IDENTIFICATION OF THE MORPHOLOGICAL CHARACTERISTIC OF PALEMBANG RIVERSIDE SETTLEMENT

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To my beloved parents, husband and children
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Urban development and changing life style of locals is inevitable. These phenomena challenge the uniqueness of the old area due to destruction of the elements and city identity. This research questioned on how the morphology of urban elements can be utilized to rebuild the identity of a river city. It is aimed to identify the morphology of riverside settlement in Palembang to rebuild the city's identity by investigating on how place character can establish the identity of city, identifying the physical and spatial patterns of Musi riverside settlement and investigating the interdependency between urban morphology and identity. A mixed-method approach was derived from the disciplines of urban morphology and environmental psychology. This approach was used to examine the people-place relationship and the morphology change at Musi riverside settlement. For people-place relationship, a total of 144 residents participated in the survey, 25 residents were interviewed and a total of 152 old photos were used. For urban morphology, the research used four maps of year 1875, 1920, 1945 and 2004. The findings reveal an understanding on the relationships between identity and urban morphology by showing (1) the influence of the river and the tributaries in creating the city's structure as well as its identity, (2) the role of place attachment and sense of place in encouraging the persistency of identity, and (3) the interdependency between urban morphology and identity. The major findings suggest that the people's cultural activity is the key element to create a strong identity of a place. In turn, it leads to a strong place identity. Thus, the old urban elements that accommodate the cultural activities should be protected, preserved or conserved. This study provides a new framework to assist urban planners, architects and policy makers in determining the appropriate actions in redeveloping the old area in the city.
ABSTRAK

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CHAPTER 1

INTRODUCTION

1.1. Introduction

Cultural landscape is the result of human action on the primeval landscape. It is composed by the fixed features such as buildings, settlements, semi fixed features such as components of material culture, non-fixed features such as inhabitants, animals, vehicles and local character of locale (Rapoport, 2004). Causing by human actions, the initial structure and character of cultural landscape is changed. The historical area is certainly a cultural landscape. The historical area along with its urban elements had formed a specific character of the locale as a place as well as the city. The locality is the important aspect for identity.

However, the change of urban lifestyle has contributed to the change of the cultural landscape. If the change is uncontrollable, it can eliminate the original cultural landscape and become a threat for the existence of the character of locale. From this understanding, this research was conducted to find a solution how to face the inevitable urban change while strengthen the identity of cultural landscape in the same time. With the study site in Palembang, a river city in Indonesia, the study seeks to explore the ability of the morphology or urban elements at the cultural landscape site to be used to accommodate the change and build the identity of the locale. Initially found at riverside area, Palembang has been developed as a modern city. In the same time, its identity as historical river city is challenged by the
modernization. Therefore, this research also investigates the ability of urban morphology of riverside area to influence the character forming of a river city.

This chapter is divided into nine sections. Following the introduction, the research background is explained in the Section 1.2. Explanation on the problem statement is delivered in Section 1.3 and continued by the research gap in Section 1.4. The formulation of research aims and objectives are stated in Section 1.5 and 1.6, whilst the scope of research and significance of study are described in Section 1.7 and 1.8. Lastly, the general structure of thesis is described in section 1.9.

1.2. Research Background

A city needs identity to position itself within the competitive world. In order to be unique; the city must have distinctiveness and identity. Hence, the challenge for the city planners and managers is to create and maintain the city identity. The urban elements become the physical evidences of the local identity. Since, the modern physical development is occurring; the change on the urban elements, including its typology and morphology will affect the sustainability of identity. Moreover, the elements are the meaningful to the people as they are place for people to live and built their economy capability. Therefore, the physical development of the city must be in line with the effort to create and maintain identity and support the life of the people of the city. It is a demand to make physical and economy capability are developed on harmony with locality (Gligorijevic, 2006)

A city is a dynamic entity that always changed. The change is occurring in many aspects of city life and influences the local context of a city in terms of size, location, natural resources, demographic structure, economy and infrastructure, quality and capacity of public institution (Satterthwaite, 2007). It changes the government's economy and political policies as well as the citizen's life style. It demands new facilities and infrastructure to accommodate the other activities that supports the economic activities.
The urban changes happen and give impact on the physical and social city's life structure. Physically, the development caused by the changing human life contributes to urban structure change. The urban dynamics associated to social, economic, cultural and political dimensions are represented by the change on urban morphology. Urban morphology is changed over time as new elements are added or the existing one is modified (Raseed, et.al, 2010), such as new transportation system, function and land use. Socially, urban changes also demand new service and size (Zhang, 2007). It leads to the growth of the city.

