CONTRIBUTING FACTORS AND IMPACTS ON THE IMPLEMENTATION OF WATERFRONT PROJECTS IN MALAYSIA

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UNIVERSITI SAINS MALAYSIA

2016

CONTRIBUTING FACTORS AND IMPACTS ON THE IMPLEMENTATION OF WATERFRONT PROJECTS IN MALAYSIA

by

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Thesis submitted in fulfillment of the requirements
for degree of
Doctor of Philosophy

February 2016

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisors, Dr. Abdelnaser Omran Ali and Dr. Mohd Hanizun Mohd Hanafi. They have been committed and consistent in guiding me throughout my research by providing the endless supports, advices and comments in completing this research.

I would like to take this opportunity to thank all the interviewees who are involved in the interviewing process. They have given me the full corporation in ensuring the interview sessions are been carried out successfully. The knowledge and experiences shared by the interviewees during the interview session are precious. Thank you for giving me the opportunities to be interviewed and learnt from the expertises in the waterfront construction.

At the same time, I would like to express my sincere gratitude to Dr. Chan Yuan Eng, Sr. Lai Boon Hooi and Associate Professor Dr. Lee Chee Leong for the remarkable encouragement, concern, motivation, guidance, supports, advices and experiences shared in completing this research.

Finally, I also would like to dedicate my appreciation to my beloved parents who have brought me up to who I am today, giving me unconditional love, care, concern, all the prayers and providing me the needs in order for me to achieve the dream of my life. I love you all very much.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CDP	Comprehensive Development Plan
CIDB	Construction Industry Development Board
CAQAS	Computer Assisted Qualitative Data Analysis Software
ECER	East Coast Economic Region
EIA	Environmental Impact Assessment
E&O	Eastern and Oriental
FDI	Foreign Direct Investment
IJM	Ipoh Garden, Jurutama and Muda Jaya
IWRM	Integrated Water Resource Management
HDB	Housing Development Board
JKR	Jabatan Kerja Raya
JPBD	Jabatan Perancangan Bandar dan Desa
JPS	Jabatan Pengaliran dan Saliran
KKCW	Kota Kinabalu City Waterfont
LKIM	Lembaga Kemajuan Ikan Malaysia

LLM	Lembaga Lebuhraya Malaysia
MESAS	Microsoft Excel Sorting and Auto-filter Statistical Software
MNCs	Multinational Corporations
OSHA	Occupational Safety and Health Administration
PCCG	Port Centre Co-ordination Group
PEST	Political, Economy, Social and Technology
PPP	Public-private Partnership
PTG	Pengarah Tanah dan Galian
SIA	Social Impact Assessment
SJER	South-Johor Economic Region
SPSS	Statistical Package for Social Science
SWOT	Strength, Weaknesses, Opportunity and Threat
UNESCO	United Nations Educational, Scientific and Cultural Organization
URA	Urban Redevelopment Authority
WUD	Waterfront Urban Development

FAKTOR-FAKTOR PENYUMBANG DAN KESAN-KESAN TERHADAP PERLAKSANAAN PROJEK PERSISIRAN AIR DI MALAYSIA

ABSTRAK

Kebelakangan ini, projek persisiran air kian diterima konsepnya di dalam industri pembinaan Malaysia. Dengan mensintesiskan penyelidikan sedia ada terhadap projek persisiran air, didapati bahawa isu-isu berkaitan modenisasi dan pemulihan telah dikaji secara mendalam. Walau bagaimanapun, masih terdapat kajian yang tidak menyeluruh berkaitan faktor-faktor penyumbang dan kesan-kesannya. Kajian ini adalah penting kerana ia akan mempengaruhi prestasi dan pembangunan projek persisiran air di Malaysia. Kajian ini bermatlamatkan untuk mengenalpasti faktor-faktor yang menyumbang kepada perlaksanaan projek persisiran air di Malaysia. Kajian ini juga bertujuan untuk mengenalpasti kesan-kesan daripada perlaksanaan projek persisiran air di Malaysia. Di samping itu, kajian juga berobjektifkan untuk mengenalpasti hubungan di antara faktor-faktor penyumbang dan kesan-kesan daripada perlakasanaan projek persisiran air di Malaysia. Kajian ini menggunakan pendekatan mod campuran. Di dalam pendekatan kaedah kuantitatif, kertas soal selidik telah diedarkan kepada kontraktor-kontraktor yang berpendaftaran G7 di negeri Pulau Pinang, Johor, Selangor and Kuala Lumpur (Wilayah Persekutuan). Jumlah soal selidik dari semua negeri adalah berdasarkan populasi kontraktor atau pemaju G7 yang berdaftar dengan Lembaga Pembangunan Industri Pembinaan Malaysia (CIDB) pada bulan Januari 2015 di mana Pulau Pinang, Johor, Kuala Lumpur dan Selangor mempunyai jumlah pendaftaran 308, 363, 1259 dan 1168, masing-masing. Jumlah maklum balas responden dari setiap negeri telah dikumpul di mana; Pulau Pinang, Johor, Kuala Lumpur dan Selangor mempunyai

