SUSTAINABILITY CONCERN IN VALUE MANAGEMENT: A STUDY ON GOVERNMENT’S BUILDING PROJECT

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ABSTRACT

Active promotions of sustainable development by government and non-governmental organisations have proved that Malaysia is committed to reduce the nation’s carbon emission intensity by 40% per GDP by 2020. The building industry was identified as one of the biggest resource user, therefore sustainable building is seen to be the effective way to reduce it. To date, only 6 government buildings were certified as ‘Green Building’ which did not reflect to the initiatives and policies made by the government in sustainable practice although it has already begun since 1979. Value Management (VM) has been recognized by Malaysian Government as a strategic planning tool and it has been practice ever since and known as a suitable mechanism to deliver sustainable construction project. In order to propose the idea of integrating sustainability in VM practice, a field study was conducted to VM practitioners, which involve in government-building projects. The survey was to investigate sustainable consideration in the existing practice of VM. The aim of this paper is to investigate sustainable consideration in the existing practice of VM. This study found that the sustainable knowledge between VM practitioners and the attention given to the project sustainability were only at moderate level. This study provides evidence to suggest that sustainable concern is not one of project’s priorities, which could prove the need to integrate sustainable concern and VM practice in buildings project to enable better involvement of sustainability into present governments’ practice.

Keywords: Sustainability, Value Management, Malaysian Government, Building Project
INTRODUCTION

Planning and developing infrastructure, buildings and facilities need to be handled in coordinated manner to reduce the impact of construction and operations to the built environment. Government plays a big role when dealing with sustainable matters. It may require different approach to design and new ways of looking at the appropriateness of what is being built. Numerous tools and techniques can be applied to better deal with this shift from current practice to resource efficient approaches and new system thinking within the design and construction process to better comprehend the existing practice in government. Value Management was first applied in Malaysia in 2009 and has been mandatory to be practiced to all government projects value more than RM50 million above to ensure value-for-money for public investment, creating a strong link between funding and outcomes (10th MP, 2010). As a developing country, the construction industry is considered one of the biggest factors effecting on the environment compared to developed countries, due to the fact that developing country is still under construction. Hence, the sustainable construction is a concept to be adopted by the government for developing strategies and plans to improve the consideration of sustainability in construction practices.

The knowledge and awareness are the main factors in starting up the sustainable movement, then comes interest and demand, and follows with implementation. Through personal commitment to it, then only behavior changes will come about (Du Plessis, 2007). Hence to encourage a person or organization to commit to something, their personal values must be satisfied. Through studies conducted, the sustainable concept can be economically viable (Bartlett & Howard, 2000; Bogenstätter, 2000; Heerwagen, 2000; Hydes & Creech, 2000; Langdon, 2007). Constructions practitioners in this knowledge need to be conveyed to encourage the acceptance. Negative perceptions and attitudes to build sustainably are still applied but these actually the ignorance and represent their genuine concerns about cost, value and risk and sometimes from bitter experience. Only by practicing and implementing the concept, people will learn from experience and start making improvement (Abidin, 2010) and from effective combinations of strategy, design, production, handover and management it will result a better outcomes (Bordass, 2000). Furthermore, Hayles and Fong (2008) proposed that VM can be used as a tool to develop knowledge and relationships within the construction and building industries to integrate and climate change adaptations as ‘embedded practice’ rather than innovation.

Thus, the aim of this paper is to investigate sustainable consideration in the existing practice of VM. The purpose of this paper is to determine the sustainability consideration in the development of the government project among the value management (VM) practitioners. The survey and field study was conducted to VM practitioners who involve in the government-building projects in order to propose the idea of integrating sustainability in VM practice.

VALUE MANAGEMENT (VM) IN MALAYSIA

Hammersley (2002) indicated that the use of Value Management (VM) has been inclined within construction industry in order to support project decision making, and at the same time achieving ‘best value’ for clients’ (Mohamad & Coffey, 2010; Shen & Liu, 2003). Increasingly many organizations are adopting VM in a range of wider management and boardroom issues, such as strategic planning, scenario planning, business process improvement, and business continuity, stimulating innovation and change management. In Malaysia, VM was introduced to the Malaysian construction industry in 1986 (Jaapar & Torrence, 2005) and only by the end of 2009, the Government of Malaysia decided to imposed VM studies to all government projects and programs which value MYR50 million (USD 16 million) and above (EPU, 2009). VM was considered as a strategic planning tool, which will ensure projects to be delivered at optimum cost, value for money, and meets it performance level. It will help the government to find new ways, alternatives and proposing best solution from the conventional ways. VM has now become a management tool in Government of Malaysia practice for project implementation since it is accepted. Thus, VM practice in Government projects will provide
several benefits such as (EPU, 2011):

a) The project meets the needs of stakeholders and accepted by the public;
b) Obtaining an efficient capital expenditure;
c) The functions and qualities of the project are met;
d) Ensure that the projects undertaken achieve value for money, and
e) Increase the level of transparency, coordination and understanding of implementation of a project.

