EVALUATION OF VALUE MANAGEMENT AWARENESS AMONG CONSTRUCTION PLAYER'S IN MALAYSIA

***Ahmad Faris Omar, **Nadzirah Zainordin**
Centre of Building and Resilient Development (CeBRD), Faculty of Engineering & the Built Environment,
SEGi University, Kota Damansara, Selangor, Malaysia.
*farisomar@segi.edu.my
**nadzirahzainordin@segi.edu.my

ABSTRACT— *The paper investigates Value Management (VM) awareness in the context of its being a project management tool. It is hypothesized that the VM can contribute to the improvement of the construction process. VM has been proven to provide a structured framework, together with other supporting tools and techniques that facilitate effective decision-making in achieving 'best value' for clients. One of the major success factors of VM in achieving better project objectives for clients is through the provision of beneficial input by multi-disciplinary team members being involved in critical decision-making discussions during the early stage of construction projects. Findings reveal that the early initial stage is vitally important to; the design process; contract strategy; performance of time; cost and quality; and contractor health and safety performance. The aims are to study the effects of VM awareness in particularly how well the methodology addresses issues related resulting from poor coordination and overlooking of critical constructability issues amongst team members in construction projects. It is proposed that through team members' early involvement during the design stage, combined with the use of the VM methodology, particularly as a decision-making tool, better optimization of construction cost can be achieved, thus promoting more efficient and effective constructability. The expectation values of VM in this thesis of a case study are to reconcile all stakeholders' views and to achieve the best balance between satisfying needs and resources. Integration of these management tools in the process will provide a more practical and holistic solution to construction problems, particularly, in terms of inadequate financial, technical resources, and managerial expertise, and specifically for developing countries.*

Keywords— Value Management (VM), awareness, construction professional

I. INTRODUCTION

Value engineering (VE) "short explanation will be in next sub-topic", act as a management technique in order to improve client's value in projects, products, processes, and systems. It has been well known for almost 60 years this research explains by [1] as a Value management (VM) derivative from VE. According to [2, 3], the value described, VM can be the most cost-effective way in order to constantly achieve the function of the user's needs, desires, and expectations. Value Management is the main technique to eliminate the unnecessary cost that contributes to the services, products, systems and that clearly includes in the construction projects. Moreover, to guarantee a successful construction project, the most efficient and effective approach should be managed properly and apply to the speculated risk and opportunities. Some [1, 4] explained a systematic approach in managing risk must be implemented at the moment of the project start-up till the completion of the construction project. The applications have spread from manufacturing to various industries. The value methodologies have been concentrated upon products, facilities, and projects, including the construction industry.

Defining awareness in value is difficult because it has multiple interpretations [2, 5]. Basically, all opinions are the same regarding VM, it is described in different words, there are numerous explanations of value management. "Value Management" is commonly described as: "Value management is a systematic and structured process of team-based decision making. It aims to achieve the best value for a project by defining those functions required to achieve the value objectives and delivering those functions at the least cost (whole life cost or resource use), consistent with the required quality performance" [6, 7]. To achieve value for money by providing all the necessary functions at the lowest total cost consistent with the required levels of quality and performance implementation of a structured, and analytical process have to be conducted (VM) The Australian and New Zealand Standard AZ/NZS 4183:1994. VM act as a systematic, multi-disciplinary effort focused on analyzing the functions of projects, Norton (1995:11) The purpose is to achieve the best value at the lowest life cycle costs.

In spite overall, Malaysian construction firms are still dealing with great potential risks and problems. This risk will be experienced by local construction companies when they expanding their projects. The practices of VM can be an essential device in order to improve the construction industry of Malaysia [2, 5]. By motivating regional construction experts, VM starting to utilize the progression anticipated in cost keeping but without limiting on quality. Without the comprehensive upgrade, VM can save the stakeholder's time and money and better changes or re-direction to the project can be met. Supported by others [2, 8], the most effective device to enhance the strength of cost-saving, improve the quality and increase performance productiveness is by implementing VM. VM framework described that VA is a "philosophy being implemented by the utilization of a particular technique, a set of knowledge and a group of acquired skills". VM gives a successful technique to incorporate this self-discipline and events on achieving common goals by using the prepared techniques [10]. Consequently, Miles defines it as "the modern arranged approach that is able to improve the efficiency of an ability system". VM has been recognized within the past several years as enhancing the value given to the consumer, which is a generally significant product in the effective control over tasks development [14]. Overall VM's main objectives are to improve the client value in any type of project, products, processes, and systems [8].

According to the knowledge management framework [14] in Figure 1. Thus, there is no group or team that motivates to put ahead of his or her suggestions to creates cost-saving or reduce development time. Hence, the analysis to figure out the technique that has to be accepted by the stakeholders on the awareness and application of VM since

they are revealed to accelerate the technical changes and buildability.