soal selidik sejumlah 182 (>30%), 189 (>30%), 418 (>30%) dan 315 (<30%), masing-masing. Sebaliknya, pendekatan kaedah kualitatif memperlihatkan 15 sesi wawacara bersama pengurus besar, pengurus kontrak, pengurus projek, pengurus pemasaran, kontraktor utama dan sub-kontraktor untuk mengumpul maklum balas mereka berkaitan perlaksanaan projek persisiran air di Malaysia. Hanya sejumlah 15 sesi temuduga telah dijalankan berdasarkan kepadatan data temuduga selepas maklum balas yang sama dan konsisten daripada ditemubual dari kawasan terpilih. Daripada hasil kajian ini, keputusan boleh disimpulkan bahawasanya faktor politik, faktor ekonomi, faktor sosial dan faktor teknologi telah menyumbang secara signifikan kepada perlaksanaan projek persisiran air di Malaysia. Kajian ini mendedahkan faktor dominan adalah penghasilan mercu tanda baru kepada Malaysia. Faktor ini yang juga merupakan salah satu faktor sosial. Menatapi keputusan kesan-kesan daripada perlaksanaan, kesan yang paling ketara adalah penghasilan peluang perniagaan di dalam perdagangan ekonomi. Pengasasan hubungan berdasarkan faktor-faktor penyumbang dan kesan-kesannya berkepentingan dalam memupuk projek persisiran air yang terlaksana dan mampan di Malaysia. Di samping itu, implikasi kajian ini mengetengahkan penggunaan analisis Politik, Ekonomi, Sosiologi dan Teknologi (PEST) sebagai medium yang boleh dipercayai dalam kajian projek persisiran air dan juga dalam penyelidikan yang berkaitan dalam industri pembinaan. Akhir sekali, hasil kajian ini telah menunjukkan sumbangan yang penting kepada ahli akademik dan prestasi projek persisiran semasa dan akan datang.

CONTRIBUTING FACTORS AND IMPACTS ON THE IMPLEMENTATION OF WATERFRONT PROJECTS IN MALAYSIA

ABSTRACT

The waterfront projects are momentously gaining its concept of development in the Malaysian construction industry recently. By critically synthesizing the existing research on the waterfront projects, it can be seen that issues related to modernization, revitalization and rehabilitation have been studied rigorously. However, there is still insufficient study on the contributing factors and resulting impacts. This study is imperative as it will influent the performance and the growth of the waterfront projects in Malaysia. This research aims to identify the factors contributing to the implementation of waterfront projects in Malaysia. It also intends to identify the impacts resulting from the implementation of waterfront projects in Malaysia. Besides, the other objective of the research is to identify the relationship between the contributing factors and the resulting impacts from the implementation of waterfront projects in Malaysia. The mixed method approach has been used in carrying out this research. In the quantitative approach, questionnaire surveys have been distributed among the G7 contractors within the state of Penang, Johor, Selangor and Kuala Lumpur (Wilayah Persekutuan). The total questionnaire varies from all the states based on the population of the contractors or the developer of G7 who were registered with Construction Industry Development Board (CIDB) as in January 2015 in which Penang, Johor, Kuala Lumpur and Selangor has a total registration of 308, 363, 1259 and 1168, respectively. The total feedbacks of the respondents based on each of the states were collected whereby Penang, Johor, Kuala Lumpur and Selangor has a total sets of returned

questionnaire of 182 (>30%), 189 (>30%), 418 (>30%), and 315 (<30%), respectively. On the other hand, the qualitative approach has involved 15 sessions of interview with the general managers, contract managers, project managers, marketing managers, main contractors and sub-contractors in order to gather their feedbacks related to the implementation of waterfront projects in Malaysia. Only a total of 15 sessions of interviews were conducted due to the data saturation of the interview after having similar and consistent feedbacks from the interviewees of the selected areas. From the findings, it can be concluded that political, economic, sociological and technological factors have contributed significantly to the implementation of waterfront projects in Malaysia. It can be seen that the most dominant contributing factor in this research is the creation of new trademarks to Malaysia. This factor can be regarded as part of the sociological factor. For the case of resulting impacts, the most influential impact is the creation of more business opportunities in the economic trade. The establishment of the relationship based on the contributing factors and resulting impacts has been found to be crucial in cultivating a feasible and sustainable waterfront projects in Malaysia. Besides, the implication of this research highlights the usage of Political, Economic, Sociological and Technological (PEST) analysis as a reliable tool in the study of waterfront projects as well as in the relevant research of the construction industry. Lastly, the current research work has demonstrated a significant contribution to the academia and the performance of the current and future waterfront projects.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The construction sector in Malaysia has been transformed drastically since the past thirty years. Originating from a country which depends solely on the agriculture and natural resources, Malaysia has now emerged as a newly industrialised country that involved heavily in the various industries. These include the manufacturing industry, oil and gas industry, services industry as well as the construction industry. Each of these industries has contributed to the development of the nation and thus enhancing the economic growth of Malaysia. Moreover, the Malaysian government has placed tremendous efforts in developing its country. This has been realised through the implementation of new economic policy as early as in the seventies. Subsequently, several effective developing plans have also been emplaced in the Malaysia Plan which will be revised in every five years. The development of a country can be realised through a systematic and well-planned construction of concrete jungle which incorporates the skyscrapers, innovated and integrated design of building and infrastructure. These are usually the preliminary indication of a country's development. As such, construction sector plays a significant role in developing a nation.