Burgess (1925) describes the process of city growth in three conditions; expansion, metabolism and mobility. The city growth is considered as expansion if it is tend to expand as radial from the central business district by a series of concentric circles. This concentric circle consists of the central business in the core zone followed by deterioration zone, worker's houses zone, residential zones and commuter zones. The urban growth is also seen as an urban metabolism that is a resultant of process of organization or disorganization of social cultural life such as in distribution of population, social-cultural groupings, as well as social problem. Urban growth is also a condition with mobilization. The urban growth is considered as mobility if the growth is stimulated as a response on the change of movement. With these conditions, the city is developed and expanded with the new structure and new social activities.

The urban growth leads to the change of urban morphology of the city. The change also impacted the identity as one of city's competitive advantage. De Rossi (2009) mentions that the morphological dimension can assist the political dimension in rethinking the transformation of territory in a certain area. He underlines that considering the urban morphology in proposing the physical development will assists the appropriated transformation of the city. In short, the urban morphology shows the territorial recognition of a certain area in the city. Armando and Durbanio (2009) explain that the changing of historical condition influences the territorial transformation created by the dominant political power.
Designing the physical and spatial elements become the tools to show the dominancy of power and the image of the city. Bazzanella and Giammarco (2009) mentions to design the morphology means to imagine the architecture of the territory that focused on several aspects, one of them is the culture of sustainability. Furthermore, the roles of architect and urban planner become important since they can manage the culture and produce the architecture by considering the regulation and identity formation. At the end, their creations become a representation of the cultural and technological development of a nation (Kusno, 2000).

In a river city, the aforementioned changes impact the old riverside area which has historical and social cultural values of riverine culture. In the same time, the old area tries to reconcile with the nature of the modern city (Hagerman, 2007). The riverside area as the first origin place of the city founding has a specific physical and spatial structure resulted from human influences and responses to the geographic nature of riverbank (Iwaszko, 2007; Kondolf, Piegay and Landon, 2007). This originality uniqueness is impacted by the modern development with the new structure and new social activities (Tavakoli, 2010), resulted in a mix of formal-informal, modern-traditional, and planned-unplanned development (Setioko et.al. 2009). These new things potentially create chaos in urban form (Setioko et.al. 2009) and lead to the weakening of identity of the river city.

This research explores the relationship of urban change and the river city's identity represented by the morphology of the riverside area. It is set up to explore the role of physical and spatial structures of old urban elements in representing and maintaining the identity of river city. This is done by investigating the morphological character and people perception towards the morphology pattern and its elements. Since the old area is being discussed, the study also considers the preservation and conservation views as supporting tools to build and maintain the identity. By having these conditions, the comprehensive understanding of rebuilding identity of historical river city might be gained.
1.3. Problem Statement

1.3.1. Locality and Identity

The place is the lived space that used by people. Perdikogianni (2007) coins that people experience the place as spatial structure and urban narrative. As spatial structure, the actual space is navigated and occupied by people through their activities. As urban narrative, space is imagined and navigated through historical time and city's culture. The recognized and valued places are used by people and bring the sense to it as an intrinsic character. The perception and valuation of place are determined by how people being attached, depended and rooted to and put it as a part of their identity (Wells, 2009). Therefore, people give meaning to the space and turn in become the meaningful place to the people (Elsheshtawy, 2008).

Discussion on the characteristic of a city could be related to how a city identity is perceived by citizens and visitors. In relation to the citizen, study on place attachment as explored by Walker and Ryan (2008) conclude that the place attachment is a personal approach that can be used to see how people and place related one another. Place attachment deals with personal, emotional, impression of someone to a certain meaningful place(s) in his/her life. This psychological phenomenon leads the place to have certain identity that distinct it from other places. The distinctive of a place contributes to place’s characters, uniqueness, and plays a role in forming city’s character or city’s identity. Physically, the character of a city also can be seen from its traditional anchor elements (Chapman, 2006; Wang, 2010). The physical and spatial structures of old and historical cities can be used to support the character appraisal, design, conservation and contextual policies. Based on this, to understand urban morphology is important to maintain and conserve the original idea or character of a city. As this lead to creating the distinctiveness of the city, it supports the urban sustainability by the identity (Tavakoli, 2010).

