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ADOPTION OF PEST MODEL TOWARDS IMPLEMENTATION OF WATERFRONT PROJECTS IN WEST MALAYSIA

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Abstract: Implementation of waterfront projects in West Malaysia looks into the waterfront development perspective in the state of Sabah and Sarawak. The main feature of waterfront projects highlights on the natural geographical aspect where; land meets the water. Apart from that, there are still rooms for other possible factors that contribute to the implementation of waterfront projects in West Malaysia. This paper aims to identify the possible factors that contribute to the implementation of waterfront projects in West Malaysia through the adoption of PEST model as the benchmark. The study was carried out through a questionnaire survey on a focus group of contractors from G7 classification in Sabah and Sarawak. Political and economy soundness are one of the contributing factors found in the implementation of waterfront projects. Meanwhile, establishment of new trademark through new waterfront city and the availability of technology for the implementation of waterfront projects are indeed vital as well.

Keywords: Waterfront projects, PEST, Factors, Sabah, Sarawak

1. INTRODUCTION

The state of Sabah and Sarawak are well-known of their natural rainforest. It is also undeniable that both states are gifted with natural beaches and rivers. The early civilization in Sabah and Sarawak proved that the water was their source of life where; the ancient economic trades and the roles of ports occurred at the water edges (Yassin et al., 2010). Implementation of waterfront projects are spread over the Sabah and Sarawak regardless the size of the projects and the concept of development. In Sabah, the Kota Kinabalu waterfront are one of the major waterfront projects while, in Sarawak is the Kuching Waterfront. Implementation of waterfront projects was progressing very well over the years and identifying the factors that contribute to the implementation is important. With the adoption of PEST model, the possible factors are studied. PEST model was originated from the external environmental framework of the strategy management. As the PEST model derived, the possible factors cover the aspect of political, economy, social and technology (Cole, 1997; David, 2013). Knowing all the possible factors enable the determination on the implementation of waterfront project which draw from each of the respective aspects. Furthermore, identifying the possible factors helps in enhancing the implementation rate which then; strongly contributes to the growth of the state construction industry performance.

2. REVIEW ON THE FACTORS CONTRIBUTING

According to Ngah et al. (2012), the pursuit of national development in Malaysia was fundamentally prompted by the desire to promote and enhance the social and economic well-being of the people. As there is a continuous consistency in the political stability of the nation, the federal government of Malaysia focuses on the five-year planning basis for the country's development where; construction industry is one of the aspects taken into consideration. The establishment of the five main corridors throughout Malaysia had enhanced the implementation of the waterfront projects under the Ninth Malaysia Plan (Government of Malaysia, 2006). For West Malaysia, the allocation of corridors development are the Sabah Development Corridor and Sarawak Corridor Renewable Energy which have indirectly cultivate the Kota Kinabalu Waterfront as well as the Kuching Waterfront as part of the corridors development and revitalization. Waterfront projects have benefited from the national economic performance when the allocation of waterfront rejuvenation is stipulated in the Tenth Malaysia Plan to enhance the vibrant waterfront area and restoration of rivers, which can benefit cities (Government of Malaysia, 2010). The economic performance of Malaysia has a strong impact on the waterfront development as most of the waterfront space was initiated for business purposes which have increased relevance to the economic development of cities regardless in term of leisure, tourism, culture and urban oriented business activities (Daamen and Vries, 2012). Implementing waterfronts have the objective of creating an image of a thriving city, to

advance the city's international rank and enable the city to attract a larger amount of "floating" international investment (Jauhainen, 1995). Waterfront is able to be developed in term of commercial, cultural, educational and environmental, historic and residential (Breen and Rigby, 1996). Besides that, transforming the creative image of waterfront also considers the relationship between memory, identity and nation (Chang and Huang, 2005). The waterfront projects need reliable method of construction such as choosing materials that would be used in the construction, waste disposal, land reclamation and the water control have to be carefully consider as these influence long-term security and development (Tungka et al., 2012). As land reclamation consists of significant engineering works, it requires specialist contractors and significant materials.