Based on the understanding, VM give better decision-making, increased effectiveness, improved internal communication and is a value enhancement technique therefore it definitely benefited to the government sector if conducted appropriately and contributed to the project’s achievement.

VALUE MANAGEMENT (VM) AND SUSTAINABILITY

They are various ways with different tools and techniques which sustainable concept can be practiced in a construction project. The idea of incorporating sustainability issues into VM studies is not a new one, as it has already been proposed by a number of scholars (e.g (Abidin & Pasquire, 2005; Al-Yousefi, 2008; Alexandre et al., 2007; Saleh & Taleb, 2010; Yeomans, 2002)). VM strives to achieve optimum value based on the projects objectives; while sustainability will try to achieve value not just economically, but as well as environment and the social aspects of the projects. The concept of integration according to Abidin and Pasquire (2006), it refers to the combination of sustainability aspects into VM practices to enable those issues be considered and integrated throughout the whole process and decision-makings in VM. Further, Abidin and Said. (2006) mentioned that value management possesses many qualities which can be utilised to enhance the incorporation of sustainability issues within project plans, designs and decisions. This is simply because in a construction project, value management are carried throughout the project to check that the project will deliver value by probing the assumptions on which the project is based and seeking opportunities to add value.

Value management is a project planning technique used in construction projects to improve outcomes and provide best value for money. It is provides a clear and logical sequence which can be a highly effective tool applied on all types of projects where other problems and issues require well founded and considered resolution and a high level of acceptance by all stakeholders. According to Abidin and Pasquire (2006), the special characteristics and processes inherent in value management makes it a useful tool in delivering sustainability, in that value management offers opportunity to include sustainability issues early in the project where its impact will be greatest. The series of workshops carried out during value management study ensures that sustainability agenda does not fade away as projects become more complex. Furthermore, Yeomans (2002) stated that VM as the most robust mechanism to deliver a balance concept of the three interconnected dimensions of sustainability, i.e environmental, social and economic.

Having realize the existence of several barriers to integrate sustainability in VM from Abidin and Pasquire (2005) study, it may suggest that these barriers might exist in the current practice of VM in government projects. Hence a study was conducted to investigate the dissemination of sustainability knowledge and sustainable consideration given to the project among VM practitioners, presenting new insights and adding to the existing body of knowledge.

RESEARCH METHOD

Field studies were undertaken to aid the understanding of existing practices of VM in its attitude towards sustainability. VM characteristics have made it as a prospect for an effective method to incorporate sustainability issues in government projects. Furthermore, from the
Literature it is acknowledged that the existence of sustainable policies, legislation and guidelines has been established in Malaysia back in 1970’s. Based on this, sustainability is expected to be inherent in government practices, which in this case in VM studies. Saleh and Taleb (2010) claimed that integrating sustainability with VM practices has not yet been widely put into practice around the world, as it only been proposed in the literature “theoretically”. As the concept is relatively new to construction industry in Malaysia, it is more towards understanding the existing situation. Although this study may lacks practical application in the short term, but it may builds a foundation for knowledge and broad understanding that has an impact on other issues as well. Therefore quantitative approach was adopted. The respondents were identified as the VM practitioners involve in VM lab. The primary use of sampling in quantitative studies is to create a representative sample that closely represents features of interest in a larger collection of cases (Neuman, 2011). The questionnaire was divided into three (3) parts which are:

Section A: General information (general information);
Section B: Value Management and Sustainability (respondent's knowledge in VM concept and approach, sustainability issues and design, their knowledge in sustainable policies and project development planning guidelines);
Section C: Project Sustainability (3 main themes of sustainability which are environmental, social and economic).

Five-point rating scales were used to rate project sustainability in the VM lab ranged from 1 (very high) to 5 (very low) with added a not applicable (N/A) option.

The Value Management Section in Economic Planning Unit (EPU) has been very cooperative to provide information regarding the lab activities– when, where and which project will be conducted during the selected period of time. The survey was conducted from January 2013 to March 2013, which considered the best and peak time for questionnaire distribution due to VM labs demands were usually high at early of the years. During this period, there were a lot of VM labs conducted but only 4 labs were fit to the researcher criteria, which are:

a. New projects proposal for government building, and
b. Projects value more than RM 50 million and above.

