes. And various researchers have used photographs as a media to reflect people's preference; assess local people's preference on the landscape or achieving other research aims in landscape (Correia, 1993, Scott and Canter, 1997, Arriaza et al., 2004). In these landscape research works, photos or images have been extensively used to either gather people's opinions on certain landscapes or simply be used by researchers to assess and compare between different landscapes.

Based on this fact, the research method is going to use the same intermediary --- photos to extract people's opinion and preference on local elements in order to identify local identity, and then use the data gathered to assess the quality of local identity. However, all past visual methods in landscape have their own drawbacks, e.g. their ability to mimic the true world through photos are not discussed and emphasised, and such ability has greatly limited participants choosing options that lead to biased data and results. Therefore, the research method will focus on developing a new form of visual method that could replicate the human vision to surrounding elements to the utmost which will help participants to identify the preferred or disliked elements effectively and accurately.

As well as using photos to help extract people's opinions, questions play an important role in terms of investigating people's thoughts on local elements (Zube et al., 1987), hence, the research method will use both photos and interview questions to gather and investigate participants' opinions on local identity.

3.2.2 Interview Questions

Questions were developed to participate in the interview process, the aim is to examine what the participants think about the elements of the local site and how they feel in relation to the local activities. More importantly, the questions are used as a tool by the researcher to guide the participants to reveal their feelings about the study site from physical, social, sensory and memory aspects, which have been proven to be the framework that constructs local identity. And the questions will be delivered on paper (Appendix) incorporate with oral format to enhance the participants' interaction to the interview process. Another aspect of the question is to not only to disclose the positive feelings of participants but also the negative feelings they have on the local site, this idea was mentioned in Chapter 2, local identity is not only about how each place makes its local residents proud but also the negative factors that makes the local site unique.

The questions for the four local identity aspects are:

1. **Physical Aspect:**
   Which elements in this scene do you think best represent the study area? Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

2. **Social Aspect:**
   Are there any important social activities in this scene? Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

3. **Sensory Aspect:**
   Which elements in this scene are important to your senses (such as seeing, listening, smelling, touching or tasting)? Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

4. **Memory Aspect:**
   Do you recall any distinctive memories for the study area? Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

The actual interview process will be open ended, using conversational approaches that allow participants to discuss the relevant topic. For example, if the participant says, "Sea makes me feel comfortable," then the interviewer will encourage the participants to reveal more information about what makes them feel comfortable. In other words, the elements that are identified by participants could be as simple as their playground, local cuisine, their church, or whatever elements were meaningful to them. Participants are not only encouraged to mention their positive feelings (of elements that the participant enjoys) but also their negative feelings (of elements that the participant dislikes) about the local site. It is not expected that the answers would be the same as other people's opinions. The questions focus on whatever is meaningful to the participants.

After the research format and interview questions are determined, it now comes to the stage of "participants' sampling". Participants sampling in qualitative research is vital in terms of generating reliable results (Trotter, 2012). Therefore the research needs to define the correct participant sampling groups and sizes.

3.2.3 Difference between Local and Nonlocal Participants Experiences

Due to globalisation, the opinions between residents from different cultural backgrounds become one of the major influencing factors in the world of landscape. As early as 1967, a study of adaptation levels in the Arctic used pairs of photo-slides to investigate native and nonnative preferences for places to live (Sonnenfeld, 1967). More recently, Lewicka (2011) and Lindberg and Veisten (2012) indicated that preferences may vary across locals and nonlocals. Therefore, this research has decided to examine the implications of preferences for participants with different backgrounds and experiences to the study site.

A major distinction is made between insiders and outsiders, due to the physical closeness of the place (Manzo, 2003), and also to make an understanding of what is meaningful to the research participant on a local site, it is necessary to become involved in their life, interact with them and interpret different participants' words and actions

under different environments, which further supports the fact that individual differences play an important role in local identity (Félonneau, 2004). Hummon (1990) found that residents are more likely to be attached to their own residential area regardless of the scale of the place. In the research of Casakin and Billig (2009), the culture of local people is influenced more by place attachment than from the scale of community and sense of place.

Nonlocal visitors and local residents may differ in their preferences, due to the level of their acceptability regarding the local environment (Durrant and Shumway, 2004, Kennedy et al., 2009). A person could be willing to live at a place but does not feel that this place is part of their identity; contrarily, residents could have a high personal identity with a place but prefer not to live there (Hernández et al., 2007). Therefore, long-term residents and nonlocal people may show different levels of commitment (Kelly and Hosking, 2008). Based on this reason, a proposed development may be seen as a local identity by nonlocal residents, but opposed by local residents due to their different preferences to the place. Canter and Monteiro (1993) showed how different people living in different regions process different views on the same object. Reicher et al. (1988) illustrated the same idea in terms of people's expression on the conceptualisation of nuclear power in different contexts. Therefore it is important to assess nonlocal preferences as individuals may have strong preferences at the national level, although locals may have deeper understanding of the local site (Rowles, 1983, Hay, 1998b, Pretty et al., 2003, Lindberg and Veisten, 2012). However, it is arguable that newcomers or tourists cannot share values of the real community as they did not contribute to the creation of the local identity and also due to the short time of residency, they have not developed an attachment to the place. They could potentially endanger the local identity by bringing in characters from newcomers (Stedman, 2006).

This research has selected local and nonlocal participants for the case study. Local residents are those who have always resided in the study site in their place of origin, and nonlocals with a moderate length of residence (they might just come to the study site for a day's visit or several days holiday). The main objective of selecting these two different groups is to find differences between local and nonlocal's point of view on the local identity, as various literature research has discussed that the preferences of both local residents and nonlocal visitors are important and sometimes these preferences may diverge due to different attitudes toward utilisation of natural resources, which, in part, is due to differing levels of acceptability regarding environmental impact (Lindberg and Veisten, 2012, Durrant and Shumway, 2004, Kennedy et al., 2009).

3.2.4 Difference between Onsite and Offsite Experiences

The reason this research has decided to conduct both onsite and offsite interviews is because it has been proven that people would feel differently when viewing the same landscape at different locations through different intermediaries. The importance of gathering both local and nonlocal participants' opinions on the same subject has been explained, hence it is equally important to understand how each group views the same landscape differently under different circumstances --- onsite and offsite.

In the methodologies that are developed by Deinet and Krisch (2006) who were seeking to assess the quality of social work, one of them is called "Walk Through" methodology, where participants are guided to walk around the study sites and asked questions or describe their feelings on particular objects and such opinions are registered for later investigation. They mentioned that due to the interactive nature of

the social site, certain subjective perspectives could only be "felt" when people are physically interacting with the site. Hence they proved that there are different feelings when people are actually in the environment or seeing the environment that is expressed via a third intermediary, such as the needle method also introduced by them.

Hull and Stewart (1992) did a comprehensive evaluation on the difference between onsite experience and offsite photo-based interviews on individuals' preferences on the study site. They evaluated the differences from three aspects: meaning, novelty and mood. The novelty, which means surprise and variety of the characteristics of environments, has also been verified to be more accurately captured from onsite experiences, whereas photos lack this ability (Wohlwill, 1976, Gustke and Hodgson, 1980, Ulrich, 1983,). And similar to Deinet and Krisch (2006)'s findings, Russell and Snodgrass (1987) and Hull (1990), also pointed out that a person's experiences of places is likely to be more salient during the interaction with physical environment than the feel of a person engaged in a passive photo-based landscape evaluation. Such difference on the interaction with physical places is important because the experience or feeling has been shown to significantly affect the person's evaluations of the surrounding environment (Gilligan and Bower, 1984).

Therefore it is clear that people feel differently about various aspects when they are on the actual site or not at the study site. In terms of local identity, this thesis focuses on finding certain local identities that could be identified regardless of whether they are at the study site. Taking the physical aspect of local identity as an example, when people see a picture of Big Ben or actually see the physical Big Ben onsite, they would all identify it as a representation of London, therefore such identity can be identified via being selected by both onsite and offsite interviewees. However, the sensory aspect would have certain drawbacks as it focuses on the physical feelings when people interact with the local site, hence it would be better identified via onsite interview. But this thesis has found that such limitations can be reduced by a deep local knowledge even in the offsite interview, the details of which will be discussed in Chapter 5.

As the viewers' opinions from onsite and offsite studies on the landscape could be different, it has a big impact on the valuation results. Hence carrying out interviews in both onsite and offsite locations would not only help to better assess the quality of the local identity elements, but also provides the ability to assess the uniqueness for each aspect of local identity.

After the above objectives of the research methodology are considered, it is clear how the methodology is going to work to gather data for later use to identify and assess local identity: The method needs to gather opinions from both local and nonlocal participants' on local elements under different circumstances (onsite and offsite) through a visualised interview process (Figure 16).

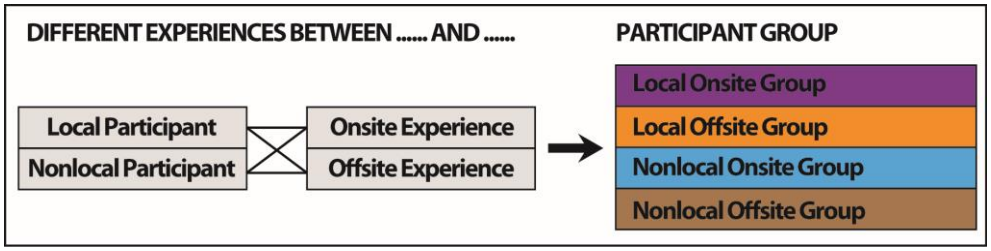


Figure 16 Participant Groups

3.3 Literature Review on Relevant Methods

Based on the research method's objectives described above, there is relevant literature about qualitative methods that are currently available in helping to reach the methodological development goal (Figure 17):

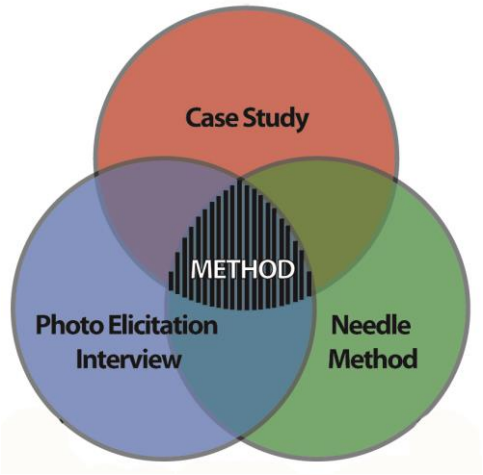


Figure 17 Relevant Research Methods

- **Case study:**
  Case study is one of several ways of doing social science research. It is used in many situations to contribute to our knowledge of individual, group, organisational, social, political, and related phenomena (Yin, 2003). Case study is commonly used in landscape research as an overall structure of examination process. It can be used to apply the methodology developed to real world in terms of gathering reliable data.

- **Photo Elicitation Interview:**
  Despite a formal and common term, using photos to visualise the study site in landscape research has been commonly used. Photo elicitation interview (PEI) has been formally defined in social science research as a process that uses photos to elicit participants' memories and feelings during the interview to extract more effective data (Collier, 1967, Harper, 2002). By conducting both onsite and offsite PEI with local and nonlocal participant groups, it would help to gather data for the local identity analysis.

- **Needle Method:**
  Needle method provides a way to mark and differentiate between elements on the same photograph or map. The method has been proven to indicate participants' preference on photos effectively (Deinet, 2009). This can be combined with the PEI process to help participants to identify the elements they have an opinion on.

3.3.1 Case Study Approach

The case study method has long been utilised in various professions and fields as an established method of education and research. Law, business, medicine, engineering, public policy, planning, art, and architecture have all used the case study method (Yin and Corporation, 1976, Yin, 1993). More recently, case study has been a common research strategy in psychology, sociology, political science, social work, business and community planning, engineering and landscape (Gilgun, 1994, Francis, 1999). In all of

these situations, the distinctive need for case study arises out of the desire to understand complex social practice; phenomena and it has been increasingly used as a research tool e.g., Hamel (1992) and Perry and Kraemer (1986).

3.3.1.1 Case Study Approach in Landscape

Case study approach has developed within the social sciences and is frequently used in landscape studies (Francis, 1999, Francis, 2001). It has a long and well-established history in landscape architecture. Francis (1999) mentioned that the case study method is a highly appropriate and valuable approach in landscape architecture. He also offers the following definition of a case study as one well suited for landscape architecture:

"A case study is a well-documented and systematic examination of the process, decision making and outcomes of a project that is undertaken for the purpose of informing future practice, policy, theory and/or education."

Other contemporary landscape architects have used case studies to develop and test their theories and design ideas. They include some of the most important landscape architects working today, including Peter Walker, Jan Gehl, Carl Steiniz, and Kevin Lynch, to name just a few. As the profession develops more of its own theory and knowledge and communicates this more broadly, the case study method promises to be an effective way to advance the profession.

3.3.1.2 The Value of Case Study

The value of case studies is their ability to "retain holistic and meaningful characteristics of real life situations" (Yin, 1994). Case study analysis is a particularly useful research method in professions such as landscape architecture, architecture, and planning where real world context tends to make more controlled empirical study difficult. Several valuable benefits of case study were identified by Francis (1999), especially for landscape architects. These are summarised in six general areas:

1. **Teaching:** Landscape architecture today is predominately taught by example. Case studies are an effective and established way to use examples in the classroom or studio.
2. **Research:** Landscape architectural researchers have utilized the case methods in post occupancy evaluations, landscape ecology, site technology and historical analysis. Many research theses and dissertations are excellent examples of case study analysis.
3. **Practice:** Case studies are a structured way of recording and record keeping for landscape architectural projects. They are also a useful way for practitioners to evaluate the success and failure of projects.
4. **Theory Building:** Case studies can be instrumental in developing new theory related to landscape architecture. They can help to develop models and theory of what makes a particular type of project or development work (Steinitz et al, 1994, Steinitz et al, 1996).
5. **Criticism**: Case studies are a useful way to develop criticism in landscape architecture. They can illuminate both the positive as well as the more negative aspects of projects.
6. **Communication and Outreach**: Case studies are an effective way to communicate the results of landscape architectural projects. They are particularly well suited for

reporting in the media and are easily understandable by the public. They can give visibility to the uniqueness of the profession and its many important contributions.

Based on the common case study procedure, the case study of this research will follow the below procedure:

- Prepare interview questions
- Selection study site
- Selection participants
- Prepare photographs
- Data collection via interviews
- Data formalisation (to formalise the data collected for comparison)
- Data evaluation
- Identification determination

The detail of each part of the procedure will be discussed in detail in the next chapter on Apply Research Methodology through Case Study.

3.3.2 Photo Elicitation Interview

Several researchers have offered various refinements of verbal interviews that focused on collecting sufficient data from the participants. For example, Zube et al. (1974) has proven how photos can be used in landscape research to extract people's opinions on the same landscape; Tammivaara and Enright (1986) and Rasmussen (2004), have called for placing interviews with children into their daily activities so they feel more comfortable during the interview, hence better for collecting data. However, verbal interviews rely heavily on linguistic communication and have been described as "over-wording", which is a clear sign of intense preoccupation, therefore a better user interactive interview process needs to be proposed (Clark, 1999, Nunkoosing, 2005), for example, one could integrate visual methods of data collection into interviews to make interviews more user interactive.

Despite the questionable capacity of images to reveal "the true" world, visual research methodology has become a common technique because of its user-friendly interview processes (Harper, 2002). In addition, when using photos in the interview process, participants will not only interact with the content of the photos but also discuss the social relationships with the researchers (interviewers) (Smith and Barker, 2000).

Visual tools have been used extensively since the 1990s to develop a better understanding of respondents' points of view on various social aspects (Heisley and Levy, 1991). Among them, photographs have been used as an influential intermediary for social science research and have become increasingly popular for participating in research about social change or for investigating social groups (Stanczak, 2004), although it has historically been used mainly for documentation and illustration (Harper, 2003). There is a rich history of photographic research methods across multiple disciplines (Banks, 2007) and it has proved to be very helpful for research purposes (Ray and Smith, 2011). A very important advantage of using photographs is that it helps researchers to obtain good insights into group dynamics that could not be captured with surveys or semi-structured interviews (Gotschi et al., 2009). It is also preferred for its ease of production, processing, and publication.

3.3.2.1 Definition of Photo Elicitation

In spite of the practice of using photographs to gather data being used as a norm in landscape study, there have been no formal technical terms for such method of using photographs to assess landscape quality. But Collier (1967) has mentioned similar techniques of using photos in interviews to extract participants' memories and be more interactive in anthropology research and has referred to the method as photo elicitation interview. Despite being used in different literature and by the formal name, PEI describes the exact same process and ideas as using photos in landscape study interviews.

Introducing photography into research is known in social science literature as photo elicitation (Matteucci, 2013). Harper (2002) defines photo elicitation as "The simple idea of inserting a photograph into a research interview". It consists primarily of the use of photos within qualitative research to stimulate information that is not easily obtained through original verbal exchanges. Based on that idea, a variety of approaches to using photographs in the interview process have been introduced. Although Harper remarks that elicitation studies are not limited to using photos, as any visual image would provoke a response during the interview, such as painting, cartoons as well as charts and maps, social scientists are interested in people's experiences when finding out the social aspect from people's point of view. Hence photographs are still being used predominantly due to their easy handling and remarkable elicitation abilities.

Originally, Collier (1967) emphasised that the method recalls participants' memories and elicited longer and more comprehensive interviews. Later on Harper (1997) and Banks (2001) have also discussed the use of PEI as a research method. After the 1970s the same technique has been used in landscape and environmental perception research (Chenoweth, 1984). However, the technique is more recognised via the name of "Photo Elicitation Interview" and its public engagement was viewed as the key benefits to the landscape research (Cherem and Traweek, 1977). And more recently researchers have started to use photo elicitation with narrative interviews in an attempt to contribute to landscape study. (Glover et al., 2008).

Therefore, despite the similar idea of using photographs in landscape study, due to its lack of formality, the technique will be referred to as PEI throughout this thesis. The idea is to embed photographs into the interview process when gathering data for the use of research analysis.

3.3.2.2 Four Versions of PEI

There are currently four main versions of photo elicitation methods that have been used frequently in social research (Matteucci, 2013):

1. **Produced by the researcher:** This is the primary data that is produced by the researchers for the research interview. E.g.: photos taken on site by the researcher.
2. **Gathered by the researcher:** The photos gathered by the researchers from a secondary source, e.g. Internet, magazines.
3. **Produced by the research participant:** Primary data produced by interview participants. E.g. the participants would be allowed to take their own photos at the study site and then return them to the researchers.

4. **Gathered by the research participant:** Participants gather data from a secondary source such as their own photographs from past life experiences, and then hand over to the researcher at the interview, this is mainly considered as secondary data.

The majority of research in landscape has used produced data as it is seen as the primary data which can better reflect participants views and generate viable data results; the gathered data is normally cast as secondary data and have limited ability to present the current status of the study site (Heisley and Levy,1991). E.g. Dandy and Van Der Wal (2011) and Barroso et al. (2012) have all encouraged participants to take their own photos to investigate landscape research projects. Hence now a major contradiction of using photos in landscape research study interviews is whether to allow participants or researchers to produce photos.

Between the two versions of produced PEI, visual materials produced by participants are considered as an intuitive grasp of their opinions. There have been researchers who gave a camera to each participant and asked him or her to take photos themselves (Clark, 1999, Smith and Barker, 2000, Berman et al., 2001, Clark-IbaNez, 2004, Rasmussen, 2004,). Because the researchers believe that allowing participants to take photos themselves allows them to make decisions about what to include in their daily activities at the local site (Stanczak, 2004). Allen, (2012) also mentioned photos taken by participants could potentially provide viable data for qualitative research. It is good and would provide valid data for small sampling and considerably small size projects, e.g. it is not feasible to ask large samples (such as, more than 50 participants) to take their own photos and give the photos back. Ray and Smith (2011) and Gotschi et al. (2009) have also considered the consequences of the approach.

Alternatively, social researchers opt to produce their own photos for the interview process to gather participants' information, because such data is seen to be more study focused. Collier (1967) photographed various types of study sites and asked participants to choose from the photo sets. Schwartz (1989) used his own photos to study the processes of gentrification in urban American neighborhoods which later led Harper (2002) to use his own photos to explore the participants' perspective in their community. In order to explore a particular local concept at particular places the photos are supposed to not only facilitate conversation but also act as a mapping observation to represent particular features of the area. The researcher produced photos are more focused on this issue rather those than randomly shot by participants, which could be a potential risk on the validity of the results collected (Collier, 1987, Harper, 1997, Magilvy et al., 1992, Fostera et al., 1999). Hence, researcher produced photographs are more commonly used in the modern landscape research process. Furthermore, Dandy and Van Der Wal (2011) have indicated that photos utilised by the researchers are particularly appropriate when the research aims to generate quantitative data. But researchers should be aware of their influence if they wish to generate valid data as the photos chosen by the researcher may not fully represent participants' views. In addition, photos taken by the researchers may have certain persuasive powers and are potential unreliabile in PEI process (Sheppard, 2001, Lee, 2001, Scott et al., 2009).

As the principal of choosing the corresponding photo shooting method would depend on the purpose of the research. This thesis focuses on finding a methodology that would identify the local identity, the aim of the PEI in the research is therefore to focus on particular places and needs to facilitate the interview process to better suit the research perspectives, hence the author has decided to take the photos and then distribute to the participants. Another main reason for using researcher produced photos is primarily for

offsite interviews, as participants cannot be at the study site, pictures will be required, therefore researcher produced photos can make sure the local site is represented to a maximum extent, which will benefit the research as participants are able to select from the pictures. Other important issues related to the data collection process, and the main reasons are as follows:

1. Using researcher-produced photos is convenient due to the time limitations (Dandy and Van Der Wal, 2011). As stated before, the photos need to represent the local site to a maximum extent and the amount of photos needs to be limited to a manageable number. If we ask participants to produce their own photos, it might result in too many disordered and poor quality photos, which will bring additional difficulties to the research.
2. Although some researchers argue that researcher-produced photos might limit the participant's view on the study site, as PEI uses the photo in the interview process, this could be overcome via the interaction between the researcher and the participants during the interview process (Clark-IbaNez, 2004).
3. Even with the limitation described above, the participants' opinions will be gathered in the onsite interview, as they will be asked to use both the photos and the view at the local site to participate in the interview.

However, the major problem arising during the photography process is how to represent the study site on a photograph. It is commonly known that cameras have a narrower field of vision than the human eye (Palmer and Hoffman, 2001). Such limitation dramatically affects PEI results, as people feel differently when trying to recall their feelings through photos rather than the true site. The problem could be resolved in the onsite interview process, however, in offsite interviews; it will limit the imagination of the participants and produce biased data. Besides, the sequence in which to present the photographs also plays an important role in extracting information from participants because showing random pictures to participants may cause confusion during the interview process (Russell and Lanius, 1984, Hull and McCarthy, 1988). This research has found a way to overcome such drawbacks. And because the approach is first introduced in this research, it needs to be piloted before being put into actual use. The process will be discussed in later in this chapter.

3.3.3 Needle Method

After the photographs are taken, in order to find people's opinions from photographs, it requires a method to identify objects or ideas from the photographs shown in the PEI process descried in the previous section. To accomplish this aim, a methodology called "Needle Method", which has previously been applied in social work research, could be used. However, its main drawback is the lack of information present to the research after the selection. Hence a better method would need to be identified to elaborate on the needle method as previously used (Deinet, 2009).

3.3.3.1 The Concept of Needle Method

Follow the concept to discover, evaluate and design social places in the process of social development (Deinet, 2006, Deinet and Krisch, 2006, Deinet and Reutlinger, 2004, Kessl and Reutlinger, 2007). The concept of needle method was formalised by (Deinet, 2009). The method focuses on using different colored needles or adhesive dots

on a large map to label certain places such as interesting places, in order to indicate the preference of certain parts on the map (Figure 18).

Figure 18 Needle Method
Source from: http://www.sozialraum.de/nadelmethode.php

3.3.3.2 Needle Method and Social Spaces

In modern social work studies, social spaces are recognised as including connections between local, regional, national and transnational influences, which consists of a dynamic fabric of social and physical practices (Deinet, 2007). Social work is always carried out in both physical and spatial contexts that are influenced by various factors (Kessl and Reutlinger, 2007), which bear many similarities to local identity. Kessl and Reutlinger (2007) indicated that the ultimate goal of social work is to:

- Develop and protect social networks which activate resources
- Foster more effective integration between various public groups and services
- Realise better participation between society and citizens' life.

Therefore in order to identify more subjective and local impressions for social work research, Deinet and Krisch (2006) have developed several methods aiming to achieve effective qualitative results. One of them is the needle method which has the ability to provide a visualisation of places that have certain special meanings from both perspectives to the society. In this method, participants are asked to pin needles on a map in which different colored needles can be coded with different meanings, e.g. "good" or "bad" places. The results can then be assessed in different groups or debated among different circumstances. The great capability of the method is its potential to visualise and directly activate people's involvement throughout the process, and its cost effective nature because, to carry out such a method, only a map and different colored needles are required.

Hence, this data collection method has the advantage of visualising the choice that interests the participants in photo interactive interviews and the time to conduct the process is relatively short.

However, the drawback is that it suffers from a lack of more information on the marked locations. Because the method focuses on "labeling" the participants preferences on a

photo or map, it does not capture the thoughts behind each of the selections. Besides, if the photo is not large enough, it may end up full of needles/dots on the photo that leads to difficulties accurately identifying the marked locations.

Using a large-scale photo and having a recording device that records the conversation during the interview can resolve such drawbacks. In this way, the comments or reasons of each selection on the photo will be recorded for later interpretation by the researcher after the interview, helping to enhance the accuracy of the data collected.

Therefore to accomplish the drawback of the needle method, this thesis proposes a better solution where participants will be given a large scaled local photo to mark using adhesive dots or to draw circles and write their comments if necessary, and a digital recording pen will be used to record the conversation throughout the process for later interpretation of their selections. Adopting this method will avoid having too many needles on the photo and lack of details for later investigation. The detail of such method will be discussed in a later section.

3.3.4 Reorganising Relevant Methods

From the above literature reviews on relevant methods that are currently available, it explicitly shows their own usefulness and limits. In order to use these methods to derive a methodology that this research is developing, they need to be re-organised so that they will work for this research and the relevant limitations need to be overcome. For example, photos used in the PEI process have a narrow field of view that cannot replicate the real human vision, and the needle method has drawbacks because of the lack of details on the selections. Such limitations have reduced the validity of data dramatically. Therefore, the research will extract the useful parts from the two methods and combine them to develop a new method that would reduce the limitations and increase the validity of data results.

This research has decided to use a case study with researcher-produced photos PEI as the main interview format, and during the interview, the needle method is used as a supporting technique to mark participants' selection on the photos during the PEI process (Figure 19).

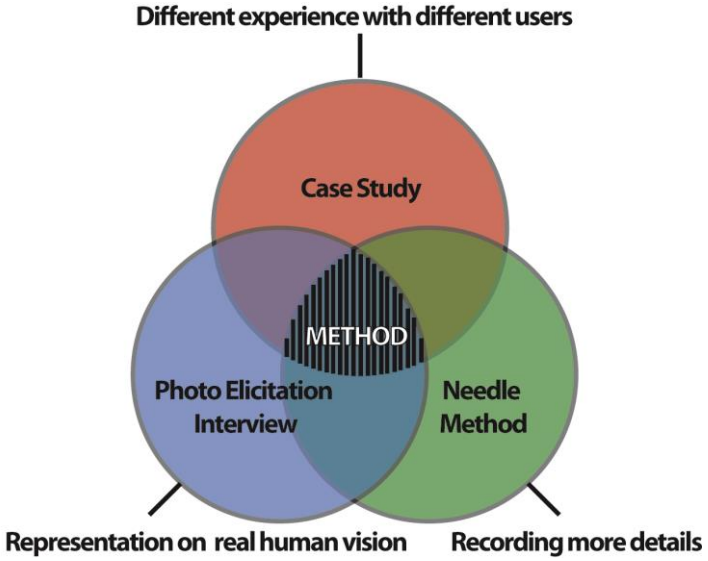


Figure 19 Final Research Methodology and Focus of Each Part

To resolve the limitation of narrow angled PEI photos and showing sequence problems that effects participant's selection. This thesis proposes using wide-angle panoramic photographs (e.g. 180˚) to replicate both horizontal and vertical human vision on field of view, and a better sequence is developed to display the photos so that they represent the local site in a consecutive process, which would reduce participants' confusion during PEI.

Furthermore, because the needle method has a disadvantage due to its lack of capturing detailed information and difficulties in accurately identifying marked locations on small scaled photos, this research will use adhesive dots on large-scale A3 sized photos with a digital recording pen together to both capture the marked locations accurately and record participants' thoughts via the recording pen when they select elements on the photo for later interpretation. In addition, because a large-scaled photo is used, participants are free to write certain thoughts on the photographs shown to them.

Because the proposed solutions to resolve the above limitations on PEI and the needle method have not been used previously in landscape research, this research is going to pilot them first to discuss different options available and verify their validity.

The solution for the needle method is embedded in the pilot studies for PEI solutions, but there are several options in terms of resolving PEI limitations, e.g. what panorama viewing angle would be appropriate to best represent human vision; and what display sequence option would be best to replicate the onsite experience for participants. Such options and solutions are discussed, and piloted in the next section on limitations of PEI photographs.

In short, the method will use wide-angle panoramic photo elicitation interview process incorporating the basic principle of the needle method to gather effective data for later analysis.

3.4 Limitations of Photo Elicitation Interview Photographs and Its Solution

For this research, the main method used is PEI and the aim is to use photos to help participants to identify elements of local identity for their local area, therefore, taking photos to represent the dynamic and peripheral vision of the human eye and focusing with foveal vision on objects of attention becomes another obstacle to the study.

This section discusses the obstacle between human vision and photos, and reviews the available technology to find out that the optimal solution is to use 180˚ panoramic photos to represent the study site for an accurate and enhanced PEI result. Four pilot studies are then carried out to testify the validity of the findings. Two issues are addressed in this section, and their final aims are to enhance the photo elicitation process to improve the accuracy of the data collected through PEI:

- Which horizontal angle should a panoramic photograph take to simulate people's peripheral vision?
- How can panoramic photographs be combined to represent people's vertical viewing angle?

3.4.1 The Relationship between Human Vision and Photographs

Vision is composed of both foveal and peripheral modes and is a dynamic process when locating the surrounding environment. Therefore when identifying the spatial qualities of a landscape, the human eye uses a combination of peripheral vision, movement and motion parallax and binocular vision to decipher the entire landscape image (Hilgard et al., 1975). Perceptual theory also suggests that humans perceive space under conditions of dynamic visual patterns and even static photos are sensed via a dynamic process of subtle eye movements (Lang, 1987). Most people rely on foveal vision to identify photographs or paintings (Antrop, 2007); it is the form of vision that allows one to focus on only one aspect of the object and ignore everything else around the subject. In contrast, there is peripheral vision, which takes in everything around us. It is used by people to sense dynamic changes in the patterns of the environment. As the peripheral vision system provides the cerebellum with information used to judge the surroundings, it has been proved to be a significant component of our awareness of space (Ernst et al., 2000). Recent research has also suggested that peripheral vision improves our ability to make in-depth judgments (Watanabe and Matsuoka, 1999). Hence the above knowledge supports a hypothesis that spatial design and visual concerns of landscape should place significant attention on the peripheral dimension of vision (Danahy, 2001).

There are gaps between the fundamental components of human vision and the technologies used in landscape visualisation (Danahy, 2001). Therefore, next generation visualisation technologies have been developed to include more human vision and balance the gap of visual identification. Computer based landscape modeling techniques have been introduced as a tool for landscape planning in the last decade (Walz et al., 2008). The most common research on such objectives is to use computerised interactive visual simulation to assess environments in the design and planning process (Lange, 1994). For example, Maya, 3D studio Max, Sketch Up and GIS have all been introduced to provide a more robust modeling of true human visions (Gill et al., 2013). Among all modern techniques, using the 3D GIS visualisation technique incorporating 2D data to gather sufficient information from participants' interviews have been applied and testified in various research from different perspectives, and has been shown as an efficient but expensive technique to apply (Bishop et al., 2004, Wissen et al., 2008, Lange et al., 2008). However, despite the ability to model the highly complex landscape structures via modern 3D techniques, which provides better guidance in the planning process, the technology is still viewed as a yet to be completed and immature technique. Besides, the technique focuses more on modeling the complex structure of the landscape than replicating the real-world experience, there are still reality differences between 3D technology, photo and real-world in landscape study (Lange, 2001).

Therefore, a convenient and cost effective means for showing all the fundamental visual aspects of landscape is still missing. Among all technologies available, the current most efficient way of shooting peripheral dimension photos is to use the panoramic photo shooting function from modern cameras (Danahy, 2001, Maclennan and Envision, 2006).

3.4.2 Use of Panoramic Photograph in Landscape Study

Although, there have been new technologies introduced to simulate scenarios of possible evolutions of the landscape, the processes are not only costly and time consuming, but also restrict the number of different landscape types that can be studied (Lange, 2001, Tress and Tress, 2003, Sevenant and Antrop, 2011). Despite vast amounts of research supporting the use of photographs to represent the local landscape, others have seriously questioned the validity of photographs (Scott, 2002). A general

argument is that the photographs fail to replicate the saliency and contextual validity of the onsite scene (Stewart and Hull, 1996, Huang, 2009).

Based on the above controversy, Palmer and Hoffman (2001) used 19 studies that explicitly tested the validity of photographic representations. As a result, their findings have mainly supported the view of using photographs for landscape evaluation. They have also found certain problems, however, that have been identified in several cases. E.g. in some extreme cases they have encountered negative correlations between the photo and the site. They argued that a standard 35mm wide-angle lens only captured 60˚ of human vision, which is a limited field of view (Figure 20), and discussed that an angle of view with 120˚ or more will be better accepted. While Antrop (2007) found that humans can focus on 40˚ to 46˚ angle of a view, the studies from Zube et al. (1974) and Palmer and Hoffman (2001) have all concluded, "All of the analysis suggest that panoramic and wide-angle color photography may be valid landscape simulation media".

Figure 20 Traditional Camera Angles can only Capture Part of the Human Vision

Later, Sevenant and Antrop (2011) extended the conclusion from Palmer and Hoffman (2001), and used on site; Panoramic and normal photos to find the best alternative to the onsite procedure. They have used photos with 39.6˚, 80˚ and 100˚ horizontal view angles with 27˚ vertical angle to represent 12 landscape vistas and used a statistical model to measure the validity of the different angled panoramic photos. As a result, they have concluded the panoramic photographic stimuli has been chosen efficiently by the interview participants according to the landscape type, and supports the view of using wider angle panoramic photo to better represent the landscape.

Because the majority of landscape visual studies (Zube et al., 1974, Shuttleworth, 1980) that used photos as intermediaries have been using 35mm to 60mm (60˚ to 40˚ camera view angle) SLR to capture photos, which all experience the drawbacks that Palmer and Hoffman (2001) have identified. They all focus on using photos to find out people's opinions on one single point of a site or landscape view, but this research is looking for a way to use photos to find participants' views about a site from a continuous perspective that could provide an experience of a study site from an overall point of view. Hence whether traditional photos are valid in such a manner needs to be further verified. To testify such findings this research has carried out a small pilot study to compare the results between traditional photos and panoramic photos in PEI regarding the same landscape site.

The photos in Figure 21 have been taken using a 35 mm SLR. It includes one 180˚ panoramic picture and a set of three 60˚ photos to cover the same 180˚ view, taken at center of the street along the study site; a camera was attached to a tripod at eye level to ensure that each photograph was captured at the human vision height. In order to cover the same continuous environment shown on the 180˚ panoramic photo, 60˚ photos were taken in a way that the researcher manually decides the next starting position to shoot the photo to capture the adjacent environment relating to the last picture. The sets of photos below were formed at the site of Penglai Pavilion in Yantai, China; and showed to 10 participants at a local college to pick the elements, using red circles, which they think are unique at the study site:

Figure 21 Character Selection of Penglai Pavilion in Different Degree

180˚	60˚
• Pedestrian walking path • Green belt Hedge • Special shaped trees • Nearby Ancient architecture complex • The bridge • Boating port • Ancient architecture further away	• Special shaped trees (photo 1) • Nearby ancient architecture (photo 1) • Nearby ancient architecture (photo 2) • Bridge (photo 2) • Bridge (photo 3) • Boating Port (photo 3)

Table 1 Selection Elements in 180˚ and 60˚ Photo Sets

In Table 1, the elements highlighted in green are the different elements picked out between 180° photo and the 60° photo set, clearly showing that the participants picked out more unique elements from the 180° photo set.

During the interview, one important factor that all participants mentioned is that 60° photos have both duplicate and blind spots compared with the panoramic photo as the photos are not continuous enough; the edges between each photo are not clear and sometimes overlap each other, therefore participants cannot combine them to one image in their head. Also, when they saw similar or identical elements in different 60˚ pictures, they felt confused about whether to highlight the one they have already chosen in the other pictures. For example in the above figure, the left of photo 2 and right of photo 3 have both captured the same elements, which caused confusion in the interview process. Another fact is that when participants interpret the 60˚ photographs, they see them as three individual photos rather than one overall image. When trying to pick out the elements that they think best represent the region using 180˚, they are more focused on the element that can represent the whole environment rather than three individual photos when they see the 60˚ photo set. In addition, certain elements became hard to notice in narrow angle photos, e.g. the ancient architecture complex in photo 3 has never been picked but is commonly picked out on the 180˚ photograph. Hence

participants feel a little frustrated when using the 60˚ photos because they think some photos show similar information, which demotivated them during the element selection process.

Hence it proves two drawbacks of using traditional photos in comparison with panoramic photos:

1. When shooting multiple traditional photos to cover a wide angle of field view, because it is hard to shoot each photo from the exact point adjacent to the next photo, it is very easy to duplicate elements among the edges of each photo that would cause confusion to participants in the study process. When participants try to pick elements or recall information from the photos, the duplicated elements are either double picked, or make participants think the element is not unique enough as it is shown in two photos. Such drawbacks limit the accuracy of the data collected during the interview process.

2. In terms of representing the site, traditional photos normally have the limitation of lack of representation of the study site, when using multiple photos to represent a single site, participants normally find it frustrating to try to combine the different photos in their head before providing information in relation to the photos. Hence effecting the data collection process and could potentially end up with biased data.

Conversely, participants all find that 180˚ panoramic photos are easy to follow and very helpful in regard to recalling memories and other opinions from their past experiences. And the view from the photo has been described as "nearly identical to what we see at the real site"; the photo has also provided a continuous feeling to them as all elements are shown in one photo. Therefore it can be proven that a wider angled photo would certainly help the PEI process to gather better results and enhance participants' interview experience.

By proving that panoramic photography has the ability to represent the site view to an effective level, the major problem becomes what vision angle is best to enhance the result of the research process.

