

Total Quality Management (TQM): Decision Making Process Model at Planning Phase for Housing Development in Malaysia

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Abstract— The main aim of this study is to develop a process model for decision making in the planning phase of housing development in Malaysia. This paper identifies the decision making practiced among Malaysian housing developers at planning phase and examines the three main parts in making decisions which are methods, tools and informations. The paper then investigates whether the three main parts (methods, tools and information) are strongly related to the decision making process. This paper involves the development of a theoretical model by integrates the models developed by numerous authors and researchers on the subject of decision making. The descriptive statistical technique is conducted and the regression analysis is organize using Structural Equation Modelling (SEM) with AMOS to see the relationship between the three main parts (methods, tools and information) in making the decision. Thus, this paper is beneficial as a guide for housing developers and governments in making a decision at planning phase for housing development.

Keywords— *Decision making process model, housing development, planning phase*

1. Introduction

When each and every housing development will undergo some form of project life cycle as mentioned by [1], [2] and [3]. The development process usually begin with initiation phase, planning phase, construction/execution phase, control phase and close-up phase. According to [1], [4] and [5], planning phase is the most important phase to a project success. Without a proper plan, any development project cannot be perfectly completed within the prescribed time, set budget

and desired quality. Despite, the difficulties in making a decision among the housing developer at the planning phase has made the planning task is not an easy matter to accomplish.

A poor or wrong decision making at planning phase will bring failure to the housing development project. These will lead to an issues because this situation will burden the buyers who are not only forced to bear the financial burden with the bank but also be frustrated because they are not satisfied with their house. According to [6], the Ministry of Housing and Local Government (KPKT) received numerous complaints about troubled projects, especially abandoned housing which affects the buyer in terms of financial burden, including repayment of housing loan installments and rental payments. Integration of all levels in organization especially those who are involved in decision making must work together and have mutual understanding, so that the issue may be disappearing in conflict group [7]. Therefore, this study will formulate a decision making process model at planning phase of housing development for the housing developers in Malaysia.

2. Literature Review

Decision making is the study of identifying and choosing alternatives based on the values and preferences of the decision maker [8], [9], [10]. Making a decision implies that there are alternative choices to be considered, and in such a case not only to identify as many of the alternatives as possible but to choose the one that best fits with goals, objectives, desires, values and so on. While the decision making process represents an ongoing activity of managers. Different to the common one, the strategic decision is being made in a longer time and on a detailed basis. The managers can use

models of decision making in their activity to be more effective [11]. Decision making process involves the existence of a decision problem which have be understood by the decision maker and accurately defined to find opportunities to solve it. Several problems have been identified in the way of a correct definition of the issue which is the subject of decision: paying attention to effects and not to causes, selective perception, defining problems through solutions and others [15].

There are numerous types of decision making process which come in 5 steps, 6 steps, 7 steps and 8 steps. The merges of decision making process by [10], [12], [13], [14] shows that there are six main steps in decision making process; identification of problem, development of alternatives, analysis of alternatives, selection of an alternatives, implementation of the alternatives and evaluation of decision effectiveness as shown in Figure 1.

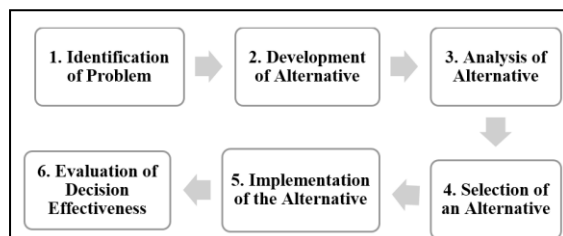


Figure 1. Merges of decision making process [10], [12], [13], [14]

Decision making method is part of these study. It includes discussion, decision tree, mathematic simulation (model), computer simulation (model), intuition, experience judgement, comparison with historical data, SWOT analysis, operation management method (location), voting/consensus, Delphi method, market/economic report, pros and cons analysis, analytic hierarchy process (AHP), multi-attribute utility theory (MAUT)-measure costs, risks and benefits and lastly financial analysis [9]. However, the methods used only for decision making at initiation phase of housing development. The purpose of each method is to provide complete information to make a better decision among the housing developers. Therefore, this paper is discussed further.

While decision making tools are divided into financial and marketing [9]. But for this paper, the addition of technical aspect is discussed since the decision making is in the planning phase of housing development.

Then, the information requires for decision making is examines. A few theories on information for decision making is identified from [1], [9], [16], [17], [18]. From all the theories, the most important information needs are location, resources and budget. However, there is no fixed statement whether the information states is needed for

decision making at planning phase for housing developments since there are no studies on that particular areas.