3. RESEARCH METHODOLOGY

The study was carried out through questionnaire survey distribution in Sabah and Sarawak. The process of distribution was based on focus group for their feedback on the study. The focus group consists of contractors with G7 classification from Construction Industry Development Board (CIDB). The questionnaire was designed into two main parts. The first part of questionnaire was on demographic background of the respondents. The aspects which are selected to be considered are types of construction involved, years of experience and lastly the current designation of the respondents. In the second part of the questionnaire, it focused on the PEST model towards the implementation of waterfront projects in West Malaysia. As mentioned earlier, the PEST modal was adopted from the external environment from the strategic management which is divided into four broad categories, namely Political, Economy, Social and Technology (Cole, 1997; David, 2013). According to David (2013), social, cultural, demographic and environmental changes have a major impact on virtually all products, services, markets and customers. As for the political aspect, it represents how the government's influence on the regulation and the political ambiance (Michael et al., 2009). The economy aspect has an obvious impact on business activity where it refers to the nature and direction of the economy in which a firm competes by indentifying changes, trends and their strategic implication (Michael et al., 2009). Lastly, technology aspect included the institutions and activities involved in solving and creating new knowledge and practising the knowledge (Michael et al., 2009). This model was then, used as the benchmark to study the possible factors that contribute to the implementation of waterfront projects (Figure 2). Four possible factors from the aspect of the political, economy, social and technology respectively were listed down for the evaluation by the respondents.

A total of 100 sets of questionnaire were distributed among the contractors within the focus group; where 50 sets were allocated in Sabah and Sarawak respectively. 36 sets of questionnaire were collected back and compiled which yield a respondent rate of 36%. Furthermore, a respond rate of 30% is deem acceptable (Sekaran, 2009). All the data from the feedback were analyzed by using the Relative Importance Index (RII) and Statistical Package for the Social Science (SPSS) version 17.0. In order to evaluate the reliability of the data, the reliability analysis was applied. Cronbach's Alpha is used to determine the reliability level of the data collected. The data with the Cronbach's Alpha equal or more than 0.700 will be consider as reliable. Table (1) shows that all the PEST aspects are reliable where the values of Cronbach's Alpha range from 0.702 to 0.828 (>0.700). In addition, the RII was used to compare the relative importance of each factor as evaluated by the respondents. The RII was defined as (Cheung et al., 2004; Iyer and Jha, 2005), where W is the weight given to each factors by the respondents and ranges from 1 to 5; A= the highest weight=5; N= the total number of respondents.

$$RII = \frac{\text{[summation] } W}{A \times N}$$

4. RESULT ANALYSIS

4.1 Respondents' demographic background

All the respondents are from construction companies with G7 registration from CIDB regardless their designation. From the questionnaire survey, 20% of the respondents are involving in the non-residential projects, follows by 33.3% in the civil engineering field. The least is those in the residential construction (16.7%). Most of the respondents have the range of 11 to 15 years of working experience (63.9%); while, those with 16 to 20 years of working experience comes in second. The least is from the range of 1 to 5 years and more than 20 years which yield only 2.8%. Looking into the designation aspect, most of the respondents are project manager (30.6%), follows by quantity surveyor (19.4%) and the least are those working as director (11.1%) and contract manager (11.1%). Table 2 shows the data collected from the questionnaire survey.