3.4.3 Horizontal Vision Angle of Panoramic Photographs

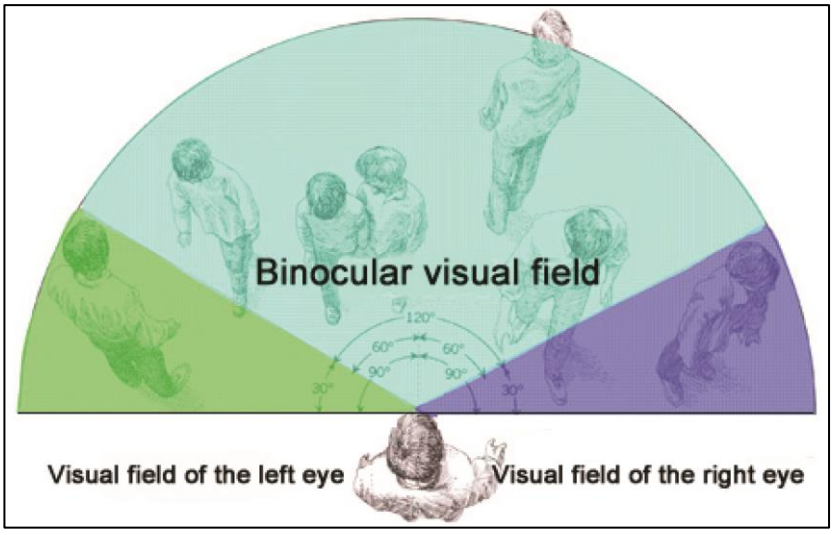


Figure 22 Visual Field

Henson (1993) in his well-known scientific work in proving human visual fields has distinguished the different view angles. He has proven that there are two major view angles of human vision: binocular vision and field of view (FOV). In his justification, the 120˚ binocular vision angle is the angle in which both eyes are used together to focus without any eyeball or head movement, whereas the FOV is the view angle of 180˚ encounters the binocular angle plus eye ball or head movements, which provide a better field experience to human vision (Figure 22). Therefore, Henson suggested that the approximate field of view of an individual human eye to be almost 180˚ forward facing horizontal vision angle. With eyeball rotation of approximately 90˚, horizontal field has a maximum 270˚ in Military Standard (DC, 1999). Zube et al. (1974) are one of the early-day landscape researchers that were focusing on comparing viewer responses to different view angle photos in landscape study. They have found that compared with wide-angle horizontal photos; panoramic photos with 122˚ view angle have produced closer results to the field response. Daniel and Boster (1976) later used 180˚ panoramic photographs to measure the landscape aesthetics and proven the efficiency of 180˚ view angle of panoramic photos. Nassauer (1983) later further tested a wider panoramic photo angle based on the work of Zube et al (1974), where she proved that 140˚ panoramic photos could derive better results, hence suggesting that wider angled panoramic photos could help to enhance landscape study data gathering to capture accurate participants preferences and better simulating the field experience. In addition, various smaller vision angles have been compared in the scientific world. Robinett and Holloway (1992) carried out an intensive study with FOV of 90˚. Piantanida et al. (1992) compared the Field of View (FOV) of 90˚, 53˚ and smaller.

However, there have also been arguments to support the idea that 360˚ panoramic photos support complete freedom of viewpoint in the scene for multiple viewers (Englar and Consolati, 1990). Smith et al. (2012) used 360˚ in testing the 3D interactive approach on eliciting public landscape preferences. But the research mainly focuses on testing the 3D landscape visualisation process rather than contesting the validity of the visualisation view angles.

Although it seems the wider the photo angle, the better it will cover the true human vision, however, too wide a field of vision might cause vision sickness, which will reduce the validity of the data collected Kolasinski (1995) and Stern et al. (1990).
Therefore, based on all the literature that has been discussed and the current limitations of digital image equipment, the author has chosen to try three sets of wide horizontal angle panoramic photos using a panoramic digital camera to see which set would yield the best results (all panoramic photos have been taken with a 60˚ vertical angle):

- **120**˚ has been proven to be the binocular vision, and Zube et al. (1974) tested similar angles as early as the 1970s. Hence whether binocular angle or FOV angle could provide better results and comfort to the participants needs to be verified.

- **180**˚ has been scientifically proven to be the field of view, and this is normally what people see in real life with their peripheral view. Hence it would be interesting to see if the results would be different with photos that also represent peripheral vision.

- **360**˚ photos have been suggested in landscape study field (Englar and Consolati, 1990), and been tested, although it is debatable whether or not wider is better. It would be meaningful to testify whether this angle would produce better results when wider than FOV photos are presented to participants in the PEI process.

A common debate is that although 120˚ has been suggested to represent human binocular vision angle (Wells and Venturino, 1990), it has later been further proved that the angle is almost 180˚ with side vision (Kolasinski, 1995). Besides, modern landscape visualisation researches have all been focusing on the representation of FOV rather than the binocular vision. As proved before, the FOV is wider than the binocular vision with head movement; it is believed to better represent the field experiences, as people tend to look around when they are physically at the study site (Bishop and Rohrmann, 2003, Daniel and Meitner, 2001). To clarify the debate, the thesis decides to test both angles through pilot studies. After a pilot study is carried out to test which horizontal angle should be used to optimise the PEI process, an effective way of showing such panoramic pictures to participants during the PEI process would need to be discussed from a practical perspective.

3.4.4 Pilot Study for Horizontal Shooting Angle

3.4.4.1 Finding the Best Horizontal Angle

The photos were taken under clear weather conditions with good visibility free of any avoidable foreground objects using a Nikon Coolpix P510 Digital Camera with zoom range, which starts at 24mm and telescoping 42x to 1000mm (35mm equivalent focal lengths). However, the human eye would have higher than 35mm focal vision. Current digital cameras commonly have the functionality to set two panoramic angles, 180˚ and 360˚, the camera would guide the photographer to shoot a horizontal panoramic photo and stop shooting automatically and indicate to the photographer when the camera covers 180˚ or 360˚, therefore reducing the human error factor when producing photos. (Different cameras might have more angle options for shooting panoramic photos, however, due to the budget and economical reasons, this research has used a camera that only has angle options mentioned above). Although the horizontal vision limit can be overcome by the camera's panorama (180˚ and 360˚) modes, how to make the vertical vision of the photo consistent with the human eye becomes problematic and the thesis will propose a method to resolve the issue in the following sections. As well as the panoramic shooting mode the camera has the ability to continue shooting one image until the selected range of 180˚ or 360˚ of horizontal view angle is covered, increasing the accuracy of the shooting angle. Because the purpose of the PEI is to extract information form participants for the "surrounding environment", each set of photos need to cover the entire 360˚ to replicate the environment surrounding the participants. Therefore at each point three 120˚, two 180˚ and one 360˚ panoramic photos were produced to cover the entire surrounding site.

Photographs were taken along the center of the street along the study site; a camera was attached to a tripod at eye level to ensure that each photograph was captured at the human vision height. In addition, photos used for this part of the study are all taken from a reasonably long distance; hence, the visual effect is very close to the human eye experience. Three sets of photos were formed, below Figure 23:

- Taking three photos of 120° (normal camera arc-degree) at each point along the study site. Due to technical issues, it is impossible to measure a 120˚ panoramic angle when shooting the images, therefore the photo sets at each point are generated by taking a 360˚ panoramic photo using the camera settings and then split equally into three photos via a third party software (e.g. Photoshop and Illustrator). As a result, each photo would represent a 120˚ view angle.

- Taking photos as 180° at each point along the study site. At each point, photos were taken as two 180° photos, for each photo the camera is placed at the center and rotated 180° to shoot the photo.

- Taking photos at 360° at each point along the study site. At each point a 360° photo is taken by rotating the camera at the center of the photo.

After the photos were taken in Penglai Pavilion, 10 participants were chosen on the local site and agreed to take the interview and chose the unique elements and highlight them in red circles.

Figure 23 Taking Panoramic Photos in Different Degrees for the Same Study Site

120°(Photo 1 to 3 from left to right in each photo)	180°(Photo 4-5 from left to right in each photo)	360° (From left to right)
• The streetlight (Photo1) • The boundary wall (Photo 1) • Antique building (Photo 1) • Parterre (Photo 1) • Parterre (Photo 2) • The streetlight (Photo 2) • Mobile police office (Photo 2) • The streetlight (Photo 3) • Parterre (Photo 3) • Antique building, which is currently used as the ticket office (Photo 3)	• Boundary Wall (Photo 4) • Antique building (Photo 4) • Parterre (Photo 4) • Area design and the color theme combined the parterre, trees, and other plants (Photo 4) • Mobile police office (Photo 4 and 5) • Wide public path (Photo 5) • The streetlight (Photo 5) • Antique building, which is currently used as the ticket office (Photo 5)	• Boundary wall • Antique building • Parterre • Area design and the color theme combined the parterre, trees, and other plants • Mobile police office • Wide public Path • Antique building, which is currently used as the ticket office

Table 2 Selection Elements in 120˚, 180˚ and 360˚

In Table 2, each different point under the different columns is an object circled in red on the corresponding angled picture. Elements highlighted in yellow are the different

elements picked out between the 120° photo and the 360° photo set and the element highlighted in red is the difference between 180° photos and the 360° photo.

From the results and the discussion with the participants during the interview, it showed that participants can see more elements in 180° photos. The reasons being the following:

1. 120˚ photos are considerably better than traditional photos and have been proven to show greater ability to present the site continuously. However, the selection table clearly shows that same objects have been picked multiple times in different photos. This is due to the coverage of individual photos. Although 120˚ helps participants to form a continuous impression about the study site, when they see each picture, it is not trivial for them to form all three pictures as a whole in their mind, it therefore results in them picking the unique elements in each photo rather than considering them as an entire surrounding environment. E.g. in elements highlighted in yellow, Parterre was selected in all photos whereas it was only selected once in the 180˚ and 360˚ photograph because its appearance in each individual photo. Therefore, despite a large number of elements being picked, there are considerable amounts of repetitive selections in the results.

2. Participants show great satisfaction while using the 180° photos to pick out their favorite elements. They all agree that the photo not only provides them with a great overview of the region but also gives them room to focus on more small unique elements. The amount of information is very easy to absorb and the photos simulated the real life nicely. Because the number of photos presented is limited (only 2 photos), they find it is relatively easy to combine the photos' contents in their mind hence reducing the repetitive selections.

3. 360° photo is better compared with the 120° photo set. Participants feel more comfortable as they can see the entire environment in one photo rather than have to picture them in their mind. However, the issue with the 360° photo is: 8 out of 10 participants declared that because the photo shows a "circle" in one dimension, the photo looks distorted to them and it is hard for them to think in a "round way" to simulate the real world and, due to the large amount of information shown in one photo, participants tend to pay more attention on the big elements and ignore the small ones that also provide uniqueness to the region shown in the photo.

To conclude, the result clearly displays that the participants picked out the most unique elements from the 180° photo set.

3.4.4.2 Limitations of Taking 360° Panoramic Photography

In order to confirm the above finding, the same procedure was used at another location to further prove the result from Table 1. Yantai Hill was used as the new location (Figure 24). The highlighted elements clearly show that the 180° photos demonstrated better detail in terms of finding results.

Figure 24 Yantai Hill 1

During the interviews at the second study site, another issue with the 360° photo became apparent. As the study sites are all outside areas, difficulties occur when the sunlight is too bright. In Figure 25, the 360° photo has a black area on the left hand side of the photo because the light for the black area in the photo is much brighter than the elements in the left area of the photo, therefore due to underexposure, the photo failed to show the elements. Even though the problem can be overcome by manually adjusting the exposure setting of the camera the final photo will still be distorted. This result in another problem for the study as the 360° photo failed to illustrate a full and real simulation of the environment.

Figure 25 Yantai Hill 2

Although Figure 23 and 24 support that 180° photos not only provide good conceptual information but are also efficient in terms of identifying unique elements in greater detail. What if the 360° photo is separated into several small photos which also provide more details to the environment? In order to find out if showing more separate photos to participants will generate better results, the 360° photos were separated into 9 photos and showed to the participants again (Figure 26). This time the participants identified even more elements than those identified in the 180° photos. However, the participants declare that some of identified elements were "redundant". The reason being, again, they saw each photo as an individual photo, and found similar elements in some of the photos. They also pointed out that it is a little frustrating as the element identified in one photo also appears in another and it feels no longer identical to them. With the previous findings on small angled photos, it could be concluded that photos with a view of less than 120˚ will suffer from similar issues (related to smaller FOV angle reviewed by other literatures).

Figure 26 Penglai Pavilion Entrance

Based on the above findings, shooting photos in 180° is the best option for panoramic photography in this research. It not only provides a greater conceptual image, which simulates the real world environment, to the participants, but also allows participants to focus on both the macro and micro elements to identify the uniqueness of the study sites. Another reason to support the effectiveness of 180° photos is that local identity should be identified from a broader point of view. The photos allow participants to look from a broader point of view; this vividly reproduced the human eyesight to an optimum. The local identity should be distinguished by the detailed uniqueness from the local residents and it should also allow the area to stand out quickly to non-residents, which should be more macro-focused. Hence to achieve a balance between macro and micro elements, 180° photos have proved to be most efficient.

3.4.5 Vertical Vision Angle of Panoramic Photographs

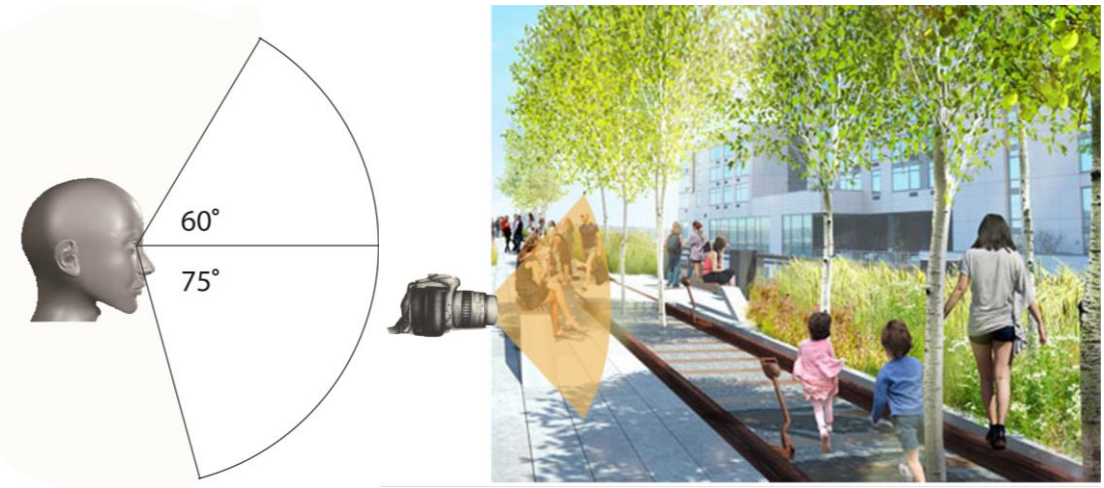


Figure 27 Vertical Angle of Human Vision cannot be Represented by Cameras

The above pilot study proves that panoramic technology provides a very good way to satisfy the horizontal vision of the human eyes, however its drawback is the vertical vision limitation of the final photo. Gibson, (1979) and Barfield et al. (1995) indicated the vertical human FOV is approximately 135˚ (Figure 27). Nowadays, a standard modern digital camera would have a smaller vertical angle (60˚) than human vision (135˚) and Ulrich (1981) also pointed out that when shooting distance is limited, panoramic photos would have the limitation of capturing the vertical view (Figure 28). Therefore a way to combine two panoramic photos vertically to form one big picture to involve more elements as human eyesight needs to be introduced. In this way, both horizontal and vertical limitations of the photos will be better handled; more elements would be captured in the photo and therefore better replicate the human vision. With current visual technology, it makes the combination of two photos vertically reasonably simple compared with Ulrich's time.

Figure 28 Panoramic Photo of Haian Street Using Standard SLR

Figure 29 Panoramic Photo of Binhai Road

Another issue here is that not all the site photos need to be formed using two panoramic photos combined vertically together, if the distance between the site and the camera is long enough, one single panoramic photo would be sufficient to involve most of the elements in the study site (Figure 29). Nassauer (1983) also pointed out that when the shooting distance is long enough, one panoramic photo would be efficient to capture the field to provide accurate field experience, such as standing at the coast and shooting the site towards the sea. Scientific proof is provided below to better explain this issue and provides a solid and rigorous foundation for the issue.

3.4.6 A Scientific Proof for Vertical Combination

Although combining two panoramic photos vertically could greatly replicate the human vision, it is not empirical that all the photos need to be taken in such methodology. For example, when taking photos for a widely open view, sea view for example, a single panoramic photo would be enough because the distance between the actual site and the camera is long enough for the camera to capture the majority of the site elements. Therefore, when such combination technique should be used needs to be decided. In essence, when the distance between the elements and the camera is not long enough to capture the entirety of the scene then the sight can only be replicated by using two photos combined vertically together. As shown in Figure 28 in the last part, the entire house cannot be captured via one panoramic photo because the distance between camera and the house is limited; hence two photos are combined together to show the house and other relevant information. This problem normally occurs when taking photos of streets.

The aim of the proof is to give an idea of how the method could be used to determine how to combine photos vertically. The variables' would be different under different circumstances, but since this research proves that it works, it can be seen as scientifically valid. To decide whether such a technique is required needs to be decided rigorously. The following mathematical proof would demonstrate the idea in a better way:

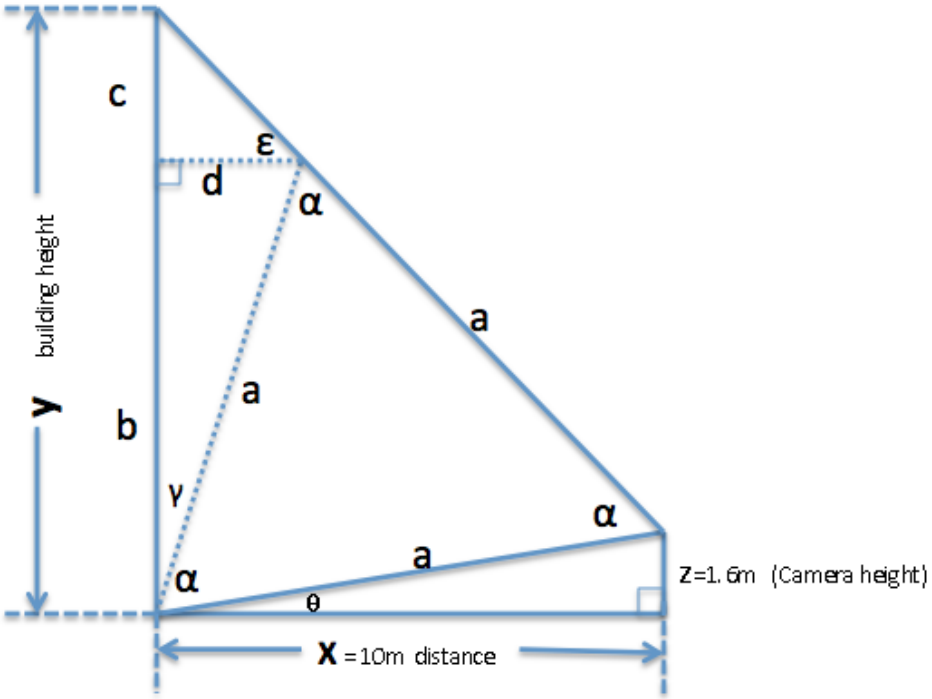


Figure 30 The Mathematical Proof

Figure 30 is an illustration of how to work out the building height that could be captured via a panoramic photo. In the picture, assuming the camera is placed at 10 meters away from the element, and the camera is placed on a tri-stand with height of 1.6 meters and placed vertically to the ground. The camera has a vertical capture angle of α= 60˚ (this is because a normal digital camera would capture FOV of 60˚). Height y represents the height of the building.

Because angle α=60˚, it forms a regular triangle with equal edges with distance a. because Triangle xza is a right angle triangle, therefore, with x and z known, one would be able to work out angle Theta θ. With θ and α, Angle γ can be decided, by using γ and a, b and d can be decided. After that, angle ε and edge c will be easily decided. Because y = c+b, therefore with all our information in hand, it would be able to work out the value of Y that the camera can take in give the available x distance between the camera and the element. The calculation is as follows:

$$a = \sqrt{x^2 + z^2} = \sqrt{10^2 + 1.6^2} = 10.127\ m;$$
$$\theta = \arctan\frac{z}{x} = \arctan\frac{1.6}{10} = 0.1587\ rad$$
$$\gamma = \frac{\pi}{2} - \theta - \alpha = \frac{\pi}{2} - 0.1587 - \frac{\pi}{3} = 0.3649\ rad$$
$$b = \operatorname{acos}\gamma$$
$$d = \operatorname{asin}\gamma$$
$$\epsilon = \pi - \alpha - \left(\frac{\pi}{2} - \gamma\right) = \pi - \frac{\pi}{3} - \left(\frac{\pi}{2} - 0.3649\right) = 0.8885\ rad$$
$$c = d\tan\varepsilon$$

$$y = c + b = d\tan\varepsilon + a\cos\gamma$$
$$= a\sin\gamma\tan\varepsilon + a\cos\gamma$$
$$= a(\sin\gamma\tan\varepsilon + \cos\gamma)$$
$$= 10.127(\sin 0.3649\tan 0.8885 + \cos 0.3649)$$
$$= 13.9083\ m\ \approx 14\ m$$

Hence from the above derivation it shows that with a 1.6 m high camera with 10 m distance between the camera and the element building / site, the maximum height the camera can record is approximately 14 m, anything higher will not be captured. Therefore within this range, if the elements' heights were above 14m, then a vertical combination of two panoramic photos would need to be used.

The above mathematical method provides a solid ground when deciding whether the vertical combination method needs to be used when shooting a picture and attempts to mimic the human vision to its utmost. The proof would be identical for all situations, the parameters that will change are the x and y variables and with one of either of the two, the other variable can be derived. E.g. given a building's height, the minimal distance required to shoot the building in one photo can be computed, if the distance is not long enough, the vertical combination technique will be applied.

As a demonstration, in Figure 31, two photos were taken by placing the camera in the same point with different height and then combining them. It is clear to see that the method provides a solution that is close to the real world.

Part 1	
Part 2	
Combined	

Figure 31 The Combination of Panoramic Photos: to represent human vertical vision angle

Although using the vertical combination method further improves the photo used in the PEI process, if the distance were sufficient enough to capture the majority of elements needed for the research, it would not be necessary to apply the method. In such case a single horizontal panoramic photo would be good enough, as the pilot study showed in the above section. Therefore, when taking photos for a wide view, e.g. seaside, or a site with minimum barriers in sight, a single 180˚ panoramic photo would be sufficient enough. When there are a considerable amount of high elements in the sight, it would be the best to take two 180˚ panoramic photos, one captures the bottom part of the sight, the other captures the top part, and they are then combined to reproduce the entire sight in one photo. When it is hard to decide the distance needed to take photos that would

capture the majority elements vertically, the mathematical proof above can be applied to work out such distance or the maximum building height that can be taken given a limited photo shooting range.

3.5 Pilot Study for Showing Sequence of Panorama Photographs

After deciding the angle of panoramic photos is optimal at 180˚ and the way to combine such photos to tackle the issue of the vertical view, the new issue raised is how to show the photos to the participants effectively. The reason being, although each photo itself acts effectively to show the surrounding environment, but how to present them correctly so that participant can mentally "feel" they are walking along the site, hence better elicit their experience memory. Hull and McCarthy (1988), Russell and Lanius, (1984) found that even prior exposure to landscape photographs influences the analysis of subsequent landscapes. Therefore the current issue is formally defined as:

- What presenting sequence should be taken to show the finalised panoramic photos to participants?

The aim for such practice is to find the most effective way of using the improved panoramic photo. Cullen's research only focuses on the front view and ignores the back view (Cullen, 1961). Porta and Renne (2005) testified the way to show photos as a continuous direction to the participants. However, the author has noticed that the elements shown in both forward and backward directions are very different, even for the same site. Figure 32 shows the photos taken at Yantai Hill, the forward direction is taken from A to E with 180˚ panoramic photos towards the hill, and E' to A' is the reversed direction taken out towards the hill. It is very noticeable that the view and elements shown in the photos are very different, in spite of the same site. Therefore, the author has decided to integrate the method used by Porta and Renne (2005) to show photos taken in both directions to the participants to enhance their ability to pick elements out.

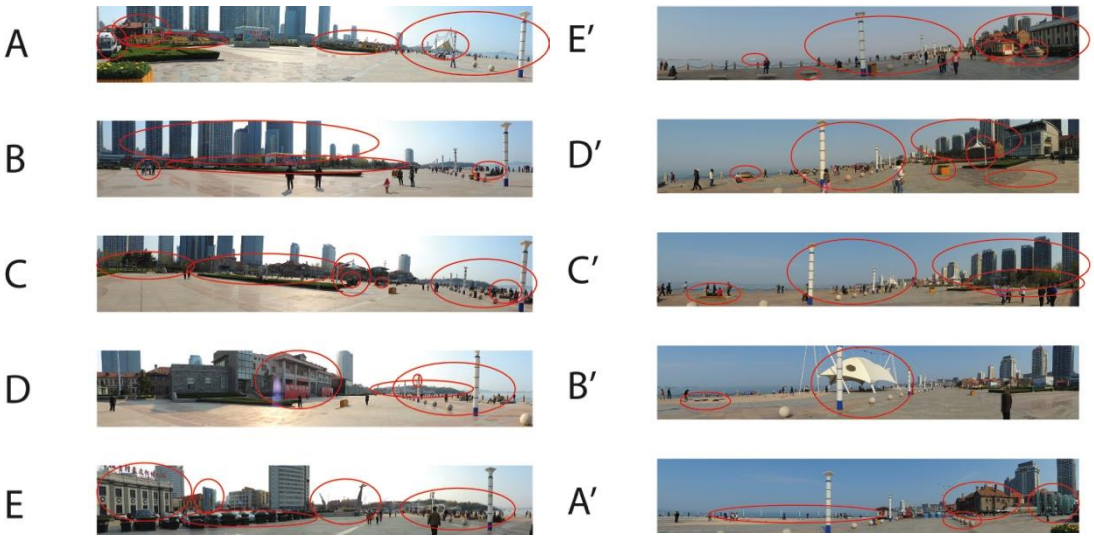


Figure 32 Photos for Two Directions

Although taking photos from both directions will enhance the elements involved in the photo, order in which they are shown to participants would also make a significant impact on the interview results. For example, if the photographs are shown randomly to the participants, it might make the participants feel uncomfortable because of a lack of

continuity in the photos (Porta and Renne, 2005). As discussed in this research, it is important that the participant can select the elements in consideration of the surrounding environment. If random photos are shown to them, they would only focus on the elements in the photos rather than select them in consideration of the surroundings. Therefore the sequence in which photos should be shown to participants is very important for our results finding.

3.5.1 Showing Options

Based on the reason presented in the last section, this research has developed three options to show the photos to the participants that would allow interviewees to select the elements as much as possible (Figure 33). The details of each option are described below:

Option1. As two photos were taken at each point with 180˚ panoramic photos, they cover both forward and backward directions. Hence, all the surroundings at each point can be represented by two photos, e.g. A and A'. Participant will select the elements from A and A' first and then move to the next one B and B', and so on.

Option2. Show the photos in one direction and then the reverse direction. So, the participant could imagine that they have walked around at the photo site. E.g. showing photos from A to E for the forward direction first and then E' to A' as the backward direction.

Option3. Because the photos capture all the elements at the study site, the direction or order to show them to the participants might not be significant. Hence this option shows all the photos randomly to the participants.

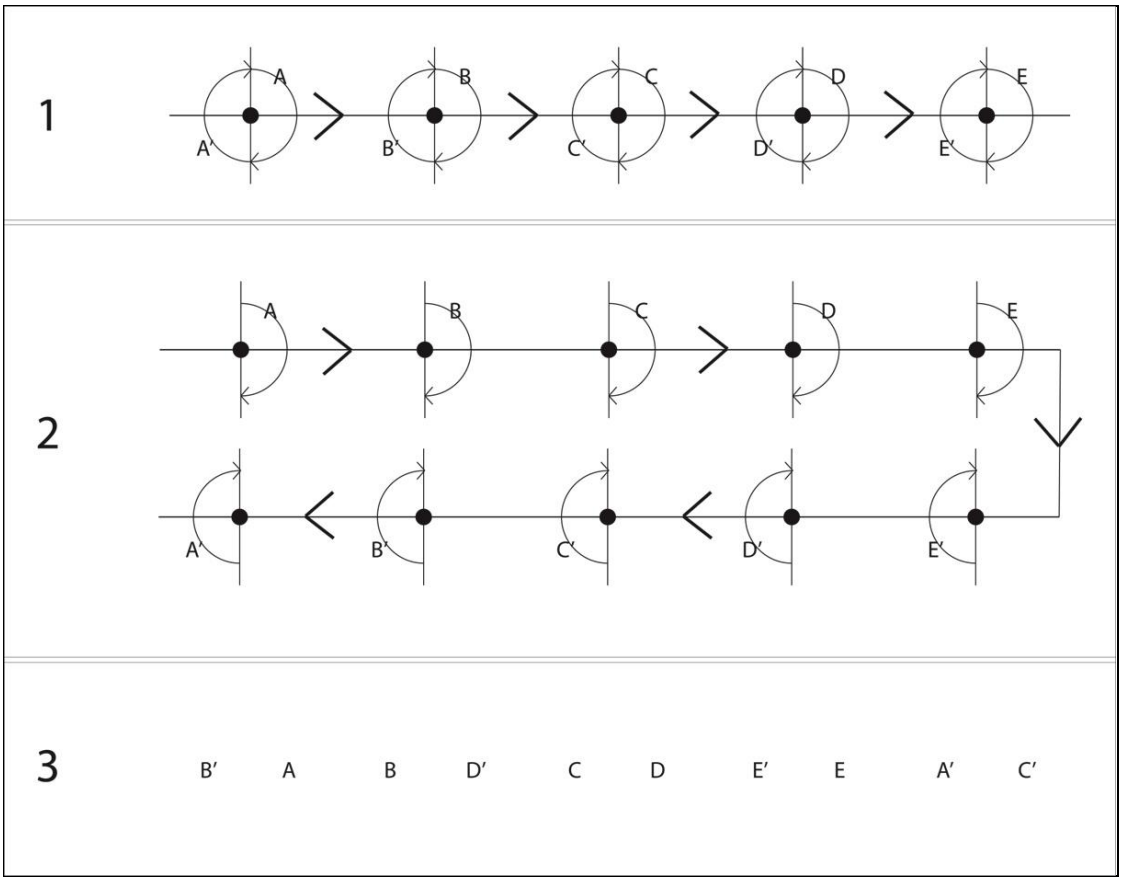


Figure 33 Photo Showing Options

Photos were printed out on A3 paper following the 3 options and participants were asked to identify the elements by marking on the photos directly and commenting beside the element if they wanted to. While they were selecting the elements, researchers may question their selection, and a digital recording pen will record the conversation. Furthermore, the recorded conversation helps the researcher to more accurately identify and analyse the reason behind each selection after the interview was carried out.

3.5.2 Results

For this part of the pilot study, the author has selected total number of 15 nonlocal and 15 local residents to participate the interview. Each local and nonlocal resident is grouped into three different subgroups to participate in the three photo showing options. E.g. 5 nonlocal and 5 local residents were interviewed using option 1 to select the elements. Every element selected by all the participants from nonlocal and local residents is listed in Table 3 and Table 4 accordingly.

Option 1		Option 2		Option 3	
• The mountain scene	• 4	• The mountain scene	• 4	• The mountain scene	• 4
• Street light design	• 3	• Street light design	• 5	• Street light design	• 3
• The way street light are ordered	• 2	• The way street light are ordered	• 2	• The way street light are ordered	• 1
• Parterre	• 2	• Parterre	• 5	• Parterre	• 2
• Old Villa 1	• 4	• Old Villa 1	• 5	• Old Villa 1	• 4
• Sea view	• 4	• Sea view	• 5	• Sea view	• 4
• Green belt	• 3	• Green belt	• 4	• Green belt	• 2
• Modern designed sum-merhouse	• 5	• Modern designed sum-merhouse	• 5	• Modern designed sum-merhouse	• 5
• Square	• 3	• Square	• 4	• Square	• 3
• The Hill	• 3	• The Hill	• 5	• The Hill	• 2
• Designed street seats	• 3	• Designed street seats	• 5	• Designed street seats	• 3
• The white mansion	• 2	• The white mansion	• 3	• The white mansion	• 3
• Advertisement board	• 1	• Advertisement board	• 2	• Advertisement board	• 2
• Sculpture	• 3	• Sculpture	• 4	• Sculpture	• 2
• Old architectural complex	• 2	• Old architectural complex	• 5	• Old architectural complex	• 4
• Tree complex	• 2	• Tree complex	• 4	• Tree complex	• 3
• Local street art design	• 3	• Local street art design	• 4	• Local street art design	• 2
• Modern Residential area	• 2	• Modern Residential area	• 5	• Modern Residential area	• 4
• Designed stone material	• 2	• Designed stone material	• 3	• Designed stone material	• 2
• Art Academy	• 1	• Art Academy	• 3	• Art Academy	• 3
• Retail establishment	• 2	• Retail establishment	• 3	• Retail establishment	• 3
• Old Villa 2	• 1	• Old Villa 2	• 2		
• Information Car	• 2	• Information Car	• 3		
• Bay resting area & Play ground	• 2	• Bay resting area & Play ground	• 5		
		• Car park	• 2		
		• White ship	• 3		
		• Roller Skating	• 2		
		• Kiting	• 4		
		• Street paving	• 2		
		• Visiting Art Academy	• 1		

Table 3 Nonlocal Participants' Selections

Table 3, clearly shows that participants have selected more elements in Option 2. Even for the same elements, the numbers of participants who have selected the elements have also increased, which means more people have noticed the elements in Option 2. Option 3 seems the most inefficient as the number of participants who selected each element are considerably low in comparison to the other two options.

To consider the timing to complete the task, Option 2 is also the most efficient. The average selection time for Option1 is approximately 7 minutes, 8minutes for Option 3, and Option 2 took the lead with 5 minutes.
After each interview, the interviewer gathered participants' opinions on the photo selection process:

Option1. Participants declared that they felt there were too many duplicated elements in the photos and 3 out of 5 of them cannot imagine the entire environment while they were selecting the elements. Hence, they have selected the two photos at each point as separate places.

Option2. Interviewees were very satisfied, although they felt elements were duplicated in certain photos, but they confirmed that the photos helped them to imagine the entire site and select the elements accordingly. Because of the surrounding environment photo in participants' minds during the selection, they have also identified the activities that they wanted to do at the study site and after the selection they felt they have walked around the photo site.

Option3. Participants experienced confusion during the interview process and indicated that all the photos were too random to be considered together. They sometimes felt they had seen the photo before, but could not tell which one it was.

Option 1	Option 2	Option 3
• The mountain scene	• The mountain scene	• The mountain scene
• Street light design	• Street light design	• Street light design
• Old Villa 1	• The way street light are ordered	• The way street light are ordered
• Sea view	• Old Villa 1	• Old Villa 1
• Modern designed sum-merhouse	• Sea view	• Sea view
• Square	• Modern designed sum-merhouse	• Modern designed sum-merhouse
• The Hill	• Square	• Square
• Designed street seats	• The Hill	• The Hill
• Sculpture	• Designed street seats	• Designed street seats
• Old architectural complex	• Sculpture	• Sculpture
• Children Playground	• Old architectural complex	• Old architectural complex
• Local street art design	• Tree complex	• Children Playground
• Modern Residential area	• Children Playground	• Local street art design
• Designed stone material	• Local street art design	• Modern Residential area
• Art Academy	• Modern Residential area	• Designed stone material
• Bay resting area & Play ground	• Designed stone material	• Art Academy
• White ship	• Art Academy	• Ships
• Roller Skating	• Ships	• Kiting
• Kiting	• Roller Skating	• Street paving
• Visiting Art Academy	• Kiting	• Visiting Art Academy
• Lighthouse	• Street paving	• Lighthouse
• Watch Museum	• Visiting Art Academy	• Watch Museum
• Play chess	• Lighthouse	• Swimming
• Swimming	• Watch Museum	• Dancing
• Dancing	• Play chess	• Do morning exercise
• Sea wave	• Swimming	• Sea wave
• Sea gull	• Dancing	• Sea gull
• Music fountain	• Do morning exercise	• Music fountain
• Bars	• Sea wave	• Bars
• Red Win Museum	• Sea gull	• Red Win Museum
	• Music fountain	• Sailing boat raise
	• Bars	
	• Red Win Museum	
	• Sailing boat raise	

Table 4 Local Participants' Selections

In Table 4, because all the participants are local residents, all the selections are nearly the same for the three selection procedures. The reason described by the participant was that because they had lived at the study site for a long time they very familiar with the surrounding scene. Once they saw a photo, it helped them to visualise the entire site, so they could select the elements they think can distinguish the local site accordingly, regardless of the order in which the photos were presented to them.

For this pilot study, local participants were selected because their views are seen as a guideline due to their solid local knowledge of the study site. Therefore the quantity of the local participants and the number of people has selected certain elements are not considered as a significant impact at this stage.

By comparing the two tables, it shows that the representative elements selected by the local residents have included all the common and distinguishable elements in Table 4 Option2. Therefore it proved that Option 2 photo selection procedure would be optimum for both local and nonlocal residents. The only difference between the two tables is that other than selecting the visible local signatures, local residents have also picked out the elements that have historical meanings and are not noticeable in the photo. Local residents also tend to select more elements on local activity at the study sites, for example, the lighthouse; watch museum; chess playing; swimming; morning activity, etc.

3.6 Conducting Research Methodology

From the derivations in previous sections, all the relevant parts of the research methodology have been reviewed, limitations on pre-existing methodologies are extracted and corresponding solutions on resolving such limitations are combined together to form a new method that would fit to the thesis objectives (Figure 34).

Research Approach		Use	Limitation	Solution
Interview	Photo Elicitation Interview	Use photos to elicit participants memory and feeling during the interview to extract more effective data	Lack of represention on real human vison	Use panoramic photos; Vertical panoramic photos combination; Photo Showing Sequence
Record	Needle Method	Help participants to identify elements from photos or maps accurately by marking relative needles/dots on them	Loss of marking details, such as participants' preferences and the reason of selection	Use A3 photos to increase marking accuracy and provide space to write down their throughts. Digital record under participants' permit.

Figure 34 Relevant Methods' Limitations and Solutions

In short, the thesis-developed methodology is using 180° PPEI incorporated with case study on both local and nonlocal residents at onsite and offsite locations. The new information gathering approach developed from the idea of the needle method was used as a way to record the data from the interview and analyse in future.