The construction in Malaysia has evolved since the commencement of the industrialization and modernization period. As a result, several acts and plannings such as Uniform Buildings By-Laws, Town and Urban Planning, Occupational Safety and Health Administration (OSHA) and Irrigation Act have been drafted in

order to establish a well-organised regulation in the modern construction in Malaysia. Therefore, a significant number of construction projects which was initiated from housing projects, infrastructure works, commercial complexes, airports have been successfully carried out. Eventually, it is heading towards the construction of the intelligent buildings.

Recently, waterfront projects have proceeded well in Malaysia. Waterfront projects are always associated with areas near the river bank, seashore and the coastal line. As Malaysia enjoys the tropical weather and the beautiful natural scenery such as a panoramic sea view, the development of waterfront has been progressively developed. Based on the data published by Geodetic Datum of Malaysia (GDM), most of the states in Malaysia are suitable to be developed into waterfront cities. Each of the coordinates in Table 1.1 reflects the locations of the official reference stations in Malaysia.

The early residents in Malaysia realised the importance of the sea to serve as a strategic place to carry out the daily trade and other economic activities. There is a quote saying that:

> *"If the geography helps to shape a nation's destiny, then Malaysia's fortunes boded well from the start. Every natural element works from this country even the wind. Malaysia is where the trade winds meet, and in the beginning that made all the difference as the southwest and northeast monsoons brought with them seaworthy trading vessels. Her many naturally sheltered harbors and the Straits of Melaka also put her securely on the world map of sea lanes" (Malaysia at 50: The Country That Could, 2007).*

Table 1.1: Coordinates of Each States in Malaysia

States	Stations	Original Coordinates of the States	
		GDM 2000 (2009)	
		Latitude (N)	Longitude (E)
Johor	Gunung Belumut	2° 02’ 33.20279”	103° 33’ 39.83599”
Negeri Sembilan and Malacca	Gun Hill	2° 42’ 43.63412”	101° 56’ 22.92628”
Pahang	Gunung Sinyum	3° 42’ 38.69308”	102° 26’ 04.60447”
Selangor	Bukit Asa	3° 40’ 48.37751”	101° 30’ 24.48130”
Terengganu	Gunung Gajah Trom	4° 56’ 44.97144”	102° 53’ 37.00068”
Penang and Seberang Perai	Fort Cornwallis	5° 25’ 15.20204”	100° 20’ 40.75188”
Kedah and Perlis	Gunung Perak	5° 57’ 52.81981”	100° 38’ 10.93028”
Perak	Gunung Hijau Larut	4° 51’ 32.64361”	100° 48’ 55.46334”
Kelantan	Bukit Panau (Baru)	5° 53’ 37.07908”	102° 10’ 32.24004”

Sources: (*Jabatan Ukur and Pemetaan* Malaysia, 2009)

Rivers and the sea have long been recognized as one of the most important natural resources which ensure the humanity's health and civilisation. In addition, it has been observed that there is a close association between the area surrounding the rivers or seas and human civilisation. As a matter of fact, many developed cities in Malaysia are located in the vicinity of river or sea. (Yassin et al., 2010). Human in early civilisation has engaged in water-based trade as well as the agriculture activities.

To date, the Malaysia government has embarked on a number of measures in order to promote a balance regional development and thus to accelerate the economic growth in designed geographic areas. These apply to the five corridors in Malaysia such as the Northern Corridor Economic Region, Iskandar Malaysia, East Coast Economic Region, Sarawak Corridor Renewable Energy and Sabah Development Corridor (Government of Malaysia, 2010), as shown in Figure 1.1. Each of the corridors fulfills the development in every aspect such as social needs, adequate economic activities and the accommodation demands.

Figure 1.1: Location of the Five Corridor Development in Malaysia

Source: Government of Malaysia (2010)

Based on the geographical location of the above mentioned region (i.e. in the vicinity of sea or rivers), most of the regions have the tendency of developing the water-front projects. According to Yassin et al. (2010), waterfront projects are best to be defined as the development projects where the constructions occur on the coastal zone such as river delta, coastal plains, wetlands, beached and dune, lagoon and other coastal features which have included a watershed area. Waterfront projects can be found in each of the region as summarized in Table 1.2.