Figure 1. Location of Study



Figure 2. PEST Model towards Implementation of Waterfront Projects

Table 1. Reliability Test for PEST

Description	Cronbach's Alpha	No. of Item
Political	0.735	4
Economy	0.704	4
Social	0.828	4
Technology	0.702	4

Table 2. Demographic Background of the Respondents

	Description	Percentage	No
CIDB's Classification	G7	100%	36
	Total	100%	36
Type of Construction	Civil Engineering	33.3%	12
	Non-residential Construction	50%	18
	Residential Construction	16.7%	6
	Total	100%	36
Year of Experience	1 to 5 years	2.8%	1
	6 to 10 years	11.1%	4
	11 to 15 years	63.9%	23
	16 to 20 years	19.4%	7
	>20 years	2.8%	1
	Total	100%	36
Designation	Director	11.1%	4
	Contract Manager	11.1%	4
	Project Manager	30.6%	11
	Assistant Project Manager	13.9%	5
	Engineer	13.9%	5
	Quantity Surveyor	19.4%	7
	Total	100%	36

4.2. PEST model towards implementation of waterfront projects

As mentioned earlier, PEST modal was adopted in order to study the factors towards the implementation of waterfront project in West Malaysia. The possible factors are contributed from all rounded aspects which consist of political, economy, social as well as technology. Table (3) shows the result for each of the aspects. In the political aspect, it shows that "Political stability in West Malaysia" has the strongest ranking (RII= 0.8611). There are two factors come in second which are "Regulation stipulated by the authorities in providing approval on implementing waterfront projects" and "Development frameworks such as master planning, zoning and allocation on land use" where both have the value of (RII= 0.8264). The weakest factor is "Public-private partnership such as joint venture" (RII=0.7708). In the economy aspect, the respondents stress that "Stable economy growth in West

Malaysia" (RII=0.8958) is the strongest factors in the implementation of waterfront projects. This is follows by "Business opportunities such as education hub, commercial and leisure" (RII=0.8681). On the other hand, "Economic development among towns adjacent to waterfront project sites" (RII=0.8333) is the weakest among the four factors. "Creation of new icon and trademarks to Malaysia" (RII=0.8611) is the factors at the highest ranking social aspect, follows by "New concept on creation of recreation parks" (RII=0.8333) and the least is "Improving quality of life" (RII=0.8194). Lastly, in the technology aspect, the respondents are most concerned on "Availability of technology in land reclamation" (RII=0.8611). "Availability of local work forces in professional level, skilled, semi-skilled and non-skilled" (RII=0.8403) comes in as second. For the lowest in ranking, it sees that the selection goes to "Accessibility to the waterfront edge" (RII=0.7778).

Table 3. PEST Model and Possible Contributing Factors

	Item	Description	RII	Mean	Ranking
Political	1	Political stability in West Malaysia.	0.8611	4.4444	1
	2	Regulation stipulated by the authorities in providing approval on implementing waterfront projects.	0.8264	4.3056	2
	3	Development frameworks such as master planning, zoning and allocation on land use.	0.8264	4.3056	2
	4	Public-private partnership such as joint venture.	0.7708	4.0833	3
Economy	1	Stable economy growth in West Malaysia.	0.8958	4.5833	1
	2	Economic development among towns adjacent to waterfront project sites.	0.8333	4.3333	4
	3	Waterfront projects have the potential to become prime real estate.	0.8475	4.3889	3
	4	Business opportunities such as education hub, commercial and leisure.	0.8681	4.4722	2
Social	1	Demand on new concept of environment in housing and commercial premises.	0.8264	4.3056	3
	2	Improving quality of life.	0.8194	4.2778	4
	3	New concept on creation of recreation parks.	0.8333	4.3333	2
	4	Creation of new icon and trademarks to West Malaysia.	0.8611	4.4444	1
Technology	1	Availability of technology in land reclamation.	0.8611	4.4444	1
	2	Familiarity of construction method applied in waterfront project.	0.8056	4.2222	3
	3	Availability of local work forces in professional level, skilled, semi-skilled and non-skilled.	0.8403	4.3611	2
	4	Accessibility to the waterfront edge.	0.7778	4.1111	4