The next stage will apply the methodology developed through the process in this chapter in practical use through a case study. Firstly, 180° panoramic photos are taken and then integrated 180° PPEI is carried out with four groups of participants, and different color adhesive dots are used to mark different aspects of local identity on the

photographs. Participants are selected and interviewed following the research methodology. As the method tries to accurately identify local identity, a diverse scenario sample sets are required, there are two sample groups and two circumstances:

- **Local Onsite and Nonlocal Onsite**
  Two groups of local and nonlocal participants are selected based on the selection procedure described in section 3.2.3 (Difference between Local and Nonlocal Participant Experiences) and interviewed by carrying out the PPEI while walking along the study site described in section 3.2.4 (Difference between Onsite and Offsite Experiences) following the direction piloted in section 3.5 (Photo Showing Sequence).

- **Local Offsite and Nonlocal Offsite**
  Another two groups of local and nonlocal participants are selected based on the selection procedure described in section 3.2.3 and interviewed by showing the same set of panoramic photos described in section 3.2.4. The sequence in which the photos are shown is exactly the same as the onsite interviews.

The data will then be gathered and formalised to form the initial results from research methods. These results will be further interpreted in order to accomplish the research aim --- identify and assess local identity.

Chapter 4 Apply Research Methodology through Case Study

4.1 Introduction

After investigating the validity of the procedures related to the case study by carrying out piloted study at a selected study site, it has been proved that using 180˚ PPEI combined with onsite and offsite interviews would provide efficient and accurate data on the preferences of different participants' opinions. This chapter applies to the methodology, which has been developed in the last chapter onto a real scaled site case to identify and assess its local identity. The data will be collected in this chapter; the true analysis process of the data will be described in the next chapter on Data Analysis.

Apart from the literature review of using photos in landscape study, Collier (1967) mentioned that the duration of the process was considerably longer than the traditional interview, spanning upwards of two hours as opposed to the typical hour-long interview session, and is consistent with other accounts of photo-interviews. Therefore due to the time scale of this thesis, only one case study has been carried out. The research has chosen Yantai to be the primary research site due to its combined features of rich history, varied architecture, mixed community life and diverse population format. Because the thesis focuses on developing a qualitative research procedure that focuses on the quality of sampling data rather than the mass quantity, it is important that the sampling participants are diverse enough. The above features of Yantai would provide a diverse sampling data that provides a good representation. The detail of the site selection and participant selection are introduced in the next two sections.

4.2 Selection of the Study Site

Because the ultimate goal of this research is to find a universal method to identify local identity and to distinguish its local identity nature, the chosen site would not make much difference. However, this research has chosen Yantai Hill to execute its study as the data for the local site is easy to acquire; has a strong representation in all the major local identity aspects; and most importantly it is relatively easy for the researcher to obtain information for Yantai Hill as the researcher is very familiar with the local site. A set of operational criteria has been laid out, as follows, whereby candidates will be deemed qualified to serve as cases (Yin, 2003):

1. **The study area belongs to the city of Yantai.**
   Yantai is selected as the target city not only because the investigator originates from Yantai but also for the following reasons:

   - Firstly, extensive planning design projects and research work are being developed along its coastline area.
   - Second, in the coastline area, the local community plays an important role in the local development and economy such as shops, self-employment, and take away.
   - Thirdly, the investigator is familiar with the city of Yantai; knows the cultural background and the lifestyle of the local community.

2. **Convenience, access and geographic proximity**

As the investigator is familiar with the city of Yantai, it is convenient to reach the study area and interviewees, hence allowing less structured and more amplified relationships to develop between the investigator and the interviewees.

3. **Local residents, local communities.**
   As the study is based on interview data gathered from local residents, it is essential that each study site has its own local residents and local communities. This is because local residents actively participate in community development such as tourism, land and infrastructure maintenance, religious rituals and so on.

4. **Well-known as a multi-cultural place.**
   As described in the literature review chapter, different participants from various cultural backgrounds will have different opinions on place identity. Yantai Hill is well known as a multi-cultural place, different cultural complex in here; different styles of architecture maintain strong attachments to the place as a study area, such as Zhang Yu Wine Museum and Foreign Former Consulates.

Furthermore, Yantai Hill has been chosen as a study site not only because it well represents local identity but also 《Urban Planning Report of Yantai, 2008》mentioned that Yantai Hill is an important site for local urban development as a "city window of Yantai" and including different famous local characters which need to be protected and improved in the future development. Therefore, Yantai Hill has been chosen to be the optimal study site for the research as it suits every aspect from the research level.

4.2.1 Yantai

Yantai is a famous seaside city located in north-east China with a population of 7.02 million, it is a prefecture-level city with scale of 13745.95 km² located on the southern coast of the Bohai Sea at Shandong Province in China. It has 909 km coastline bordered by both the Yellow Sea and the Bohai Sea, and lies across from South Korea and Japan. It is now the largest fishing seaport and a robust economic center in Shandong province (Figure 35).

Figure 35 Yantai, Shandong Province, China
(Source from: http://en.wikipedia.org/wiki/Yantai)

The city includes five districts - Zhifu, Fushan, Mouping, Laishan, and Changdao County, and administers seven county-level cities - Penglai, Laiyang, Haiyang, Longkou, Laizhou, Zhaoyuan and Qixia. Of these, Zhifu is the central district. Although Yantai is not a metropolis like Beijing and Shanghai, it has its own unique charm. Evidence suggests Yantai existed as a city as long as 10,000 years ago. It was visited three times by the first emperor of the Qin Dynasty, Qinshihuang (Yantai History Research Association, 1990).

In the late 19th century, Yantai was handed over by the falling Qing Dynasty to the British to become their treaty port in China. Then with the Germans' power over the whole Shandong peninsula in the early 20th Century, Germans also controlled Yantai for nearly 20 years (Yantai History Research Association, 1990). Therefore the landmarks in Yantai have been shown in different styles because of the different influences from western culture, this is evidenced in the various museums and the building styles in the city. However, the colorful history has not left a distinctive architectural mark, there has never been a foreign concession, and though you will see an occasional nineteenth-century grand European building, most of the town is of much more recent origins.

Adding to the draw of local natural resources, the picturesque scenery in and around the city has earned the area acclaim by the United Nations, which lists it as one of the most inhabitable places in the world. Undulating hills rise above the area's many rivers, and are framed by beaches and neighboring islands.

4.2.2 Yantai Hill

Yantai Hill is located at the city center of Yantai, and is famous for the mixed culture at the place.

In 1861, Yantai opened to the outside world, and Yantai Hill, due to its geographical distinction, has since become the city's major exchange port. 16 countries have since built their embassies in the area. In 1870s, the prototype of the three main streets at the area starts to form, namely Chaoyang Street, HaiAn Street and HaiGuan Street. There are only a few business buildings and other public architects by the time (Yantai History Research Association, 1990).

From 1880 to 1920, with the western banks open, China and western businesses began to get into the local area; port exchange and the financial industry became the major development engine of Yantai Hill. At the same time there was mass construction of post offices and media communication facilities, churches, hospitals, embassies and other public facilities (Yantai History Research Association, 1990).

From 1920 to 1950, American marines used Yantai as their summer resort, which further motivated the area's hotel businesses, restaurants became one of the major facilities at the study site, some street business buildings have also been reconstructed to suit the demand (Yantai History Research Association, 1990).

After 1950, the People's Republic of China was formed; the area became the Chinese army's military restricted area, which forced the business center to move to other areas. A number of important public facilities vanished, e.g. a local Catholic Church and Dong Shan cemetery of foreign missionaries was demolished at the time. However, the

historical aspects of the streets were protected as much as possible (Yantai History Research Association, 1990).

Between 2000 and the current time, some historical architecture was destroyed because of new business areas being constructed adjacent to the historical area and people have begun to ignore the area. Other historical sites at the area are also as risk of disappearing. Hence it is obvious that the historical local identities of local streets around Yantai Hill region are being lost, which is a good reflection of the overall problem that China is facing at the moment.

The following figures show the past and present of the same locations in the Yantai Hill area:

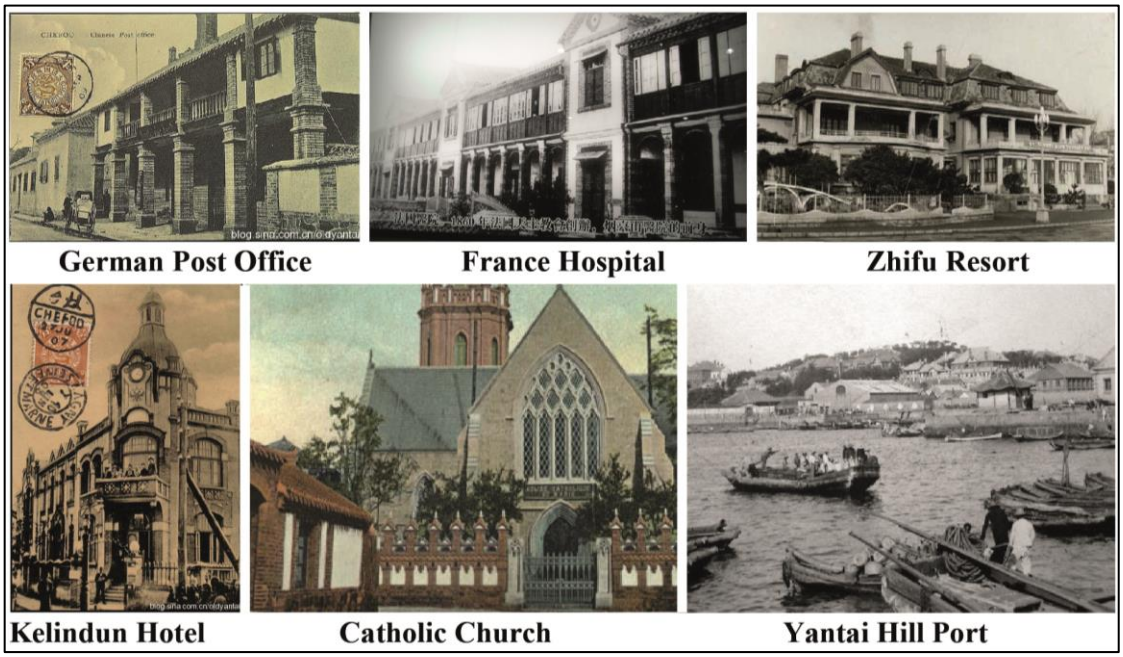


Figure 36 History of Yantai Hill Area
Source from Yantai City Archive

Figure 37 Present Day in the Same Yantai Hill Area

4.2.3 The Famous Streets of Yantai Hill

Figure 38 Streets of the Yantai Hill Area

The major historical streets of Yantai Hill are: ChaoYang Street, Binhai North Road, HaiAn Street, HaiGuan Street, Lixin Road, ShunTai Street and FuMin Road (Figure 38). From the history and the figure above, we can see that the site has been developed from ChaoYang Street and gradually expanded to the surrounding areas taking the street as a center point. Those streets have played a central role in the urban place development. The range of the study became a major concern to the research, e.g. place can cover a range of scales and spatial typologies. During the onsite research and literature review on the research scale, the researcher identified that to a large extent, streets in an urban context are places of economic and social significance. In the late 1980s, Gehl (1989) argued that successful urban places are based predominantly on street life and the various activities occur in it. Later on, Bentley (1992) and Jacobs (1993) discussed that great cities and places are, in most cases, identified by the main streets and the character of the streets reflects the image of the cities. More recently, Shuhana et al. (2004) proved that street also represents the people's perception of city character and identity due to the bonding developed by the experience. Hence, due to the importance that street life plays in the urban city development reflection, which is relevance of the topic to the selected context, and the time limitation, this research will focus on the study along the street views from A to D at the study site (Figure 39).

A to B --- Haian Street
B to C to D --- Binhai North Road

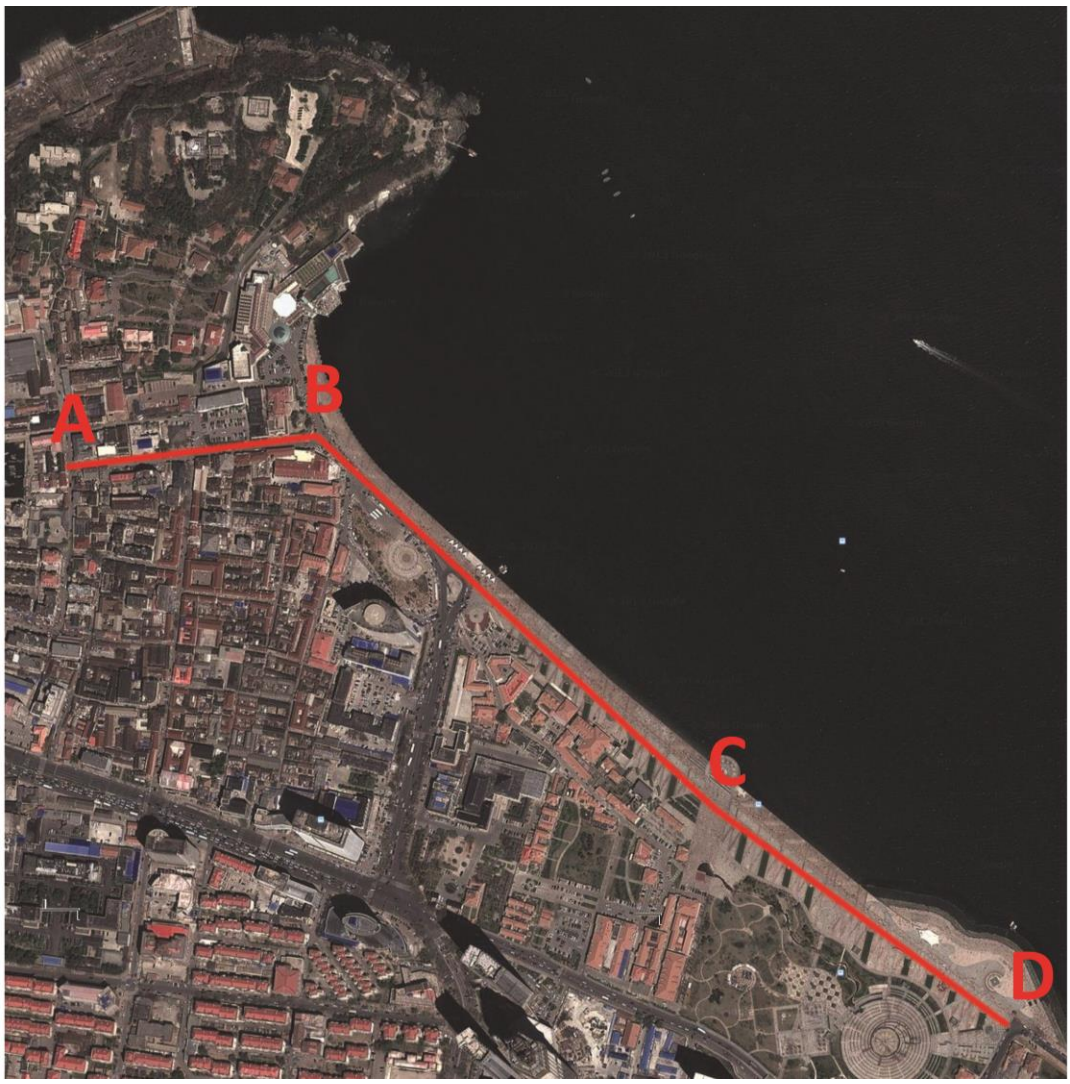


Figure 39 Study Site

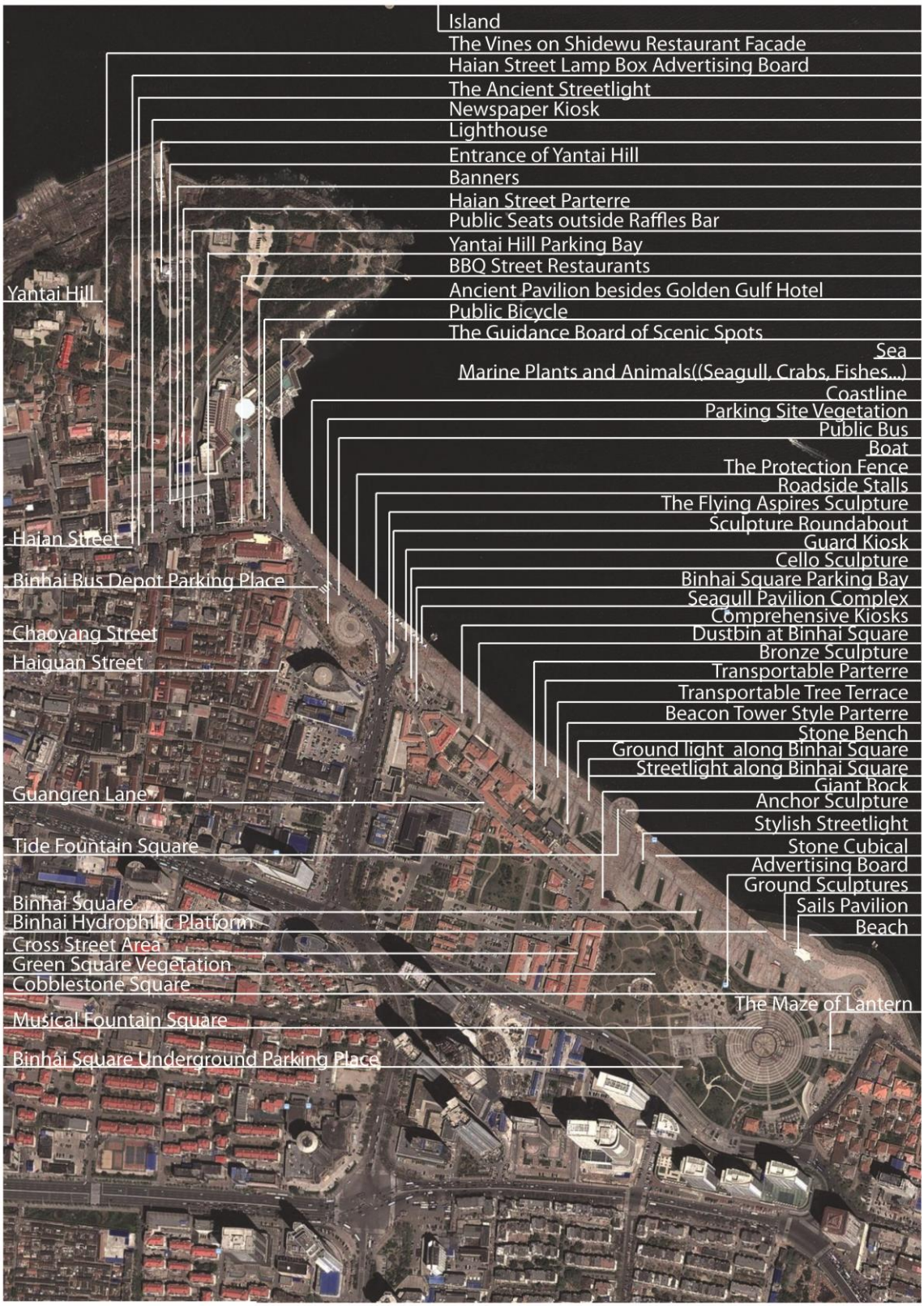
The reason for the direction being from A to D is as follows:

From point A to B, this is Haian Street. Banks, post offices and other western entertainment sites have all been built around the street. All of these happened before 1940. Since 1979, the local government has invested extensively to rebuild the hill and point A was rebuilt as Yantai Hill Park in 1988. It has now become a famous tourist site. It is also known by its various building styles, a combination of eastern and western influences together.

From Point B to C, this part of Binhai North Road was redeveloped after 2000 as a place that honors the cultural history of the district. Due to the western countries history at the district, the culture here is more western than traditional Chinese. The first Chinese red wine vineyard known as Chang Yu Wine Company was built here because of the western cultural intervention, as was the Polaris Watch Factory. The Zhang Yu Wine Museum and Polaris Watch Museum were built at this area in honor of them pioneering the Chinese wine and watch industry.

From Point C to D, was redeveloped after 2005 by the local government as a public park for local residents to better enjoy living in the district and it has been named Binhai Square. Map 1 and Map 2 show the main element's name and location on the study site.

Map 1 Element Name and Location in Architecture Aspect



Map 2 Element Name and Location in Landscape Aspect

One import concept of the research is to show the development of local identity from a historical, cultural and originality point of view. The study streets at the study site were therefore chosen to represent this concept. The main idea is to show the concept following the historical development of the local area with support from change of the originality of local residents' lives.

The main reason for choosing these two streets is because the research focuses on developing a methodology to identify not only the current local identity but also to find the historical evolution of the local identity. Understanding the local identity's development history will help designers to better understand the true value behind the local identity, it is important to both know and visually see the evolvement of local identity. Yantai Hill district was the cradle land of Yantai, and the area gradually developed over time around Yantai Hill. The most recent local developments for the area are all at Binhai Square. Hence by comparing these two streets from point A to D provides an explicit visual view of the development for local identity. The emphasis of seeing the development from history to present is that it allows us to foresee the pattern of the evolution and hence better predict the future, which allows designers to follow the trend to better protect and evolve the local identity for future urban development.

Therefore, because the concept of the research is to find the methodology to help academics and practitioners to better define local identity and evolve the local identity, it is important to take a comparable study to show both the concept and logic.

In essence, the center of Yantai Hill started from A and developed to D, and the route from A to D has been seen as the local symbol of Yantai. Therefore the thesis has chosen to study the streets that fully illustrate the historical and originality development of the district's local identity. Meanwhile, the two streets also explain the cultural development of the local history.

4.3 Photo Preparation

Prior to the interview, panoramic photos were taken at the study site. Taking Figure 40 as an example:

Firstly, along Haian Street from point 1 to 7, 180˚ panoramic photos were taken, one covers the front 180˚ (1 to 7) for forward walking direction, the other covers the backward walking direction (7 to 1). They are shown in this manner to indicate the route that the participant would walk around the study site --- walking forward and then backward, shown in section 3.5. Meanwhile, two panoramic photographs in the same location and same direction are combined due to the narrow shooting distance along the streets; this decision was made based on the vertical combination technique introduced in Chapter 3 (Appendix: Panoramic photograph along Haian Street).

Secondly, along Binhai North Road from point 8 to 15, 180˚ panoramic photos were taken from both forward and backward directions. Point 8 to 15 did not use the vertical combination technique because of the wide shooting range along the seaside (Appendix: Panoramic photograph along Binhai North Road).

In total, there are 30 panoramic photos to represent the local environment printed in color on A3 paper for participants to use during the PPEI process.

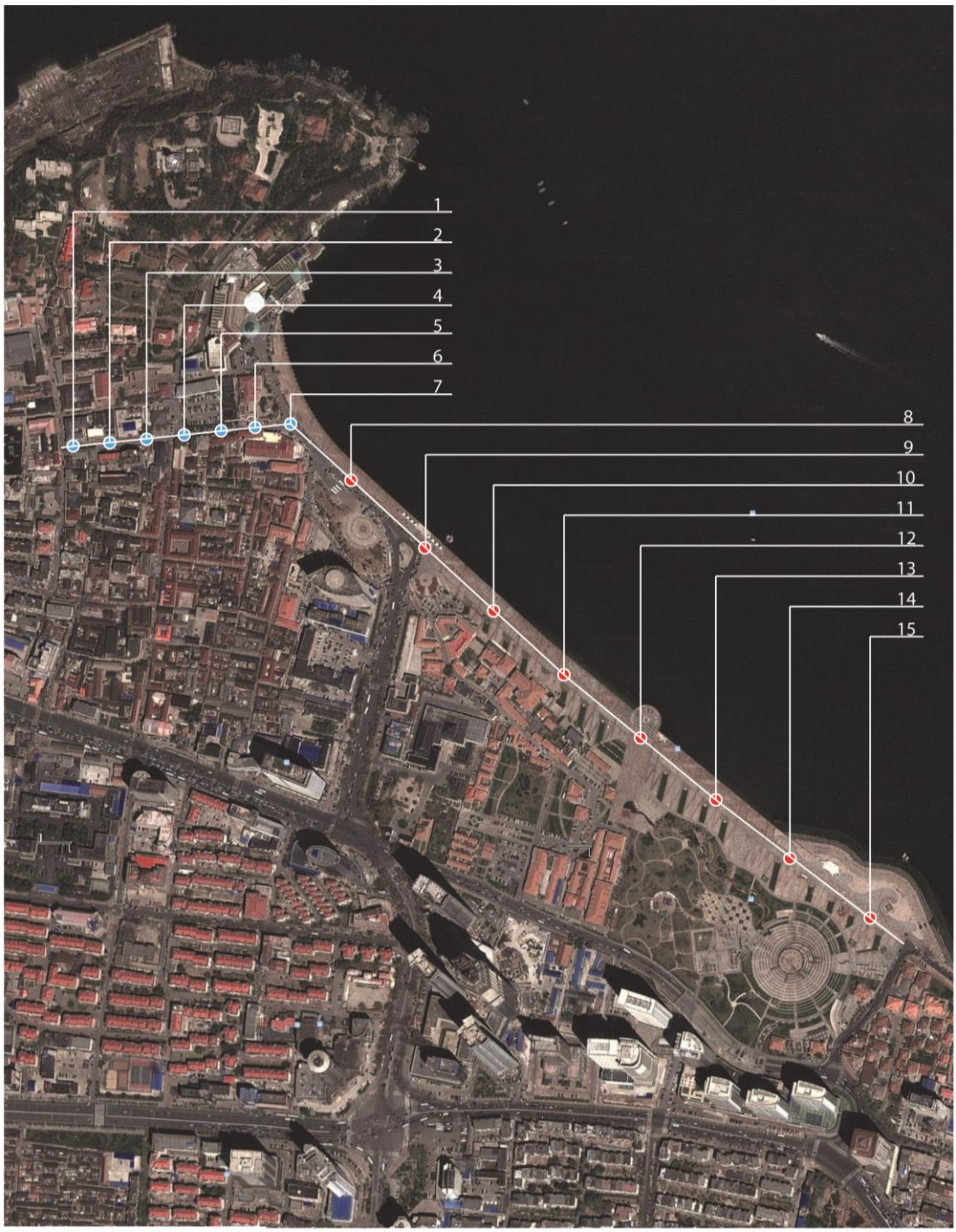


Figure 40 Photo Shooting Locations and Sequences along the Study Site

4.4 Participant Selection

4.4.1 Local Participants

Local participants are selected from the local workers, nursing homes and high school students. The reason why these three groups where chosen is because the importance of local participants is their deep knowledge of the local site and the interaction they have with the local environment. However, despite them all having resided at the site for a comparably long-time, different people would still have different life experiences. Elderly people living at nursing homes are local retirees; they have lived at the site for

over 50 years. Their robust interactive memory with local history would provide a strong contribution to the validation of local identity from a progressive point of view, and help to dig deeper into the history of local identities. Local workers are people who have worked at the site for more than 10 years, they may not have lived here since they were born, however, the working life has provided them the experience to join the local community and become part of the region. Their opinions would not only provide what attracted them to the site but also provide proof of how local identity interacts with people, most importantly how local identity evolves to satisfy new needs and how new residents' feedback on the evolution through daily interaction with the environment. High school pupils are all born at the place, in spite of having a deep memory of local history, their experience with the place is fairly short but it is "since they were born". The reason why this research did not choose younger students is because high school students have the ability to describe their feelings with a fair point of view given their experience and activity with the study area. Hence they could provide insight into how the younger generation feels about the local identity, which allows the research to unveil how local identity evolves to satisfy younger generations in a fast paced modern environment. Based on the above reason, it is clear that these three groups would provide a diverse understanding of the local identity and allows the research to investigate local identity from all perspectives.

4.4.2 Nonlocal Participants

The reason for comparing the local and nonlocal residents' opinion on local identity is that the local identity is a complex and long-term processed feature of a local site with significant interaction of the original variable with the type of bond (Hay, 1998b). Natives will have similar opinions on local identity, whereas individuals who come from other places might have different thoughts. Among those opinions, the research attempts to find both the common ideas between the two groups and the different suggestions on identifying local identity, and the reasons.

As the survey needs to be carried out with visitors who are the main sampling participants for the nonlocal residents it is essential to make sure that the survey sample's number is good enough to reflect their thoughts. The interviews were conducted for several hours at different times each day, during a three-month period (August, September and October). The survey will be carried out during the tourist season when the study site is in operation and when visitor numbers are traditionally at their peak. This ensures the potential for interviewing the site visitors, as well as those who travelled to Yantai Hill to enjoy its identical landscape. The researcher will randomly invite participants for every adult (over 18 years of age and regardless of sex or ethnicity).

4.4.3 Sample Size

In terms of sample size, Sandelowski (1995) suggested that sample size in qualitative research should be neither so small as to make it difficult to achieve data saturation, nor too large to undertake a deep, case-oriented analysis. Various methodologists have provided guidelines for selecting samples in qualitative studies based on the research design (e.g. case study, interview). Among all it has been suggested that between 12 to 20 participants for one interview group is an appropriate size (Guest et al., 2006, Creswell, 1999). More recently Shinebourne (2009) and Watts and Stenner (2005) proved that using 40 to 80 photos with 40-60 participants for qualitative research

method would produce robust data on a normal research project. In landscape study, Palmer in both of his works on finding unique landscape characters that were carried out in 1976 and 1987 sampled different sized participant groups with 96 and 36 corresponding sample sizes, and has later proved that despite the different sizes, they derive highly correlated results (Palmer, 1976, Palmer, 1997). Dearden (1984) used 30 photos with 90 participants together to investigate the factors influencing landscape preferences. Swaffield and Fairweather (1996) has used 30 photos with 66 participants to investigate the method of using photos, and indicated the result of such method to be robust.

Therefore the research has decided to select 15 local participants and 15 nonlocal (tourists) participants at the study site and completed the onsite interview; 15 local people and 15 nonlocal (Shanghai) residents participated in the offsite interview. The four participant groups have formed the overall 60 participants as the sample population of the case study with 30 photos. Again, this research is focusing on developing a qualitative research methodology with quantified data analytical approach that could provide efficient data based on diverse participants with rigorous interview techniques. Hence the quantity of the participants is not the primary focus. The potential limitations and future suggestions on such hypothesis are discussed in Chapter 8.

4.5 Conducting Panoramic Photo Elicitation Interview

The PPEI was carried out in cooperation with a similar idea integrated from the needle method described in Chapter 3. Participants were shown a set of 30 A3 panoramic photos and asked to use different colored adhesive dots to mark the elements they like or dislike, and their opinions throughout the interview process will be recorded, and noted on the photos. Each color represents one aspect of local identity:

- Blue Dot --- Physical Aspect
- Green Dot --- Social Aspect
- Yellow Dot --- Sensory Aspect
- Red Dot --- Memory Aspect

When marking the local identity, participants would first identify the subject on the photo that they want to highlight and then mark it using the dots, when the identity has special meanings, participants are encouraged to either write the reason for their selection on the photos or describe the reason for selection to the interviewer and it will be recorded using a digital recording pen when the comments are too long to be written down on the photo. As discussed in Chapter 3 on the needle method section, one of the drawbacks of the original method is that it is incapable of telling the details behind each mark on the photo and there is a risk of having too many dots on one photograph. Therefore, this research has printed all 30 panoramic photos on A3 paper to provide enough space for participants to mark and write their reasons beside the marked dots. For example, a local participant may not only like a building at the local site, but also have a unique memory regarding the building, in such case; participants can mark the building using two different colored adhesive dots and describe the reason of his selection to the interviewer. The aims for this part of the study are threefold:

1. To identify the elements that could represent local identity from a combination of onsite and offsite PPEI with local and nonlocal participants.
2. To find out the elements that participants have different opinions about.

3. To generate data for local and nonlocal residents at onsite and offsite places to be used later to compare the data with onsite results in multi-dimensions to find out the way to identify local identity in the future, For example, not only compare the offsite data with onsite data as two groups, but also compare different groups' data in the same subgroups. This will be discussed in detail in the data analysis section.

Furthermore, as discussed in chapter 2, it is not only the positive perspectives that are cast as local identity, but also the negative ones. Hence, each participant was asked to mark their selections by "+" and "-" to represent their positive and negative feelings correspondingly, empty for no specific feeling (Figure 41).

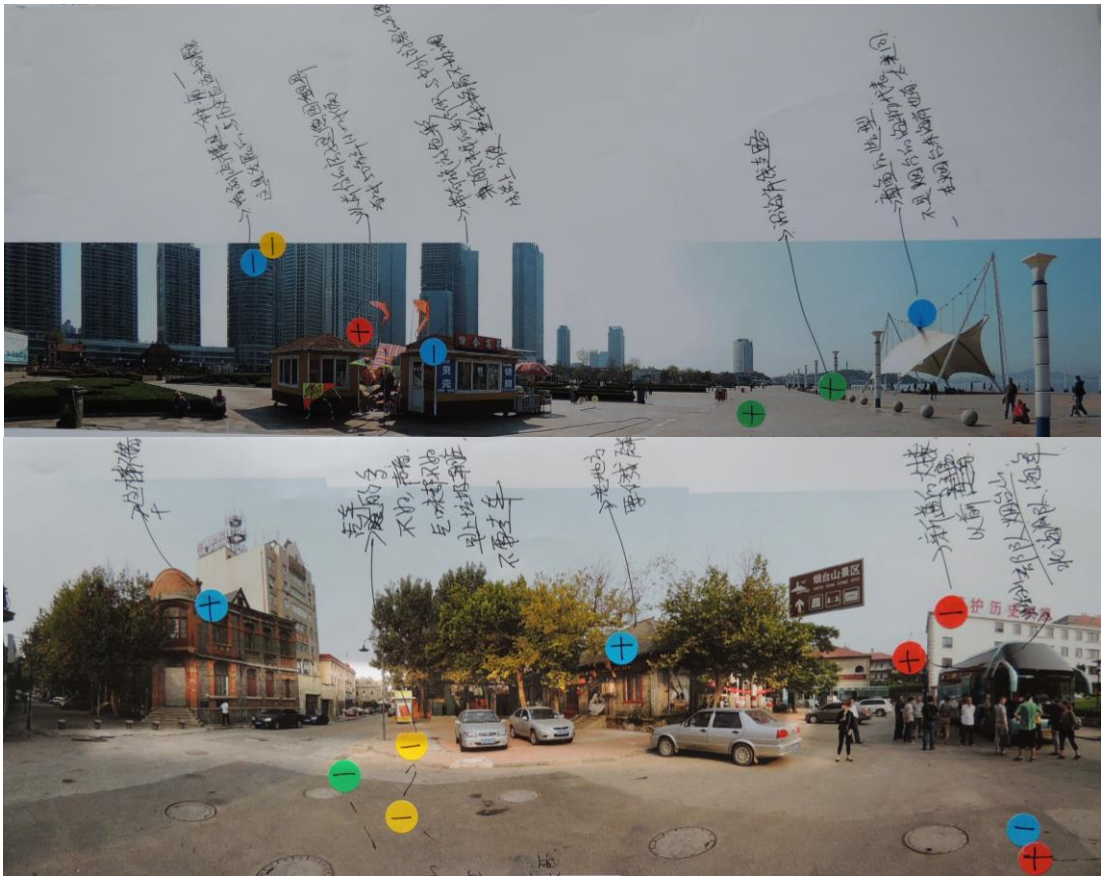


Figure 41 Marks on Photos

4.5.1 Onsite Panoramic Photo Elicitation Interview

In this part of the case study, PPEIs were conducted onsite, the researcher set out to compare the different views on local identities between two groups of participants --- local and nonlocal residents. The PPEI is combined with field visit surveys. The method employed in this research has advanced local identity identification and enhanced data collection (Harper, 2002). The method has also been proven to be interactive, shorter time scaled and consequently reduced resources needed to the research (Glover et al., 2008).

30 participants were randomly stopped at the study site and a consent form (Appendix) and explanation sheet (Appendix) was being handed to them once they expressed in interest in participating in the study. To enable the researcher to select 15 locals and 15 nonlocals for the research, participants were asked whether they were temporary visitors or people who live around the study site before taking part in the interview.

Once participants confirmed that they wanted to participate in the interview, they were asked to complete a personal information sheet (Appendix). The researcher then walked with them along the route at the study site following the sequence from A to D and then walked back to A from D, such sequence was pre-determined and explained in the section 4.2.3. During the walk, the researcher asked participants to look around and try to identify any elements that influenced their feelings and mark them on the photos, at the same time a digital recorder was used to record the conversation between the interviewer and the interviewee. The researcher also used questions to encourage participants to express themselves, which would help to further investigate the participant's opinion in order to better analyze the results. During the interview process, the researcher asked participants why they had marked the relevant elements and to explain the importance of each place that was marked. Each PPEI last around 40 minutes to an hour depending on the speed participants' walk and details they provide to the interview.

In the event that an element that the participant wanted to mark was not on the photos, the relevant elements were written down on the corresponding part of the photo, and the reasons were recorded by the digital recorder. For example, participants might like the smell from the seaside or the seagulls, and it is hard to mark these on the photos, hence the relevant dots will be placed around the sea area on the photos and then text was written around the dots on the photo.

4.5.2 Offsite Panoramic Photo Elicitation Interview

In this part of the study, PPEIs were conducted offsite, the researcher set out to compare the different views on local identities between two groups of participants --- local and nonlocal residents. One important concern in this study is the expansion of understanding the effect of knowledge for different people when identifying local identities without physically interacting with the environment (Zube and Pitt, 1981).

The interview for this part of the study was carried away from the study site. In spite of interviewing participants at the study site in the onsite interview section, the offsite interviews were carried out at different places for both local and nonlocal residents.

Local residents' interviews were conducted in the local region at a local coffee shop away from the study site. Nonlocal participants were interviewed at a rented office in Shanghai to investigate the different opinions between local and nonlocal participants.

30 participants were invited for this part of the interview, including 15 locals and 15 nonlocals. The researcher used the same 30 photos that were used in the onsite interview.

On the day of the interview, the researcher printed each photo on A3 paper before the interview; this is for the participants to mark the corresponding elements that they have opinions on throughout the interview process. The photographs were numbered consecutively on the back so that the researcher could keep track of the interview text with the corresponding photographs.

After participants confirmed that they were willing to participate in the interview, the interviewer introduced the local site with a short history of the place and then explained how the sample photos were taken and how they will be shown to the participants. The researcher then guided them through the sample photos and asked them to mark the

corresponding elements on the photos that attract their attention. During the interview the researcher asked participants to try to identify any elements that influence their feelings and mark them on photos directly; at the same time a digital recorder was used to record the conversation between the interviewer and the interviewee. The researcher also used questions to further investigate the participant's opinions in order to better analyse the results later. During the interview process, the researcher asked participants why they had marked the relevant elements and to explain the importance of each place that was marked. The sequence of photographs was the same as that of the onsite interviews. One interesting point to note is that the offsite interview took less time than the onsite interview. This is because walking around the site takes time, and the speed of selection tends to be faster in the offsite interview process, also people may see things onsite that trigger memories and further conversation.

4.6 Data Collection

After the interview has been carried, a vast amount of data has been collected. Each of the 60 participants marked the elements on each set of the 30 A3 photos shown to them, and their opinions for certain elements were noted down on the photo, the entire interview conversation was also digitally recorded for later analysis.