Table 1.2: Development Region and Waterfront Projects Distribution

Development Region	States	Waterfront Projects
Northern Corridor Economic	Penang Island	The Light, Sri Tanjong Pinang
Iskandar Malaysia	Johor	Puteri Habour, Danga Bay
East Coast Economic Region	Pahang and Terengganu	Pahang Waterfront, Terengganu Waterfront
Sarawak Corridor Renewable Energy	Sarawak	Kuching Waterfront
Sabah Development Corridor	Sabah	Kota Kinabalu Waterfront

Sources: (Government of Malaysia, 2010; The Edge, 2012; Nusajaya, 2009; New Sabah Times, 2009)

Types of waterfront projects can be varied with specific purposes such as for the purposes of recreation, leisure, embankment and developing of residential and commercial properties. This also applies to the vibrant heritage buildings with the identical names and labels such as shorefront, beachfront, waterfront, etc. (Butuner, 2006; Short, 1996; Hudson, 1989; Dodman, 2008; Hee and Low, 2009; Sairinen et al., 2006).

Development of the waterfront projects in Malaysia is carried out through the government funded project as well as by the private sectors and the government-link companies (The Edge, 2012). In a fact, waterfront projects in Malaysia show positive growth. One of most prominent examples takes place in the Penang. In this case, the second phase of the Sri Tanjung Pinang is scheduled to be commenced in the year of 2012 as noted by the Eastern and Oriental Bhd (E&O), The Star (2011):

"Eastern and Oriental Bhd (E&O) is targeting to commence reclamation work next year for 740 acres of land in Tanjong Tokong in north-east coast of Penang for its RM 12bil Seri Tanjung Pinang phase two (STP2) development".

Source: The Star (15th April 2011)

In addition the Johor's waterfront projects has been realised through the implementation of The Iskandar Malaysia through Puteri Habour and Danga Bay. Puteri Habour is emerging as an exciting and breathtaking waterfront development featuring waterfront residence with an access to open sea, ritzy commercial developments, an eclectic mix of restaurants and trendy entertainment outlet (Nusajaya, 2009). As for the Dang Bay, it is commented by Johor Menteri Besar Datuk Abdul Ghani, The Star (2012):

> *"This development will be anchored on maximizing the use of rivers and the sea to create a new environment within the city of Johor Bharu".*
>
> **Source:** The Star (12th February 2012)

In the East Malaysia, one of the examples of the waterfront projects is Kota Kinabalu City Waterfront (KKCW). This development is set to transform the city's seafront into a world-class waterfront development as commented by Datuk Ghani Abdul Rashid, Chairman of Waterfront Urban Development (WUD) Sdn Bhd, New Sabah Times (2009):

> *" The KKCW is expected to be completed by first quarter of 2011, will feature its key attraction of 2km long boardwalk along the city seafront, a new recreational destination for KK residents".*
>
> **Source:** New Sabah Times (16th February 2009)

1.2 Problem Statement

The word *waterfront* is not a new entity in the construction industry. In fact, various types of waterfronts have existed around the world which have fulfilled different roles. The Baltimore Waterfront in Maryland, Victoria and Alfred Waterfront in South Africa, Chongqing Waterfront in China, Haeundae District Waterfront in Busan, Fukuoka Waterfront in Japan and Dubai Waterfront are examples of world class waterfronts which serve multiple purposes comprises from commercial, residential, leisure to working harbor. Thus, with the massive development from the composition of old serving waterfronts to the modern waterfront projects in the world, various aspects related to the waterfronts have been studied rigorously.

The existing research related to waterfront projects can be categorised into a few scopes, namely the modernization, revitalization and rehabilitation of waterfront projects, waterfront opportunities, waterfront policy, sustainability of waterfronts and waterfront tourism. The existing research work incorporates both Malaysian and overseas perspectives. In the category of modernisation, revitalization and rehabilitation of waterfront projects, the chronologies of the research can be seen in the research as carried out by Gospodini (2001); Chang and Huang (2005); Ryckbost (2005); Januchta-Szostak (2007); Hagerman (2007); Dodman (2008); Romein (2012); Oakley (2009) and Barnes et al. (2013). These authors have focused on the modernisation, revitalisation and rehabilitation of waterfront projects in their country which is from the country's perspectives as well as for the future development. Besides, the existing research on the waterfront perspective can be found from Gabr (2004); Bouchier and Cruikshank (2006); Yassin et al. (2006); Ferreira and Visser (2007); Shaziman et al. (2010); Zazzara et al. (2012); and Rizzo and Glasson (2012).

The research on waterfront policies highlights the studies on the effectiveness of water edges development. It will be served as a basis of initiating waterfront projects. The authors who have contributed to this category of waterfront projects are Jacobs (2004); Yassin et al. (2010; 2013); Latip et al. (2011). In addition, the category on the sustainability of the waterfront consists of the study in the sustainability approach in the waterfront projects which has been carried out by Shamsudin et al. (2008); Brunce (2009); Shaffril et al. (2011). Meanwhile, the research on waterfront projects which focus on the tourism aspect has been carried out by Griffin and Hayllar (2006).