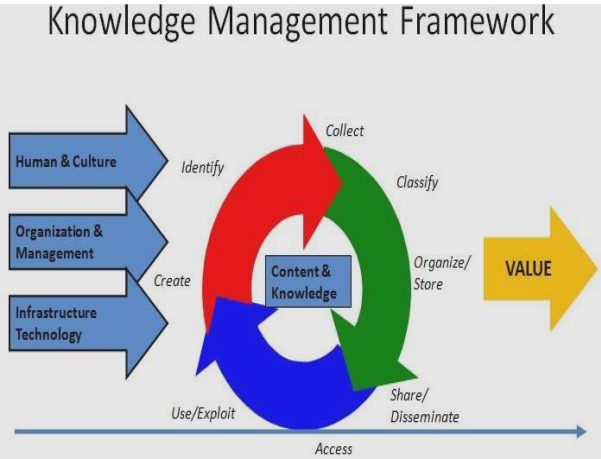

Figure 1: VM Knowledge Framework

Other numbers of ways to describe Value Management as an effort to achieve the best value in the product, system, or services by providing the essential functions at the lowest cost for the project [8].

"the systematic effort directed at identifying the functions of systems, types of equipment, facilities, procedures, and supplies for the purpose of achieving the essential functions at the lowest cost consistent with the needed purpose, performance, reliability and maintainability." As Australia's Department of Defence quoted in reference book DRB 37 defines Value Management. [4] indicated Value Management, that:

a. Producing a job plan and eliminate unnecessary costs.

b. A group of multi-disciplinary teams dealing with qualified designers, project elevators, and Value Management Consultants.

c. Overall costs of owning and operating services inspect using project Life cycle.

II. RESEARCH BACKGROUND

Defining awareness in value is difficult because it has multiple interpretations [7]. Basically, all opinions are the same regarding VM, it is described in different words, there are numerous explanations of value management. "Value Management" is commonly described as:

- "Value management is a systematic and structured process of team-based decision making. It aims to achieve the best value for a project by defining those functions required to achieve the value objectives and delivering those functions at the least cost (whole life cost or resource use), consistent with the required quality performance" [1, 7]
- To achieve value for money by providing all the necessary functions at the lowest total cost consistent with the required levels of quality and performance implementation of a structured, and analytical process have to be conducted (VM) [9, 11]
- VM act as a systematic, multi-disciplinary effort focused on analyzing the functions of projects, Norton (1995:11) The purpose is to achieve the best value at the lowest life cycle costs

The types of classification are related to the value concept improvement, at the same time maintaining the quality by [9, 14]:

- Improving - process with the same cost
- Improving - process with a decrease of cost
- Improving - operation considerably with the small cost inclusion
- Decreasing - price with the same function

At this moment, practices that are growing continuously; Value Management (VM) that concentrates on improvement of value in order to offer the consumer, commonly developed around the world (Fong, 2004). Specializes in value cost and achieves the greatest cost, quality, and time by providing some time frame to enhance the value for money in the project, (Kelly, 2004) and (Ashworth, 2000) described, with VM consideration it will lead to projects achievements.

Following characters VM:

- A specific procedure
- Specializes in project learning
- Based on a groundbreaking problem dealing with strategy
- Specializes in the procedure (What must do and What is not to do)
- Specializes in achievement value
- Established based on the integration

Benefits associated with VM concentrated towards getting maximum possible value from an entire project. The systematic researches of features, which identify VM techniques, allow value improvement [4][13]

Application to authorities projects engaged to VM:

d. Make sure projects achieve their objectives project by setting up a briefing [2].

e. Resolving situations and enhancing communication[2].

f. Enhancing design remedies [2].

g. Developing and investigative alternatives for qualified factors [2].

For almost sixty years ago management approach has been recognized to improve client value in projects, products, processes, and systems, it is known as Value Engineering [8, 12]. In spite of their permanence, the extents of the techniques are useful for the construction expert's practices. In other's work [4, 5, 6], the method based on research Value Management (VM) is a rigorous, systematic, and progressive with multi-disciplinary technique to achieve the value for each project, products, facilities, and systems exclusive of compulsory performance. This can be a creative technique of approaching together with obtaining customer and stakeholder's requirements.

By the construction experts (clients, project managers, designers, engineers, quantity surveyors, and owners) proposed tasks traditionally appear to be fragmented

initiative. Most of the time, the parties active in the planning and design stage are more likely to work in "silos"[11, 14] Value Management specifies a very successful instrument, it is including the various construction experts and parties to work on one common goal and embracing extremely organized technique. A great deal of cross-functional discussion content and boosting communications along with a better understanding required performance standard of tasks underneath study.