It would be very insufficient to compare each photo by just looking at the photos and listening to the recordings. Therefore it is essential to put the elements selected on the photos into a readable format for later interpretation. For this reason, all the elements marked by the same participant on all the photos have been put into a corresponding table. Each table records all the information marked on all the photos each participant has seen. Therefore it will include all the elements marked on all 30 photos by one participant and in written form.

The research identified four local identity aspects in Chapter 2, therefore, during the interview, participants were asked to mark the corresponding elements into the category that they think it belongs to. Different colored markers were used on the photos to mark these elements. Hence, there would be four different tables for each participant's interview; each table represents the physical, social, sensory and memory aspect elements that were identified by the participants correspondingly. When transferring the elements in to the table, both the markers on the photos and the interview record were used to make sure the corresponding elements were put into the correct cell under the right aspect's table. For example, Table 5, 6, 7 and 8 are samples of the corresponding aspect tables for one local onsite participant's interview. After the data collection process, there would be 240 tables for 60 participants.

On each table, the elements' name, reason for selection and preferences are shown in different columns. The "Reason of selection" indicates why an element has been selected and the thoughts participants have on the element; in the preference column, a "+" sign indicates that the participants "like" the selected elements, "-" meaning "dislike" and an empty cell would mean no specific feeling but participants still think it is an element that is worth noting. In Chapter 2, it has been pointed out that an element is special to people not only because it contributes "positive feelings" to the people who interact with the environment, but "negative feelings" can also make the place special and force residents to remember the location, therefore, the preference column is essential to discover why the element is noted by the participants. This would help to evaluate the quality of the local identities later in this research.

From the tables, the order of elements recorded follows the direction that participants walk around the site. It clearly expresses the elements that have been picked out by the participants and the reason of selection with the preference associated with each row. Hence it is convenient to see and analyse the elements and compare each table with other participants' selections. However, an issue with the table is that when participants mark their preferences on the photos they give a name to the elements that they selected in their own languages, and such names and their reason for selction are recorded by the recorder. After laying them out from the recorder, it is noticeable that different participants have used different names for the same element, hence when the researcher tries to compare the tables it results in discrepancies. This is due to the different levels of life experience and knowledge to the local study site. For example, locals tends to use more similar terms when describing an element, however, nonlocals would use any name that they think is suitable to describe the elements. Therefore it is essential to formalise the table to make sure the same names are used throughout the table comparison. Based on the above reason, the initial tables were re-evaluated, so that all the elements' names are standardised, which would be advantageous when comparing the data in the later stage of the data analysis.

Physical Element	Reason for Selection	Like Dislike No Feeling
Dust Bin	Lack of Design	-
Marina Square	For walking only, safe, and a good place for kids to play around	+
Old Townhouse complex	Lack of historical sense, limited human activities at the place	-
Seagull Pavilion	Unique architect style, good for rest, lack of other functions	+
Tidal Fountain Square	Great design, the theme also matches the "Ocean"	+
Roadside Stalls	Poor hygiene, affecting the sea side view	-
Green belt along the old street	Lack of a standard form, not very nice looking in terms of the overall feeling	-
Old post office	Full of history	+
Bicycle renting point	Convenient for visitors	+

Table 5 Local Onsite Physical Aspect Collection Template for One Participant

Social Element	Reason for Selection	Like Dislike No Feeling
Tourism	Here is a seaside square, which offers tourism, rest and other people who are willing to experience seaside activities.	+
Sea View	The site offers a great sea view, every tourist who comes to the site would come to the square to feel the culture, see the ocean, and other sea related sights	+
Wine Expo	The local Zhangyu Wine industry is one of the best in the nation, which has a good reputation around the globe. The yearly International Wine Expo held at the site is the only wine expo in the country. This has hence gained the name "international city of wine" for Yantai	+
Square activity	The square offers different activities to the public: there are concerts every night during the summer season; local people have organised a voluntary dancing show which allows all the public to take part.	+
Wedding	The Square is one of the "must go" places for wedding photography	+

Table 6 Local Onsite Social Aspect Collection Template for One Participant

Sensory Element	Reason for Selection	Like Dislike No Feeling
Yantai History	Yantai was the first open port during the Qing Dynasty; a lot of countries chose to open their embassies at Yantai at the time. This also helps to express the city's developing progress.	+
Food street	Guangren street is a famous food street that offers different styles of food to the public.	+
Wine Tasting	As Yantai is also famous for its Zhangyu Wine, the wine tasting is also a special treat at the place.	+
Traffic noise	Due to the popularity of the area, traffic noise is a problem at the local site, which needs to be reduced	-
Sea food and Lu cuisine	Yantai is the birth place of the Lu cuisine, Shandong, China	+

Table 7 Local Onsite Sensory Aspect Collection Template for One Participant

Memory Element	Reason for Selection	Like Dislike No Feeling
Yantai History	Yantai opened its port in 1861, an embassy district was formed due to the vast embassy settle at the place during Qing Dynasty, e.g. U.S., German, Japan, etc. The current European architecture styles are all inherited from those times. Here is the most centralised human cultural history resort	+
Zhangyu Wine Museum	The earliest Wine Museum in the country,here is also one of the must see place for the visitors and wine hobbyist.	+
Catholic Wedding	Golden Gulf Hotel use to be the catholic gathering resort therefore a lot of western style wedding and catholic weddings use to take place at here	+
Island	In local history story, the Qin emperor use to come to these islands and use an arrow killed a shark. The Zhifu island and Yantai hill are full of history; they are not only recording the history from ancient to modern time, but also a proof of the foreign cultural invasion history during the world war.	+
Japan Spy Center	Ganghao Hotel use to be the Japanese Spy center during wartime.	-

Table 8 Local Onsite Memory Aspect Collection Template for One Participant

Chapter 5 Results

5.1 Introduction

The thesis methodology not only focuses on applying the PPEI process to gather reliable data, but also finding a way to analyse the data in achieving objective 3, 4 and 5 of this research. As stated at the beginning of Chapter 3, after gathering the data, the thesis methodology would aim to quantify such data that will help to interpret it qualitatively. Throughout the process, local identity identification, assessment and visualisation techniques are introduced to visualise the result to provide a straight view on both local identity and its corresponding assessment. Hence the final results will provide a table that identifies and assesses local identity across all aspects, and maps are provided to visualise the findings more explicitly.

Because of the vast amount of data gathered, although it has been standardised through the collection process, it is still fragmented and scattered. An efficient way of analysing this data is necessary to extract useful information from the noise data. Therefore it is empirical to analyse it into a readable and explicit structure so that the data can be interpreted. One important fact is that the data analysis process introduced in this chapter is also part of the overall method developed during research. Figure 42 shows an overall flow diagram on how the final results are going to be deduced through a four-stage process:

1. **Record for Each Participant:** PPEI were carried out through case study and data is collected and formalised to the data collection table.

2. **Data Categorisation for Individual Aspect:** The scattered data is categorised into four different tables, each representing an aspect of local identity. The table reflects the preferences of all selected elements across all participants groups.

3. **Individual Aspect Assessment:** The categorised data for each aspect is then clarified into its own analysis tables by filtering out all elements that were selected by more than 7 participants in any sample group and such elements' total preference number and number of selections in each group are visualised into a data analysis table. Bar charts are used at this stage to visualise the preference of selected elements and participant groups' selection.

4. **Overall Assessment:** All four aspects' data analysis tables are aggregated to build the final overall local identities identification and assessment. Pie charts are used to represent the overall participants' preferences for both local identity aspects and different groups.

The final results, shown in pie charts, are plotted on a local map to provide an explicitly visualised interpretation of local identity, and each local identity element can be assessed visually through the pie charts. Furthermore, each data analysis stage provides unique results in explaining the conceptual framework discovered in Chapter2. Therefore it is necessary to understand how each stage works and how to interpret the tables for each step in helping to further interpret local identity.

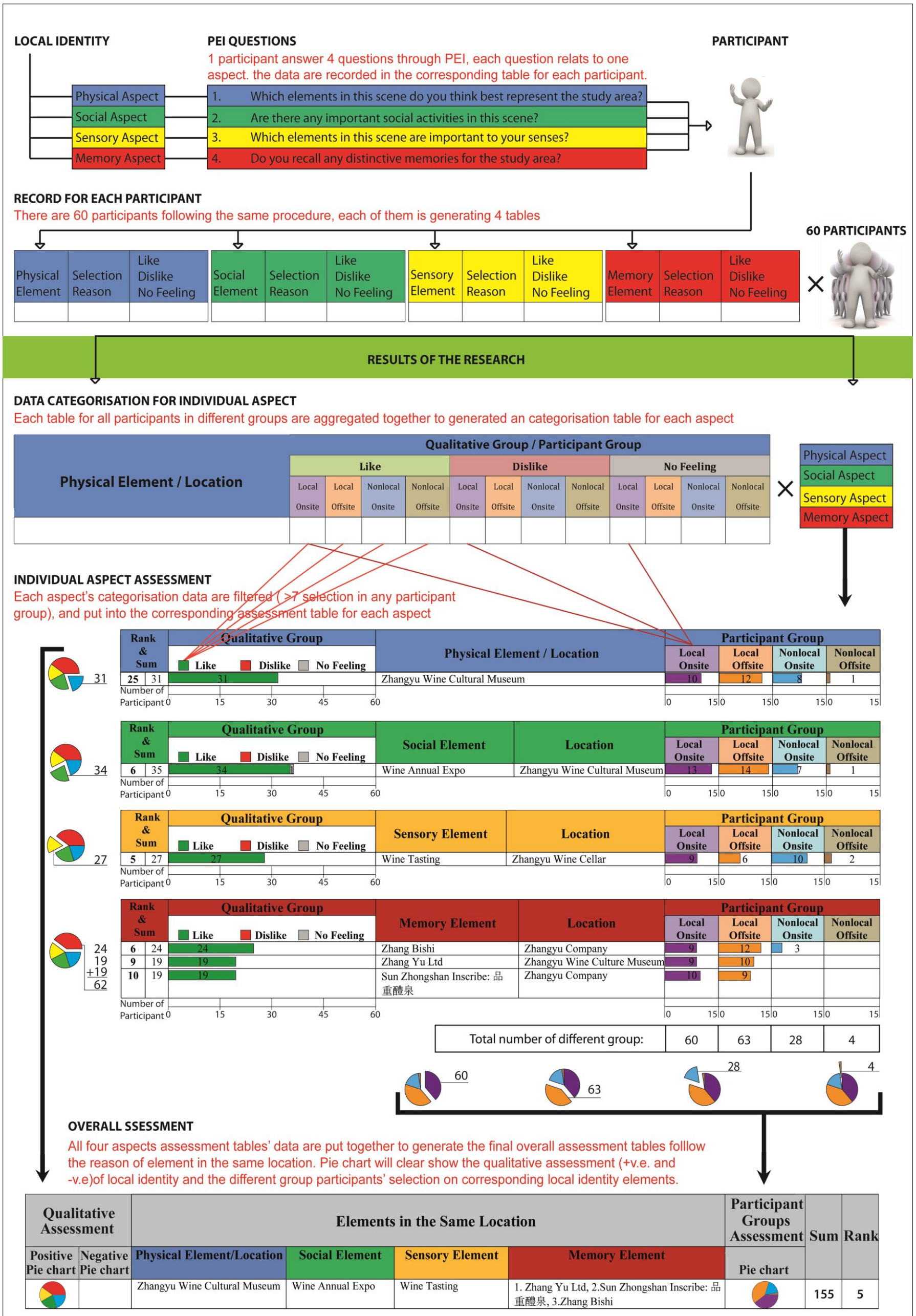


Figure 42 Process for Generating Results: all participants selections are gathered through PPEI case studies; this data is standardised and categorised into corresponding aspects' table according to the reason for selection; such data is then visualised in different ways to represent different perspective's assessment for each aspect; such assessments of individual aspects are summarised together and visualised to represent the final assessment of local identity as a whole.

5.2 Results of Individual Aspect of Local Identity

5.2.1 Data Categorisation of Individual Aspect

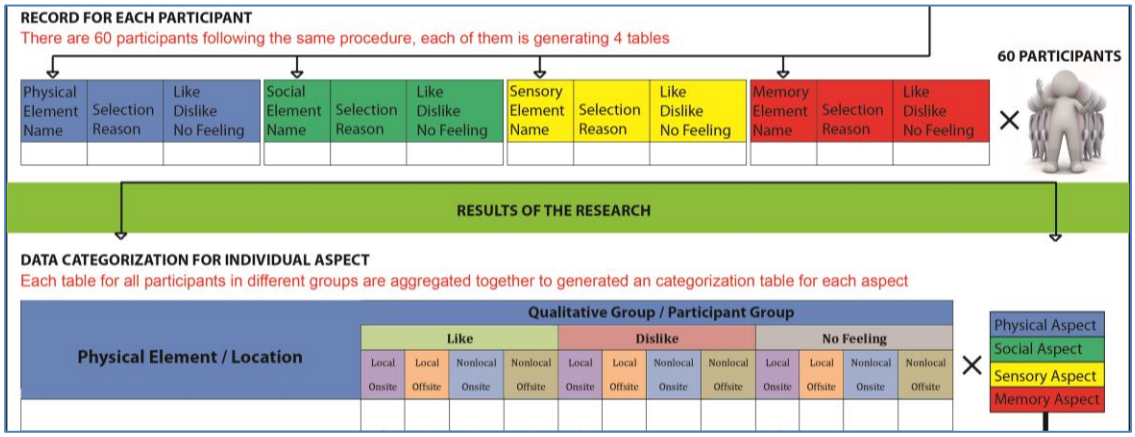


Figure 43 Data Collection to Categorisation

The first step of data collection has already been done through the last chapter, however, it would be very inefficient to investigate all 60 participants' interview data one by one, therefore it is essential to aggregate all data collected and categorise it into similar selection choices to interpret any trends or distinctions on those selections. It would be helpful to evaluate if data collected for the same aspect form different interview groups could be put together.

In this section, the term "Categorise" means to classify the selected elements into aspects that they represent based on their reason of selection. Because one of the objectives is to provide details for the elements for each aspect of local identity, it is essential to categorise them into the aspects and be able to compare different selections from each group on the same element selected. Furthermore, it would be helpful for later use --- assessing local identity from individual aspects. One factor to notice here is that the same object might be selected by different participants for different aspects, hence it would appear in different category tables and the meanings behind the reason of selection is different. Taking "Lighthouse" as an example, it appears in both physical and memory categorisation table, because certain participants selected it due to its physical appearance and others have selected it for the historical meaning, someone might also select it for both reasons.

Each individual aspect for different participant groups are formed together to generate a new table that explicitly expresses all the elements that have been picked by the group's participants, and the number of different preferences for each element selected by different groups are counted. For example: the "Physical Aspect Categorisation" gathered the entire physical aspect selection from all 60 participants across all 4 groups. Taking Table 9 as an example, every element selected in the interview is recorded in the table and its preferences count is also recorded. So that if 10 people from the local offsite interview group picked "Binhai Square Ancient Architectural Building Complex" as a physical aspect element and indicate that they "like" the activity, then there will be a number 10 in the "like" column along the "Binhai Square Ancient Architectural Building Complex" row to indicate such element and its preference, the same idea applies to other preferences. The total amount of the preferences is counted as an indication of how many participants have chosen the elements in each participant group. The new tables contain the columns listed below:

1. **Name of Element:** This is the name of the elements that have been identified by the participants. However, under this column, the elements would be further classified into different sub categories and be given a new unified name. Each local identity aspect would have its own way to classify these elements according to the background review discussed in Chapter 2 and the reason for selection provided by the participants in the original data record table. This is because, it was clearly stated that each local identity aspect was extracted from the common factors (sub category) that were identified by other researchers. The details of how those elements are classified further in the column will be described later.

2. **Location:** This is the location where the elements were identified or reflected from. The reason being that not all the elements that can be physically seen take memory elements, for example, they are not physically expressed but are reflected from the physical architecture and the surrounding environment. Therefore, this column would be used for an indication of where such elements came from.

3. **Qualitative Group:** This is the expression of participants' preferences for each of their selection:

    - Like: Number of people who have selected and "liked" the elements.
    - Dislike: Number of participants who have identified the elements because they "Dislike" them.
    - No Feeling: Number of participants who think the element is a unique point at the study site but are not affected either way by the actual element.

4. **Participant Group:** Under the Like, Dislike and No Feeling columns, each of them is further partitioned into four sub-columns each for an interview group:

    - Local Onsite
    - Local Offsite
    - Nonlocal Onsite
    - Nonlocal Offsite

The numbers act as an indication of the number of participants who have selected the elements for each preference. The full tables are in Appendix for further interpretation (Table 15, 16, 17 and 18):

- Table 15: Categorisation of Physical Aspect
- Table 16: Categorisation of Social Aspect
- Table 17: Categorisation of Sensory Aspect
- Table 18: Categorisation of Memory Aspect

The samples below are for demonstration purposes (Table 9). On the table, it can be seen that "Binhai Square Ancient Architectural Building Complex "has been selected across all participant groups. Among them 13 local onsite, 10 local offsite, 14 nonlocal onsite and 11 nonlocal offsite participants like the physical architecture of the elements; 1 local offsite participant disliked the architecture; 2 local onsite, 1 nonlocal onsite and 2 nonlocal offsite participants had no strong feelings towards the element but thought that it represents the uniqueness of the study site. In such way, the new categorisation table provides a comprehensive view across the different preferences that all 4 different participants groups have on the same elements they have selected.

Physical Element / Location			Qualitative Group / Participant Group											
			Like				Dislike				No Feeling			
			Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite
Architectural Aspect	Settlement	Binhai Square Ancient Architectural Building Complex	13	10	14	11		1			2		1	2
		Hotel Building Complex	2	5	3	4	2	1	1				2	
	Style	Yantai Painting & Calligraphy Academy	8	5	5	5	3	1	3	4	2	2	2	
	Facade	Haian Street Ancient Building Facade Decoration	2			1	10	10	14	8				
	Function	Characterised Shops along Haian Street	3	2	5		6	7	3	7	3	1		
	Landmark	Yantai Hill Hospital	6	4	4		4	2	4	4		2		
Landscape Aspect	Geography	Topography	1	3	1	4								
	Green Infrastructure	Haian Street Vegetation		2	2	1	3	3	3	5	2			
	Landmark/ Sculpture	Lighthouse	13	11	11	4						1	1	1
	Square/ Street	Tide Fountain Square	9	7	7	7		1		1				
	Street/Square Paving	Paving on Binhai Square	1		1			1	1	4				
	Facilities	Streetlights along Binhai Square	5	5	4	6		2	3	4	1	3	1	1
	Traffic	Public Bus					9	4	9	7	2			

Table 9 Sample of Physical Aspect Categorisation

Using this procedure would provide more detailed information on how each identity aspect is formed, where the aspect is emphasised and how those elements could be influenced. For example, the above sample table has two major sub categories shown in the far left column: the architecture aspect and landscape aspect and each major sub category are further partitioned into their sub groups. The reason for such procedure is to better assess local identity to enhance the third objective --- identify local identity. So, "Binhai Square Ancient Architectural Building Complex" has a good representation element of the local identity's physical aspect from the "settlement" sub group (second left column) perspective of the "architecture" sub category (the far left column). In other words, its architectural settlement contributes to the local identity's physical aspects.

In addition, the sample table shows that although the architectural settlement of "Hotel Building Complex" is selected to represent local identity from physical aspect, its has less importance in comparison with "Binhai Square Ancient Architectural Building complex" due to the number of selections across all participant groups. Hence the table provides an assessment across selected elements in each aspect of local identity. Following the same idea, the table would also provide ideas of which sub group of physical aspect has more power over influencing the local identity by comparing the total number of selections in the architectural aspect and landscape aspect. To extend this even further, four different aspects' categorisation would provide an indication of which aspect plays a major influence on the local identity by comparing the total number of selections in each table.

However, although the data categorisation provides the relevant data for the individual aspect local identity identification and assessment, it is not efficient to look through the numbers in the table in order to identify and assess the local identity. Hence a better way to evaluate this data is required. It will be much more explicit and intuitive to see if the research methodology could visualise the data needed for specific analysis.

5.2.2 Individual Aspect Assessment of Local Identity

Data collection was introduced in order to standardise the selections from participants and record the reason for their selection with their preference for the selection for later interpolation. Data categorisation is used to categorise the elements gathered for each local identity aspect for different interview groups, which will allow a cross comparison for the same aspect with different participation groups. Hence providing fundamental data for the identification and assessment of local identity. However, the data is still not organised enough to provide an explicit view as all the information is scattered around each categorisation table and it is not intuitive to view them. Therefore it is necessary to further filter the useful information out to better accomplish thesis objective 4 --- assessing the local identity. The idea of this filtering process is to provide explicit expression on the local identity and its quality of importance. Hence, with an aim to make the data more meaningful and to view such meanings explicitly, the data categorisation table is re-interpreted and forms the new assessment table for each individual aspect of local identity.

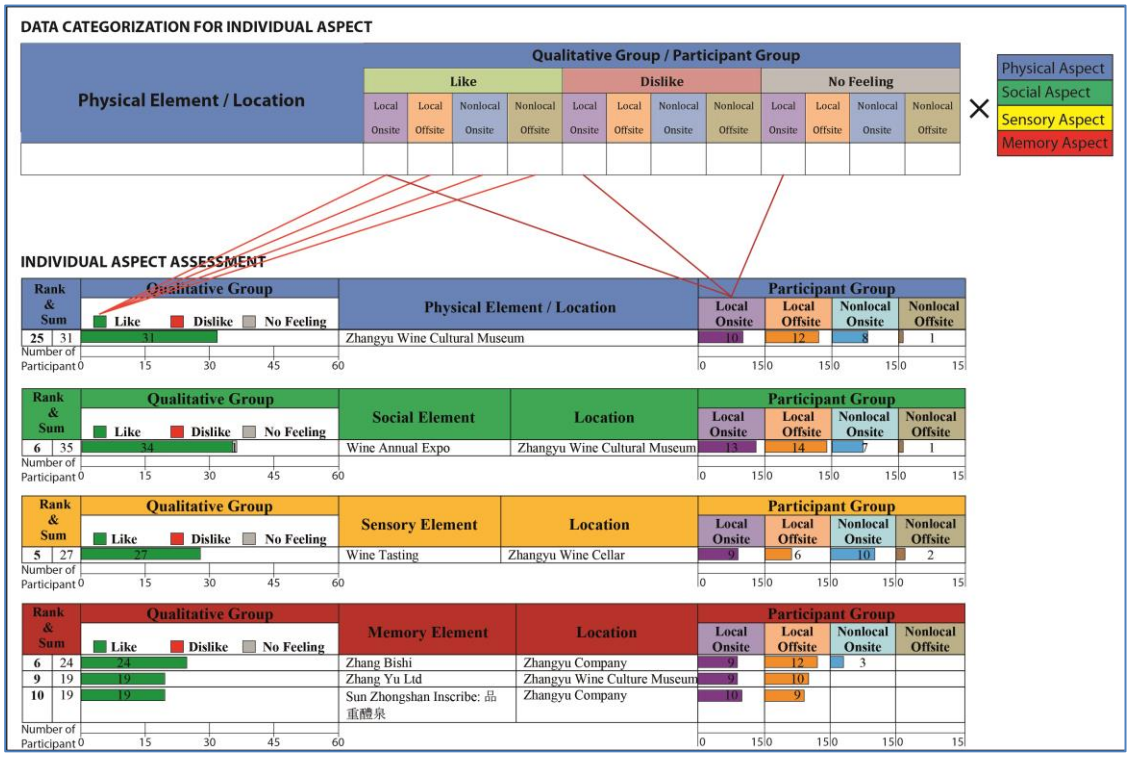


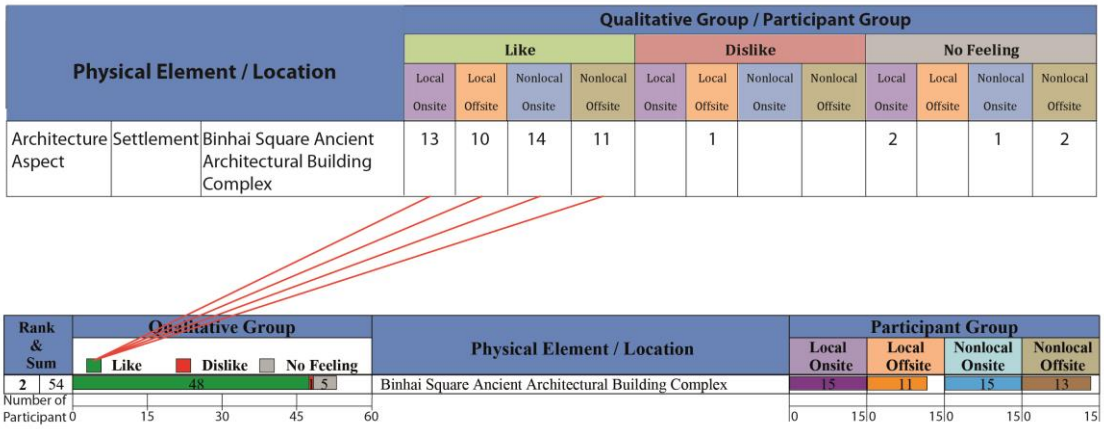
Figure 44 Categorisation to Assessment

Taking Figure 44 as an explanation, categorisation tables' data is filtered in a way that any element that has more than 7 total selections in any participant groups is filtered out and put into its corresponding assessment table. This is also a hypothesis that this research proposed. Because each group has 15 participants, the research proposes the idea that if more than half of any group has expressed a certain preference on any local elements, such element can have an impact on people's impression of the local site. Therefore the element is selected because of its potential to influence local identity.

The table has four sections each section is going to be explained separately in the following:

1. **Rank & Sum:** The far left section provides information on the ranking of each individual element that is based on the sum, which is their total number of selections across all participant groups. The sum is regardless of the preference on the element selected. For example, in physical aspect assessment (blue), there are 31 total selection counts across all participant groups on "Zhangyu Wine Cultural Museum" regardless of their preferences. And among all of the selected physical elements, such element is ranked at 25th position. The idea here is that the more selections each element has, the more noticeable it is to people regardless of their background. Hence providing an explicit view on the importance of such element in representing the corresponding local identity aspects.

2. **Qualitative Group:** The second left section is the qualitative group; it focuses on the interpolation of how participants feel about the selected elements. The preferences are used to evaluate the quality of the selected elements.



Physical Element / Location			Qualitative Group / Participant Group											
			Like				Dislike				No Feeling			
			Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite
Architecture Aspect	Settlement	Binhai Square Ancient Architectural Building Complex	13	10	14	11		1			2		1	2

Figure 45 Qualitative Grouping Process

Take Figure 45 as an example, this section is constructed by summing up all numbers under each preference section in the categorisation table and apply to the corresponding preference chart in the new assessment table that visualises the total number of preferences; such interpretation of the figures focuses on the overall preferences on the element regardless of the different participation group. Taking "Binhai Square Ancient Architectural Building Complex" in physical aspect as an example, all numbers under the "Like" section from physical categorisation table are summed together to generate the number of 48 in the physical assessment table and the green bar represents the number of likes on such physical aspect element.

The axis at the bottom of the qualitative group section represents the total number of participants, which are 60 in total. There are three colors representing the corresponding preferences: each bar represents the total number of selections across all participants groups for the element:

- Green --- Like
- Red --- Dislike
- Grey --- No Feeling

Following such analogy, the quality of each element is obviously represented from the bar chart. E.g. a mostly green bar represents a positive feeling that the majority of participants have toward such element; where red is the predominant color on the bar this represents a negative feeling to the element; and grey indicates that although participants recognise such element they do not experience any strong feelings regarding the element. Therefore, the charts have combined both the visualisation of the quality and the total number of selection for each representative element.

The important component of this section is, among all participants who have selected the elements, how many of them selected the elements because they liked it, or disliked or had no feelings towards it. Therefore the quality of the element can be measured. The Advantage of this section is that it offers a quick and easy interpretation of the impact each element has on the local identity aspect. As discussed before, each element in the local identity could have both positive and negative impact on local identity, and a bad local identity can also make the region stand out due to its bad reputation. As long as the participants have pointed it out, it means that the element is noticeable and unique compared with the surrounding elements. Based on such advantage, the table has a significant meaning in achieving the individual aspect assessment perspective.

3. **Name of Elements / Location:** The middle section of the table is the name and location of each selected element. The name of elements is for any elements that have more than 7 selections in any of the participant group. Taking "Zhangyu Wine Cultural Museum" in physical aspect assessment (blue) as an example, from categorisation table, it not only represents the name but also its location. Taking an example in social aspect assessment (green), the name of the element is "Wine Annual Expo" and the activity's physical location is "Zhangyu Wine Cultural Museum". Following such analogy, we can see that the elements of sensory aspect assessment (yellow) and memory aspect assessment (red) have both the element name and its corresponding physical location. Hence, The names of elements are the interactions between people and the local site, and they are all associated with their physical locations. Such location is used to identify the place that the elements occur and provide the ability to be identified on a map.

4. **Participant Group:** The last section on the assessment table is participant group where the levels of importance each element has for each group are presented. It is a sum of the numbers for the different participant group's entire data from the categorisation table developed regardless of their preference.

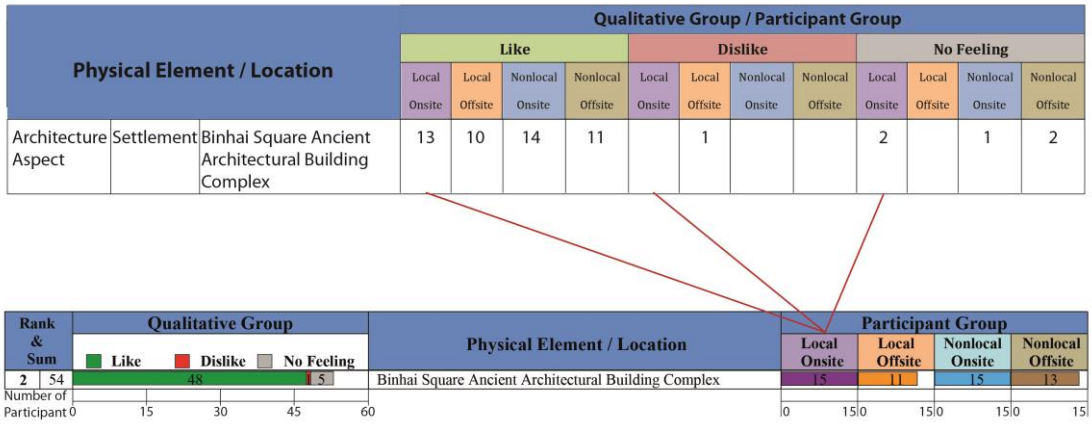


Figure 46 Participant Grouping Process

Taking Figure 46 as an example, all numbers under the same group name are summed together from the physical categorisation tables regardless of whether they are under the like or dislike column. The sum is the total number of selections by the specific group. And the number is put under each group's corresponding column in the assessment table and the other categories are formed in the same way. Such numbers are then presented as a bar chart in their corresponding sections.

The axis at the bottom indicates the number of selections. Each column is viewed separately and they all start with 0 and end with 15, this is because each column represents a participant group, and each group has 15 participants and the total number of all participants is still 60. The bar charts visualise the number of selections recorded for the corresponding elements and each color represents one participants' group:

- Purple --- Local Onsite
- Orange --- Local Offsite
- Blue --- Nonlocal Onsite
- Brown --- Nonlocal Offsite

One point worth noting is that the reason this section only takes into account the total number for each group from data categorisation table is because the purpose of this section is to assess each element's impact across different group participants. After the number of selections for each element is recorded in the table under its corresponding group name, it would be easy to evaluate the difference between different groups. Taking "Zhang Bishi" in memory aspect assessment table (red) as an example (Figure 44), it is noticeable that the majority of selection falls under the local participants' onsite and offsite group. This is a clear indication that the element is more attractive to the local community. In the same way, taking "Wine Tasting" in sensory aspect assessment table (yellow) as an example, it is easy to find that the majority of selection falls under the onsite participants' from local and nonlocal groups. This clearly shows that this element is more attractive to onsite participants.

The advantage of categorisation to the assessment process is that it offers a list view of all possible elements that were selected by all participants with different backgrounds and experience to the study site. Hence, allowing a comprehensive and sufficient analysis for each element. Most importantly it helps to form the overall assessment later in the analysis, which is a vital visualisation tool in achieving the thesis result. The full tables are below for further interpretation (Table 10, 11, 12, 13):

- Table 10: Physical Aspect Assessment
- Table 11: Social Aspect Assessment
- Table 12: Sensory Aspect Assessment
- Table 13: Memory Aspect Assessment

The aim of the individual aspect assessment is to address the needs to evaluate each aspect of local identity separately. So that when users have a specific focus of the local identity that they are looking for, these individual aspects assessment would be optimal to provide a quick and explicit solution to such enquiry.

The table can quickly show the most important elements for each aspect via the rank according to the sum; the majority of the preference via the qualitative group bar charts and shows which participant group the element is most important to by using the participant group charts. In Table 10, taking "The Sails Pavilion" from physical aspect assessment table as an example, it can be seen that such element is the most important among all local identity elements for physical aspects. And among all participant groups, the proportion of the colors is for local participants onsite and offsite groups, with only a little difference for nonlocal onsite and offsite selection. Hence it not only informs the user that "The Sails Pavilion" is the most "Liked" character to represent physical aspect of local identity, but also indicates the elements that are most important to all people with different backgrounds. To summarise, the importance of these processes is:

1. Filter out the noise data shown in the data categorisation step and provide the ability to focus on just the elements that have impact on local identity aspects.
2. Show the properties of each local identity aspects explicitly.
3. Provide the ability to interpret which participant group the element has the most impact on.

Up until the formation of individual aspect assessment of local identity, research objectives 3 and 4 are partly achieved as the tables have explicitly laid out the

corresponding selected elements and their corresponding quality. And also allow cross comparison from both macro and micro levels of individual local identity aspects.

However, it is not good enough to assess local identity from each of the four aspects individually; a good assessment would be able to assess the elements from an overall perspective. For example, "Zhangyu Wine Cultural Museum" appears across multiple aspects assessment tables, how to evaluate such element from a comprehensive perspective remains unknown. Such drawback leads to research objective 4 and 5 --- assess and visualise local identity. With a visualised interpretation, it would provide straight and explicit expression to the user of what the local identity elements and their quality of representation are. Hence a better way to evaluate the data from an overall perspective is required. It will be much more explicit and intuitive to see the final result of local identity assessment and visualisation.