Some studies have underlined the use of physical urban elements to create, rebuild and maintain identity for urban sustainability (Doucet, 2007; Tavakoli, 2010). Tavakoli (2010) mentions that the most effective ways to achieve sustainable urban
form is using physical identity characteristic and hidden feature of traditional pattern to be used an updated along the modernity development. By using Yazd as a case study, he indicates some urban sustainable indicators as the determinant for modern development in this Iran traditional city. He strongly coins that the historical fabrics of the city have an important role in grating the urban identity. Doucet (2007) uses the flagship regeneration as his study on the role of architecture for city identity. He investigates the phenomenon of flagship to be the favored tool for economic growth as it is a part of an aggressive city branding and new urban vision. Similar to this, Makas (2007) use the case of Mostar, Bosnia-Hercegovina and find that the architecture symbolically is used to construct and reinforce city identity in the postwar period. He highlights some postwar project in Mostar that represent the shared history and identity of the city. In addition, Elsheshtawy (2008) also points out the use of urban morphology to investigate the architecture and urban character of space in Dubai migrant settlement that contribute to the unique quality of Dubai.

Some major cities in Indonesia were found nearby rivers, but not all rivers become the identity of the city (Table 1.1). For river cities, such Palembang and Banjarmasin, the river is the heart of the city and become the identity of the city. River determines the riverside urban structure and along with the history, river contributes meaning to the city. For Palembang, Musi River is an important urban element. Many historical artifacts are located at riverside area, and they still exist until now (Febriati, 2007). While the city of Solo also started its origin place from Bengawan Solo riverside area (Qomarun and Prayitno, 2005), but the river does not become the main element that reflects Solo’s identity. In Surabaya, Semarang, Jakarta, Yogyakarta and Kota Gede, river is not the main element that represents the city's identity. Coastal and inland urban configurations are more dominated in these cities as shown in Table 1.1.

In Indonesia, Palembang is well known as one of Asian old river city that has been developed into a metropolitan city in Indonesia. The city is divided by Musi River, the second longest river in Indonesia. As the river provides water, the source of life, Musi riverside area had been chosen as the first origin place of the city (Utomo, 2006; Taim, 2002; Purwanti, 2002; Hanafiah, 2005). In the past, the river
transportation was the main transportation network that connected the city with its outer area. The river had strong contribution to the formation of old river city by forming transportation network (Hanh, 2006) and building orientation (Samant, 2004; Febriati, 2008). In the modern context, the river serves as the spiritual center and place for human congregation (Samant; 2004, Hanh, 2006; Novita, 1996), economic-social place (Febriati, 2008; Nugroho and Febriati, 2006; Samant, 2004), public health consideration (Schools et.al, 2008), transportation network, irrigation and place for living activities (Novita, 1996).

**Table 1.1: The existence of river among some of Indonesia cities**

<table>
<thead>
<tr>
<th>City</th>
<th>Jakarta</th>
<th>Palembang</th>
<th>Banjarmasin</th>
<th>Yogyakarta</th>
<th>Kotagede</th>
<th>Solo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of river</td>
<td>Ciliwung</td>
<td>Musi</td>
<td>Martapura</td>
<td>Code, Winongo</td>
<td>Gajahwong</td>
<td>Bengawan Solo</td>
</tr>
<tr>
<td>River Current Existence</td>
<td>Existed</td>
<td>Existed</td>
<td>Existed</td>
<td>Existed</td>
<td>Existed</td>
<td>Existed</td>
</tr>
<tr>
<td>First origin place</td>
<td>River and beach</td>
<td>River</td>
<td>River</td>
<td>Land</td>
<td>Land</td>
<td>River</td>
</tr>
<tr>
<td>Present City’s type</td>
<td>Coastal</td>
<td>River</td>
<td>River</td>
<td>In land</td>
<td>In land</td>
<td>In land</td>
</tr>
<tr>
<td>Identity of City</td>
<td>Moderns</td>
<td>River city</td>
<td>River city</td>
<td>Cultural and historical</td>
<td>Traditional city</td>
<td>Cultural and historical</td>
</tr>
<tr>
<td>Elements that represent the identity</td>
<td>Business area and center of governmental buildings</td>
<td>Historical area at riverside</td>
<td>The life at riverside</td>
<td>The palace</td>
<td>The palace and old settlement</td>
<td>The palace</td>
</tr>
</tbody>
</table>