The outcome of the existing research work shows that there is a lack and incompetence in the examination of the contributing and resulting elements from the implementation of the waterfront project. Besides, the application of political, economic, sociological and technological (PEST) analysis in the waterfront research has never been carried out. In fact, the model of PEST analysis is derived from the external environmental analysis which is normally applicable in the field of strategic management. Hence, it creates a research gap as compared to the prevailing research which has been carried out by various authors as discussed in the previous section. Therefore, this research focuses primarily on the waterfront project by carefully determining the factors which contributes to the implementation based on PEST factors and impacts resulting. Also, the combination of the contributing factors and resulting impacts in determining the relationship between these two elements as a result of the implementation of the waterfront projects will be highlighted. In addition, the determination on the relationship between the contributing factors and resulting impacts is crucial in this research. As the matter of fact, the relationship emphasises the significance of the contributing factors and resulting impacts towards

the implementation of the waterfront projects. As a result, the identification of such relationship is imperative to the existing research related to the waterfront.

Besides synthesising the necessity of the research work based on the research gap, the rapid development of the waterfront projects in Malaysia also reveals the fact that there is a necessity in conducting this research. It can be observed that the development of the waterfront in Malaysia is at the booming state. Consequently, the elements in contributing towards this scenario shall be studied in detail. The accelerated development of such waterfront projects in Malaysia is well justified based on the statistical data on the new venture in the construction industry from the year 2000 to 2014 in addition to the careful planning allocated by the government in supporting and enhancing the development of the waterfront projects (Government of Malaysia, 2010).

Moreover, the criticality of the current study on the contributing factors and resulting impacts has also been induced from various research fields. For instance, critical factors for cardiac pacemaker cell dominance (Lakatta et al., 2003) in addition to the cancer chemotherapy (Frei and Canellos, 1980) have been determined in the research field of the medical sciences. On the other hand, the critical success factors for e-learning acceptance (Salim, 2007) have also been highlighted in the educational field. Similarly, numerous research works to determine the success factors have been observed in the Public Private Partnership or Private Finance Initiative projects in the UK construction industry (Li et al., 2005) as well as the construction projects (Sanvido et al., 1992). Consequently, similar concept such as to identify the

contributing factors and resulting impacts has been adopted in the study of the implementation of the waterfront project in Malaysia.

The research will cover within the waterfront projects in Malaysia. Waterfront projects in Malaysia are scattered in a few states. For instance, the project in the Penang, includes the Sri Tanjung Pinang, Queensbay and The Light. In Johor, the two renowned projects occur in Puteri Habour and Danga Bay. Meanwhile, the waterfront projects in the West Malaysia incorporate the Kuching Waterfront in Sarawak and the Kota Kinabalu Waterfront in Sabah. Each of these waterfronts is designed with various themes such as to create waterfront residential area, commercial hubs, recreation parks and marinas. Determining the factors contributing to the growth of waterfront projects in Malaysia is also an indispensable approach in examining the preferences of the Malaysian construction industries in cultivating waterfront development. On the other hand, the impacts resulting from the implementation have to be considered as the outcome from the waterfront projects. Delving into both factors and impacts on the implementation of the waterfront projects will assist the developers and the contractors in defining the relationship between these two elements. The research will serve as an endeavor to address some of key implementation issues to the developers and contractors. Also, the project may contribute to the extant academic literatures on the implementation of the waterfront projects in Malaysia.

1.3 Research Questions

The research questions for this research study are as follows:

1. What are the factors contributing to the implementation of waterfront projects in Malaysia?
2. What are the impacts resulting from the implementation of waterfront projects in Malaysia?
3. What is the relationship of the contributing factors and the resulting impacts from the implementation of waterfront projects in Malaysia?

1.4 Research Objectives

The research objectives for this research study are as follows:

1. To identify the factors contributing to the implementation of waterfront projects in Malaysia based on PEST analysis.
2. To identify the impacts resulted from the implementation of waterfront projects in Malaysia.
3. To identify the relationship between the contributing factors and the resulting impacts from the implementation of waterfront projects in Malaysia.

1.5 Research Methodology and Analysis Methods

Research methodology shows the methods practiced by a researcher to conduct a research study. A research is simply the process of finding solutions to a problem after a thorough study and analysis of the situational factors (Sekaran and Bougie, 2009). Therefore, in order to identify the factors contributing to the implementation of waterfront projects in Malaysia and their impacts, the methodology of this research involves the analysis and review of the primary data and secondary data.

Primary data consists of raw data that need to be collected and gathered from this research. For this research, the data is gathered via questionnaire survey and interview session. In the questionnaire survey, the main objective is to identify the factors contributing to the waterfront projects' implementation from the political, economic, sociological and technological aspects. Meanwhile, the interview session covers also both factors and impacts from the implementation of waterfront projects in the addition to the in-depth details of the interviewee's company involvement in the waterfront projects. Here, it emphasises the main concern over the factors contributing to the implementation and the impacts resulting, the consideration prior to the waterfront projects, the benefits and shortcoming of the implementation and also the formation of guidelines to enhance the waterfront projects.

The sources of the secondary data will include the information from articles, journals, newspapers, statistical data, government documents and websites which are related to waterfront projects. All these sources are the main sources for the secondary data gathering and reviewing.

There are two types of data in the research data analysis, namely quantitative data analysis and qualitative data analysis. The difference between these two types of data analysis depends on the nature of the data or the feedbacks collected. In quantitative data analysis, the data or feedback gathered comprises the numeric nature while in the qualitative data analysis, the data collected consist of the descriptive nature in which the data is unique from one to another (Sekaran and Bougie, 2009).