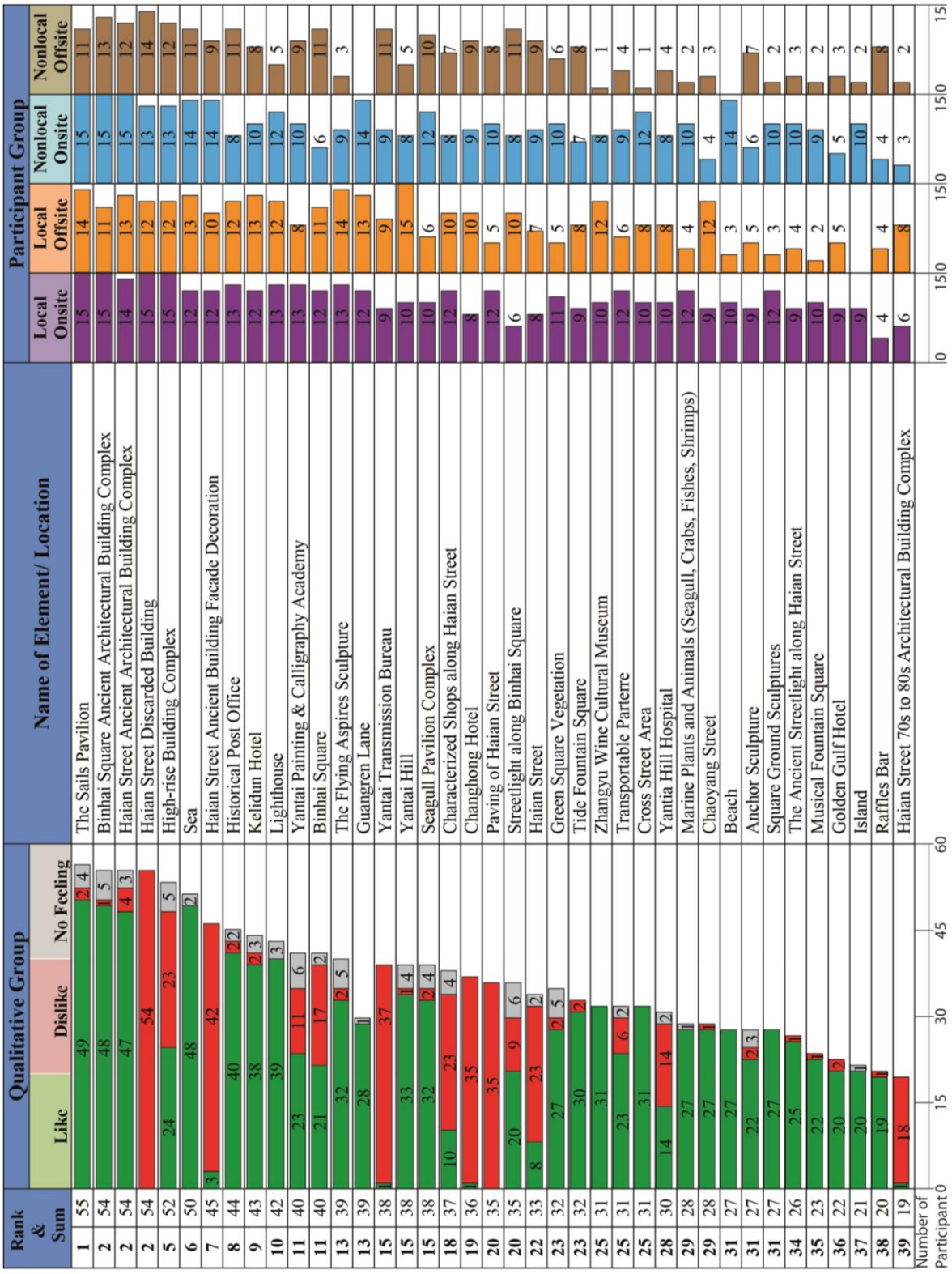


Table 10 Physical Aspect Assessment

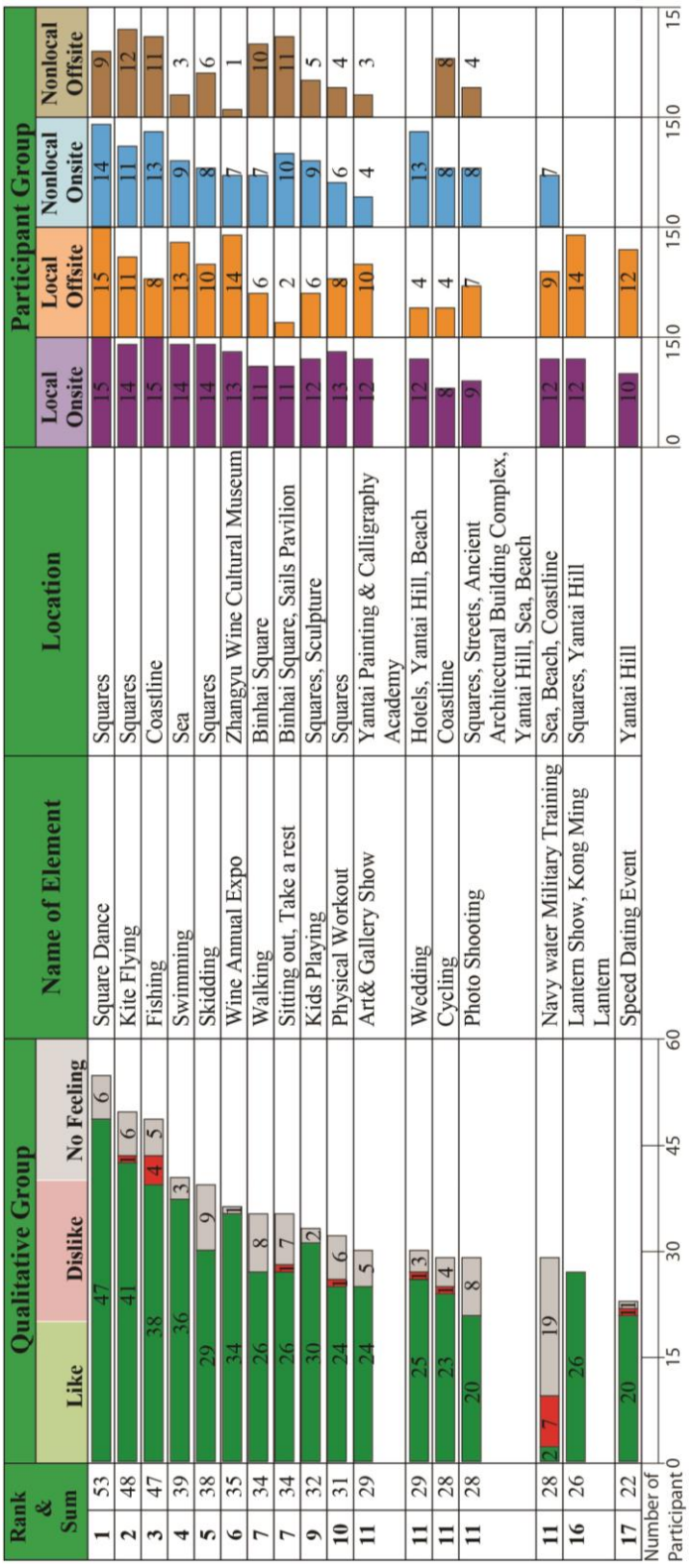


Table 11 Social Aspect Assessment

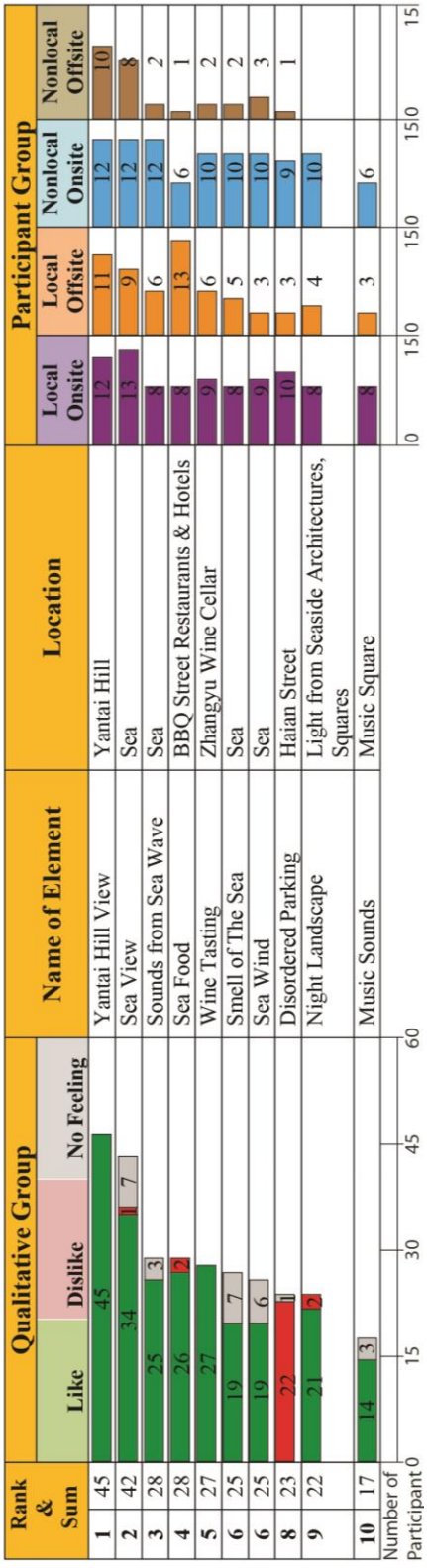


Table 12 Sensory Aspect Assessment

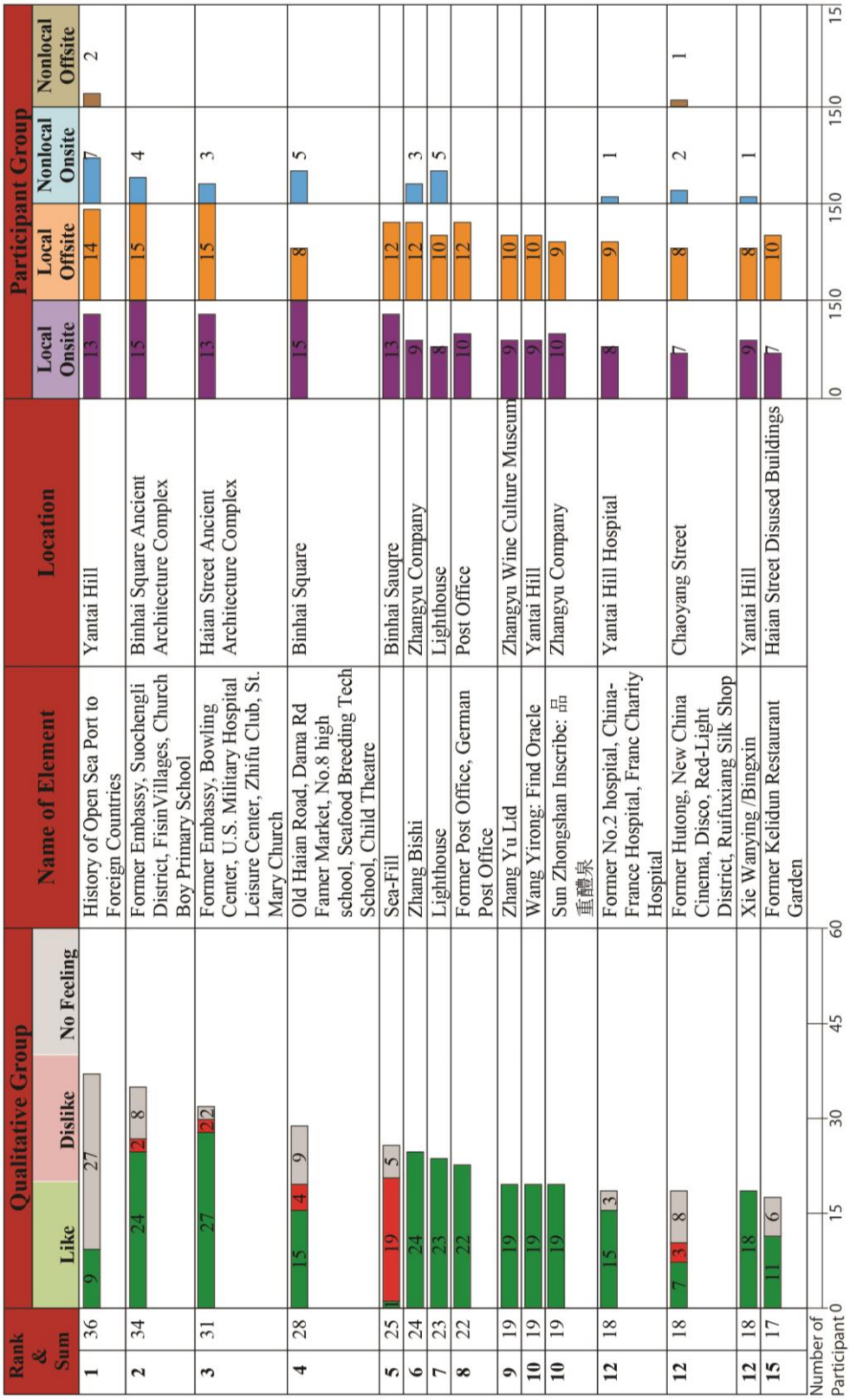


Table 13 Memory Aspect Assessment

5.3 Results of Overall Assessment of Local Identity

Up to now, all the local identity elements are identified and assessed for each individual aspect through the individual aspect assessment of local identity. However, the thesis aims to find a methodology that could identify and assess local identity from a comprehensive point of view rather than evaluate each individual aspect separately. Therefore, to fully accomplish research objectives 4 and 5, it is still necessary to have a way to organise all the information in one single place. Which means to combine all elements from the four individual local identity assessment tables to form one single overall assessment table that identifies and assesses local identity from a comprehensive level. To accomplish this goal, the process below is proposed.

5.3.1 Overall Assessment of Local Identity

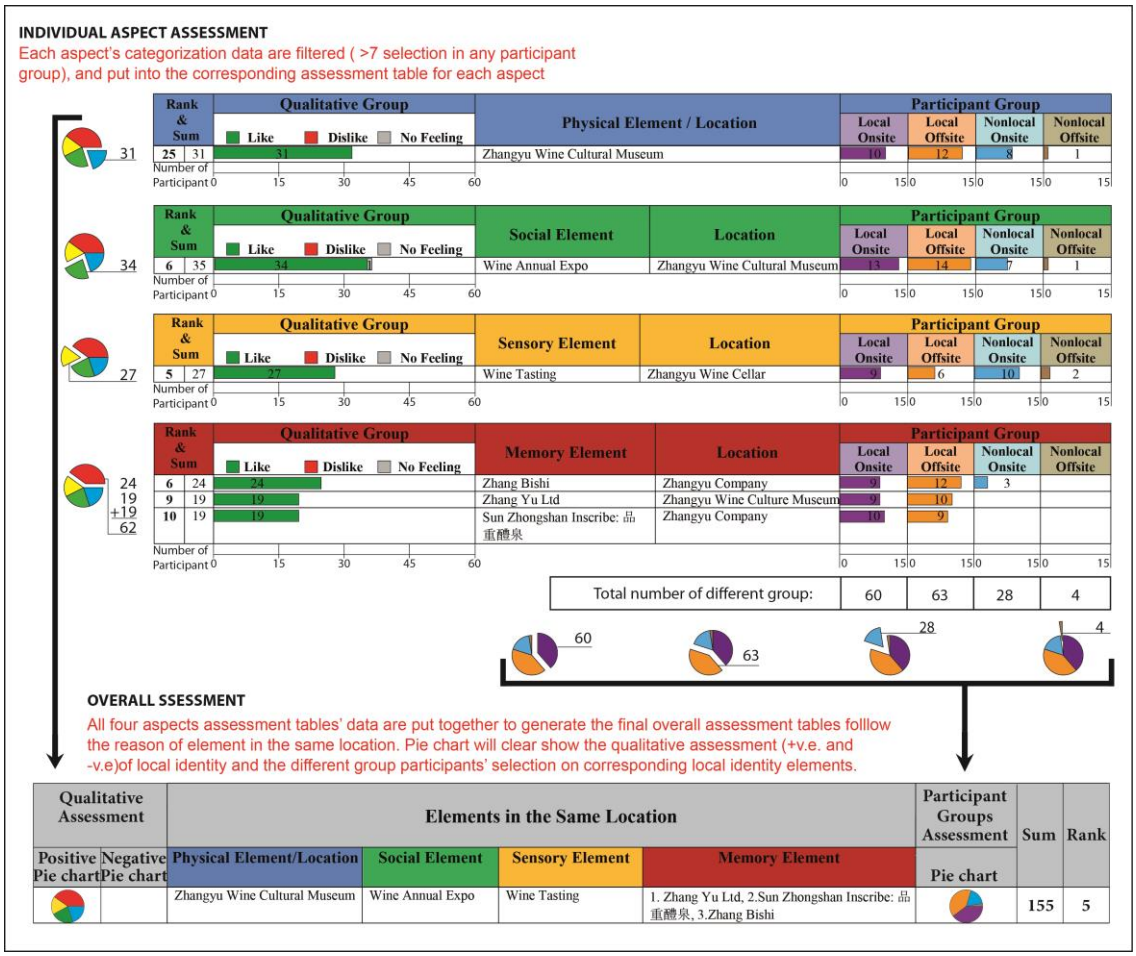


Figure 47 Construction of Overall Assessment

The way the overall assessment table is generated is by combining all aspects that are related to one physical location into the same row. In Figure 47, e.g. it has been identified that "Zhangyu Wine Cultural Museum" is preferred across all four aspects for different reasons, such as its architecture, history, yearly events carried out at the museum and wine tasting pleasure for wine experts, hence such identifications are summarised in one row in relation to the museum. As discussed in the literature review chapter, local identity focuses on the interaction between human and local environment from the four aspects identified. Hence all aspects are related to the physical environment. Therefore it is appropriate to combine different aspects representation elements together according to their related physical location.

There are 4 sections in the table, and the interpretation is as following (Figure 47):

1. **Qualitative Assessment:** The section is divided into positive and negative pie chart columns. The aim is to visualise the quality assessment for four local identity aspects that are related to one physical location. Each pie chart represents an overall preference across four aspects in relation to one physical location. Each color in the pie chart represents one aspect:

   - Blue --- Physical Aspect
   - Green --- Social Aspect
   - Yellow --- Sensory Aspect
   - Red --- Memory Aspect

   The size of the pie chart is decided by the overall selections of the elements in the same location, and the proportion of each color in the pie chart is determined by the number of corresponding preference selections in each aspect from the aspect assessment tables. For example, at the far left side of Figure 47, there are 31 "Like" on Zhangyu Wine Cultural Museum" in its physical appearance; 34 "Like" on "Wine Annual Expo" carried out at the museum; 27 "Like" on "Wine Tasting"; and 62 "Like" from three memory related elements (named "Zhang Bishi", "Zhangyu Ltd", "Sun Zhongshan Inscribe: 品重醴泉") that are all related to the museum. Hence, explaining the size of the positive pie chart and proportion of each color in the chart that related to the local identities at the location: Zhangyu Wine Cultural Museum. The negative pie charts generated in the same way.

2. **Elements in the Same Location:** Each of the four columns under the middle section represents one aspect, with the physical aspect representing both the aspect element and the location, and others in a row representing the corresponding elements that have been identified from other individual aspects assessment tables that are related to the same physical location. Each row is an indication of how many aspects a single location could represent the local identity from.

3. **Participant Groups Assessment:** The assessment for all local identity aspects in relation to the same physical location across all sampling population is represented through a pie chart that visualises the impact of such local identity on all four participants groups. Each section on the pie chart is derived from the total number of selections for each participant group aggregated from all aspect tables on corresponding elements identified in the aspect location section, and the colors following the same convention from the individual aspect assessment tables for each group:

   - Purple --- Local Onsite
   - Orange --- Local Offsite
   - Blue --- Nonlocal Onsite
   - Brown --- Nonlocal Offsite

   For example, the four pie charts at the lower right hand side of Figure 47, for all "Zhangyu Wine Cultural Museum" related aspects, there is a total of 60 selections from local onsite participant groups, 63 from local offsite, 28 from nonlocal onsite and 4 from nonlocal offsite. Thus explaining the size of the pie chart and the corresponding color's proportion.

4. **Sum and Rank:** The last two sections on the right of the table represent the sum and the rank of such location among all local identity elements. The rank number is an indication of the importance of such location and it is based on the sum of the count of all selections for each element identified in aspects location section on the same row.

The entire table is in Table 14 for further interpretation. Using the fist "Binhai Square" row as an example, the elements from each aspects that are related to this location: The architecture is the physical appearance of the location; lots of social activities (E.g. Skating, Kite Flying, Photo Shooting, Square Dance and Lantern Show and so on) are carried out at the location; Night Landscape provides visual satisfactory in the sensory aspect and the memories (E.g. Old Haian Road, Famer No.8 High School and Children's Theater and so on) that participants have indicated also related to the history and experience of Binhai Square. Therefore they are grouped together and put into the first row. This row can be interpolated as: Binhai Square is an element that represents local identity from four aspects. Therefore, based on this fact, the table provided a direct observation of local identity elements; the aspects they represent; the importance in their contribution to local identity (through qualitative assessment pie charts); their impact on different groups (participant group assessment pie charts); and the corresponding importance in each aspect. With the rest of the assessment table, the details of each pie chart can be viewed and explained directly:

- **Qualitative Assessment Pie Chart:**
  As a demonstration, taking the first and the sixth row in Table 14 as an example, for "Binhai Square" and "Beach", there are four aspects representative elements that are related to the former and two aspects related to the latter that are positive preferences; therefore there are four colors in the positive qualitative pie chart in the first row and two colors for the sixth row. And the number of selections for "Binhai Square" is relatively larger than "Beach"; therefore the size of the first positive pie chart is larger than the sixth. Besides, from the pie chart of "Beach", we can see that the majority of the pie chart is green, so that one can even tell that it contributes more to the social aspect of local identity compared with physical aspect. The same logic applies to the negative pie charts.

- **Participant Groups Assessment Pie Chart:**
  Similarly, the participant groups' assessment pie chart follows the same logic, despite the meanings of the colors. Firstly, taking the pie chart of "Binhai Square" as an example, it showed more impact on the local onsite participant group than the other participant groups, as the biggest portion in the pie chart is purple. Secondly, taking the same example in the first and the sixth row in Table 14, it can be seen that the size of the chart from "Binhai Square" is much larger than the "Beach" indicating that "Binhai Square" has more impact than "Beach". A cross comparison between the two pie charts suggests that "Binhai Square" has more impact on nonlocal offsite participant groups (Brown portion in the pie chart) than "Beach", as the proportion of brown color takes more space in the pie chart relating to Binhai Square.

The other important factor of the overall assessment is the ranking it provides. The ranking is based on the total number of selections of each location, in other words --- the size of the pie chart. As indicated in previous section, a bigger sized pie chart indicates that more participants viewed such location as unique elements that could represent local identity, regardless of which aspects it emphasised on, hence, providing a direct and precise observation for the importance of all local identity elements.

Qualitative Assessment		Elements at the Same Location				Participant Groups Assessment	Sum	Rank
Positive Pie chart	Negative Pie chart	Physical Element/Location	Social Element	Sensory Element	Memory Element	Pie chart		
		Binhai Square	Skidding, Physical Workout, Kite Flying, Kids playing, Walking, Sitting out, Take a rest, Photo Shooting, Square Dance, Lantern Show, Kong Ming Lantern	Night Landscape	1.Old Haian Road, Dama Road Famer Market, No.8 high school, SBT School, Children Theater 2.Sea-Fill		459	1
		Sea	Swimming, Navy water Military Training	Sea View, Sound from Sea Wave, Smell of The Sea, Sea Wind			237	2
		Yantai Hill	Photo Shooting, Lantern Show, Kong Ming Lantern, Speed Dating Event	Yantai Hill View	1.History of Open Sea Port to Foreign Countries, 2.Xie Wanying /Bingxin		204	3
		Musical Fountain Square	Photo Shooting, Kids Playing, Square Dance	Music Sounds Night Landscape			175	4
		Zhangyu Wine Cultural Museum	Wine Annual Expo	Wine Tasting	1. Zhang Yu Ltd, 2.Sun Zhongshan Inscribe: 品重醴泉, 3.Zhang Bishi		155	5
		Beach	Photo Shooting, Wedding Navy water Military Training, Kids playing				142	6
		Coastline	Cycling, Fishing, Walking, Navy water Military Training				142	6
		Binhai Square Ancient Architectural Building Complex	Photo Shooting		Former Embassy, Suochengli District, Fishing Villages, Church Boy Primary School		116	8
		Haian Street Ancient Architectural Building Complex	Photo Shooting		Former Embassy, Bowling Center, U.S. Military Hospital Leisure Center, Zhifu Club, St. Mary Catholic Church		113	9
		Haian Street	Photo Shooting	Disordered Parking	Former Hutong		102	10
		Stone Cubical	Sitting outside, Take a rest, Kids playing				94	11
		Lighthouse	Photo Shooting		Lighthouse		93	12
		Anchor Sculpture	Sitting outside, Take a rest, Kids playing				93	12
		Tide Fountain Square	Kids playing	Sea Wave			92	14
		The Sails Pavilion	Sitting out, Take a rest				89	15
		Seagull Pavilion Complex	Fishing				85	16
		Guangren Lane	Photo Shooting		Former Hutong		85	16
		Golden Gulf Hotel	Wedding	Sea Food			79	18
		Cross Street Area	Photo Shooting		Former Hutong		75	19
		Chaoyang Street	Photo Shooting		Former Hutong, New China Cinema, Disco, Red-Light District, Ruifuxiang Silk Shop		74	20
		High-rise Building Complex		Night Landscape			74	20
		Haian Street Discarded Building			Former Kelidun Restaurant Garden		71	22
		Yantai Painting & Calligraphy Academy	Art& Gallery Show				69	23
		Historical Post Office			Former Post Office, German Post Office		66	24
		Transportable Parterre	Sitting outside, Take a rest				65	25
		Kelidun Hotel			Sun zhongshan		62	26
		Square Ground Sculptures	Kids playing				59	27
		BBQ Street Restaurants		Sea Food			57	28
		Marine Plants and Animals (Seagull, Crabs, Fishes, Shrimps, and so on)		Sea Food			56	29
		Boat					54	30
		Comprehensive Kiosks					51	31
		Yantia Hill Hospital			Former Yantai no.2 hospital, China-France hospital, Former France Charity hospital		48	32
		The Flying Aspires Sculpture					39	33
		Yantai Transmission Bureau					38	34
		Characterized Shops along Haian Street					37	35
		Changhong Hotel					36	36
		Haian Street Ancient Building Facade Decoration					35	37
		Paving of Haian Street					35	37
		Streetlight along Binhai square					35	37
		Green Square Vegetation					32	40
		Public Bus					31	41
		Public Bicycle					31	41
		The Ancient Streetlight along Haian Street					26	43
		Public Seats outside Raffles Bar					26	43
		Island					21	45
		Raffles Bar					20	46
		Advertising Board around Binhai Square					20	46
		Haian Street 70s to 80s Architectural Building Complex					19	48

Table 14 Overall Assessment of Local Identity

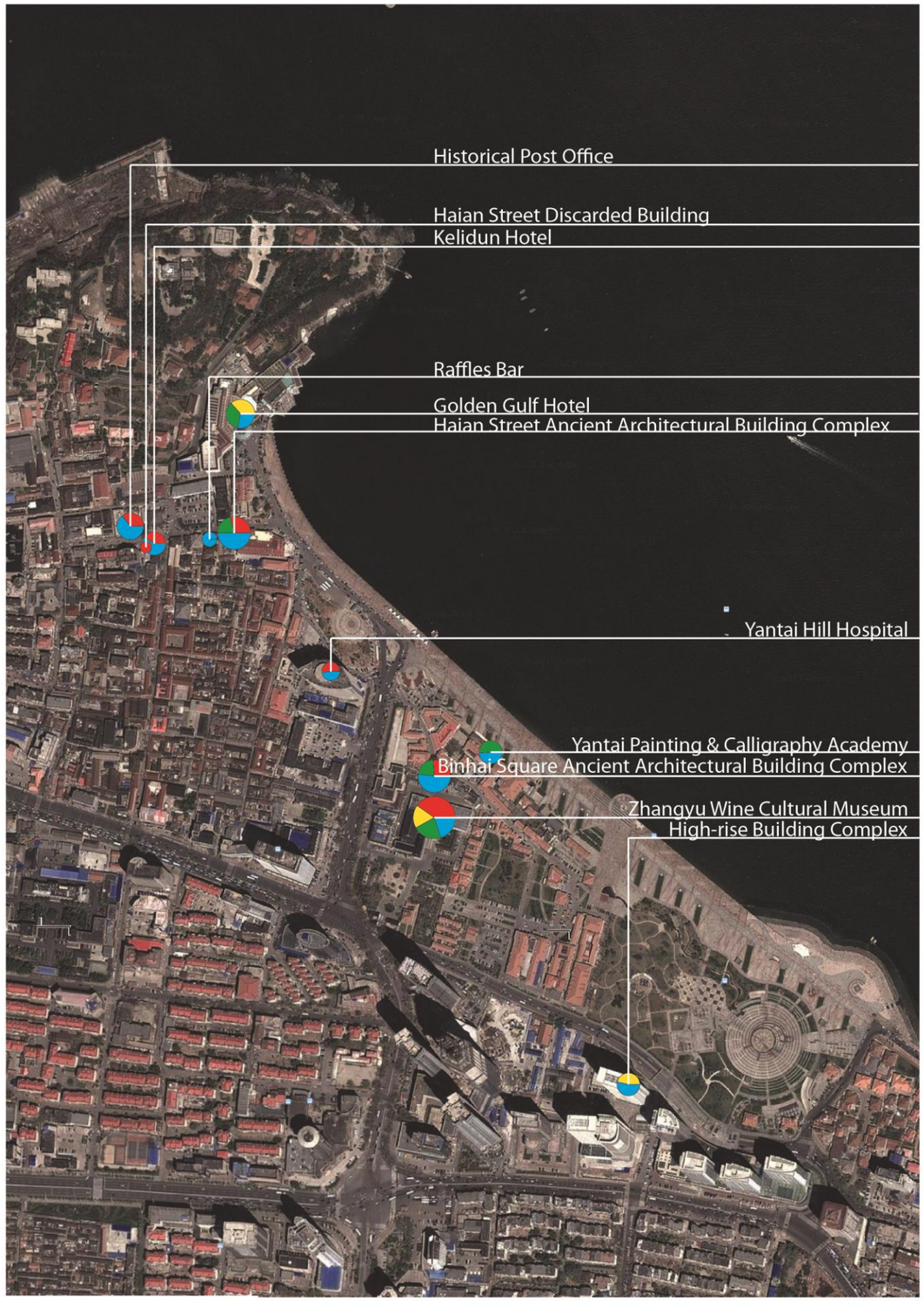
5.3.2 Mapping of Local Identity

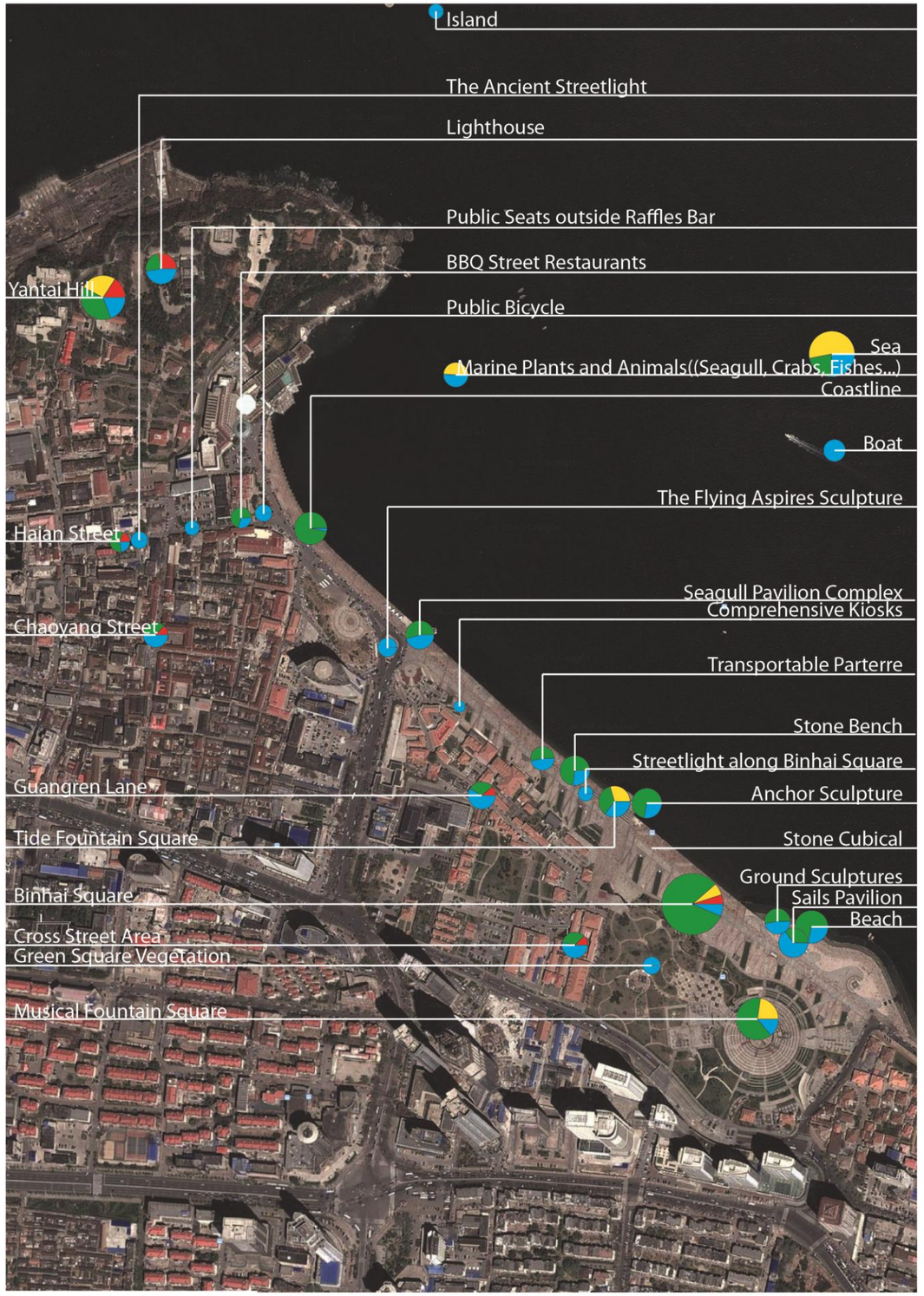
It is better for users if they could view all the assessment information on a map according the same physical location, which directly shows both the identification of local identity elements and their quality. Hence, this research has plotted all the pie chart information in Table 14 on to the local map to produce a more direct and comprehensive view. With the names shown on the map, by using the map and assessment table together, users can: identify the local identity elements; analyse the local identity aspects they represent and assess the quality of such identity for the corresponding aspects or as a general point. In total, there are 3 maps for visualising local identity from an overall perspective (Map 3, 4 and 5):

- Map 3: Positive Local Identity
- Map 4: Negative Local Identity
- Map 5: Participant Groups Impact of Local Identity

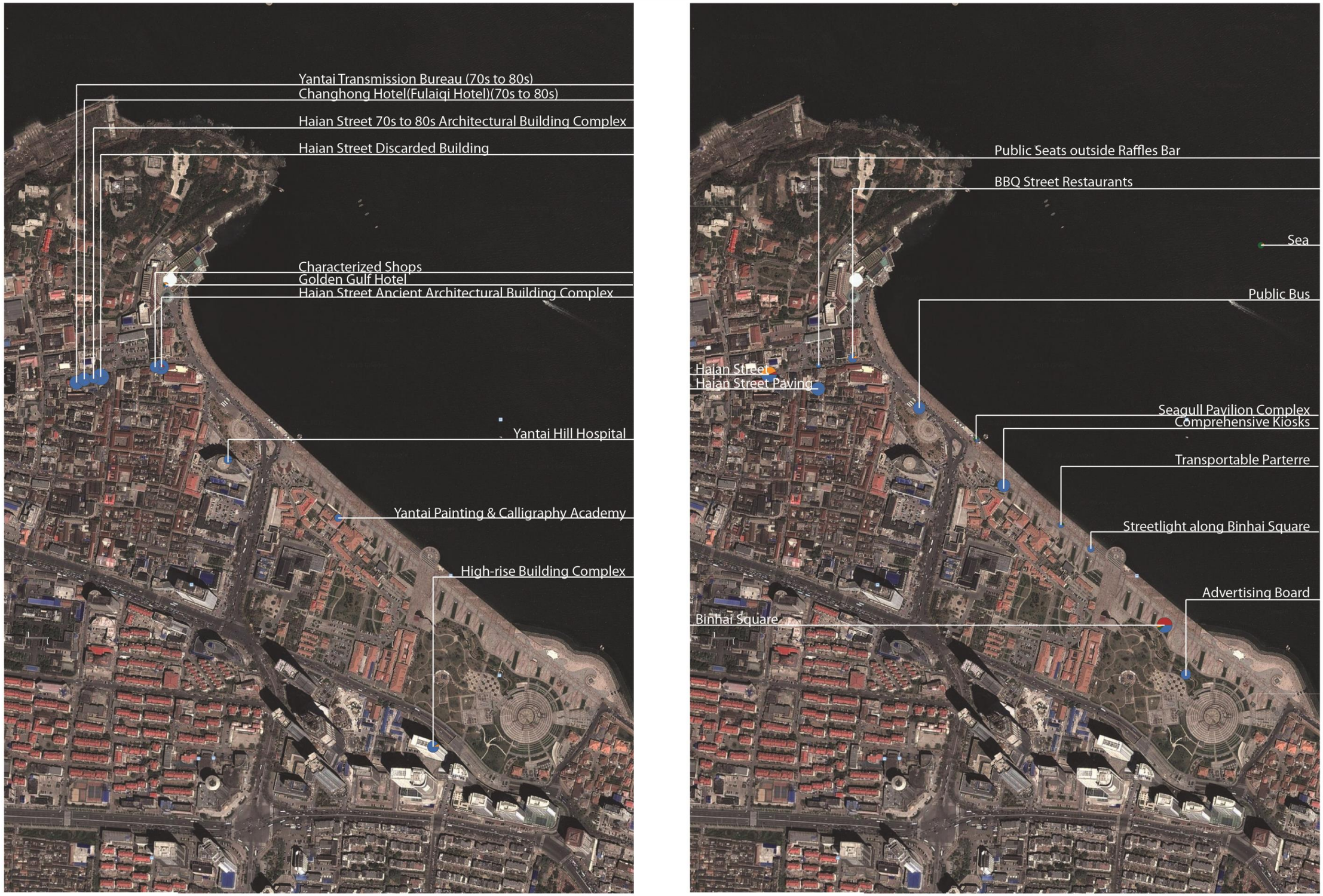
From the map it can be clearly seen which elements most strongly represent the local identity from the size of each pie chart on the map --- the bigger the more important. And from the proportion of different colors in each pie chart, one could identify the aspect the elements have emphasised on (Map 3 and 4) and another could identify the different participant groups' impact on (Map 5). Therefore, the maps provide a direct and visualised way for its users to both identify and assess corresponding local identities.

One point that is worth noting for the research is that if one only wanted to identify and assess one individual aspect of the local identity, they could use the individual aspect assessment table to generate the qualitative assessment pie chart and participant groups assessment pie chart and then plot them on the local map. Hence it can be seen that the resulting tables in both individual aspect and overall perspective provide a great customisable way to identify and assess local identity from all its perspectives.

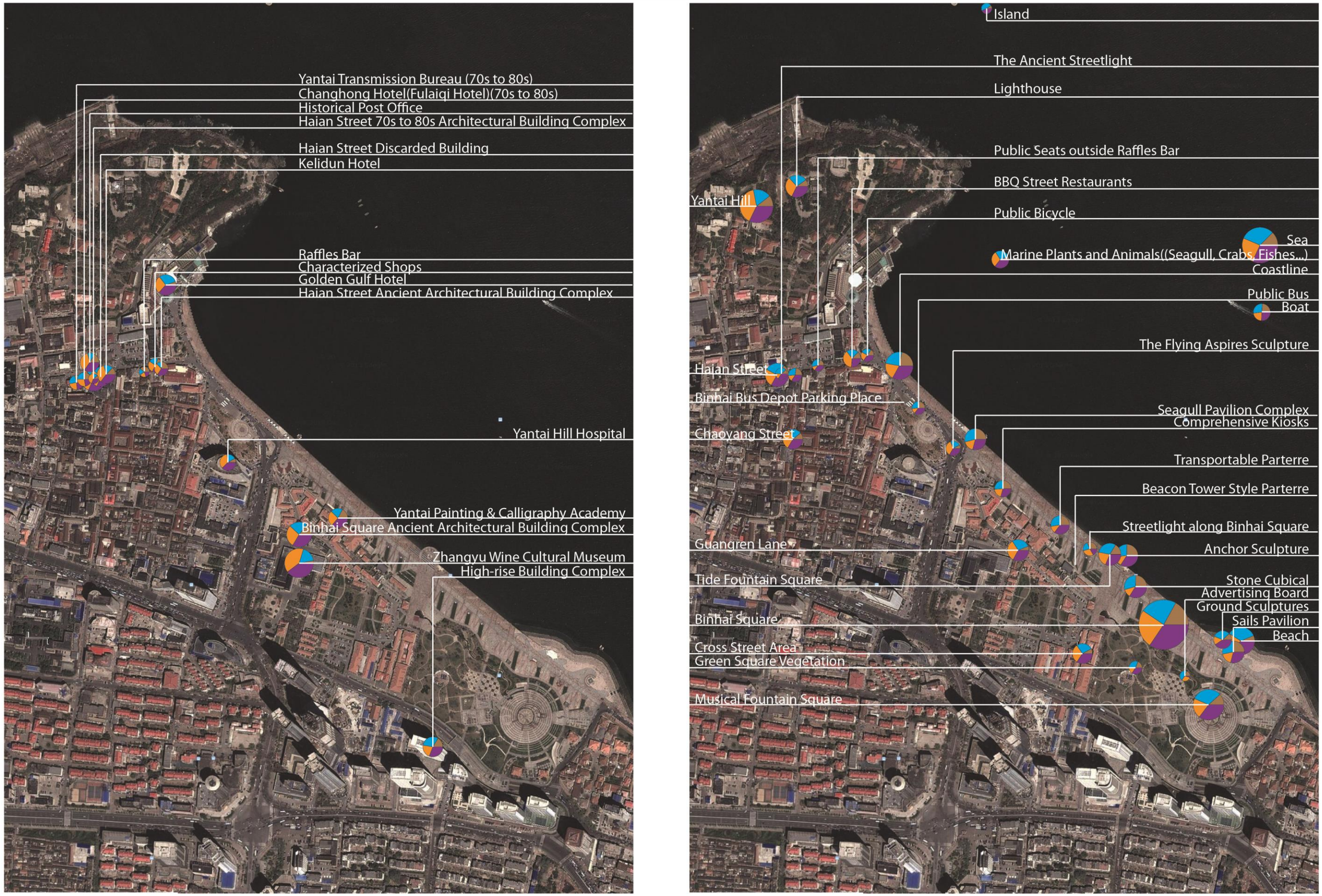




Map 3 Positive Local Identity



Map 4 Negative Local Identity



Map 5 Participant Groups Impact of Local Identity

5.4 Summary

This chapter has provided a way of collecting data and categorise it into different tables corresponding to each local identity aspect. In this way, it allows a better way of data analysis. In essence, the unified data table provides the ability to extract information and visualise corresponding data series more effectively. And the data categorisation process provides the fundamental analysis starting point for identifying and assessing local identity. The categorisation tables have the ability to provide fundamental data to assess the preferences across different participant groups on the same elements in each aspect. It also indicates the sub-category and sub-group in each local identity aspect that the selected element emphasises. More importantly it has the power to assess local identity from both a macro and micro point of view. E.g., each categorisation table itself not only indicates the perspective that each selected element focuses on under different aspect, but also provides a cross comparison between different sub-groups. Moreover, different categorisation tables can be cross-compared to assess the importance of each aspect in local identity. Hence providing the foundation of reaching research objective 3.