Ten (10) mandatory characteristics of value Management practices, Bone and Law [2][9][16]:

1. Sustained by senior management.

2. Creates a program of work that is understandable.

3. Comprises a methodized team-based workshop.

4. Controlled by a qualified value specialist.

5. Employs a variety of synthetic tools.

6. Comply with the organized 'Job Plan'.

7. Creative brainstorming is required.

8. Customer's involvement.

9. Supplier's involvement.

10. Causes study conditions to achieve sustained improvements.

Generally, in order to enhance performance to generate maximum value and brings benefit to the clients, the needs for VM are compulsory in Malaysia [6, 7]. The client's awareness of developing and presented remedies need to be merged into the processes of the Malaysian construction industry. In solving project goals, scope and needs consideration after concerns need to be analyzed by specifically guide in the use of VM to the concept stage. On the other hand, the VM technique should be implemented essentially in order to create the task's reasoning and enchanting it into a justification for various alternatives.

Regardless, proof by [7, 8, 14] says that VM is still at the beginning level in the Malaysian construction industry. Mythical works demonstrate that some firm in Malaysia has been implementing ideas of VM in their job functions [6].

III. RESEARCH METHODOLOGY

The assessment of application VM theory and how this revolves around the construction industry is the goal for this research to be established. This research will adopt a quantitative methodology, however, the quantitative strategy is definitely the major method used for performing this research; specifically utilizing a circumstance study, performing focus on the VM team, and development of a VM workshop strategy specifically aimed at the standard situation in the Malaysia construction industry. VM based on design management constraints and the principal for this research study includes making decisions, project team procedure, life cycle value, and customer value systems. In order to integrate these issues, a distinguish and concentrate potential benefits associated using related to cost optimization and value-adding in construction projects VM as a right tool to facilitate decision making.

The aims are to study the effects of VM awareness in particularly how well the methodology addresses issues related resulting from poor coordination and overlooking of critical constructability issues amongst team members in construction projects. It is proposed that through team members' early involvement during the design stage, combined with the use of the VM methodology, particularly as a decision-making tool, better optimization of construction cost can be achieved, thus promoting more efficient and effective constructability. The expectation values of VM in this thesis of the case study are to reconcile all stakeholders' views and to achieve the best balance between satisfying needs and resources. Integration of these management tools in the process will provide a more practical and holistic solution to construction problems, particularly, in terms of inadequate financial, technical resources, and managerial expertise, and specifically for developing countries.

This research will be conducted based on the population for this research is based on CIDB who had registered for the green cardholder. Local Personnel carrying 671,403 are the representatives from every level of experts who participates in the construction industry of Malaysia. From the reference of the population from CIDB, this research required almost 400 numbers of a sample size to produce accurate data. Referred to, Krejcie and Morgan table.

From this exploration, just 150 out of 500 respondents reacted which just contain around 30% of the aggregate number of surveys being dispersed. In that capacity, the respondent rate for this exploration was adequate by picking the nearby workforce as the aggregate development specialists, which enlisted with CIDB, Malaysia. The poll is partitioned into the point of the examination is to survey the level of mindfulness in an association and respondent viewpoint towards the ramifications of VM at configuration arrange.

IV. RESULTS AND FINDINGS

Table 1 shows the result from 150 questionnaires that have been responded to by the respondents. Which from the 5-point Likert scale all the reading having more than the minimum average reading which above 3 points. From 10 questions the highest reading goes to Q7: Do you think VM is part of the tools to solve immediate and high priority problems? With the result, it's 4.30, and follow by Q6: Do you think VM should be implemented in your organization? And Q5: VM can be effectively applied to the organization project? With 4.27 as a result.

In table 1 it is shown that the lowest reading goes to Q2: Do you believe that VM is a construction process? With the reading above minimum point is 4.12. Follow by second-lowest reading goes to Q10: Does VM eliminate unnecessary costs and ensure better value for money? With the reading 4.13

V. CONCLUSION

The VM philosophy has demonstrated a noteworthy commitment towards venture target accomplishment. Thus, partners must know about the effect of VM commitment. Henceforth, they need to receive VM as one of the Group's critical thinking techniques, in this manner, with the goal that it is an obligatory prerequisite for a venture of a particular size. It likewise encourages cooperation, agreement comprehension, and basic leadership intending to specific issues towards getting venture destinations by using a sorted out and deliberate approach. VM procedure has demonstrated {that this offers proficiency with a substantially more complete, deliberate, and proactive

system in running an assignment and especially decreased plan advancement with enhanced information of venture brief and customer's necessity.