This research uses the mixed-method approach where it involves the combination of quantitative and qualitative data analysis. The quantitative data analysis will be analysed using the SPSS (Statistical Package for Social Science) (Version 15.0) which consist of the reliability test, one way ANOVA, Pearson correlation, regression and descriptive analysis test. The reliability test is used to determine the solidity and the consistency of the data collected based on the Cronbach Alpha value; while the descriptive test is used to analyse the percentage of the tested elements in the research. The one way ANOVA is applied to evaluate the significant of the relationship between selected demographic elements with the factors and impacts from the implementation of waterfront projects. For the case of Pearson correlation, the analysis determines the correlation among the factors and impacts. Meanwhile, the regression analysis is used to determine the relationship between the types of construction and factors and impacts. In order to determine the level of importance on the factors contributing and impact resulting, the relative importance index (RII) is used.

As for the qualitative data analysis, the approach used in the analysing of the interview feedback consists of the combination of the merging with the quantitative data, thematic and categorization approach. The raw data from the interview transcript are compiled and coded prior to the categorization of the feedback. Further discussion on research methodology and analysis methods will be in chapter four.

1.6 Research Scope

Waterfront projects are projects involving the development of the area located along the coastline of sea or river. The scope of this research study is limited to the study on the implementation of waterfront projects in the states of Penang and Johor only. The similarity between both waterfront projects in both states is that both of the projects are constructed along the seaside. Apart from that, the waterfront projects in Penang and Johor have the similar characteristics such that both developments consist of the mixed-development of residential areas, commercial hubs and marinas (Rizzo, A. and Glasson, J., 2012; Jabatan Perancangan Bandar dan Desa Pulau Pinang, 2007).

1.7 Significant of the Research

This research is significant to various parties which encompass the governmental bodies, private sectors and the societies. Firstly, the outcome of this research will be able to assist the authorities, local state government and the federal government in introducing more effective law and regulation prior to the implementation of waterfront project. It is due to the fact that waterfront projects are similar to the other construction projects which are governed by the regulations. Nonetheless, the approval of the planning, land reclamation and the environmental assessment impacts are crucial in the implementation of waterfront projects and these involve various authorities at the initial stage. Hence, the identification of the factors contributing to the implementation of waterfront can then be served as the reference for the authorities to take into the consideration especially in the reviewing of each of the respective states' master planning and their zoning.

Secondly, the outcome of this research has also played an important role to the project management and planning of the developer and contractors. In this case, it will benefit the developer who will carry out the waterfront projects as well as to ensure the completion of the project. Therefore, the study on the factors contributing to the implementation is critical in order to achieve the objectives and goals of the waterfront projects. Lastly, this study will also bring a significant impact to the society. It is particularly important to the groups of people who are normally the end users of the waterfront projects.

1.8 Organisation of Thesis

Chapter 1: Introduction

The outlines of the structure of this research will be discussed in Chapter 1. It provides the introductory information regarding the title; the problem statement, research questions, research objectives, research methodology and analysis methods, research scope and limitation, significant of study and the organisation of thesis.

Chapter 2: Literature Review

The relevant literature relating to the factors contributing to the implementation of waterfront projects will be reviewed in Chapter 2. In addition, reviewing articles on the formation of guidelines in the relevant field of research is included as well. The impacts resulted from the implementation of waterfront projects will be discussed in Chapter 3.

Chapter 3: Research Methodology

The relevant methodologies used in this research study will be presented in Chapter 2. It provides the detailed descriptions on the methodology and the data analysis tool which has been adopted in conducting this research.

Chapter 4: Analysis of Data

The data analysis of the respondents' feedback and the findings of this research will be highlighted in Chapter 4.

Chapter 5: Discussion of Findings

The discussions the findings of this research will be discussed and highlighted in Chapter 5.

Chapter 6: Conclusions and Recommendations

The conclusion, contribution of research study to the knowledge and practice, limitations of study and other suggested recommendations for further research will be discussed in Chapter 6.

CHAPTER TWO

CONTRIBUTING FACTORS AND RESULTING IMPACTS

2.1 Introduction

The objective of chapter two is to review the factors contributing and the impacts on the implementation of waterfront projects as well as the formation of relationship from various sources such as articles, journal, government documents and statistical data. This chapter includes the introduction, waterfront and its definition, PEST factors and their definition, contributing factors of the implementation of waterfront projects, political, economic, sociological and technological (PEST) factors as part of the variables, definitions of the impacts, the impacts from the implementation of the waterfront projects, framing of guidelines and a summary.

2.2 Waterfront and Its Definition

According to the world-renowned Oxford English Dictionary Second Edition (1989), the term “waterfront” refers to the land or buildings abutting on a river, a lake, the sea or the frontage of a town on the water-side. This includes the building structures, the natural topography as well as the artificial landscapes on the waterfront. Besides, waterfront can be easily understood as an area where a land meets the water which is normally known as water edges. Therefore, the working definition of waterfront utilised in this research work refers to the constructions which are developed on the waterfront.