In order to achieve research objective 4, data collected in the categorisation table is analysed and concluded. Four individual aspect assessment tables were produced and their relevant meanings were explained. More importantly, the tables have provided the ability to both identify and assess the elements of local identity. Such tables not only extracted and visualised all the important elements for each local identity aspect, but also provide findings of the special properties of each local identity aspect. For example, it has been proven that when carrying out PPEI for sensory identity, the lack of touch to the local site could be overcome by a deep knowledge of the local site (more details in result discussion chapter).

The final overall assessment table has the power to do both local identity identification and show its corresponding assessment via the pie charts. The table ranks all identified local identity elements via their number of selections. The pie chart has the ability to indicate multiple findings. It indicates the importance of the local elements by the total size; tell how many aspects the local elements cover via the color involved in the pie chart; present the importance of each aspect at one location via the size of each color proportion in the pie chart. Most importantly these pie charts are plotted on a local map to provide a direct view on the location of each local identity and their corresponding assessment in order to achieve objective 5.

Up to this section, the first 5 out of 6 research objectives laid out in chapter 1 have been resolved: This research has proposed a formal definition of local identity via a systematic review of relevant identities' concept in Chapter 2. The four aspects of local identity have been summarised out from all the common factors of each relevant identity. In Chapter 3, methodology of using 180° PPEI was analysed proposed and tested via corresponding pilot study. And then the method was conducted through a case study in Chapter 4. The procedure of initial data analysed in this chapter, which produced the final overall assessment table and map for the identification and assessment of local identity. In this way, the research has developed a methodology that provides a way to identify and assess local identity, and visualised the local identity and its corresponding quality on a local map. Such ability provides a great potential for future academic and practical use in landscape study.

Chapter 6 Discussion

6.1 Introduction

This thesis has resulted in two sets of findings which are related to each other; the first is the definition and conceptual framework of local identity developed through literature review, the second used that framework to develop a methodology on both data collection and analysis process that generates and analyses data to further prove the properties of local identity as defined. In this way, the results from the methodology have provided a rigorous and easy access to investigate local identity through both individual aspects and overall perspective, which can be used to refine local identity development. The results are very customisable in the sense that users can tailor the data gathered at each stage during the data assessment process to better meet their own requirements in landscape study.

One contribution of the thesis defines local identity through literature review, which focuses on the interaction between humans and the surrounding environment, and a good local identity would establish conformable relationships between humans and the environment, more importantly, local identity constantly evolves from the interactions to better meets people's needs and characterise local place. Therefore in order to identify local identity, such interaction needs to be quantified and recorded. Based on the qualitative nature of local identity, the research methodology has introduced 180˚ PPEI to gather people's opinion on local sites. In this process the specific interactions are visually identified and recorded for analysis. Besides, the 180˚ panoramic photographs were proven to have the ability to vividly represent local site, which is closest to real human vision. The size of photos also allowed participants to accurately identify local identity elements and note down information that they think is vital to the local identity. Furthermore, the conversation record incorporating with the marked photo sets for each interview is very efficient in the later data analysis process.

Another important contribution from the thesis methodology is its data analysis process. The final results that are derived by the thesis methodology are: final mapping for both positive and negative local identity elements, and the participant groups' impact map. In these maps, the representation elements of local identity and its relevant preference from different participant groups are all explicitly expressed and the overall assessment table provides details of local identity elements. The derivation process followed a specific procedure, which not only quantifies but also visualise information gathered at each step, these steps can also be used for other research purposes on local identity, e.g. one could only use the physical aspect categorisation table to investigate deeper into the physical aspect of local identity. Through the method of data analysis process, all data collected can be categorised into four different aspects and then corresponding analysis on the individual aspects was carried out. This has further proven the validity of conceptual framework of local identity.

6.2 Conditions for Research Results

In terms of applying research methodology: the PPEI process developed by the research was applied to study site in summer daytime, and the onsite interviews were under clear weather conditions plus a great field of view at the site. However, there were cases

when participants were less likely to participate in the research due to their personal preferences. Participants show more patience and willingness to participate in the research under comfortable weather conditions, which means if the weather was not too great, there is a potential that participants are either not willing to cooperate or do not have the patience to express their full opinions. This could potentially lead to biased results.

In Chapter 1 and 2, it has been described that local identity has the dynamic feature; in essence the identities change over time, even in a small scale. Therefore, although the research results identified and assessed local identity, but this research was only carried on summer daytime. Hence, the results may be affected when the season changes or when the site becomes dark at night. Such time factor was not taken into consideration due to the time pressure of the research. Therefore, it would be appropriate to describe the local identity that is identified and assessed through this research as the result under a summer seasonal daytime condition.

These concerns highlight potential future work that one could use the same methodology applied to different seasons and timeframes to compare the data and see how local identity changes dynamically during different times of the year.

6.3 Reflection on the Research Outcome

6.3.1 Reflection on the Conceptual Framework of Local Identity

From the data assessment progress workflow, the first part of the workflow is to formalise and categorise the scattered data into an organised format. Hence the original data collected from the PPEI process is standardised into data collection tables then categorised into the corresponding table and filtered into individual aspect assessment tables. Through this process, the concept and framework of local identity proved:

6.3.1.1 Four Aspects of Local Identity

First of all, all original data is applied to four different categorisation tables. Such results prove that all representative elements of local identity can be seen as focusing on the four aspects that were distinguished in the literature review chapter, supporting the research finding that local identity has 4 aspects: physical, social, sensory and memory.

6.3.1.2 Different Sectors of Individual Aspects of Local Identity

Secondly, in the individual aspect categorisation table, data is further categorised into different sub-categories and sub-groups. Taking physical aspect assessment as an example, there are two sub-categories named architecture aspect and landscape aspect, the two sub-categories are divided into individual sub-groups that represent a part of perspective E.g. in the architecture aspect there are 5 sub-groups named settlement, style, facade, function and landmark. All such sub-groups of each aspect are generated from the participants' "reason of selection" in the original data collection step. Based on their reasons, the selections are set into the corresponding sub-group. Such findings relate back to the individual aspect of local identity section developed in the literature

review chapter. E.g. section 2.4.1 of Chapter 2, it is explained that different sectors are involved in representing the physical aspect of local identity.

One important perspective to notice in such process is that certain representative elements have the power to represent the same local identity aspect for multiple sub-groups. For example, in Table 15 "Hotel Building Complex" appears both settlement and facade sub-groups of the architecture aspect, this is due to the reason that different participants selected the same element for different reasons, hence the element represent the physical aspect of local identity from different perspectives. This suggests one of the complexities of local identity --- it can be represented by the same element but from different perspectives.

6.3.1.3 Local Identity Represented through Multiple Perspectives

Furthermore, the overall assessment of local identity clearly expressed that one location at a study site can have the ability to represent multiple perspectives, and such ability is concerned as a major factor when assessing the quality of local identity. For example, in Table 14 "Binhai Square" has the biggest sized pie chart with four different colors which means that four aspects that were identified in regard to "Binhai Square". The results reflect the nature of local identity --- it focuses on the interaction between humans and the physical environment, and it evolves throughout time via such interaction.

6.3.1.4 Local Identity Interaction between Different Aspects

In summary, the representation of elements of different aspects of local identity is all related to "Binhai Square": the activities carried out at the square; the notable night scene and the memories people have of its history are all deeply embedded into the local site. All such reflections on the aspects of local identity consolidate the importance of the idea on physical interaction introduced in literature review on local identity. It is a mutual interaction between Bandai Square and its people. Initially the geographical importance of the place is what attracts people, and then people start to carry out their daily activities at the site and, throughout time, people enhance the physical environment to better suit their needs and the place evolves throughout history contributing to people's memory. In the system, each aspect would influence each other and evolve through the interaction. Such results have also proven the local identity conceptual framework summarised in the literature review in 2.4.5 Interaction between Different Aspects.

6.3.2 Reflection on Individual Aspect Assessment of Local Identity

In the assessment of individual aspect, different elements that have the ability to represent corresponding local identities were introduced, and bar charts are generated to form a visual way of identifying such elements. It does not only have the ability to filter out noise data collected from the interviews, but also provide the ability to show the properties of each element of local identity explicitly. From the individual aspect assessment tables, we can find which participant groups have the most selections of one element, for example, the participant group bar chart section has four columns that represent different groups' impact. For such point, we can find that:

6.3.2.1 For the Physical Aspect

In Table 10, the bar chart shows that the number of selections for each representative element is more or less the same across all participant groups. This explains the perspective that the physical aspect focuses on the physical appearance of the local site; therefore the panoramic photos capture the majority of them. Hence, regardless of the local knowledge level and the location of PPEI being carried out, participants were able to pick out similar elements and reach a common conclusion of which elements are important to the local site's physical image to the outside world. For example, from the bar charts, it is clear that the nonlocal offsite group reached similar results as the local onsite group. Although local participants have more knowledge of the site and they carried out the PPEI at the study site, similar results could be reached due to the fact that unique physical appearance will always attract people's attention hence can be viewed as an aspect of local identity.

Such findings further prove the 180° panoramic photography technique developed in this research works greatly as all participant groups are able to reach very similar conclusions on the physical elements that could represent the local site.

6.3.2.2 For the Social Aspect

In Table 11, the bar chart discloses that social aspect is, to a certain extent, related to both the actual onsite experiences and local knowledge: Present onsite experience tends to have more influence on identifying representing elements. Table 11 demonstrates that local onsite and nonlocal onsite groups tend to reach a common selection on the majority of the elements summarised. And the numbers of selections between two groups are similar. Taking "Square Dance" and "Kite Flying" for example, both local onsite and nonlocal onsite groups can physically interact with the local site to see or join in with activities that are currently being carried out onsite regardless of their local knowledge of the study site. When presenting sites through photos, existing knowledge tends to play a larger role in deciding unique social elements. From Table 11, although the local offsite group was able to pick out the same elements as the previous two groups the number of certain elements selected is less; whereas nonlocal offsite participants find it hard to pick out the same unique social activities from photos if activities were not explicitly stated from the photos. For example, both local and nonlocal on site groups have picked "wedding" elements, because they saw a wedding ceremony at the study site and were affected by the atmosphere. Although the photo did not capture such activity explicitly, certain local offsite groups were able to identify such activity with the knowledge that weddings are a common social activity that is carried out at the study site. Besides, nonlocal offsite groups not only have a smaller number of selections but also miss the selection of certain elements, taking the same "wedding" element as an example, this is because they are not only missing the knowledge of the common activity but are also not affected by the social activity atmosphere, therefore, they did not pick out such elements.

The above discovery further proves the fact that in order to fully discover the social aspect of local identity, it would be better to fit into the actual society to feel the atmosphere. Although photographs are able to capture the majority of the social activity there are certain elements that can only be "felt" to represent local identity rather than "seeing" it, which is also a unique point for social aspect in local identity.

6.3.2.3 For the Sensory Aspect

In Table 12, the bar chart discloses that the sensory aspect is, to a certain extent, related to the actual onsite experiences. Local onsite and nonlocal onsite groups have a nearly identical number of selections for all representative elements. Due to interview limitations, local offsite participants cannot physically "feel" the local site, therefore they have picked the same representative elements but with less selections. More importantly, it is noticeable that nonlocal offsite selections are very limited compared with the other three groups. This is not only due to the fact that nonlocal offsite participants are not only missing the knowledge of the local site, but also cannot feel the site hence limiting their ability to choose such elements.

Another finding from the sensory aspect is when participants are missing the sensory factor of the local site; in the comparison between local offsite and nonlocal offsite, as the bar chart shows, local offsite participants are still able to pick out the elements in comparison with the other two onsite groups, whereas the nonlocal offsite participants are either missing or only had few selections. Such result means that when local participants are missing the sensory touch to the study site, they can still recall the unique identity through their deep knowledge of the site.

6.3.2.4 For the Memory Aspect

In Table 13, the bar chart explicitly lays out the uniqueness to identify such local identity aspects. It is deeply dependent on the participants' knowledge to the local study site. From the chart it is obvious that local participants all reached the same representative elements with near identical selections, whereas the nonlocals are nearly missing the entire aspect. This is due to the lack of local knowledge and history information. Hence the charts prove that regardless of the way PPEI is carried out, the memory aspect of local identity is hugely dependent on the familiarity of the local knowledge and history.

6.3.3 Reflection on Overall Assessment of Local Identity

Although the results shown above have proven the nature of local identity and the related aspects that contribute to local identity, it is still necessary to consider the term as a single terminology. The final overall assessment and mapping of local identity were generated based on this fact. The results from the overall assessment of local identity (Table 14) are a true reflection on the definition of local identity found at the end of the literature review chapter. Each row represents the corresponding aspects reflected at a specific location that is identified by the assessment of individual aspects.

6.3.3.1 Function of Qualitative Assessment Pie Chart

The qualitative assessment pie charts visualise the aspects such location represents. The pie chart not only uses the colored sections to reflect the aspects each location represents but also uses its size to reflect the number of selection for such location. In addition, the proportion of each color in the pie chart also demonstrates which aspect most powerfully reflects local identity. In such way, the table provides the ability to assess the local identity from in both individual and overall level of the aspect. Such findings further consolidated the definition of local identity as unique representations

that provide a recognisable image for the local site from multiple aspects. The qualitative assessment pie charts for positive and negative preference assessment prove the part of the definition of local identity that it is not only the positive features that make a place recognisable, but also the negative perspectives.

6.3.3.2 Function of Participant Groups Assessment Pie Chart

The participant groups assessment pie chart visualises the importance of each location to different participant groups. Because different people have different preferences relating to the same elements based on their past personal experiences and memory. Therefore it is essential to distinguish the different level of "uniqueness" each element has to different participant groups. The size of the pie chart is the sum of selection. Each color in the pie chart is related to a different participant group's total selection, in a way that provides the ability to identify which group the local identity is most important to. This result supports the thesis' view that the same local identity means different things to different groups.

The local map in which the pie charts are mapped provides visualisation on both identification and assessment of local identity. In such way, both research objectives 3, 4 and 5 are achieved. And it would provide a meaningful practical advantage for the user of the methodology. The practical use of the theory and methodology developed in this research will be discussed in the next chapter.

6.4 Limitations of the Research Methodology and Hypothesis

Despite the findings and results from the methodology developed in this research, the method is still subject to a number of limitations.

6.4.1 Selection of One Case Study

Due to the time and geographical limitations, the research only focused on one case study. Despite the site chosen having a combination of all perspectives, it cannot be viewed as a place that has the ability to represent all the other places. The validity of the methodology at other places was not tested. However, due to the qualitative nature of the method, and the full coverage of all aspects of local identity the study site has, this research argues that the methodology has the potential to become a universal method which can be applied to other places. Such a view could be a potential work for future research.

6.4.2 Hypothesis for Filtering Noise Data

When identifying the representative elements that could potentially represent local identity, the thesis sets out a hypothesis that an element is selected if any of four groups have a number of selections greater than 7. There is limited existing literature in support of such a hypothesis, therefore, there is potential to integrate the method into a quantitative analysis framework in which far more PPEIs are carried out which could then be analysed through a statistical process to further prove the validity of the thesis method for extracting noise data. However, such hypothesis does not impact the thesis'

findings on developing local identity definition and frameworks with a method for its identification and assessment.

6.4.3 Vertical Combination for Photo Preparation

As discussed in Chapter 3, the vertical shooting angle of the camera to mimic human vision and provide a panoramic photo for the PEI process remains a major limitation to the process. Although this research has found a process and scientific proof to combine two panoramic photos to combat such limitations, the pre-assumption of the work is based on the building's height can be covered by two panoramic pictures combined vertically together, and the vertical shooting range is wide enough to make such work valid. However, in a situation that the building's height is much higher than the shooting range so the entire angle will not be captured even after the vertical combination, this method may fail. For example, in New York Times Square, where the shooting distance is very limited and the building's heights are extremely high, the vertical combination technique introduced in this thesis may fail. However, there is not a valid technique in the field that could tackle such limitation effectively.

Chapter 7 Practical Application of the Theory and Methodology

7.1 Introduction

The relevant findings and methodology are all developed in previous chapters, it is now vital to understand their practicality and how to apply them to produce better urban design results. Therefore, in this chapter, the meanings and practical uses of the findings and methodology development in this research are discussed. The aim is to provide a guideline of how such findings and development can be used in practice to help urban developers and designers to better understand local identity. Objective 6 set out in Chapter 1 is answered in this chapter.

The claim for local identity is that it is an effective indication by which to engage various aspects' elements to provide distinguishable uniqueness of a local site and increase the bond between places and people. Therefore the major objective of this research is to help both academics and practitioners to understand, identify and assess local identity. In essence, the theory needs to be well organised and clarified to aid the understanding of local identity whilst the method needs to be practically viable and able to be uniformly applied on different local sites. The theory of local identity has been clarified and reorganised into a new conceptual framework; the methodology has been developed as a two-step process to find and reflect such framework: data gathering process (taking panoramic photos, choosing participant groups and carrying out the PPEI) and data analysis process. The data analysis process is especially meaningful, as it not only provides a way to visually analyse all data, but also provide more details of local identity theories. Hence when practitioners are willing to use such method, it can be applied effectively to investigate and assess the nature of local identities and reveal potential beneficial practices that could be used to enhance the bond between the local environment and people.

7.2 Practical Meanings

7.2.1 Meanings of the Theory of Local Identity

This work has found that in the modern urban design process, vast amounts of local identity are being lost due to the effect of globalisation. Because of the various terms of identity, practitioners failed to understand the true meanings of the unique elements at the site they are working on, hence resulting in similar city images. China, as a good example, is losing its local identity at a dramatic pace, while copying western successful city design experiences. One of the major reasons is the lack of formal definitions on the term "local identity". The various definitions related to local identity also cause confusion. Therefore, by investigating and sumarising all the relevant identities, this research has proposed a formal definition and framework of local identity that could clear out the confusion and potentially act as a guideline for practitioners to use, which allows for a deep understanding of what local identity is and its importance within the urban development process.

7.2.1.1 Levels of Identity

Through the literature review, relevant concepts were studied to understand the meanings and importance of local identity. Identities, which are formed by various elements of the region, create a bond between the surrounding environment and its citizens through pride or other unique feelings. It has multiple levels and different aspects. Local identity is more specifically focused on a local level, e.g. city street or city quarter, which acts as the fundamental level and forms other levels of identities (E.g. city level, regional level and national level).

7.2.1.2 Framework of Local Identity

The review summarised the overall aspects of local identity from different relevant identity terms defined by previous academics. In order to further investigate the components of local identity, different literature reviews on similar local level identities have been integrated in Chapter 2. Although these different identities might be adapted to particular conditions, their representative elements are able to form a basis of local identity in practice. Hence, the principles of local identity with diverse aspects contain a variety of local identity features to connect people and the environment, such as physical, social, sensory, and memory.

Based on the above fact, the thesis has defined local identity as the identity that could provide distinctive features to small-scaled places, including both positive and negative preferences of people. The local identity contains four aspects: physical, social, sensory and memory aspects. Each aspect focuses on a specific perspective that was summarised from the relevant identities defined in other literatures. Therefore the local identity does not only tell practitioners the definition of local identity but also provides great potential for future landscape study works and helps to clear up certain confusion between similar identities definitions. Therefore, this research has unified the different terms and structures related to the term “local identity”.

7.2.2 Meanings of the Thesis Methodology

Through the process of local identity identification and assessment via thesis methodology, there are additional contributions and meanings at certain steps of the methodology.

7.2.2.1 Panoramic Photography Techniques

The panoramic photography techniques, including both findings on simulating horizontal and vertical human vision through panoramic photos and the findings on display sequencing, have all contributed in forming a better way to represent local landscape to participants and gathering more accurate and effective data in landscape research. Section 3.3.2 (Photo Elicitation Interview) introduced how PEI in social science literature described the same idea and its process to produce research data. However, due to the limitation of photographs, participants’ selections are limited by “the lack of real feeling” of the photos and details behind selections are often ignored. With the panoramic photography techniques, the PPEI process can greatly improve the data gathering process. The large-scale panoramic photographs provide great simulation of the true human FOV at the study site; the techniques on vertical photo combination

resolves the problem of the narrow vertical view angle of the camera, so that the study site can be better presented; the order in which the photos are shown provides an efficient way to use the panoramic photos to extract information from participants, as the order that photos were shown to them plays an important role in extracting information from their memories. Therefore, if used appropriately, the panoramic photography techniques can provide a more efficient and accurate process for other landscape related studies.

7.2.2.2 Data Analysis Process

The data analysis process has not only provided visualised ways of analysing local identity as a single term, but also has the ability to assess individual aspects' features. In addition the visualised analysing process has made the analysing process more efficient, explicit and easy to understand. The individual and overall assessment tables have evaluated local identity from both individual aspect level and overall level. One could either use the individual assessment table to investigate each aspect more thoroughly, or use the overall table to assess local identity as a single factor.

7.2.2.3 Pie Charts Representation

The final pie charts representations of local identity elements have the ability to visualise the importance of each local identity from both macro and micro level and easy to locate when mapped to local map. In Table 14, it has been shown that each qualitative pie chart represents the overall importance of local identity elements via its size and the importance of individual aspects of each elements via the proportion of its four different color sections; the participant group pie chart can represent the importance of local identity elements, as a whole, to each participant group.

Together with the theory of local identity as a guideline, practitioners can use the thesis methodology as a tool to understand, identify and assess local identity. And if used appropriately, the methodology could contribute to finding the cure for the loss of local identities.

7.3 Practical Use of the Thesis Findings

This research investigated the current issue that local identity is facing, and concluded that the understanding of local identity explicitly impacted people's quality of life from both a theoretical and practical perspective. Although the methodology has been proven to be effective to identify and assess local identity, how to use the thesis findings practically to improve the living environment remains a realistic problem that the local identity is facing. The practical use of the thesis' findings includes both academic and practical points of view.

7.3.1 Academic Point of View

7.3.1.1 Theoretical Development of Local Identity

Academically, the theoretical development of local identity should not only address the understanding of local identity concepts but should also address the importance of such

understanding in regard to the theoretical development in landscape study. The theory building nature of the research has provided a deep understanding of the term, which can help academics to focus on the micro level of their research study on local identities in order to contribute to the overall literature of local identity. Together with the methodology, it allows academics to testify their findings on either the individual aspects or the overall perspective of local identity.

7.3.1.2 Using PPEI Technique in Other Academic Field

PPEI technique could provide, or has the potential to become, a universal methodology that could be used across landscape academic study. In such perspective, there is a potential for the research method to form a foundation on the development of a universal landscape study methodology technique. Moreover, the PPEI provides academics the ability to gather effective data and improves the accuracy of data collected. Apart from using the thesis methodology to identify and assess local identities, the PPEI technique has the potential to be used in other academic study and practical processes to produce better results. For example, one could use the same technique to examine people's opinions regarding certain social study or events.

7.3.2 Practical Point of View

Practically, the thesis has clarified that a good understanding of local identity can help them to realise the true needs of local people therefore enhancing their development. Furthermore, the thesis methodology provides a rigorous way for them to evaluate local identities to assess their development. For example, a good practice would be to revamp the negatively impacted local identities identified by the process. The methodology not only helps practitioners to prevent negative impact development, identify and enhance the positive local identity elements, but also provides them with the ability to identify potential opportunities to integrate the popular ones to derive new local identity, which reflects another main point of the thesis --- local identity can evolve, or even create new, identity through constant interaction between people and the environment.

7.3.2.1 Practical Application by Urban Developers

For developers, it is essential for them to know the impact of the development carried out at the local site. If they are expanding an already negative local identity elements, it will not only harm both their and local reputation, but most importantly, it creates a potential risk which could push local residents to move out of the region and hurt the natural balance of the site.

- In modern century, more and more cases have arisen where, due to vast inappropriate development, local residents decide to move out of their own city to seek a better living standard elsewhere, especially in China, where local government is the sole developer of all urban projects in the country, it is imperative that they adopt appropriate standards to guide their decision in order to protect the vast loss of local identities in the city. Therefore the definition of local identity and its framework can help developers to understand the importance of local identity, and make them more alert to potential problems when carrying out certain development projects.

- By using the thesis methodology, developers could quickly identify the corresponding positive and negative local identities, and their importance of contribution to the local identity. As an example, if a developer decides to destroy a local building, which has a large sized pie chart with four colors on the assessment map, this is certainly going to have a very bad impact on local identity. This would harm the local image and cause loss of local identity. Developers could also use the negative local identity map to discover the local identities that are disliked by people and develop corresponding strategies to improve such negative identities. In addition, the methodology provides them with the ability to choose certain positive local identities to improve. As discussed in chapter 2, one feature of local identity is its ability to evolve through the interaction between the physical environment and people. The method can help the developers to make a better decision to improve the existing local identities to make the place more attractive and enhance its unique image.

- Other important results that this thesis has yielded, that are useful for developers, are individual aspect assessment. As an example: If the developer decides to further develop the social activity that could be carried out at a site, they can use the social aspect assessment and find out below information:

    - **Which social activities are most liked / disliked in the area to be developed:** The preference bar charts in individual aspect assessment table, it is clear that certain social activities are most wanted / hated. Therefore, providing a guideline for developers to consider which social activity has the most potential to be extended or developed.

    - **Different preferences of each participant group for certain social activities:** The participant groups' bar charts in individual aspect assessment table have the ability to indicate the importance of each element to different participant groups. E.g. certain activities are most liked by local residents whereas others might have heavier preferences from nonlocal participants. Based on such information, it helps developers to better enhance their development goals, which allows them to better focus on the balance between different groups' needs.

    - **The location where the social activity is carried out:** When developers are considering a new development for social activities, one important consideration is whether too many activities have already been carried out at the site. The map of the selected elements of local identity provides a great solution to such needs. Through the map, if too many pie charts with social activity sections (green) are stacked together around one location, it is an indication that many activities have been carried out at this location. If developers are still considering proceeding with a development at such a location, they might have a better and detailed consideration of the decision, due to the fact that too many activities at one place may cause conflict of interest between different groups of people. In such case, they might want to consider another similar or nearby location that has fewer activities indicated on the map.

Based on the above example, it shows that individual aspect assessment provides a customised way of providing guidance for developers that is more aspect focused.

In essence, the thesis methodology can provide developers with the ability to assess their development and decisions, prevent the risk of destroying positive identities or

expanding negative identities, helping them to improve existing good local identities, and most importantly, it provides the ability to assess individual aspects of local identity separately which offers the developers more focused, detailed and specific guidelines to aid in their development decisions.

7.3.2.2 Practical Application by Urban Designers

For urban designers, the practical application of local identity and the thesis methodology focus on providing a guideline and helping to inspire the designers during the design process. It is essential for them to know what to protect and what to prevent when designing a local site.

- Firstly, by understanding local identity, it would help urban designers to realise the important factors that need to be concentrated on during the design process. From a design perspective, it is the source of their inspiration.

- Secondly, using the thesis methodology helps designers to quickly identify the local identities, and could potentially start from there to gather design ideas. The ranking would help them to decide what elements need to be revamped or redesigned / improved. E.g. the elements that have a higher-ranking on the negative assessment table might need to be revamped. And certain lower ranked positive elements would have a potential to be expanded to have a good impact on local identity. Higher ranked positive physical elements would have a potential to invite more social activities around it. Higher ranked positive sensory element would have the potential to develop some physical elements and help people better enjoy it, and so on.

- Thirdly, similar to the use for developers, the individual aspect assessment provides a guideline for the designers in consideration of detailed information for each element that represents the aspects of local identities. Designers can use the table to assess the impact of their design on individual aspects and participants group.

In essence, local identity would help designers better understand the local site and provide a guideline for what they are designing. And the methodology would inspire and provide the ability to designers to choose the purpose of their design, plus a detailed evaluation of their design.

To sum up, the importance of using the theory of local identity and the thesis methodology has been explored to draw attention for achieving the long-term goal of local identities. The practical use of the thesis' findings is to address the value of local identity and its corresponding practical application, and also promote the importance of identifying the correct identity to expand or revamp on for practitioners. Through such systematic cycle, the loss of local identity, which is the major problem that all modern cities are facing globally, can be not only prevented, but also evolve the existing local identities, this is the final long-term goal behind the principle of this research.

7.4 Summary

From the evaluation above, it analysed the impact of understanding the theory of local identity and the use of thesis methodology. The theory of local identities would help users to understand the importance of each element they are evaluating and what they mean to different groups of people. And the thesis methodology can provide a way to

identify and evaluate such identities from an explicit and visualised route. More importantly, the methodology can act as a guideline for the users to make better decisions on any local level planning or design projects, and provide very detailed and aspect specific focused evaluations. Such solutions allow users to customise the way they want to analyse local identities, and can provide a great way to emphasise on even the elements inside each aspect of local identity. And equally important, the potential use of the PPEI process in other landscape study proves the universal ability in analysing landscape related problems the research method has. Therefore the thesis methodology is believed to have a great contribution to the identification, assessment and most importantly the protection of local identity with great potential to be integrated into other landscape study processes.

Chapter 8 Outlook and Conclusion

8.1 Introduction

To date, the term "local identity" has been vaguely defined and the disregard of its importance has caused a vast amount of cities' unique characteristics to vanish, which creates similar cities around the world. In order to explore the definition and importance of local identity, the thesis was set out to clarify and define the concept of local identity and aimed to solve the loss of local identity. As a result, this research has defined and formalised "local identity", which uses a newly developed conceptual framework to distinguish and crystalise the term from other relevant definitions. Moreover, the research has also developed a methodology to not only identify and assess such local identity via its results, but also further develop and refine local identity from its conceptual framework perspectives. The important contribution of the research is its ability for helping academics and practitioners to better understand and protect local identity. This chapter draws together the literature review and the methodology discovered from case studies to propose multiple potential developments of local identity to better improve human life and protect the existing and even create new local identities that represent the uniqueness of the local area.

8.2 Reviews of the Research

This research aimed to formalise a systematic definition of local identity, and develop a method that could be used to examine such identities based on experiences from different groups of people in Yantai, China. The main issues are:

1. Understanding of local identity, its importance and framework.
2. Methodology development through case studies in Yantai that not only identifies the local identity but also establishes the corresponding elements for each component of the local identity.
3. Assessing the features and importance of different elements and aspects of the local identity.
4. Consider the practical application in modern landscape study and the urban design process

The above issues have been addressed via three steps:

1. Relevant literature reviews have been carried out based on academic and practical literature accordingly to establish the true concept of local identity and the components that form local identity.
2. In development of the methodology, relevant literature reviews and scientific proof has been used in the derivation of the PPEI used in the case study carried out in Yantai, China. Prior to the case study, pilot studies have been carried out in regard to the validity of method development.
3. Through data analysis on the original data collected, identification and assessment of the case study site's local identity has been carried out. And different features of individual aspects of local identity were further proven, which mutually supported the effectiveness of the data analysis method.

Therefore, the importance of local identity with a clear definition has been critically re-evaluated in chapter 2, providing an important contribution to building the theory in local identity. The benefits of realising a formal definition of local identity and its ability to contribute to modern landscape study and practice has been explained in detail in chapter 7: In comparison with the previous lack of definition on the actual meanings of local identity, one important fact is that local identity would provide guidelines and help academics and practitioners to better understand their work and help the environment to develop into a greater future to attract more people rather than push people away due to the loss of local identity.

8.2.1 Benefits of Understanding Local Identity

Through the literature reviews, a definition of local identity with a precise understanding has been proposed which is believed to clarify the first aim of the thesis:

> **Local identity represents small-scale places, such as city quarters or street level; it provides features that create a recognisable image of the place and help its residents to differentiate from other places. It provides special feelings through physical, social, sensory and memory perspectives; such feelings include both positive and negative emotions.**

As defined, local identity is concerned with an indication of the quality of life and environment of local citizens. Therefore, to fully address and understand its importance can help to improve the standard of the life of local people. The empirical findings from research methodology have testified the definition from multiple perspectives.

8.2.1.1 Basics of Local Identity

The basics of local identity are to distinguish small-scale places via interaction between humans and the local environment. The basics of local identity are well supported by research findings. As the case study was carried out along a local street with four different participant groups, based on the reasons recorded for the interviews, all the final local identity elements picked by the majority of participants across all groups have been identified as “the elements that represent the site”. In essence, these elements have embedded the representation image of local site in participants memory, regardless of surrounding environment and their knowledge of the local site; when they see the site or hear related names, these images are the first impression they recall, hence, supporting the first half of the local identity definition.

8.2.1.2 Conceptual Framework of Local Identity

The research findings also provide strong support to the conceptual framework of local identity developed in this research, which includes four different aspects with their own sub-groups, hence, supporting the last half of the local identity definition. According to reviewed research, the practice of local identity has been proposed from a multi-functional perspective, which has caused confusion around the definition of local identity. Despite the fact that there are different focuses in local uniqueness from different researchers, this research has summarised and reorganised their perceptions into a new framework of local identity. As shown from the results, when formalising all data collected from participants’ interviews, regardless of their participant group, they

can be categorised into four different aspects, each represents their corresponding local identity. It was also identified that certain elements could represent different aspects from different perspectives despite having the same name. Hence, it clearly proves and supports that all elements that are identified via this research method can be categorised into the local identity framework developed in chapter 2. Therefore, it is proven that the effect of human-place interaction on local identity is from four different aspects, which allows local identity to be investigated from a more detailed and rational way (include both positive and negative preferences). The ranking of the results also provides more details to the level of importance of different local identities, which relate back to the framework as they can be assessed based on the synthesis of four aspects. Therefore, helping to understand, from a more specific level, how local identity is important to the quality of life for different people in urban development, which could help to achieve better development goals and contribute to the protection of local identity in future.

8.2.2 Practicality of Research Methodology

The research methodological literature reviews concentrates on the pros and cons of currently available methods in landscape study and helps to determine the relationship between theoretical and practical use of the methods. The process has not only developed the theoretical framework of the research methodology, but also tested the findings via practical pilot studies. In order to find the representative elements for local identity, PPEI has been integrated and used to identify the nature and distinction of local identity through the investigation of different participants' opinions, and then use the special data analysis process to crystalise the data gathered from PPEI to identify and assess local identities.

8.2.2.1 Effective PPEI Technique

The PPEI technique of the methodology development is very important in this research. It has found a more effective way to investigate participants' opinions of local identity.

Firstly, in the process, whether or not to use researcher-produced photos has been a major concern (section 3.3.2.2 Four Versions of PEI). However, the majority of stakeholders are aware that due to the research nature and perceptions, it is better for the researcher to take photos and present to them to gather the most effective data.

Secondly, 180˚ panoramic photographs, their vertical combination technique and the showing sequence were developed and proved to maximise the representation of local site through third party intermediaries. The literature review on relevant methodology available in the field showed that although the method of using photographs incorporated with interviews, also known as PEI in social science literature, has been used extensively in landscape studies, its limited ability to represent the true human vision photographs to the interview participants became a major obstacle to gather reliable research data. This obstacle limits participants' imagination and elicitation ability and further restricted participants' selection with regard to the surrounding environment. In spite of the available modern visualising technology, panoramic photographs were introduced to enhance the PEI process, because of its effectiveness in terms of elicitation ability and its cost efficiency. The pilot study was carried out to testify and support the proposed theoretical PPEI process. Through chapter 3, using a panoramic PEI process incorporating the principles of the needle method has proven to not only combat the limitation of presenting real human vision to participants, but also

provides the ability to allow the participant to consider unique elements of the local site in relation to the surrounding environment, hence reflecting good reliable results.

Furthermore, the research methodology was further tested via the case study, which provided a comparable evidence for identifying local identity that is meaningful to people from different backgrounds under different circumstances, e.g. local and nonlocal participants may have different points of view on the same elements due to their different background; onsite and offsite participants may have different opinions on the same elements due to the location effect. Within the context, carrying out both onsite and offsite interviews also increases the transparency of the results findings, which support the validity of the new research methodology --- PPEI process.

8.2.2.2 Effective Data Analysis Process

The data analysis process of the methodology development is significant in this research: It has found a visualised way to identify and assess local identity that offers great interpretation of local identity. The assessment process has used a stepped process to pinpoint all the important factors to a local map. The process not only identified and assessed the element that could represent different aspects of local identity, but also provided a rank for each element in terms of their overall local identity representation. For example, "Zhang Yu Wine Cultural Museum" with its strong preference from all participant groups across all aspects championed the assessment table as the elements that could best represent the local site. The workflow of the generation for each table and charts are explained in chapter 5 with an explicit workflow diagram. In general, as a part of the overall methodology that has been developed through this thesis, the data analysis technique acts as the second most important part of the method with the first being the data gathering process (PPEI process). The data analysis process has not only visualised data for effective interpretation, but also mutual support and proved the characteristics of local identity from both macro and micro levels. E.g. "Binhai Square" was found to be not only one of the top ranked local identity aspects in the overall assessment, it has also been seen as the representing factor of local identity from physical aspects in individual aspect assessment. In general, The results of the methodology's data analysis process have not only mutually proved and testified to the nature of local identity, but also provided great potential for the method used to investigate local identity in great detail, and most importantly, from a visualised perspective. The visualisation of the data analysis greatly improves the efficiency and readability of the results on local identity, hence would provide great and diverse possibilities for future research on evaluating different perspectives of local identity.

8.3 Recommendations of Future Work

It can be considered that local identity is likely to become a standard term without confusion (as explained in Chapter 2) in future landscape developments and landscape studies. As part of a broader methodology, the research method will have a great impact in future landscape development, as more and more cities around the world start to realise the issues they are facing on losing their own uniqueness. Although the PPEI process has been carried out with open-ended questions and interviews were done both onsite and offsite to investigate the features of certain local identity aspects. There is still plenty of potential work that could be done in both literature and practical methods, based on the findings of this research to improve the understandings and use of local identity.