However, the change in the transportation network, from the river to land, has shifted the physical development orientation. The development of city cannot be avoid, and it turns become a need to change as the demand of modern society i.e. housing and new transportation network. The infrastructure demand affects the old urban structure. Besides the physical changes, the non-physical changes also arise as logical consequences of urban structure change. The riverine culture that was formed by the human activities along riverside has changed too. The river culture in the current context has also shifted to some extent that it contributes to the new role of the river in the city forming process.

In addition, the urban change is resulted in the declining condition of historical riverside area. Instead of modern building, the number of abandoned
buildings and neglected spaces also increased as well as the size of slump area. Previous studies find that this situation is caused by the transportation development and changing in mode transportation (Hanh, 2006; Adiyanto, 2006; Nugroho and Febriati, 2006; Febriati, 2008), religious practice associated with water (Samant, 2004), physical development (Hanh, 2006), unplanned forming process (Qomarun and Prayitno, 2007) and bias in perceiving and valuing the old area (Wells, 2009). In turn, it threatens the originality and locality of river city.

1.3.2. The Importance of Urban Morphology in Identity Forming

The development caused by the changing human life contributes to urban structure change and urban morphology. However, the new urban structure is resulted from the changes on physical-spatial system order, the elimination of the old physical elements and additional physical or spatial. People interact with the new structure, and this creates the new perception towards the new elements and the new structure. The new attachment has been created along with new memory, new meaning, and new value on the place.

Therefore, for a historical river city such as Palembang, the historical area is also facing the new physical development at old area along with its new urban elements and the structure. The change of this urban structure also means the change on the urban morphology of historical area. It is followed by the change of people perception and leads to the change of the appreciation towards the old physical elements and their morphology. In turn, the city is possible to loss its image and original identity caused by the prevailing metamorphosis of urban elements that coins by Armando and Burbanio, (2009) as the democratization process of the city and the territory. The inappropriate respond on the urban change will lead to the lost of historical elements. The historical elements are the important evidences of past life that should be respected and became the lesson for future (Rapoport, 2004). For a historical river city, the metamorphosis of urban structure of Palembang might lead to the loss of its historical elements that represent the river city identity.
1.4. Research Gap

Study on urban morphology is beneficial and important for urban policy making process as mentioned by James and Bound (2009). It can be utilized to look at the pattern and system of form and structure of a city in a specific time segment and the nature of existing spatial-building arrangement. The structure shown in this pattern comes from the process of synthesizing all activities and further it determines the new form and structure that is suitable and appropriate in new urban design (Boblic, 1990; Wikantyoso, 1997; Hara, 2008, Sima and Zhang, 2009).

Remarked by Conzen (1960) the study on urban morphology entered the focal point of theoretical development. The importance of Conzen’s study leads to a deeper understanding and analysis method of urban structure and its elements. Furthermore, it shows the way to derive the character of a town caused by the changes on physical and social-economy process.

Generally, the urban morphology studies are dominated by the exploration of the inland city’s morphology, such study on Danzig (Geisler, 1918 cf. Whitehand, 2001), East Yorkshire (Whitby, 1958 cf. Whitehand, 2001), Alnwick (Conzen, 1960), Gronigen (Koster, 1998), Nantes and Renes (Ducom, 2007). Unlike river city, the inland city’s historical area characters are existed in the modern context. In some studies, the inland city’s urban structure and morphology are used as a city’s character. This urban structure is utilized to guide the modern development in the historical area such as extending the city’s basic pattern in Valetta, Floriana and Suzhou, (Chapman, 2006; Pang, 2006), exploring the physical and social traditional pattern in Kotagede and Magersari Yogyakarta, (Wikantyoso, 1997; Ikaputra et.al. 2000), and exhibiting the cultural activities for tourism purpose in Urgup (Karakul, 2009).