TABLE I. **THE AWARENESS ON PRACTICES OF VALUE MANAGEMENT AMONGST CONSTRUCTION INDUSTRY EXPERTS IN MALAYSIA.**

No	Question	Mean	Std. Deviation
1	In general, do you believe that VM is a construction system?	4.25	.919
2	Do you believe hat VM is a construction process?	4.12	1.003
3	What is your perception on attending any VM course?	4.19	.932
4	VM is applicable to your day - to - day job activities?	4.25	.853
5	VM can be effectively applied to the organization project?	4.27	.866
6	Do you think VM should be implemented in your organization?	4.27	.835
7	Do you think VM is part of the tools to solve immediate and high priority problems?	4.30	.775
8	Is your organization interested in VM?	4.26	.839
9	Participation of VM exercise should implement at design stage?	4.17	1.058
10	Does VM eliminates unnecessary costs and ensure better value for money?	4.13	1.028

The development industry will responsive towards the proposed VM, in this way, prompting the setting up of critical help because without bounds execution. The review perceives the proposed VM, has a hopeful impact as it gives a vehicle to building up the venture method of reasoning. This likewise delivers alternatives, which will profit the proceeding with the eventual fate of the development business in offering better esteem. The help of inside the organization division will offer the beginning and quality required for the further use of the VM procedure in the development business wherein the support towards VM technique will prompt expand development.

REFERENCES

[1] Abdul Ghani, M. A. (2004). Value Management (VM) Practice in Malaysia: The Principles and Method. Unpublished MBA, International Islamic University Malaysia, Kuala Lumpur.

[2] Ashworth, A., & Hogg, K. (2000). Added Value in Design and Construction. Essex: Pearson Education Limited. BERNAMA. (2002). KLIA Benefits from Value Management. New Straits Time,

[3] Che Mat, M. M. (1999). Value Management: Towards Achieving Better Value for Your Money. Johor:

[4] Professional Centre for Value Management Sdn Bhd.

[5] Che Mat, M. M. (2002). Value Management: Principles and Applications. Petaling Jaya: Prentice Hall. Connaughton, J. N., & Green, S. D. (1996). Value Management in Construction: A Client's Guide. London.

[6] Jaapar, A. (2006). The Application of Value Management in the Malaysian Construction Industry and Development of Prototype Value Management Guidelines. Universiti Teknologi MARA, Shah Alam, Selangor.

[7] Jaapar, A., & Torrance, J. V. (2005). Value Management and its Current Status in Malaysia. The Malaysian Surveyor, 39.2(February), pp. 14-25.

[8] Jaapar, A., & Torrance, J. V. (2007). Prototype Value Management Guidelines for the Malaysian Construction Industry. Paper presented at the QSIC 2007- Enhancing & Empowering the Profession, Crown Plaza Mutiara Hotel, KualaLumpur, Malaysia

[9] Jaapar, A., Torrance, J. V., & Yusuf, F. (2004). Preliminary Survey of Client Satisfaction & VM Application in the Malaysian Construction. Paper presented at the MiCRA 3rd Annual Conference, Langkawi.

[10] Kelly, J. R., Male, S., & Graham, D. (2004). Value Management of Construction Projects. Unpublished manuscript, London.

[11] Jaapar, A. (2004). Preliminary Survey of Client Satisfaction & VM Application in the Malaysian Construction. Proceedings of MiCRA 3rd Annual Conference organised by UniversitiTeknologi Malaysia in Langkawi 4-5 May.

[12] Jaapar, A. (2006). The Application of Value Management in the Malaysian Construction Industry and Development of Prototype Value Management Guidelines.Doctoral Dissertation, Faculty of Architecture, Planning & Surveying, UniversitiTeknologi MARA, Shah Alam.

[13] Jaapar, A., S. Ismail, et al. (2001). Value Management: Overview and Process. Process. Process._Proceedings of the Seminar Future Trends in Construction & Manufacturing Towards Borderless World,organised by Institute of Value Management Malaysia and Construction Industry Development Board, Grand Season Hotel, Kuala Lumpur 9-10 October.

[14] Jaapar, A., J. B. Torrance, et al. (2003). A Review of Value Management and the Malaysian Construction Industry: From the Client's Perspective. Proceedings of the MiCRA 2nd Annual conference organised by UniversitiTeknologi MARA, Grand Blue Wave Hotel, Shah Alam 8 October .

[15] Jaapar, A. and J. V. Torrance (2005). Value management and its current status in Malaysia, The Malaysian Surveyor 39 (2) February: 14-25.

[16] Karim, S. B. A. (1999). Value Management in the Malaysian Construction Industry: Application during Design Stage, Kuala Lumpur, Universiti Malaya.