8.3.1 Recommendations for Academic Study on Local Identity

8.3.1.1 Investigate Further into the Details of Local Identity

The understanding of local identity can be investigated in more detail from a theoretical development with literature study. Although this research has reviewed a range of literature from an academic and practical perspective to clarify a formal definition of local identity and its relevant four components. The importance of each individual aspect still needs to be identified, especially for different cities with diverse backgrounds, certain local identity aspects will need to be better investigated and applied. A more intensive understanding of each individual aspect would provide guidelines for academics and practitioners to carry out more individual aspect focused research and development, which will offer more effective influence according to the local site. For example, in the data categorisation table, physical aspect data is partitioned into "Architecture" and "Landscape" sub-categories; each category is further grouped into their sub-groups. One could potentially investigate which sub-category or sub-group would play a dominant role in effecting the physical aspect of local identity under certain circumstances at a specific local site.

8.3.1.2 Investigate Further into Individual Aspect of Local Identity

There is a potential to dig deeper into the analysis of each individual aspect of local identity. The potential of individual assessment can be expressed to reveal more details, for example, a map for each aspect assessment could be generated. Pie charts can be produced to assess individual aspects to provide a more explicit way of seeing the important elements for each aspect on a local map.

8.3.1.3 Investigate Focus on Multiple Case Studies

As the nature of this research is to develop an original methodology and due to of the geography and time limits, the research methodology is only applied to one case study to prove its validity. However, after the methodology framework has been set up, one could potentially apply it to multiple sites which all have different environmental conditions. Which means the research could be done using a cross-case analysis where the same methodology is applied to multiple case studies and their results compared. For example, one could choose three different local sites, with 30 photos via the PPEI photo shooting approach for each site and choose 15 participants for each four groups of PPEI for each site and carry out the PPEI accordingly. The local identities classified at each local site could then be compared to see if they differ from one another, hence further investigation of local identity under different environments should be carried out to test the validity of the PPEI method under multiple case studies. Certain local sites might have more focus or emphasis on certain aspects. By applying the research method, such local identity aspects can be found and used to cross-assess the different local identities between places with different history and background. Such process opens the gate for more detailed evaluation to local identities between places, which has both provided an interesting fact to be investigated in academic study and a guideline to help practitioners to better understand their places by comparing themselves to other places. Meanwhile, the validity of the method could be further tested. E.g. to find out if the methodology would also work for Paris, New York, Tokyo, etc.

8.3.1.4 Investigate Focus on Cross-cultural Issue

Although research has carefully considered the selection of participants to ensure diversity of sample data collection, all participants have the same nationality. In essence, they share similar a culture. Further research could be carried out to see what different people with different cultural backgrounds think about the same site, e.g. Chinese and Western (Yu, 1995). Hence, one could expand the diversity of sampling participants to include people with different nationalities and culture. This would not only better test the method's validity, but also introduces the idea of cross-culture to local identity. In this research, the culture aspects have been identified as a factor that could influence social and memory aspects of local identity, and it has been introduced that different cultures could potentially cause conflict when two communities are merged with different cultures. Hence it would be interesting to see whether any factor could influence local identity when evaluating the term from a cross-culture point of view. E.g. elements that are seen to have strong local identity representative elements by participants of the local nationality whereas the same elements may fail to attract the attention of the other nationality participants. This would expand the definition of local identity and increase the deepness of the term structure, hence contributing to the future academic development of local identity. One additional note to such future work is that, because of the globalisation effect around the world, it is necessary to investigate what different people with diverse cultures think about the same elements at the place where they live. This is a potential focus, which could prevent the loss of local identity introduced in the Chapter 1.

8.3.2 Recommendations for Practical Use of Research Methodology

8.3.2.1 Enhance the PPEI Process in Research Methodology

Although the PPEI with on/offsite processes has been proven to be the optimal research for this thesis, there are still modern technologies that offer real life experience for participants. For example, in terms of representing local site on third party intermediaries, GIS and 3D technologies, which has been introduced heavily in recent landscape visualisation research. Such technology could potentially have the ability to enhance the PEI process better than panoramic photos as they can vividly simulate true human vision. Hence, if time and finance is available, one could try to carry out further testing find out if the use of modern technology in the PEI process derives much better results than the PPEI process proposed in this thesis. Another issue with PPEI is its ability to mimic the vertical human vision, as explained in the limitation section in chapter 6, when the shooting range is limited and the objects are exceedingly tall, it might not be covered by a few panoramic photos vertically combined. Therefore, a better technique is required to better resolve such potential issues.

8.3.2.2 Enhance Research Participant Sampling

Due to the qualitative feature of the research, the number of interviewees has been decided to be 60 participants based on currently available literature on sample size of similar landscapes and social science research. One could judge the validity of such research sample and the future development could be considered with different participants sample sizes.

Besides, it has been argued that introducing new types of participants could improve the research findings by including more diversified opinions. Although the four participant groups capture the majority of scenarios when people interact with the local site and the various participants' life experience has provided a diversified sampling population, however, all participants are chosen from three major group types: local workers, nursing homes and high school students. The research does not provide any evidence that participants with other types of careers or experiences would derive the same results, e.g. relevant professionals (landscape architects, urban planners and designers). Neither does it provide strong evidence that the methodology imposed a barrier to specific participant groups. However, the research methodology mediated the interaction between humans and the environment, so that people regardless of local knowledge / experiences or direct interaction with the environment had an equal chance to identify local identity. Such conclusion can be further investigated by involving more diverse background participant sampling groups.

8.3.2.3 Further Test the Noise Data Filtering Hypothesis

There is a lack of previous similar research in the field; there are limited standard guidelines to support the number threshold to decide if the elements can be concerned as a representative element, hence filtering out the noise data collected. However, there is available literature suggesting efficient sampling numbers for qualitative research. Based on such literature, the thesis has proposed the hypothesis on using 60 participants in four different groups based on their different backgrounds, suggesting any element has more than 7 selection numbers in any participant group would be a representative element. Although there has not existed a standard guideline to support the hypothesis, the result was sufficient as it mutually testified the nature of local identity and the results are all related back to support the definition and aspects properties of local identity. However, one could still look into a much stricter / weaker filtering threshold to see whether a different threshold would derive similar or better results, e.g. only selecting elements that have more than 10 total selections in groups of 15 participants.

Finally, it can be seen that this research has revealed that there is a vast amount of potential for both academic study and practical use of local identity. It is believed that further study could bring more interest to meet a broader notion in local identity which supports physical, social, sensory and memory interests, and can be concerned to deliver effective guidelines to contribute to the solution of the loss of local identity.

8.4 Final Conclusion

In spite of the global issue of the loss of local identity, there has been little investigation into the problem or proposed valid solutions. The research perspectives were addressed in regard to delivering a valid way to contribute to the problem of losing local identity via a typical example site in Yantai, China. In such respect, the thesis has laid a foundation to understand the knowledge and finding of local identity, which has taken a step forward in filling in the blanks on local identity by proposing a formal definition and framework of local identity. The research has also used visualised comparative analysis to reflect on distinctive features, strengths and shortfalls of different local identity aspects. Throughout the thesis development, the research believes the findings can contribute to the solution of resolving the current identity loss of cities globally and help to deliver a better living environment that people feel more attached to. For example: before urban developers / designers carry out projects on the local site, one

could use the thesis findings and methodology to identify and pre-assess the site's local identities to find out whether their project is going to strengthen or harm existing local identities, hence protecting local identities while improving people's attachment to the local environment.

Most importantly, this research has revealed a new area for landscape and practical study on identities, and has provided great potential in contributing to these identities' identification and assessment. In addition, the continuing research into the local identity could contribute significantly to improve knowledge development, practical support and working with people in practice to deliver better and more cherished modern distinctive living environments for urban residents. With its diversified potential of future development opportunities, the study will act as a strong contributor to the development of local identity.

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ZUBE, E. H., PITT, D. G. & ANDERSON, T. W. 1974. Perception and measurement of scenic resources in the Southern Connecticut River Valley publication no r-74–1. *Landscape Research,* 1**,** 10-11.

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Appendix

Participant Information Sheet

Local Identity Identification & Assessment:

The Theory, Methodology and Practice of Discovering Local Identity in Yantai, China

This study is a PhD research project, which aims to develop a method to identify and assess local identity based on Chinese cities. It is hoped that this work will help the landscape architects to better understand the elements of local identity, especially the elements that you believe to be important in the study area.

You have been asked to participate in this research because your opinion is important in identifying local identity. You will be asked to choose elements that you think represent the local identity, and mark them on photos with corresponding colored sticky notes as an indication. Each color represents an aspect of the local identity (physical, social, sensory and memory). You are welcome but not obliged to say and write the detailed reason beside the elements while you are participating in the interview. The interview will last for a maximum of 60 minutes. However, you are free to withdraw at any time during the progress.

The information we acquire from you will mainly depend on your personal view of the study area. Your opinion is extremely valuable to the research because of your understanding of the study site. The information that we collect from you during the interview will be kept strictly confidential. You will not be able to be identified in any reports or publications. All data collected from you will be kept on a password-protected computer. The results collected will form the basis of my PhD study, which will be used in my PhD thesis and there may be opportunities to publish the findings in academic and professional publications, seminars and conferences. Your personal details (such as name and address) will not be included in the transcript.

There are no foreseeable risks to you. The research procedures used will not identify your personal details (e.g. name, address, etc.). However, if you feel that you might be identifiable from other contextual information such as the details of your department, you may specify that your comments are presented in a general way without being attributed to one individual or that parts of the interview are withheld from publication or dissemination.

The Department of Landscape's Ethics Review Committee has ethically approved this project. The University's Research Ethics Committee monitors the application and delivery of the University's Ethics Review Procedure across the University.

If you have any further questions or comments, you can contact:
Yuhan Shao: Tel: 00447540389491, Email: arp10ys@sheffield.ac.uk
Eckart Lange: Tel: 0044114 2220600, Email: e.lange@sheffield.ac.uk
Kevin Thwaites: Tel: 0044114 222 0620, Email: k.thwaites@sheffield.ac.uk

You will be given a copy of this information sheet and a signed consent form to keep.

参与者通知书

地方本土性的辨识和评估，中国烟台案例研究

这是一个博士研究项目，该项目旨在开发一种方法来识别和评估地方本土性。希望这项研究有助于景观设计师更好地了解，辨识和运用地方本土性的代表元素，尤其是你发现的元素将对该研究非常有帮助。

您被邀请参加该研究项目是因为您得个人观点对于地方本土性的识别和评估是十分重要的。请您选择出您认为能够代表地方本土性的元素，并标注在照片上,同时贴上相应的彩色贴纸。每种颜色的贴纸代表地方本土性的一个方面 (包括物质方面，社会方面，个人感觉和记忆四个方面)。欢迎您说明并在改元素的旁边写下详细的原因。访问过程最多不超过 60 分钟。当然您有权力在任何时候退出该访问。

您的意见主要取决于您的个人看法，这对于该研究是非常有价值的。在采访过程中，您的信息将被严格保密，不会在任何报告或刊物中被辨识出来。所有数据将被保存在一个设有密码保护的计算机中。收集的结果将作为该博士研究的基础，用在博士论文中，并有可能出版在学术专业刊物中，以及在研讨会发布。您的个人资料（如姓名和地址）将不会出现在翻译文件中。

整个过程没有任何风险，不会识别出您的个人信息（如姓名，地址等）。不过，如果您觉得您的个人信息可能从别的信息中被辨识出来,例如工作部门等，您可以指定您的意见以一般的方式展现或者隐瞒该部分的采访内容。

该研究项目已通过景观道德伦理审查委员会批准。谢菲尔德大学的道德伦理委员会将监控整个伦理审查程序。

如果您有任何进一步的问题或意见，可以联系:
邵钰涵: 电话: 008618660583993 / 00447540389491 邮箱: arp10ys@sheffield.ac.uk
埃卡特. 兰格: 电话: 00441142220600 邮箱: e.lange sheffield.ac.uk
凯文. 斯韦茨: 电话: 00441142220620 邮箱: k.thwaites@ sheffield.ac.uk

您会得到参与者通知书和参与者同意书的两个副本。

Participant Consent Form

Title of Project: **Local Identity Identification & Assessment:** The Theory, Methodology and Practice of Discovering Local Identity in Yantai, China
Name of Researcher: Yuhan Shao
Participant Identification Number for this project:

Please initial box

1. I confirm that I have read and understand the information sheet for the project and have had the opportunity to ask questions about the project. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
3. I give permission to allow recording of the interview, e.g. audio. ☐
4. I understand that my responses will be anonymous before analysis. I give permission for members of the research team to have access to my anonymous responses. ☐
5. I agree to take part in the above research project. ☐
6. I understand that the record and transcripts will only be accessed by Yuhan Shao and it will be destroyed when the project is complete. The findings and excerpts from me may be published in thesis, academic publications, seminars and conferences. I agree for the data to be used in future research. ☐

Contact:
Professor Eckart Lange, Head of Department, Telephone: 0044(0) 1142220600, Email: e.lange@sheffield.ac.uk;
Dr. Kevin Thwaites, Senior Lecturer, Telephone: 0044(0) 114 222 0620, Email: k.thwaites@sheffield.ac.uk;
Yuhan Shao, Telephone: 00447540389491(UK) / 008618660583993(China), Email: arp10ys@shef.ac.uk

_____	_____	_____
Name of Participant (*Or legal representative*)	Date	Signature
_____	_____	_____
Name of person taking consent (*if different from lead researcher*)	Date	Signature

To be signed and dated in presence of the participant

_____	_____	_____
Lead Researcher	Date	Signature

To be signed and dated in presence of the participant
Copies:
Once all parties have signed 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 for 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.

参与者同意书

研究题目:地方本土性的辨识和评估，中国烟台案例研究
研究者: 邵钰涵
参与者编码号:

请详细阅读以下内容，同意后在格子内打勾

1. 本人确认已阅读并理解项目研究内容，并有机会提出相关问题。 ☐

2. 我自愿参与该项目得研究，并且在任何时间可以自由退出无须给予任何理由。 ☐

3. 本人同意并允许电子记录采访过程。 ☐

4. 我同意匿名参与该研究。并且允许研究者获得我的答案。 ☐

5. 我同意参加上述研究项目。 ☐

6. 我允许回答记录由钰涵收集保存，并且在项目完成时立即销毁。
   我同意数据结果可以被用于学术论文，出版发表，以及学术研讨论。
   我同意数据结果可以使用于未来的学术研究中。 ☐

联系人：

教授：艾卡特.兰格, 谢菲尔德大学景观建筑系系主任, 电话: 0044(0)1142220600,
邮件 : e.lange@sheffield.ac.uk;
高级讲师：凯文. 斯韦茨, 电话:0044(0)1142220620,邮件:k.thwaites@sheffield.ac.uk;
博士生：邵钰涵, 电话:00447540389491/008618660583993,邮件:arp10ys@shef.ac.uk

参与者名字(*或者代表人*)	日期	签名
确认同意书者(*如果不是研究者本人*)	日期	签名
在参与者在场时签名并注明日期		
研究者	日期	签名
在参与者在场时签名并注明日期		

副本：
同意书签署后参与者会同时收到副本包括同意书/预先准备好的翻译件/研究说明及任何其他书面资料。签署并注明日期的知情同意书的将放置在该项目的主要记录文件中并保持安全。

Title of Project: Local Identity Identification & Assessment: The Theory, Methodology and Practice of Discovering Local Identity in Yantai, China

Name of Researcher: Yuhan Shao

Participant Identification Number for this project:

Information of Participant

1. **Gender**

   Male ☐ Female ☐

2. **Age**

   Years

3. **Occupation**

   Student ☐ Retired ☐ Paid/Self Employed ☐

   Unemployed ☐ Looking after Family ☐ Other ☐

4. **Familiarity with the study site**

   - Onsite interview:

   Local Resident/Worker ☐ Nonlocal Tourist ☐

   - Offsite interview:

   Local Resident/Worker ☐ Nonlocal Chinese ☐ Nonlocal Western ☐

5. **If you are a local resident, how long have you known the study area?**

   Years_____

研究题目:地方本土性的辨识和评估，中国烟台案例研究

研究者: 邵钰涵

参与者编码号:

参与者信息

1. 性别

男 ☐ 女 ☐

2. 年龄

3. 职业

学生 ☐ 退休人员 ☐ 工作 ☐

失业 ☐ 照顾家庭 ☐ 其他 ☐

4. 对研究地的熟悉度

- 现场调研

本地居民/工作人员 ☐ 非本地旅游者 ☐

- 非现场调研:

本地居民/工作人员 ☐ 非本地中国人 ☐ 非本地外国人 ☐

5. 如果你属于当地居民/工作人员，你对这里有多少年的了解？

_____

Interview Questions for Local Participants

1. **Which elements in this scene do you think best represent the study area?**

This question focuses on the physical aspect of local identity.
Please stick the **blue** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

2. **Are there any important social activities in this scene?**

This question focuses on the social aspect of local identity.
Please stick the **green** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

3. **Which elements in this scene are important to your senses?**

This question focuses on sensory of local identity, such as seeing, listening, smelling, touching or tasting.
Please stick the **yellow** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

4. **Do you recall any distinctive memories of the study area?**

This question focuses on the memory of local identity.
Please stick the **red** sticky note on the element and tell me or write the reason beside the elements.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

本地参与者访问问题

1. 在场景中你认为能表达地方特色的元素有哪些？

这个问题的重点在识别物理方面的地方本土性。
请将**蓝色**贴纸贴在选出的元素上，同时说明或者在元素旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

2. 在场景中你认为重要的社会活动有哪些?

这个问题的重点在识别社会方面的地方本土性。
请将**绿色**贴纸贴在选出的元素上，同时说明或者在元素旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

3. 在场景中你认为有什么体验感受是重要的？

这个问题的重点在识别人的个人体验感受方面，具体包括看到的，听到的，闻到的，接触到的以及品尝到的感受。
如果有，请将**黄色**贴纸贴在选出的元素上，同时说明或者在旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

4. 你对该地区有什么鲜明的记忆或回忆吗？

这个问题的重点在个人的记忆的追溯。
如果有，请将**红色**贴纸贴在选出的元素上，同时说明或者在旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

Interview Questions for Nonlocal Participants

1. **Which elements in this scene do you think best represent the study area?**

This question focuses on the physical aspect of local identity.
Please stick the **blue** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

2. **Are there any important social activities in this scene?**

This question focuses on the social aspect of local identity.
Please stick the **green** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

3. **Which elements in this scene are important to your senses?**

This question focuses on sensory of local identity, such as seeing, listening, smelling, touching or tasting.
Please stick the **yellow** sticky note on the element and tell me or write the reason beside the element.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

4. **If you have been there before, do you recall any distinctive memories of the study area?**

This question focuses on the memory of local identity.
Please stick the **red** sticky note on the element and tell me or write the reason beside the elements.
Please mark the elements as "+" if you like it, "-" for dislike, or leave it blank if you have no strong feeling about the element, but think it is unique.

非本地参与者访问问题

1. 在场景中你认为能表达地方特色的元素有哪些？

这个问题的重点在识别物理方面的地方本土性。
请将**蓝色**贴纸贴在选出的元素上，同时说明或者在元素旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

2. 在场景中你认为重要的社会活动有哪些?

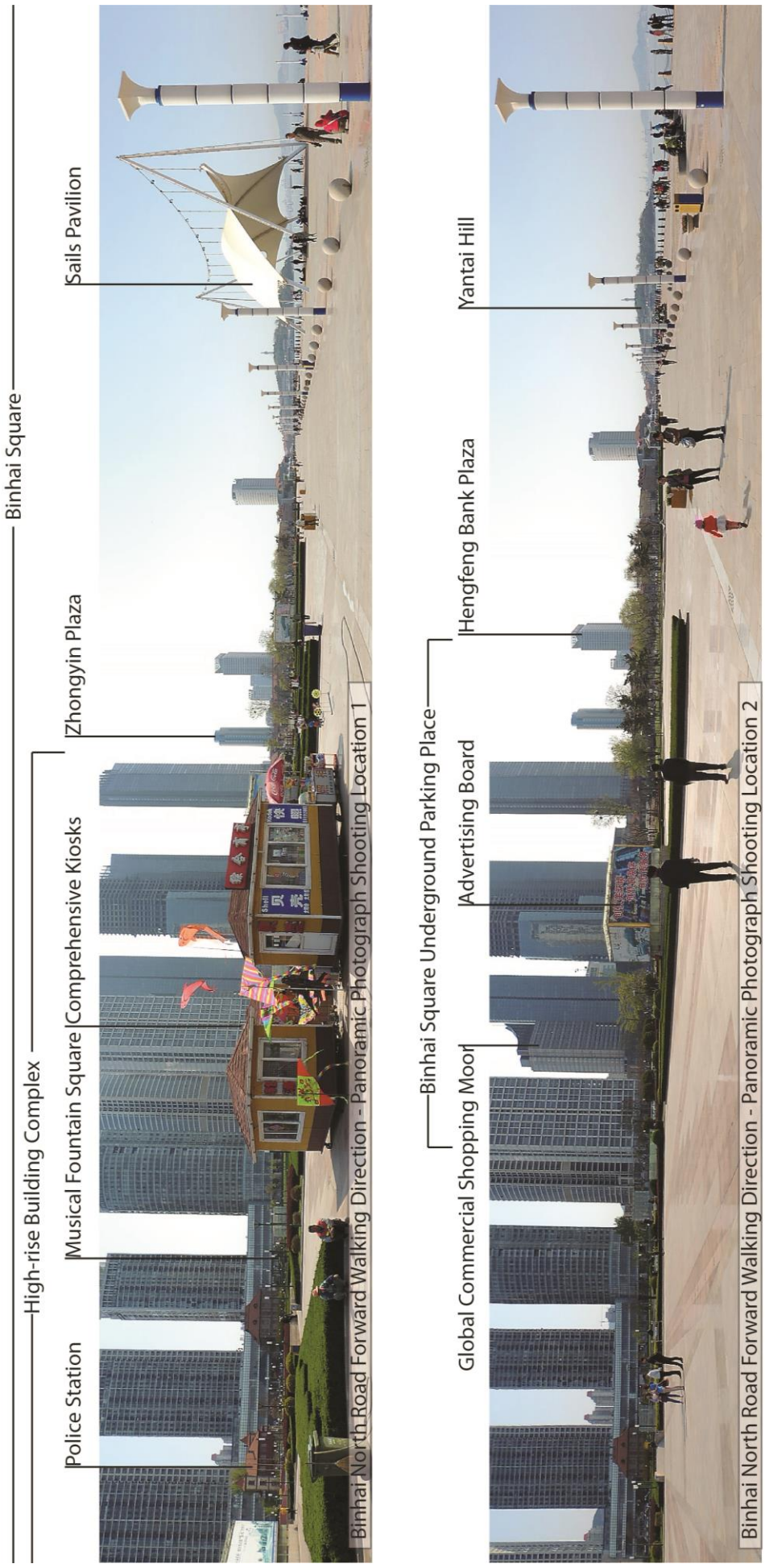
这个问题的重点在识别社会方面的地方本土性。
请将**绿色**贴纸贴在选出的元素上，同时说明或者在元素旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

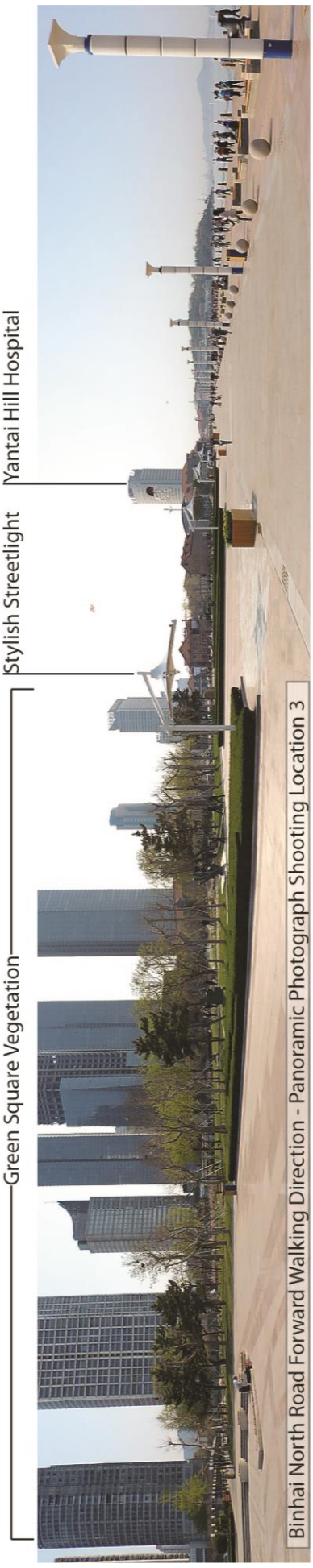
3. 在场景中你认为有什么体验感受是重要的？

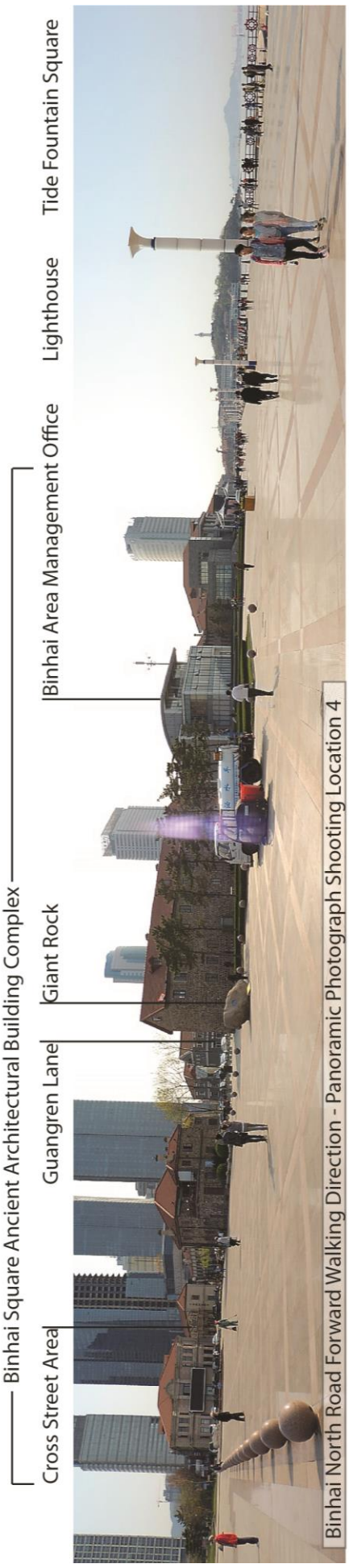
这个问题的重点在识别人的个人体验感受方面，具体包括看到的，听到的，闻到的，接触到的以及品尝到的感受。
如果有，请将**黄色**贴纸贴在选出的元素上，同时说明或者在旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。

4. 如果你以前来过这里，你有什么鲜明的记忆或回忆吗？

这个问题的重点在个人的记忆的追溯。
如果有，请将**红色**贴纸贴在选出的元素上，同时说明或者在旁写下选择原因。
如果你喜欢该元素请在贴纸上标注“+”，不喜欢则标志“-”，没有鲜明的喜好则不标。


Binhai Square
High-rise Building Complex
Police Station
Musical Fountain Square
Comprehensive Kiosks
Zhongyin Plaza
Sails Pavilion
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 1
Binhai Square Underground Parking Place
Global Commercial Shopping Moor
Advertising Board
Hengfeng Bank Plaza
Yantai Hill
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 2

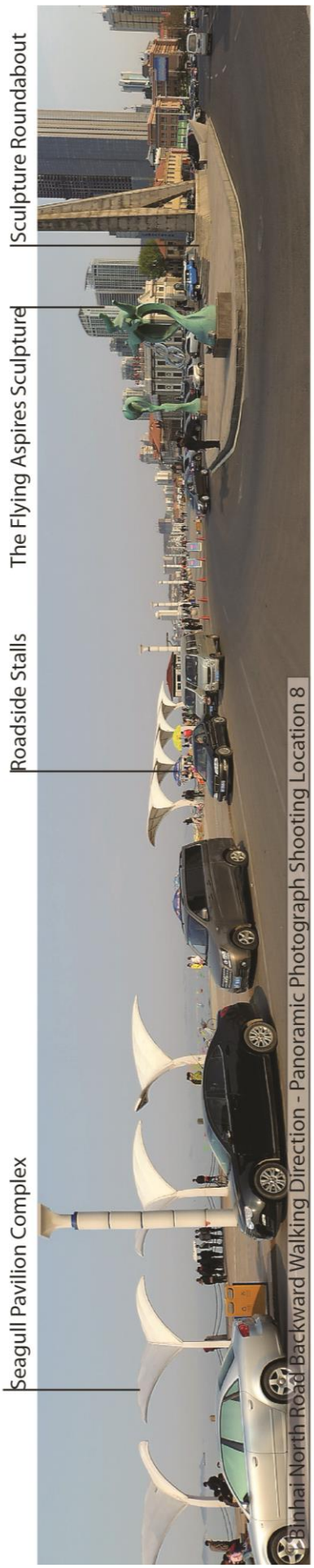

Green Square Vegetation
Stylish Streetlight
Yantai Hill Hospital
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 3


Binhai Square Ancient Architectural Building Complex
Cross Street Area
Guangren Lane
Giant Rock
Binhai Area Management Office
Lighthouse
Tide Fountain Square
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 4


Zhangyu Wine Cultural Museum
Yantai Painting & Calligraphy Academy
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 5


Bronze Sculpture
Beacon Tower Style Parterre
Custom and Immigration Bureau
Polaris Watches Cultural Museum
The Retails at Binhai Square
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 6

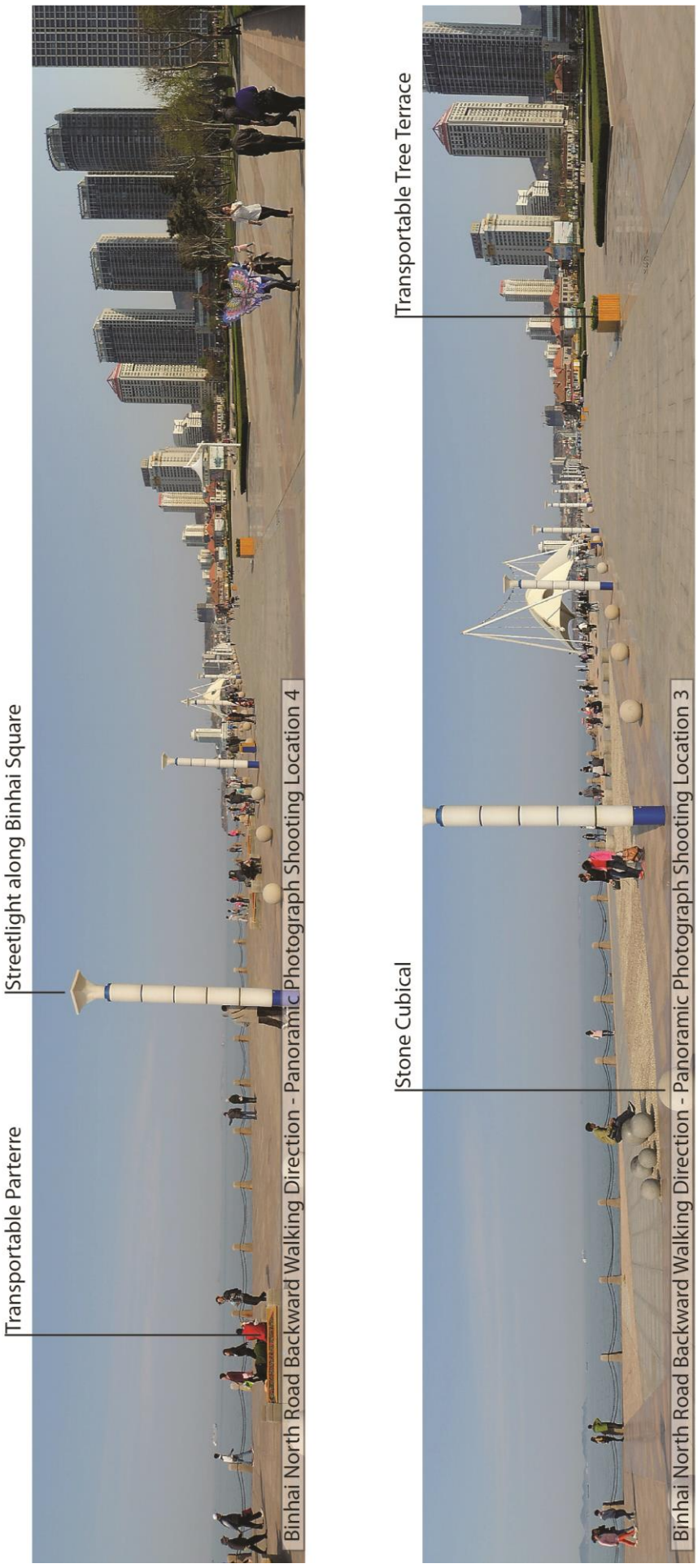

Cello Sculpture
Yangzheng Primary School
Binhai Square Parking Bay
Guard Kiosk
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 7
Parking Site Vegetation
Binhai Bus Depot Parking Place
Hotel Building Complex
Public Bus
Lanbai Haitian Hotel
Haiguan Street
Xile Restaurant
Golden Gulf Hotel
Binhai North Road Forward Walking Direction - Panoramic Photograph Shooting Location 8

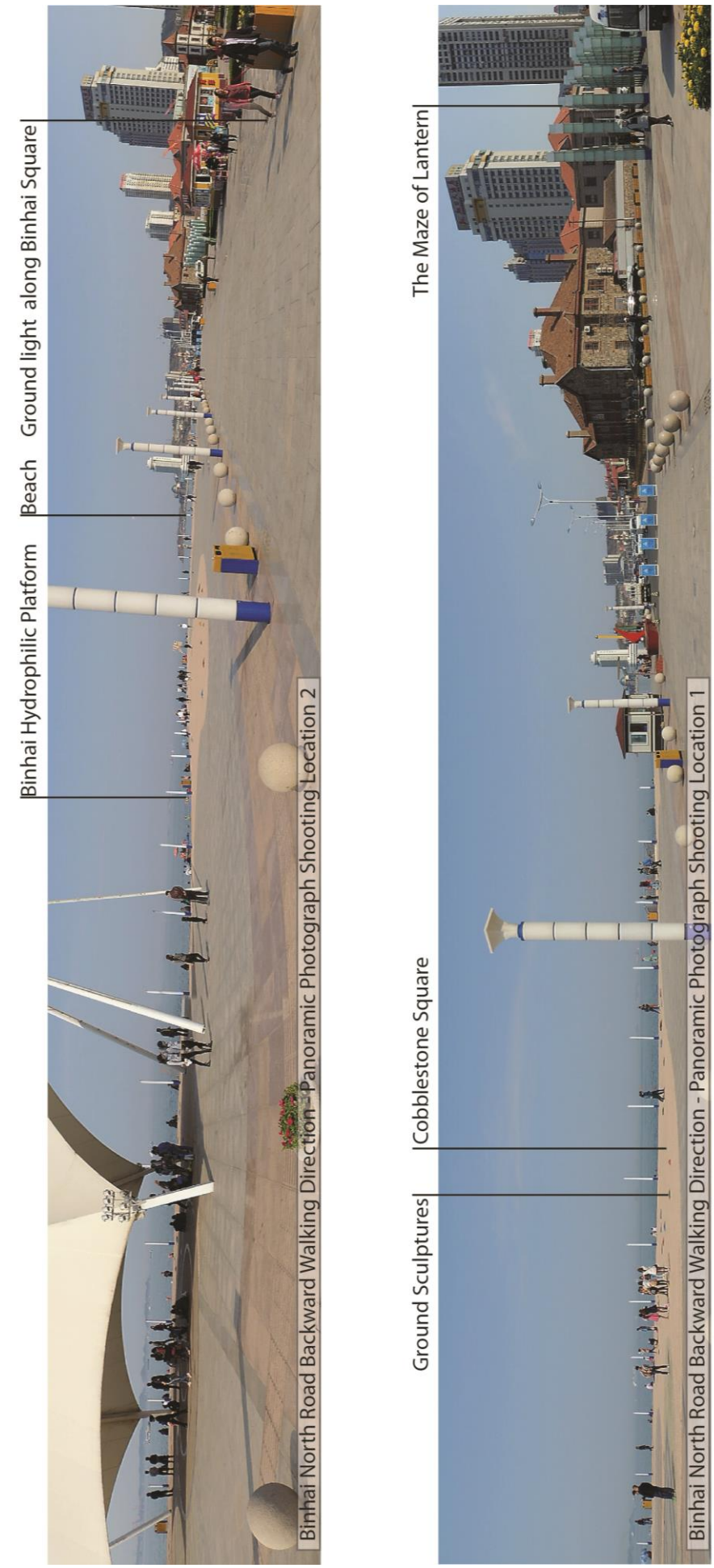

Seagull Pavilion Complex
Roadside Stalls
The Flying Aspires Sculpture
Sculpture Roundabout
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 8


Island
The Protection Fence
Boat
Coastline
Sea
Marine Plants and Animals((Seagull, Crabs, Fishes...)
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 7


Dustbin at Binhai Square
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 6

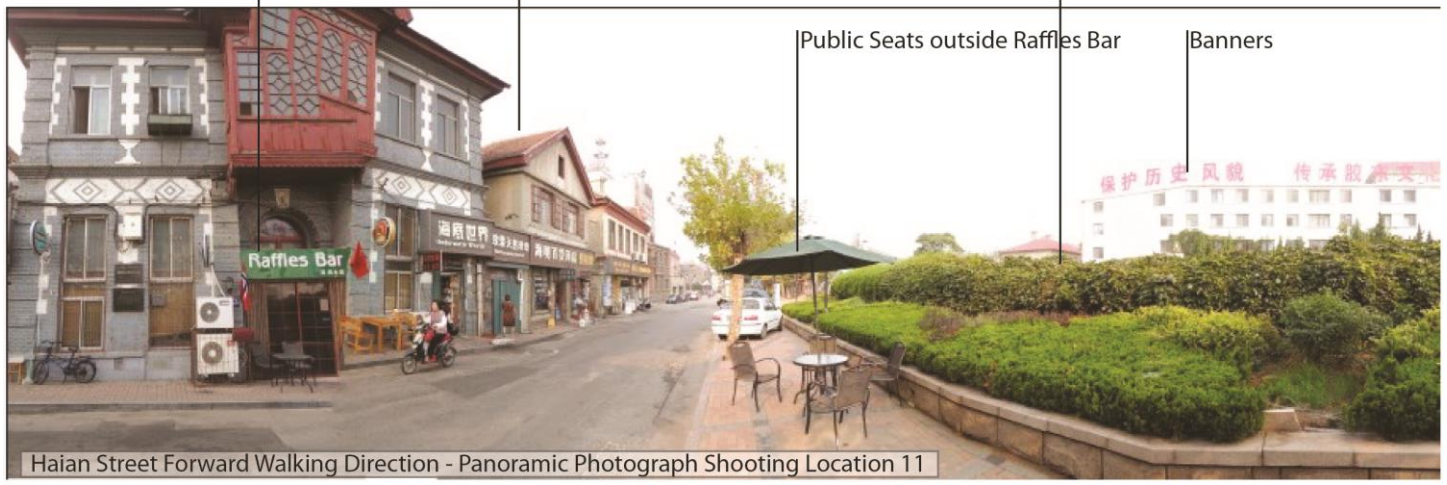

Stone Bench
Anchor Sculpture
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 5