5. FINDINGS AND DISCUSSION

Implementation of waterfront projects in West Malaysia shows that the main aspects of PEST model have their own rational in contributing to the implementation. The results show that political, economy, social and technology aspects play major roles towards the implementation consciously and unconsciously. From the result analysis, most of the respondents agree that "Political stability in West Malaysia" (RII=0.8611) and "Stable economy growth in West Malaysia" (RII=0.8958) are the most important factors in implementing waterfront projects for the political and economy aspects respectively. As the implementation of waterfront is a long term life-cycle which regardless of the pre and post construction phases, political stability ensures the peacefulness of the local political ambiance of West Malaysia in successfully carried on with the implementation. Concurrently, due to the stability of the local political ambiance, the economy growth can be ensured. Thus, with the concerned of the respondents' feedback, they stressed that local economy soundness play some roles in contributing to the implementation from the economy aspect. Furthermore, economy stability is important as the implementation of waterfront projects is not only involving the construction industry alone; but it is a interrelated involvement from the manufacturing industry, raw material supply, tertiary industry and the real estate's properties industry. Besides that, economy soundness indirectly ensures the locals to have secure job

and with this they are able to absorb the end-product offers by the waterfront projects; whether by purchasing residential properties for instance or setting up their business premise with the waterfront concept of environment. Apart from the political stability, political aspect also considers that "Regulation stipulated by the authorities in providing approval on implementing waterfront projects (RII=0.8264) is also important. The rules and regulation stipulated by the local and the federal government are compulsory to comply prior to the commencement of the waterfront projects. This involves the rightfulness of carrying out the land reclamation, sourcing of the supply of sand and the approval of development planning. However, the economy aspect also opines that "Business opportunities such as education hubs, commercial and leisure (RII=0.8681) encourages the implementation of waterfront projects. For the social aspect, it covers the demand from the society. The respondents agree that implementation of waterfront projects has progress drastically, due to the establishment of new local trademark. "Create new icon and trademark to West Malaysia" (RII=0.8611) is highlighted as the social aspect contribution towards the implementation. As waterfront projects are a unique development with the combination of the nature resources of land and water edges, implementation of waterfront projects will uplift the establishment and the acknowledgement of the creation of the new waterfront city at large. In addition, the implementation of waterfront projects is also encouraged for the "new concept of recreation park" (RII=0.8333). The new concept of recreational parks inculcates the natural water edges and land to transform to a place for live, work and play (Urban Land Institute (2007). The last aspect for the PEST model looks into the technology. The growth of the implementation of waterfront projects was due to the "Availability of technology in land reclamation" (RII=0.8611) shows the strongest factors. Implementation of waterfront projects involves the activity of land reclamation. Therefore, the availability of the land reclamation is important in commencing the waterfront projects. However, availability of the workforces to handle, manage and carry out the technology for the waterfront project is equally important. Thus, "Availability of local workforce in professional level, skilled, semi-skilled and non-skilled (RII=0.8403) comes in as second in the technology aspect.

6. CONCLUSION

The study on the possible factors contributing to the implementation of waterfront projects in West Malaysia with the adoption of PEST model has its significant contribution that encourages the implementation. The PEST model which for part of the strategic management concept, covers the factors from political, economy, social and technology aspects. The stable political ambience in West Malaysia has contributed towards the implementation. Development of existing economy are important pull factors in economy aspect whereby the implementation of waterfront projects will only be economical feasible by incorporating the existing economy activities and at the same time the stable economy growth ensures the waterfront sustainability. Social aspect concludes on the establishment of new icon and trademark of waterfront city has leded the implementation. Lastly, availability of the land reclamation technology is the most important factors in technology aspect. With this, factors that contribute to the implementation proves that PEST model provide a wide range of aspect which involve the local and federal government input, technology input, the society demand as well as the economy performance input. In conclusion, factors that contributes to the implementation range from the political, economy, social and technology aspect and the identification on the factors has the responsibility to the advancement of the nation's development and ensuring the feasible and sustainable waterfront projects.

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