Therefore to learn about the existing practice of VM in government projects for sustainable consideration, the target group for the survey is the person who involves and participates in the lab. The questionnaire was designed to collect data from the targeted respondents based on their self-evaluation of projects sustainability and their knowledge in sustainable issues within VM practice. Respondents were selected from 4 VM labs. Out of 120 questionnaires distributed, 109 were returned, 94 were completed and usable for data analysis which gives 78% of response rate. The questionnaire was distributed to the respondents administered by the authors. The Value Management (VM) lab was conducted by government department, the Economic Planning Unit, Prime Minister Office (EPU, PMO). The best-suited method for data collection is questionnaire survey where used to investigate the sustainable consideration in the existing practice of VM which focus on government building projects. The concept of integrating sustainability with VM is new in Malaysia, thus the field study was conducted to investigate the existing practice of VM in Malaysian Government projects in addressing sustainability issues. The study was to explore with a sample of VM practitioners to investigate sustainability consideration in Government projects.

FINDINGS AND DISCUSSION

94 responses were analyzed using Statistics Package for Social Science (SPSS) software to ensure the aim of this paper is accomplished.

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<th>Table 1: Respondents’ Profile</th>
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<td>Items</td>
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<td>Work Experience (years)</td>
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Table 2 presents the profile of the respondents for this study. Most of the respondents (31.9%) have working experience from 6 to 10 years while the least respondents have more than 20 years experience (18.1%). Most of the respondents (72.3%) were degree holders, followed by Masters holders (12.8%) and Diploma’s holders (10.6%). Among others, there were 2 respondents hold AR (2.1%), and 1 respondent (1.1%) holds HND qualification, HSC qualification, and STPM certificate respectively. Most of the respondents (54.3%) have engineering background which consists of electrical, civil, and mechanical engineering. However, 13.8% of respondents did not have technical education background such as economics (3.2%) and 1.1% (1 respondent) for Business Administration, Information and Communication Technology (ICT), Political Science and Psychology studies respectively. It shows that the engineers (36.2%) dominated the VM lab, followed by stakeholders (19.1%), architects (16%) and the least is contractors (3.2%). The stakeholder for this study is represented by end user which is affected by the project directly, Central Agency which approved the project budget allocation, local authorities, implementing agencies or utility providers. The reliability of the data is assessed according to the experience of the respondents in the involvement with the VM lab. Therefore, this study found that 2 respondents have participated more than 10 labs while 6 responses that they have participated between 6 to 10 labs. Majority of the respondents (50%), have involved less than 5 VM labs and quite a number (41.5%) of them have never participated before.

Participant’s Role and Knowledge

The VM participant’s role and their knowledge in value management and sustainability is assessed in order to determine the level of VM and sustainability knowledge. A five level scale ranged from 1 (very high) to 5 (very low), was used in order to measure VM participant’s role and their knowledge. The knowledge in Value Management (VM) and sustainability is measured based on the knowledge or understanding in concept of Value Management, Value Management approach project in government, sustainable building, policy or legislation related to sustainable aspects, and guideline for preparing project development plan.
Figure 2 illustrates the knowledge of the Value Management (VM) lab participants about the VM and sustainability. This study found that the role of the participants in VM labs consist of client, stakeholder and team member have moderate knowledge and understanding about the VM and sustainability. The participants of VM labs have moderate knowledge and understanding in value management (VM) concept, value management (VM) approach in government project, sustainability issues in the project development, sustainable building or green building design, policies related to the sustainable aspects, and government documents or guideline for preparing the project development plan.

This study found that the participants of VM lab comprises of client, stakeholder and team members have moderate knowledge and understanding towards the VM and sustainability in Malaysian construction projects. This study is supported by Abidin and Pasquire (2005), mentioned that the there are two types of challenges in integrating the sustainability into the VM namely practical behavior and behavioral barriers. Abidin and Pasquire (2005) identified that the challenges to integrate the VM and sustainability in the construction projects are lacking of sustainability awareness, misperception about integration of sustainability and VM, Passive behavior among VM practitioners, and absence of formal guidelines.

Besides, this finding shows that the sustainable concern is not one of the priorities even though they aware about the needs and importance of considering it in conducting the construction projects in Malaysia. It is important for the practitioners to understand that the VM and sustainability should be complement to each and not to be separated. This study found that the practitioners perceived that the VM and sustainability as separate entity.

CONCLUSION

The application of VM during the project development may be utilized to improve building sustainability. The appropriate approach of sustainable development as a process is able to balance and integrate social, economic and environmental sustainable values. In order to find an appropriate sustainable solution, any decision that is made must therefore add value (reduce risk) across all three dimensions namely sustainable themes. VM offers a method for stakeholders to achieve a better-built environment and improve the adopted construction process. It can be used to ensure the incorporation of principles of sustainable construction into decisions that affect not just new construction projects but also the efficient use of whole resources. VM has an abundance of techniques that are used to achieve the best solution to satisfy the client’s needs at the lowest cost possible. VM offers a method for stakeholders to achieve a better built environment and improve the adopted construction process. It can be used to ensure the incorporation of principles of sustainable construction into decisions that affect not just new construction projects but also the efficient use of whole resources. As conclusion, by committing to sustainability during value management (VM), it could lead to the vision of generating good economic return whilst delivering accountability and excellence in social and environmental performance.
REFERENCES