In the context of Asian cities, some studies on urban morphology discuss on the component and structure of urban pattern in traditional, rural and modern city context (Pang, 2006; Wikantyoso, 2009)and the process of morphogenesis in urban forming process (Widodo, 2009). The studies show the rich component of Asian
cities in terms of historic features, qualities, form and space arrangement. It also shows the influence of the nature of geographic, socio-culture-history and politic on the formation of urban structure. Moreover, other studies figure out the urban structure that is determined by the social value. Study done by Wikantyoso (1997) found that the urban structure of Kota Gede, an old traditional city in Indonesia is determined by social traditional pattern. Similar with this, study on Suzhou, one of traditional cities in China shows the influence of social value in creating social hierarchy in urban form and structure (Pang, 2006). In the modern city context, Zahnd (2008) underlines the use of social-communities life as the basic point to form a model of modern urban development in Indonesia, particularly inland cities and coastal (beach) cities.

While many previous studies on urban morphology use Conzen’s street, plot and block plan as the basic element of a town plan, there are limited studies discussing on the river as an influencing element. However, it is obvious that the river has important contribution to urban structure for the early city, especially the river city. If the fixation line in Conzens’ theory can be defined as any linear element that direct and eliminate the growth and forming of a city (Ducom, 2007), then the river should be taken into account to be studied and elaborated in urban morphology studies of riverside area or river city.

The previous studies on Musi riverside area in Palembang underline the riverside settlement and its communal function. Studied done by Narita (1998) and Sarwadi (2001a, 2001b, 2002) formulates the pattern and the characteristics of inhabitants in forming the typology of settlement and common space of riverside area. Some studies relate the Musi riverside settlement structure with the change on architectural quality and the use of urban space. The studies mention that the causes of the changes are the new transportation network and the new modern function (Nugroho and Febriati, 2006; Adiyanto, 2006; Febriati, 2008). The study on the morphology of Palembang Musi riverside area has not been elaborated in these studies.
As the first origin place of the city, the people have emotional bonding to the riverside area. As the land transportation dominated the city civilization, people prefer to conduct their activities on land. The riverside area started to be neglected, and its quality is declined. The function of the river and the other urban elements at this area are changed or eliminated. In turn, this situation is ended up with eliminating the physical or change in spatial structure, as well as the identity of riverside area. While some studies on identity focus on the creating the identity through architecture and promotion, significantly less research has explored the use of urban morphology which consider the river as an element for creating river city identity.

Meanwhile, the morphology of riverside area consists of the old urban elements and they are arranged in a certain physical and spatial structure. Their existence in current context is an evidence of city uniqueness that also contribute to the attractiveness of city as well as the solid city identity. If these physical evidences are disappeared, the city will face the crisis of identity. In turn, the sustainable development is hard to achieve.

The modern life is inevitable. Its existence can be a threat for historical area as it brings the new physical development. Therefore, the new physical development as a consequence of modern lifestyle should be managed well. However, it does not mean that the modern physical development is something that should be kept away. The well managed physical development will create the adaptive environment that makes the historical area is livable for the people. The adaptive actions do not only support the modern lifestyle but also respects the past. Therefore, it is a need to investigate to what extent the old elements and the urban morphology of historical area can be used to strengthen the city identity. It is done to find out the reason to let the old elements at historical area remained, in what way they must be preserved and what action should be taken towards them. By having this, the physical development will be based on the appreciation of historical area. Then, the sustainability development can be achieved socially, environmentally and economically.
However, the studies on the interrelation between the urban morphology and identity are lack on the discussion on the riverside settlement structure. In order to relate the urban morphology and identity of river city, this research undertaken to extend the knowledge of the morphology of riverside settlement and people relationship to the riverside area. In the investigation of urban morphology, the nature of physical and spatial system at riverside settlement as a reaction to the nature of riverside area and its changes are explored. This exploration would lead to the findings of the key old element that is still existed until present. The people-place investigation examines the people's appreciation towards these old elements. Hopefully that this would lead to the findings of aspects that contributes to the recognition of an element as a representation of city's identity. Through these two explorations, it is hoped that the study is ended with the strong argumentation and methodological method on how the urban morphology and city identity are interrelated to determine the appropriate physical development at historical riverside area.