Transportable Parterre
Streetlight along Binhai Square
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 4
Stone Cubical
Transportable Tree Terrace
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 3

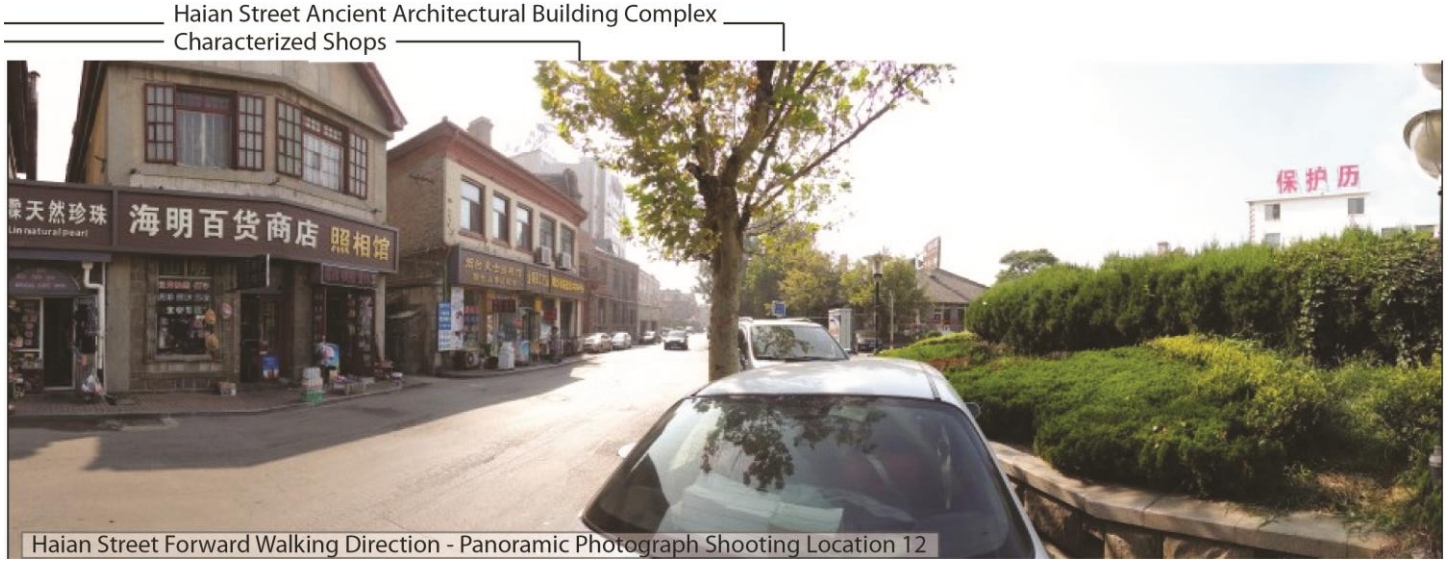

Binhai Hydrophilic Platform
Beach
Ground light along Binhai Square
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 2
Ground Sculptures
Cobblestone Square
The Maze of Lantern
Binhai North Road Backward Walking Direction - Panoramic Photograph Shooting Location 1


Yuehai Restaurant
Zhifu Club
The Guidance Board of Scenic Spots
烟台山景区
P 停车场
Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 9


Haian Street
华海工艺品
Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 10



Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 11

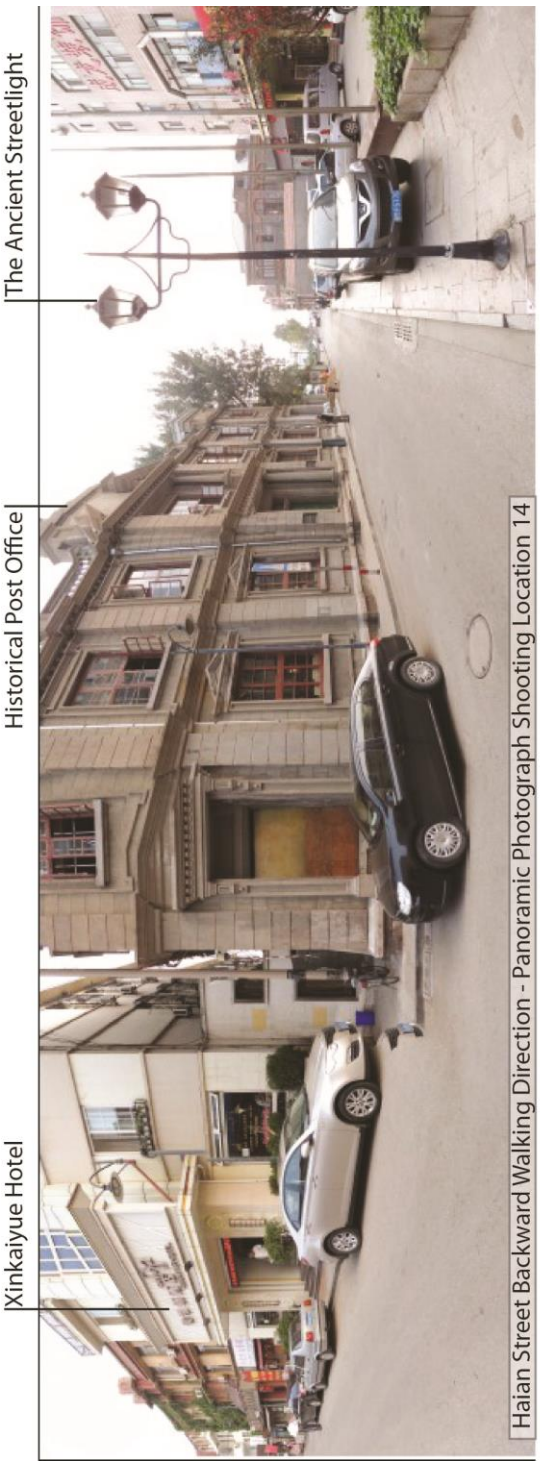


Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 12

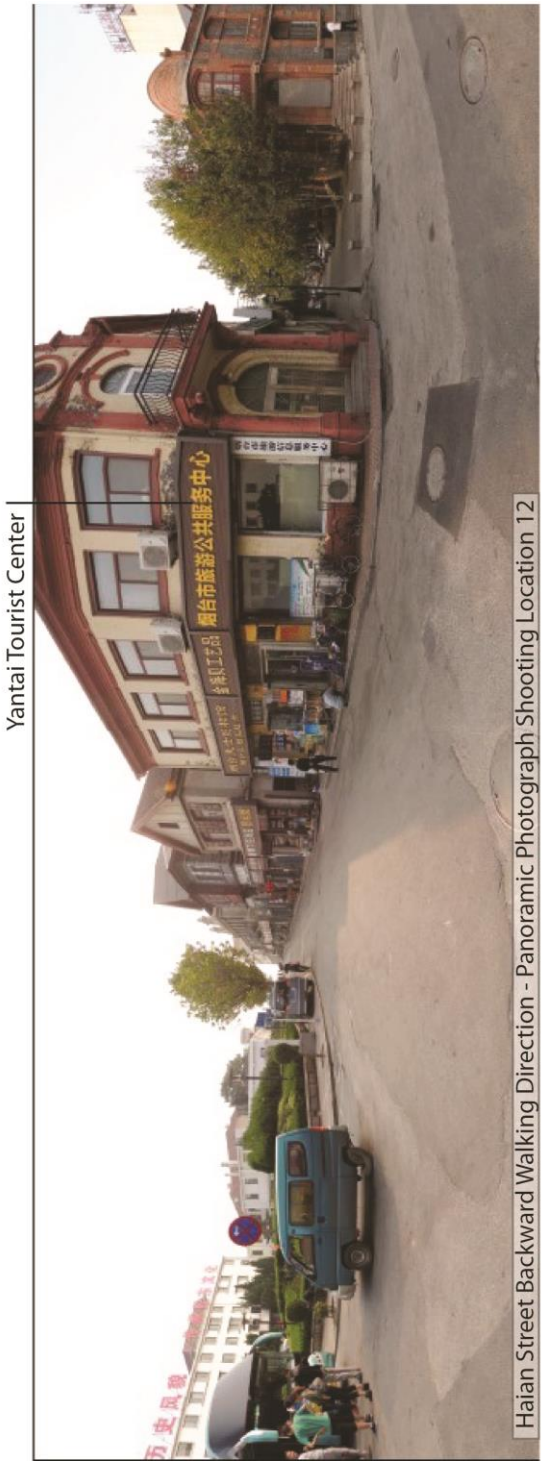

Entrance of Yantai Hill
Yantai Hill Ticket Office
Yantai Hill Parking Bay
Spa Resort
Kelidun Hotel
Chaoyang Street
Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 13

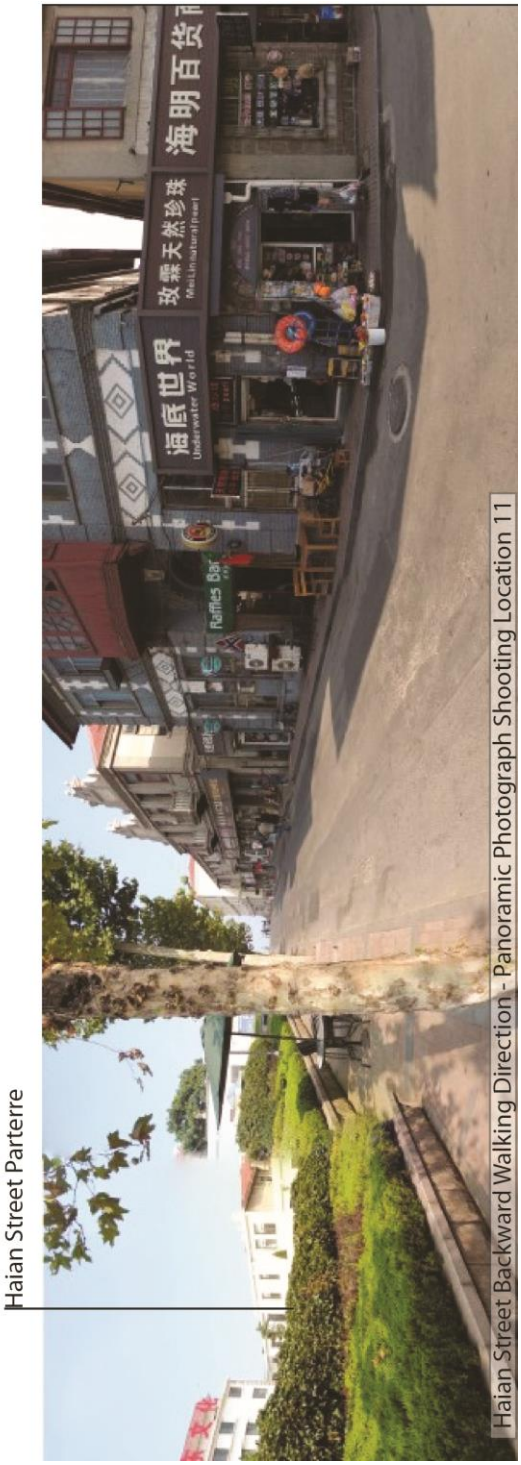

Disused Corner beside Historical Post Office
Changhong Hotel(Fulaiqi Hotel)(70s to 80s)
Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 14

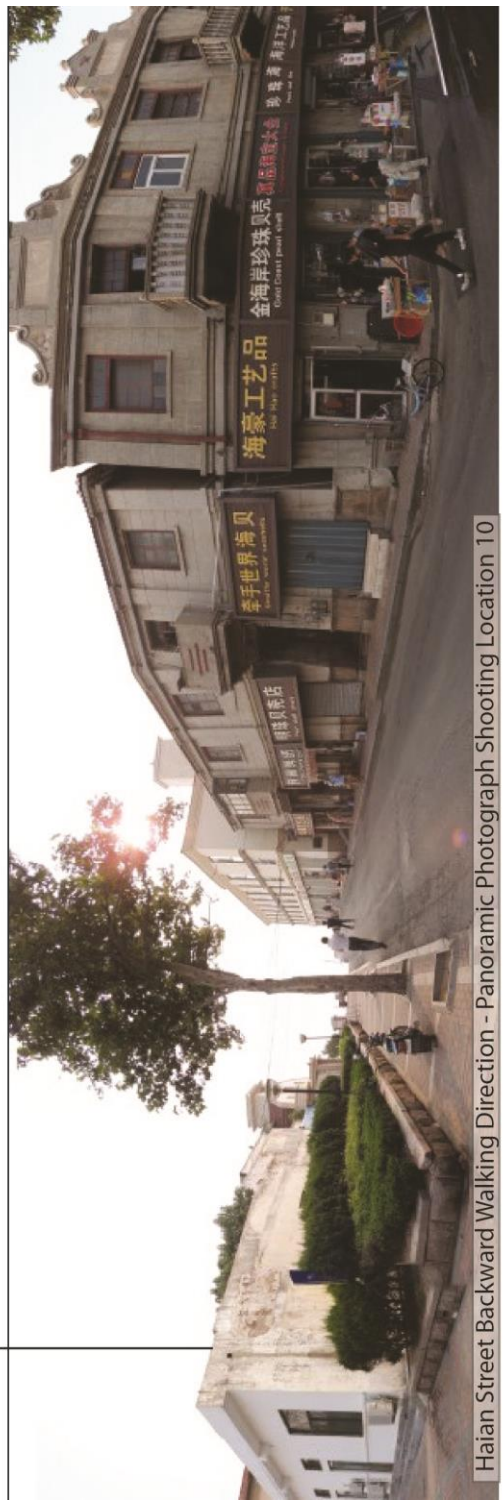

Haian Street 70s to 80s Architectural Building Complex
Yantai Transmission Bureau (70s to 80s)
Convenient Jiao Hotel
Haian Street Forward Walking Direction - Panoramic Photograph Shooting Location 15
Yongxing Foreign Trading Firm
Kailin Hotel
The Vines on Shidewu Restaurant Facade
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 15


Xinkaiyue Hotel
Historical Post Office
The Ancient Streetlight
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 14


Newspaper Kiosk
Haian Street Discarded Building
Lamp Box Advertising Board
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 13


Yantai Tourist Center
烟台市旅游公共服务中心
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 12


Haian Street Parterre
海明百货
玫霖天然珍珠
Mei Lin natural pearl
海底世界
Underwater World
Raffles Bar
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 11


Haian Street Discarded Building
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 10


Public Bicycle
Ancient Pavilion besides Golden Gulf Hotel
BBQ Street Restaurants
Haian Street Backward Walking Direction - Panoramic Photograph Shooting Location 9

Data Categorisation

Table 15 Categrisation of Physical Aspect

Physical Element / Location			Qualitative Group / Participant Group											
			Like				Dislike				No Feeling			
			Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite	Local Onsite	Local Offsite	Nonlocal Onsite	Nonlocal Offsite
Architecture Aspect	Settlement	Binhai Square Ancient Architectural Building Complex	**13**	**10**	**14**	**11**		**1**			**2**		**1**	**2**
		Hotel Building Complex	**2**	**5**	**3**	**4**	**2**	**1**	**1**				**2**	
		Haian Street 70s to 80s Architectural Building Complex				**1**	**6**	**8**	**3**	**1**				
		High-rise Building Complex	**9**	**7**	**7**	**1**	**6**	**3**	**5**	**9**		**2**	**1**	**2**
		Haian Street Ancient Architectural Building Complex	**13**	**12**	**15**	**7**	**1**			**3**		**1**		**2**
		Port Industrial Zone			**1**	**1**								
	Style	Yantai Painting & Calligraphy Academy	**8**	**5**	**5**	**5**	**3**	**1**	**3**	**4**	**2**	**2**	**2**	
		Polaris Watches Cultural Museum	**6**	**2**	**4**	**4**					**1**	**1**	**1**	
		Zhangyu Wine Cultural Museum	**10**	**12**	**8**	**1**								
		Police Station	**4**										**2**	
		Golden Gulf Hotel	**9**	**3**	**5**	**3**		**2**						
		Xile Restaurant	**4**	**2**	**1**									
		Binhai Area Management Office	**2**		**3**	**1**	**1**		**2**	**2**			**1**	
		Yuehai Restaurant	**2**	**1**	**1**					**1**	**1**			**1**
		Yangzheng Primary School		**1**			**1**				**1**			
		Lanbai HaitianHotel	**1**											
		Historical Post Office	**10**	**11**	**8**	**11**	**1**	**1**			**2**			
		Convenient Jiao Hotel	**4**	**3**	**7**	**1**		**1**		**1**	**2**			**1**
		Raffles Bar	**4**	**3**	**4**	**8**		**1**						
		Kelidun Hotel	**12**	**11**	**8**	**7**		**1**		**1**		**1**	**2**	
		Yongxing Foreign Trading Firm	**3**	**2**	**3**			**1**			**2**			
		Zhifu Club	**1**				**2**		**2**				**1**	
		Spa Resort	**1**			**3**	**1**	**1**						
		Yantai Tourist Center	**1**											
		Red Star Building	**1**											
		Changhong Hotel				**1**	**8**	**10**	**9**	**8**				
		Yantai Transmission Bureau				**1**	**9**	**9**	**9**	**10**				
		Haian Street Discarded Building					**15**	**12**	**13**	**14**				
		Chaoyang Street Community Office				**1**	**3**	**5**	**2**	**2**				
		Xinkaiyue Hotel					**1**			**3**				
		Yantai Hill Ticket Office						**1**	**1**					
		Kailin Hotel			**1**									
	Facade	Haian Street Ancient Building Facade Decoration	**2**			**1**	**10**	**10**	**14**	**8**				
		Hotel Building Complex Facade					**1**	**1**	**1**	**3**				
		Raffles Bar Building Facade	**1**											
		Haian Street 70s to 80s Architectural Building Complex Facade							**1**					
	Function	Characterised Shops along Haian Street	**3**	**2**	**5**		**6**	**7**	**3**	**7**	**3**	**1**		
		Photo Studio	**1**		**2**									
		Disused Corner beside Historical Post Office					**1**							
		The Retails at Binhai Square Ancient Architecture Complex		**1**				**2**						
		Fulaiqi Hotel	**2**				**1**	**1**		**1**				
	Landmark	Yantai Hill Hospital	**6**	**4**	**4**		**4**	**2**	**4**	**4**		**2**		
		High-rise Building Complex	**1**											
		Binhai Holiday Hotel		**1**			**1**				**1**			
		Global Commercial Shopping Moor	**1**											
		Hengfeng Bank Plaza	**1**											
		Custom and Immigration Bureau					**1**				**1**			
		Zhongyin Plaza	**1**											
		Yantai Naval Aeronautical Engineering Institute		**1**										
Landscape Aspect	Geography	Topography	**1**	**3**	**1**	**4**								
		Yantai Hill	**9**	**12**	**7**	**5**		**1**			**1**	**2**	**1**	
		Sea	**12**	**12**	**14**	**10**						**1**		**1**
		Coastline		**1**	**1**	**1**				**1**	**1**			
		Island	**9**		**10**	**1**								**1**
		Marine plants and animals	**11**	**4**	**10**	**2**					**1**			
		Beach	**10**	**3**	**14**									
		Giant Rock		**1**										
	Green Infrastructure	Haian Street Vegetation		**2**	**2**	**1**	**3**	**3**	**3**	**5**	**2**			
		Green Square Vegetation	**8**	**2**	**10**	**5**	**1**	**1**			**2**	**2**		**1**
		The Vines on Shidewu Restaurant Facade	**3**		**2**	**4**				**1**				
		Binhai Square Vegetation	**2**			**1**	**1**	**4**	**5**	**5**				
		Parking Site Vegetation			**1**		**1**			**1**			**1**	
		Transportable Parterre	**10**	**2**	**8**	**3**	**1**	**3**	**1**	**1**	**1**	**1**		
		Transportable Tree Terrace	**1**		**1**				**1**		**1**			
		Beacon Tower Style Parterre	**2**		**1**	**1**				**1**	**1**			
		Haian Street Parterre			**1**									

	Landmark / Sculpture	Lighthouse	**13**	**11**	**11**	**4**						**1**	**1**	**1**
		The sails Pavilion	**13**	**13**	**15**	**8**	**1**	**1**			**1**			**3**
		Seagull Pavilion Complex	**9**	**6**	**10**	**7**				**2**	**1**		**2**	**1**
		Ancient Pavilion besides Golden Gulf Hotel	**2**		**2**	**1**			**1**	**1**				
		Cello Sculpture	**6**	**3**	**4**	**1**		**2**	**2**	**3**	**1**	**2**	**1**	
		The Flying Aspires Sculpture	**10**	**14**	**6**	**2**			**1**	**1**	**3**		**2**	
		Anchor Sculpture	**7**	**5**	**4**	**6**	**1**			**1**	**1**		**2**	
		Square Ground Sculptures	**12**	**3**	**10**	**2**								
		Bronze Sculpture		**2**	**2**				**1**					
	Square/ Stree	Tide Fountain Square	**9**	**7**	**7**	**7**		**1**		**1**				
		Binhai Square	**9**	**5**	**5**	**2**	**1**	**6**	**1**	**9**	**2**			
		Binhai Hydrophilic Platform	**3**		**1**	**1**								
		Cobblestone Square	**3**	**1**	**2**	**1**				**1**				
		Musical Fountain Square	**10**	**1**	**9**	**2**		**1**						
		Sculpture Roundabout	**1**		**1**	**1**	**2**		**3**	**4**		**2**		
		Binhai Square Parking Bay				**1**	**2**	**5**	**2**	**6**		**1**		
		Binhai Square Underground Parking Place	**1**						**3**					
		Yantai Hill Parking Bay								**3**				
		Binhai Bus Depot Parking Place		**1**										
		No.1 Seaside Beach		**1**										
		Surrounding Environment of Ancient Pavilion besides Golden Gulf Hotel					**3**							
		Surrounding Environment of SPA Resort	**4**	**1**	**5**	**4**								
		Entrance of Yantai Hill	**1**				**3**							
		Chaoyang Street	**8**	**12**	**4**	**3**	**1**							
		Haiguan Street	**1**											
		Haian Street	**1**	**4**	**1**	**2**	**5**	**3**	**8**	**7**	**2**			
		Cross Street Area	**10**	**8**	**12**	**1**								
		Guangren Lane	**12**	**12**	**14**							**1**		
	Street/Square Paving	Paving of Binhai Square	**1**		**1**			**1**	**1**	**4**				
		Paving of Haian Street					**12**	**5**	**10**	**8**				
	Facilities	Streetlight along Binhai Square	**5**	**5**	**4**	**6**		**2**	**3**	**4**	**1**	**3**	**1**	**1**
		The Maze of Lantern	**6**	**5**	**2**	**3**				**4**		**1**		
		Stylish Streetlights along Binhai Square	**4**	**1**	**4**	**1**	**1**	**1**		**2**			**1**	
		The Ancient Streetlights along Haian Street	**9**	**4**	**9**	**3**			**1**					
		Ground light along Binhai Square							**1**					
		Stone Bench	**1**		**1**	**3**		**1**		**1**	**1**	**3**	**1**	**1**
		Stone Cubical	**8**	**2**	**5**	**6**	**1**		**2**	**1**		**1**	**2**	
		Public Seats outside Raffles Bar	**8**	**3**	**6**	**2**			**3**	**2**	**1**			**1**
		Dustbin at Binhai Square			**1**		**2**	**4**	**6**	**6**			**2**	
		The Protection Fence	**1**	**1**	**1**	**2**		**1**	**2**	**2**			**1**	
		Comprehensive Kiosks	**3**	**3**	**3**	**3**	**10**	**7**	**8**	**7**	**2**		**3**	**2**
		Guard Kiosk			**1**		**2**				**1**			
		Haian Street Newspaper Kiosk			**2**		**3**		**3**					
		Public Toilets at Binhai Square					**1**	**1**						
		BBQ Street Restaurants	**3**	**3**	**2**	**3**	**2**	**6**	**4**	**1**	**2**		**1**	**2**
		Roadside Stalls	**1**			**1**	**5**		**6**	**2**				**1**
		Banners	**1**		**2**				**1**	**1**				
		The Guidance Board of Scenic Spots			**1**		**3**	**2**	**4**	**5**			**1**	
		Facility Explanation Board of Ancient Buildings	**3**					**1**	**1**					
		Advertising Board around Binhai Square					**1**	**6**	**9**	**4**				
		Haian Street Lamp Box Advertising Board					**1**	**1**	**1**	**3**				
		Street Advertisement					**1**							
		Electric Wire along Haian Street							**3**					
		The Guidance Board of Yantai Painting & Calligraphy Academy							**1**	**2**				
	Traffic	Public Bus					**9**	**4**	**9**	**7**	**2**			
		Public Bicycle	**6**	**7**	**7**	**5**	**1**		**1**		**4**			
		Private Bicycle		**1**			**1**		**1**					
		Watering Car					**1**			**2**				
		Boat	**14**	**11**	**15**	**2**						**1**		**1**

Table 16 Categorisation of Social Aspect

Social Element			Location	Qualitative Group / Participant Group											
				Like				Dislike				Like			
				Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off
Personal Activity	Exercise	Skating	Squares	**10**	**7**	**6**	**6**					**4**	**3**	**2**	
		Physical Workout	Squares	**9**	**7**	**5**	**3**				**1**	**4**	**1**	**1**	
		Cycling	Coastline	**6**	**4**	**6**	**7**			**1**		**2**		**1**	**1**
		Swimming	Sea	**13**	**11**	**9**	**3**					**1**	**2**		
		Hill Climbing	Yantai Hill	**1**	**1**									**2**	
	Play	Kite Flying	Squares	**13**	**9**	**8**	**11**			**1**		**1**	**2**	**2**	**1**
		Kids Playing	Squares, Sculpture	**12**	**5**	**8**	**5**						**1**	**1**	
		Beach Comb	Sea	**2**			**1**					**2**			
		Kicking Shuttlecock	Squares			**1**									
	Leisure	Walking	Binhai Square	**8**	**4**	**4**	**10**					**3**	**2**	**3**	
		Fishing	Coastline	**14**	**6**	**11**	**7**				**4**	**1**	**2**	**2**	
		Sitting out, Resting	Binhai Square, Sails Pavilion	**8**	**1**	**6**	**11**			**1**		**3**	**1**	**3**	
		Enjoy Sunshine	Squares	**1**			**1**								
		Chat	Squares, Streets									**1**			**1**
		Walk the Dog	Squares, Coastline				**1**		**1**			**2**			
		Enjoy Coffee Break	Haian Street,Raffles Bar		**1**	**1**								**1**	
		BBQ	Haian Street		**2**	**2**	**2**			**2**			**2**	**1**	
	Entertainment	Singing	Square, Sails Pavilion	**2**	**3**	**2**	**2**					**1**			
		Go to Pubs	Raffles Bar，Chaoyang Street	**3**		**1**	**1**					**1**			**1**
		Storytelling, Beijing Opera	Squares, Haian Street	**1**		**1**									
		Play Instrument	Square, Sails Pavilion	**1**								**1**	**1**		
		Action Art	Squares											**1**	
	Consumption	Commercial Photo Shooting	Squares, Streets, Ancient Architectural Building Complex, Yantai Hill, Sea, Beach	**5**	**6**	**5**	**4**					**4**	**1**	**3**	
		Take a Boat	Boats	**4**		**3**	**1**								**1**
		Shopping	Haian Street	**3**		**4**		**1**	**1**				**1**	**2**	
		Spa	Spa Resort			**1**									
Group Activity	Organised	Folk Paper-cut	Haian Street, Yantai Painting & Calligraphy Academy	**1**		**2**									
		Outdoor Concert	Sails Pavilion	**1**											
		Rock Festival	Chaoyang Street									**1**			
		Commercial Activity	Squares	**1**			**2**	**2**				**1**			
		Charity Activity	Squares	**3**	**1**	**2**						**1**		**1**	
		Square Dance	Squares	**13**	**14**	**12**	**8**					**2**	**1**	**2**	**1**
		Art& Gallery Show	Yantai Painting & Calligraphy Academy	**10**	**10**	**2**	**2**					**2**		**2**	**1**
		Wedding	Hotels, Yantai Hill, Beach	**11**	**3**	**11**		**1**					**1**	**2**	
		Bicycle Club Activity	Coastline		**1**										
		Tourism	Squares, Yantai Hill		**2**		**4**				**1**				**2**
		Photography Exhibition	Yantai Painting & Calligraphy Academy	**1**											
		Fireworks Show	Squares	**2**	**2**		**1**								
		Navy water Military Training	Sea, Beach, Coastline	**2**				**3**	**3**	**1**		**7**	**6**	**6**	
		Marathon	Coastline									**1**			
		Lantern Show, Kong Ming Lantern	Squares, Yantai Hill	**12**	**14**										
		Speed Dating Event	Yantai Hill	**9**	**11**			**1**					**1**		
		Visit Grave	Yantai Hill		**1**							**1**	**1**		
		Spring / Autumn Tour	Squares,Yantai Hill	**4**		**1**							**1**		
		Wine Annual Expo	Zhangyu Wine Cultural Museum	**13**	**13**	**7**	**1**						**1**		
	Voluntary	Friends Gathering	Squares, Restaurants	**2**	**3**								**1**		
		Play Chess, Cards	Haian Street, Squares	**1**		**1**	**1**					**2**		**3**	
		Play Football, Volleyball	Squares, Beach		**1**							**1**			

Table 17 Categorisation of Sensory Aspect

Sensory Element		Location	Qualitative Group / Participant Group											
			Like				Dislike				No Feeling			
			Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off
Seeing	Sea View	Sea	11	7	10	6			1		2	2	1	2
	Sunshine	Sun	3				1							
	Moonlight	Moon	1											
	The Tides	Sea					1							
	Sea Wave	Sea	3	2	3			2	1				1	
	Boats	Boats		2	2	2								
	Icicles	Seaside Fence	1											
	Yantai Hill View	Yantai Hill	12	11	12	10								
	Congestion	Traffic					1				1			
	Disordered Parking	Haian Street					10	3	8	1			1	
	Environment of Haian Street	Haian Street					1							
	The Narrow Path	Haian Street						1	3	4	1		1	
	The Dim Light	Haian Street					2	1						
	Night Landscape	Light from Seaside Architectures and Squares	8	3	9	1		1	1					
	Lighthouse	Lighthouse	4											
	Car Light	Traffic					1							
	Lights from The Maze of Lantern	The Maze of Lantern		1										
	Drab Scene of Squares	Squares										1		
	Blue Sky			1										
	Facilities	Squares						1						
	Lots of Tourists	Squares, Haian Streets, Yantai Hill, Beach											3	
Hearing	Music Sounds	Music Square	6	3	5						2		1	
	Car Noise	Squares, Streets					3	5	6		1	1		
	Sounds from Animals	Seagulls, Dogs, Cicadas	4	1	2	1			4		1			
	Whistle Sounds	Boats	1								4			
	Sounds from Sea Wave	Sea	8	4	11	2						2	1	
	Cries of Sellers	Characteristic Shops along Haian Street Street Stalls, Comprehensive Kiosks	1				2							
	Wind bell Sounds	Characteristic Shops along Haian Street	1											
	Sounds of Frolic	Squares, Streets, Beach	4	2	3	2								
Smelling	Fresh Air of Plants	Yantai Hill, Green Square	4	1	3							1	1	
	Smell of The Sea	Sea	6	4	9						2	2	1	2
	Foul Smell	Sewage Garbage Truck					2		2		1			
	Smells of Food	Street Stalls，BBQ，Restaurants	3	1			2	2	3	1				
	The Perfume of Flowers	Planting	1											
	Gas pollution Smell	Car						2						
Tasting	International Foods	Food halls on Guangren Lane	2						1		1	1		
	Local Street Food	Street Stalls, Local Restaurants	2	2	6							1		
	Sea Food	BBQ Street Restaurants and Hotels	8	12	5	1		1	1					
	Wine Tasting	Zhangyu Wine Cellar	9	6	10	2								
	Fruits					1								
Touching	Sunburn, Sunshine	Squares, Beach					1	1	1			1	1	
	Sea Wind	Sea	7	3	8	1					2		2	2
	Walking on the cobblestone	Cobblestone paved roads	5	3	4	3								
	Touching Shell Sculpture	Sculpture on The Ground		2										
	Smooth Paving	Binhai Square						1						

Table 18 Categorisation of Memory Aspect

Memory Element			Location	Qualitative Group / Participant Group											
				Like				Dislike				Like			
				Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off	Local On	Local Off	Non On	Non Off
Physical Aspect	Artificial Element	Old Haian Road, Dama Road Famers Market, No.8 high school, Seafood Breeding Technology School, Childre Theater	Binhai Square	**11**	**3**	**1**		**1**		**3**		**3**	**5**	**1**	
		Former Cross Road Area	Cross Road Area	**1**	**1**										
		Former Embassy, Suochengli District, Former Fishing Villages, Former Church Boy Primary School	Binhai Square Ancient Architecture Complex	**10**	**10**	**4**		**2**				**3**	**5**		
		Former Watch Factory, Former Lamp Factory, Lock Producing Company	Polaris Watches Culture Museum		**3**			**2**				**2**	**1**	**1**	
		Zhangyu Ltd	Zhangyu Wine Culture Museum	**9**	**10**										
		Former Embassy, Bowling Center, U.S. Military Hospital Leisure Center, Zhifu Club, St. Mary Catholic Church	Haian Street Ancient Architecture Complex	**11**	**13**	**3**			**2**			**2**			
		Former Golden Gulf Hotel, Yantai Communication Office	Chaoyang Street Communication Office,	**6**					**2**				**2**		
		Former Army Offices and Naval Communication Office	Yuehai Restaurant,	**3**	**3**					**1**		**1**	**1**		
		Former Japanese Spy Center	Ganghao Hotel					**4**	**2**			**1**	**2**		
		Former Kelidun Restaurant Garden	Haian Street Disused Buildings	**4**	**7**							**3**	**3**		
		Former German Post Office	Post Office	**10**	**12**										
		Former Huaqiao Hotel	Convenient Jiao Hotel	**2**				**1**							
		Former Department Store	Characteristic Shops	**5**		**1**						**2**			
		Former Yantai Hospital	Yongxing Foreign Trading Firm	**3**								**2**			
		Former Residential District	High-Rise Building Architecture Complex					**1**	**1**			**2**	**2**		
		Former Yantai no.2 hospital, China-France Hospital, Former Franc Charity Hospital	Yantai Hill Hospital	**7**	**7**	**1**						**1**	**2**		
		Former Jiefang Road Primary School	Yangzheng Primary School	**3**								**2**	**2**		
		The First 24hr Restaurant	Xile Restaurant	**1**					**1**			**1**			
		The First 5 Star Hotel	Golden Gulf Hotel	**2**											
		Sculpture Roundabout	Sculpture Roundabout	**1**			**1**					**3**	**1**	**1**	
		Former Hutong, New China Cinema, Disco, Red-Light District, Ruifuxiang Silk Shop	Chaoyang Street, Haina Street, Cross Street Area, Guangren Lane	**1**	**6**			**2**			**1**	**4**	**2**	**2**	
		Lighthouse	Lighthouse	**8**	**10**	**5**									
		Blue Stone Pavement	Haian Street	**1**											
		Former Artillery Army School	Yantai Naval Aeronautical Engineering Institute	**1**								**1**			
		Beiyang Naval Force Bingxin Memorial Hall.	Yantai Hill	**2**											
	Nature Element	Yantai Hill	Yantai hill	**3**	**3**	**3**									
		Beach	Beach			**1**	**1**					**1**	**1**		
		Islands	Islands	**1**	**1**										
		Old Tree	Green Square			**1**									
Social Aspect	Personal Activity	Photo shooting	Guangren lane, Yantai Hill, Squares, Beach, Sea	**1**	**2**	**2**									
		Climbing Sculpture	Sculptures	**2**											
		Swimming	Sea	**2**	**1**							**1**			
		Fishing	Coastline	**2**											
		Cycling	Coastline	**1**											
		Kite Flying	Squares	**2**											
		Shopping	Characteristic Shops									**1**			
		Moring Exercise	Squares	**1**											
		Beach Comb	Sea	**1**	**2**										
		Walking	Streets, Coastline	**1**	**1**		**1**								
		Kids Playing	Squares, Beach	**3**	**3**	**1**									
		Tourism	Yantai Hill, Squares, Streets			**1**									
		Sitting out, Resting	Binhai Square, Sails Pavilion			**1**									
		Skating	Squares			**1**									
		Boating, Speed Boat	Sea			**1**								**1**	
	Group Activity	Paint and Art Expo	Yantai Paint & Gallery Academy	**3**	**1**	**2**							**1**	**1**	
		Swimming Classes	Sea	**1**											
		Spring/Autumn Tour	Yantai Hill	**1**											
		Gathering	Squares, Restaurant	**3**	**2**		**1**					**1**	**1**		
		Wedding	Squares, Hotels, Beach		**1**									**1**	
		Fireworks	Binhai Square, Beach										**1**		
		Shows	Squares										**1**	**1**	
		Beach Volleyball, Football	Beach		**1**										
		Marathon Competition	Coastline		**1**										
		Speed Dating Event	Yantai Hill	**1**											
	Celebrity	Sun Zhongshan	Kelidun Hotel, Zhangyu Ltd.	**3**	**4**	**1**						**1**	**1**		
		Wang Yirong: Find Oracle	Yantai Hill	**9**	**10**										

		Missionary	Dongshan Garden Graveyard		**2**										
		Zhang Bishi	Zhangyu Company	**9**	**12**	**3**									
		Xie Wanying /Bingxin	Yantai Hill	**9**	**8**	**1**									
	Events	Sea-Fill	Binhai Sauqre	**1**				**9**	**10**			**3**	**2**		
		2007 Tsunami	Sea		**1**							**2**			
		Sun Zhongshan Inscribe: 品重醴泉	Zhangyu Company, Kelidun Hotel	**10**	**9**										
		The Treaty of Yantai	Yantai Hill		**1**										
		2000 Local Resident Migration	Binhai Square Ancient Architecture Complex，Haian Street											**1**	
	Story	History of Opening Sea Port to Foreign Countries	Yantai Hill	**3**	**2**	**2**	**2**					**10**	**12**	**5**	
		Alfred Graf Von Waldersee's Memoirs	Yantai Hill, Binhai District		**1**										
Sensory Aspect	Seeing	Icicles	Sea		**1**		**1**								
		Disordered Parking	Binhai Square							**1**					
		Night Landscape	Light from Seaside Architectures, Squares			**1**									
		Sea View	Sea		**1**	**1**									
	Tasting	Tasty Local Food	Fulaiqi Restaurant，Changhong Hotel		**1**							**1**	**1**		
		International Foods	Food halls on Guangren Lane			**1**									
		Local Street Food	Street Stalls, Local Restaurants			**1**								**1**	