Planning is defined as the process of developing the project plan [3]. The plan outlines how the project is engaged to achieve the assigned goals based on discussions and decisions made on the current knowledge and estimation of future developments. Planning aims at the formulation of a time-based plan of action for managing various activities and resources to achieve specified objectives [10]. Each process in the planning phase is subdivided into activities with one group of activities per phase. An activity is an active process, such as searching, learning, doing or writing that involves the application of both mental and physical energy. Then, each activity is further subdivided into smaller, more manageable steps or components until the deliverable products and documents are defined in enough detail to allow better management control [16]. Every process provides inputs which are processed using tools and techniques to produce outputs [3]. A total of 17 processes in the planning phase is listed from [2], [3], [5], [16], [18]. All the five researchers agree that the cost planning and budgeting, risk assessment planning and construction contracts procurement planning is an important stage in the planning phase. Appendix 1 shows the framework develops from the literature review.

3. Objectives

This research aim is to develop a decision making process model at the planning phase for housing development in Peninsular Malaysia. The objectives of this research are:

1. To investigate the decision making process practiced by the Malaysian housing developers at planning phase for housing development.
2. To identify the methods and tools practiced by the Malaysian housing developers in making decisions at planning phase for housing development.
3. To determine the main types of information required by the Malaysian housing developers in making decisions at planning phase for housing development.
4. To investigate the relationship between methods, tools and information required in the decision making process at planning phase for housing development.

4. Research Methodology

The research process is carefully made by examining the issues on decision making practiced by the Malaysian housing developers. Then, via literature review, the theoretical framework is developed as Appendix 1. For data collection, the method uses are document analysis and survey method. For survey method, instrument used are sets of questionnaire that will be delivered to the housing developer around Peninsula Malaysia. The collected data then will be analyses using the Statistical Package for Social Sciences (SPSS) software. The descriptive statistical method is used to obtain results for first, second and third objectives which is about methods, tools, information and the formation of decision making model. While AMOS SEM is used to find out the relationship between methods, tools and information required in decision making process at planning phase of housing development. The hypothesis of this research are as follows:

H0a: There is no significant relationship between decision making methods with decision making process.

H1a: There is a significant relationship between decision making methods with decision making process.

H0b: There is no significant relationship between decision making tools with decision making process.

H1b: There is a significant relationship between decision making tools with decision making process.

H0c: There is no significant relationship between decision making information with decision making process.

H1c: There is a significant relationship between decision making information with decision making process.

Table 1 shows the summary of data related to research objectives. Instruments uses for data collection are literature analysis, pilot study (5 respondents from housing developer), questionnaire surveys and interviews (for validation). While methods uses for data analysis are descriptive analysis and structural equation modeling (SEM) with the uses of Statistical Packages for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) software.

Table 1. Summary of data related to objectives

OBJECTIVES	INSTRUMENT FOR DATA COLLECTION	ANALYSIS METHOD
1. To identify the decision making process practiced by the Malaysian housing developers at planning phase for housing development.	<ul style="list-style-type: none"> • Literature analysis • Pilot study • Questionnaire survey 	<ul style="list-style-type: none"> • Descriptive analysis (SPSS)
2. To identify the methods and tools practiced by the Malaysian housing developers in making decisions at planning phase for housing development.	<ul style="list-style-type: none"> • Literature analysis • Pilot study • Questionnaire survey 	<ul style="list-style-type: none"> • Descriptive analysis (SPSS)
3. To determine the main types of information required by the Malaysian housing developers in making decisions at planning phase for housing development.	<ul style="list-style-type: none"> • Literature analysis • Pilot study • Questionnaire survey 	<ul style="list-style-type: none"> • Descriptive analysis (SPSS)
4. To investigate the relationship between methods, tools and information required in the decision making process at planning phase for housing development.	<ul style="list-style-type: none"> • Questionnaire survey 	<ul style="list-style-type: none"> • Structural equation modeling (AMOS)
5. To develop a decision making process model at planning phase for housing development.	<ul style="list-style-type: none"> • Literature analysis • Questionnaire survey • Interview 	<ul style="list-style-type: none"> • Structural equation modeling (AMOS)

5. Conclusion

This study examines since there are no studies done on decision making process model at planning phase for housing development. The three main parts (methods, tools and information) in decision making process will be analyses. Hence, in order to develop the best model, each housing developers should cooperate to ensure that the model that will be developed is useful and excellent. Besides benefiting them, the government also can improve their policy so that the decision making process for the housing development become smooth, manageable, on budget and time save. Local authorities can also use the model proposed as a

guide for them in making any decision at planning phase of housing development. In addition, this study also helps home buyers to get an affordable price for their dream house.

Appendix

Theoretical framework for decision making process at planning phase.

Acknowledgments

The authors would like to acknowledge to Postgraduate Research Grant (GPPS) Vot U823 from Universiti Tun Hussein Onn Malaysia for financial support and special thanks to all members Faculty of Technology Management and Business for technical support.

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Appendix 1: Theoretical framework for decision making process at planning phase.