1.5. Research Aim

The research explores Palembang as the study site to identify the use of morphology of riverside settlement for the rebuilding of the city identity as a historical river city.

1.6. Research Objectives

In order to achieve the aims, the research formulates three research objectives as follows:

1. To identify the physical and spatial systems of riverside settlement along Musi river that characterized the character of the river city,
2. To investigate how place character of historical riverside area can establish the identity of river city, and
3. To identify the interdependency between the urban morphology and identity of the city to determine the appropriate physical development at historical riverside area.

1.7. Research Scope

In the effort to achieve the research aim, study employs Palembang, a historical river city in Indonesia, as the study site. Within this site, the six old riverside villages located at Musi riverside are selected. They represent the settlement of three ethnics in Palembang. The Malay Palembang settlement is represented by Suro and Sekanak Village. The Chinese Palembang settlement is represented by Kapiten and Kilenteng Village. Al Munawar and Bahrak Village represent the Arabian Palembang settlement.

Considering human aspect in identity study is shown by the involvement of residents as the respondent. The study limits the respondent for the residents of riverside area. The reason is the familiarity towards the riverside environment and its old elements. Even though the selected sites are well known as ethic settlement, the respondent is not limited to the resident with same ethnic as the village. The study just limits the respondent scope to the residents of the village, regardless of their ethnicity.

The morphology of selected sites is explored in order to gain the pattern of change. Therefore, the study limits the period of morphological development within the era of 1659 until 2004 that is almost 350 years. The main reason for this limitation is the availability of data resources to figure the urban structure development. The time scope represents the history of Palembang within three eras: sultanate, colonial and independence. It is a historical consideration in this research.
Regarding the city's identity, the research uses the place identity to examine the people-place relationship so that the way people perceived their identity in relation to the place is gained. The study uses the identity of place to examine how an element of urban morphology can be perceived as a part of identity of the place. Along with the urban morphology development, it is hoped that this study gained comprehensive findings on the interdependency between physical urban elements and city's identity. Data for this study is gained from the archival documents and planning report for morphology development and survey questionnaire for people perception. However, these two data sources are complemented by the data from site observation, interview and old photo as the secondary sources.

1.8. Significance of Research

As mentioned before, the previous urban morphology studies related to context of riverside area are still rare and disjointed with place character. There are also some limited studies which elaborate the relationship between urban morphology and people perception towards the place character of riverside area. To find the character, this study goes into the change of physical and spatial pattern of old historical. Then, to see the interdependency between the physical and spatial setting to the identity of the place, this study investigates the people perception on the physical and spatial setting of riverside area. At the end, this study formulates a framework that consists of basic considerations of modern urban development policy for riverside area.

The study fills the knowledge gap on the study on urban morphology of Indonesia river city in terms of components, transformation and development happening from time to time which have specific riverine culture and river character. In the aspect of urban planning, it elaborates the change of urban structure to reveal the genuine character of river city. The method of rebuild the city identity that use urban morphology and people perception can be beneficial for supporting the physical development and the conservation effort of riverside historical area.
1.9. Thesis Structure

This thesis is divided into seven chapters. Chapter 1 explains the overview of subject area, problem statement, research aim, objectives and significance. Chapter 2 explains the background and theoretical framework of the research. Chapter 3 elaborates the context of research that used Palembang as study site. Chapter 4 explains the research stage and method used. Chapter 5 describes the results and findings followed by the discussion on findings in Chapter 6. Lastly, in Chapter 7, the conclusion of the research is explained. The thesis structure is shown in Figure 1.1.

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</tr>
</thead>
<tbody>
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<td>CHAPTER 2</td>
<td>Review on urban morphology, people-place relationship, rebuilding identity and conservation of historical area studies</td>
</tr>
<tr>
<td>Study context</td>
<td>CHAPTER 3</td>
<td>Review on site study, the historical background, the meaning of riverside area related to the people's socio-cultural life</td>
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<td>Methodology</td>
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</tr>
<tr>
<td>Conclusion</td>
<td>CHAPTER 7</td>
<td>Conclusion, implication of study and recommendation</td>
</tr>
</tbody>
</table>

Figure 1.1. Thesis structure
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