As part of land that meets the ocean, sea, lake, river, or canal, the waterfront is a unique and excellent finite resource for community enhancement and enrichment

(Giovinazzi et al., 2008). The first waterfront was found dated back to early human civilization. Water is an important natural resource in the growth of early settlements (Butuner, 2006). Yassin et al. (2010) indicated that rivers are one of the most important natural resources for human growth and civilization. Water and urban cities have been closely associated throughout the history of civilization. From a natural water resource for livelihood and survival in ancient times, the waterfront has been transformed in the later centuries into an entreport or other focal point for economic activities, such as factories, warehouses, and harbor facilities, and then further transformed into a modern area with multiple functions, such as for economic activities, social interface, tourism, and access to infrastructure (Yassin et al., 2010; Romein, 2012; Sairinen, 2006; Estevens, 2005; Gomez, 2008). The waterfront have existed and played various roles to meet the different needs of society in the modern society. Considering the functional evolution of the waterfront, extensive research has examined the revitalization and regeneration of the modern waterfront, such as the research carried out by Baltimore, Boston, and Toronto (Jones, 1998). In Malaysia, the development of the modern waterfront (i.e., one similar to the early waterfront but having an additional value for modern needs) was initiated in the late 1990s. However, the waterfront has been revived only in three out of the thirteen state capital cities in Malaysia, where flood mitigation has replaced natural river embankments with concrete ones (Shamsuddin et al., 2012). Nevertheless, these waterfronts are developing rapidly, thereby stimulating more waterfront projects in Malaysia.

Ryckbost (2005) defined the waterfront as any property next to the water (e.g., ocean, lake, river, or stream) that only seems attached but not actually connected to the

water. Dong (2004) defined waterfront as the land fronting the water. This definition was also shared by Mann (1973), Tunbrige et al. (1992), and Shaziman et al. (2010). However, Giovinazzi et al. (2008) defined waterfront as the land immediately alongside a body of water or as the dockland district of a town or a city.

In the documentation by Settle Open Space 2100 (2010), it has considered the waterfront from two perspectives. As an edge environment, the overlap of different communities of users and dramatically different conditions cause an enormous amount of complexity and energy. In the non-human realm, the waterfront is the interface of the aquatic and the terrestrial, site of complex intertidal communities, point of release for wave action, and the vehicle for many dispersal patterns.

The waterfront likewise provides the city with its sense of place through the quality of scenery, urban form, activity setting, and townscape effects generated by the river (Shamsuddin et al., 2008; 2012). This definition is quite similar to that of Zhang (2002), where the waterfront is the place connecting land to water, which is an innate and timeless attraction for people. The seashore and the riverfront are the two types of water features that are mostly attractive to human settlement.

Gomez (2008) and Hoyle (2002) agreed that the waterfront is usually the focal point of urban and port activity. The symbiosis between water-related and urban-based functions that was well established in ancient times persisted worldwide until the mid-20th century and is common today, especially in the smaller city ports and less economically developed regions. In brief, the waterfront is defined according to its physical features and functions for the nature as well as the humans.

In addition, Szostak (2007) outlined the definition as “an area of land or part of a town near a stretch of water”, the coast, river banks, lake surroundings, etc. According to her, the word “front” has many different meanings which extend the expression of waterfronts to much deeper aspects than only visual relations. “Front” can be a facade of a town that means not only a creation of an attractive face of the city along river banks exposing values of cultural landscape but also concern all different levels of the town and water relations in the process of sustainable development. The synthesis of the definition on the waterfront by the various authors is summarised in Figure 2.1.

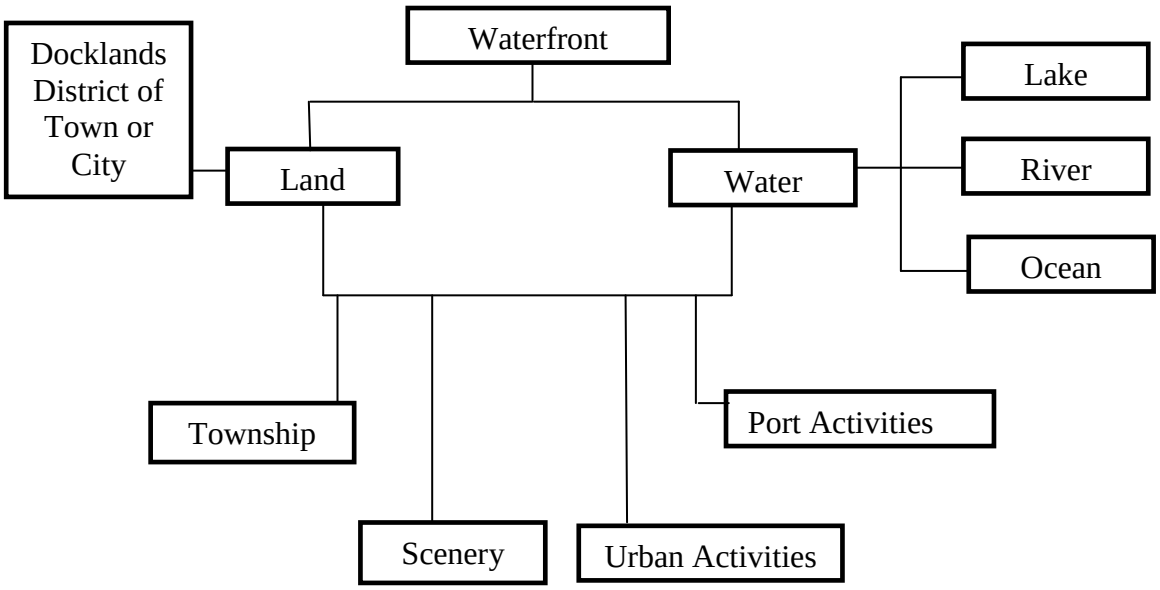

Figure 2.1: Definition of Waterfront

Source: (Ryckbost, 2005; Dong, 2004; Mann, 1973; Tunbrige et al., 1992; Shaziman et al., 2010; Giovinazzi et al., 2008; Shamsuddin et al.,2012; Gomez, 2008; Hoyle, 2002; Szostak, 2007)

2.3 PEST Factors and Their Definition

According to Gabr (2004), the research literature on waterfronts is extensive and diverse. A growing number of studies have been conducted in response to the growing boom of waterfront revitalization and restoration efforts along the water edge of the large and small cities that have been documented and monitored particularly (Bren and Rigby, 1994; Frederick and Stadler, 1991; Goodwin, 1999; Hershman et al. 1999; Petrillo, 1987; Richardson, 1986).

As described in the problem statement and the objectives, an analysis on the PEST factors will be performed in determining the contributing factors towards the implementation of waterfront projects. Prior to further reviewing on each of the factors, the definition of each of the PEST factors will be described.

2.3.1 Political Factors

Political factors are the allocation of power to provide constraints in protecting laws and regulations. Broadly, federal, state, local and foreign governments are major regulators, deregulators, subsidizers, employers and customers of organizations (David, 2013). The political factors also refer to the political ambient of a country where it is the most important indicator to an organization (Abdullah, 2006). Most importantly, this section represents how organizations try to influence government and how governments influence them and as the politics of regulation change, this aspect influences the nature of competition through changing rules (Michael et al., 2009). As a result, the working definition to be used as the political factors in this research emphasises the regulation, planning, policies and legislative matters by the

authorities from the state and the federal government related to the waterfront projects.

2.3.2 Economic Factors

As for the economic factors, they have an obvious impact on the business activity (Hunger et al., 2011). Besides, economic factors refer to the nature and direction of the economy in which an entity which requires a study in the economic environment to identify changes, trends and their strategic implications may competes (Michael et al., 2009). Economic factors also regulate the exchange of materials, money, energy and information (Hunger et al., 2011). Furthermore, economic factors have a direct impact on the potential attractiveness of various strategies (David, 2013). Thus, the working definition of the economic factors related to this research underlines the performance of the economy from the country as well as the society perspective.

2.3.3 Sociological Factors

Sociological factors are associated with the society which is in a continuous process of change (Hussey, 1994). According to Michael et al. (2009), social factors are concerned with a society's attitudes and cultural values; because attitudes and values form the cornerstone of a society, they often drive demographic, economic, political and technological conditions and changes. However, David (2013) explained that social, cultural, demographic and environmental changes have a major impact on virtually all products, services, markets and customers. In general, social factors evaluate the demographic of the society and their demand (Abdullah, 2006). Therefore, the working definition related to the sociological factors includes the prominent need of the waterfront that reflects from the demography of the society.

2.3.4 Technological Factors

According to Abdullah (2006), technological factors contribute to the survival, growth and profit of an organization. Advancement and development technology will enhance the growth of a particular business and opportunities. Technological factors generate problem-solving inventions (Hunger et al., 2011). According to Michael et al. (2009), technological segment includes the institutions and activities involved with creating new knowledge and translating that knowledge into new output, products, processes and material. Thus, the working definition of the technological factors highlights the construction methods and the technologies that can be applied for the waterfront projects.

2.4 Contributing Factors to the Implementation of Waterfront Projects

2.4.1 Political Factors

2.4.1.1 Regulations and National Planning Policy

In the Malaysian context, the government highlighted five main thrusts, one of which was "to improve the standard and sustainability of quality life" (Government of Malaysia, 2006). This focus is indirectly related to the objective to improve the integration between the waterfront and urban river (Latip et al., 2011). Yassin et al. (2011) stated that both public and private developers initiated development projects close to waterfront areas. For instance, people who wish for more close-to-home recreation can choose places such as the Glenmarie Cove in Klang Valley and at the Kingfisher Cove in Likas. Places such as Kota Kinabalu, Malacca, Georgetown, and Johor Bharu are more active with port-related buildings lining the waterfront. These locations offer a promenade feature of recreational and leisure facilities, as well as provides direct access to the waterfront and to the most picturesque views of the city