THE APPLICATION OF VALUE MANAGEMENT ON PRIVATE PROJECTS

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Introduction

The concept of value management (VM) was first introduced into various organisations in Malaysia, both public and private, in the late 1980s and early 1990s [1] of which the idea of implementing it has been promoted by various concerned parties until today. Countless efforts were made in spreading and disseminating the knowledge, understanding and practice of VM through talks, seminars, and conferences. It has been widely practiced in the construction industry from buildings to offshore oil and gas platforms [2][3]. It was introduced to reduce unnecessary cost through a systematic process and such cost can be eliminated through creative thinking without compromising the functionality and performance of the product itself [4]. Nevertheless, VM is not just concerned about cost, but also about the relationship between function, value, quality and cost, with functional analysis as its principal component [5][6].

Seminal growth of VM

Founded in the manufacturing industry in the 1940s, VM has been considered to be an emerging paradigm and is currently widely accepted in the management of construction projects [7]. It is important to realize that researchers and practitioners in VM have been working intensely to propagate the knowledge and practice of VM for the benefit of the industry. VM is important because it increases the benefits and decreases the cost, thus delivering the best solution and continuously providing good value for the projects, an essential concern to most clients or customers [8]. Besides, VM has been regarded as an up-and-coming concept [7] not only in the various market sectors of the construction industry but has attracted other industries such as automotive, aerospace, construction, petroleum, process control, defence, chemicals, services, healthcare, food, communications, consumer products and government [9][10]. Significantly, VM has been recognised through the Australian and New Zealand standards, AS/NZS 4183-1994 and followed by the relatively new European standard BS EN 12973:2000.

Promoting VM applications requires continuous supports from the government [11] besides the establishment of a set guideline of its implementation. By and large, in 1999, the former Minister of Finance, Tun Daim Zainuddin, has called for attention to the implementation of VM in the construction industry [5]. Consequently, the Institute of Value Management of Malaysia (IVMM) was founded in 2000 to promote the implementation of VM in Malaysia to both public and private sectors, as well as spread the awareness of the benefits and importance of VM application in Malaysia. VM institutions are established not only in Malaysia but in many other countries as follows:

1) Society of American Value Engineers (SAVE) – USA
2) Society of Japanese Value Engineering (SJVE) – Japan
3) Society of Korean Value Engineers (SKVE) – South Korea
4) Canadian Society of Value Analysis (CSVVA) – Canada
5) Institution of Value Management (IVM) – UK
6) The Institute of Value Management Australia (IVMA) – Australia
7) Hong Kong Institute of Value Management (HKIVM) – Hong Kong
8) Value Management Institute of Taiwan (VMIT)
9) Indian Value Engineering Society (INVEST) – India
10) Himpunan Ahli Value Engineering-Indonesia (HAVE-I)

The Malaysian government supports the implementation of VM by making it compulsory for public projects valued RM50 million and above to implement VM. It took place when the Economic Planning Unit (EPU) and the Construction Industry Development Board (CIDB), with the assistance of IVMM, have started to initiate the effort to implement VM for public projects. With this, in December 2009, EPU published a circular entitled “Value Management Guidelines Circular 3/2009” to implement VM [12]. This circular was then replaced through the publication of VM implementation guide for government programmes and projects in 2011. Additionally, the Public Works Department (PWD) has released its own guideline for public projects in 2013, clarifying the VE governance, framework and study interventions focusing on PWD’s work process [13]. This guideline responds to the implementation of VE, in line with the EPU guideline.

VM in private sector

In Malaysia, the Malaysia Airports Holdings Berhad (MAHB) was the first organization to introduce its own guideline in implementing VM. Published in 2008, the manual outlined the VM methodology framework and the organisational structure for its implementation as a result from successful VM studies conducted for selected MAHB works, supplies, systems and facilities above RM300,000. Besides that, Tenaga Nasional Berhad (TNB) also implement VM for projects and procurement amounting RM10 million and above.
Figure 1: MAHB’s VM Manual

Figure 2: VM framework

Figure 3: Organisational structure for VM implementation

The key to successful VM application lies with the selection of workshop participants and the involvement of the stakeholder. It takes time and effort to bring together the expertise to conduct an in-depth review using the VM Job Plan. A good rule set by MAHB is that there must be multi-disciplinary personnel with equal or better qualifications than the original design team, which may consist of experts in planning, operation, risk management, financial management, procurement, human resource and other necessary internal and external stakeholders including the end users depending on the area of study [15]. Additionally, clear objective of the VM study as well as client supports and participation during the workshop will guarantee the successful VM implementation [16]. A previous study of a retail project at Kuala Lumpur International Airport (KLIA) indicates that the objective of the VM workshop was to optimise the space in line with the cost. During the project briefing, the VM team was given the task to look into the possibility to increase the commercial revenue from 30% to 50%, increase the amount of spending per passenger, limit the credit risk borne by the management of KLIA, maximise the retail space; improve retail management and; improve retail and product placement to maximise sales [13]. From the VM exercise, the VM team has significantly achieved savings by eliminating the unnecessary costs of RM8 million whilst providing the KLIA retail spaces an optimum outcome from the specified requirement.
Figure 4: Outcomes of VM exercise for KLIA retail

Another successful project is the upgrading and enhancement of washrooms at main terminal building, KLIA, for which the VM studies was commissioned to achieve the set objective of minimising odour in line with cost and hygiene as well as enhancing the image of the airport itself. The team conducted an initial study by comparing various places especially the major commercial and shopping complexes in Kuala Lumpur prior to the workshop. The VM exercise reported savings from the elimination of unnecessary costs of RM1.9 million [15].

Figure 5: Outcomes of VM exercise for KLIA washrooms

Studies have also shown that VM exercises contributed to the improvement of private construction projects. Besides the usual savings from the successful elimination of unnecessary costs, VM exercises also provided improvement in terms of functions and spaces of the facility under study through the utilisation of important techniques namely, Job Plan, brainstorming and Functional Analysis System Technique (FAST) diagram. However, the VM exercises also face challenges to the implementation for these projects, particularly issues relating to the lack of knowledge and experience in VM workshop, lack of commitment from project participants, insufficient data and also lack of communication and coordination.
Meanwhile, in the Malaysian automotive industry, VM (or value engineering, VE, which is commonly known in this industry) is applied in the manufacturing processes to reduce production costs and shorten the manufacturing cycle as well as in product development, purchasing of raw materials, purchasing of parts/components, and project development. For example, VE has been regularly conducted particularly by an automotive component manufacturing company, looking at cost optimisation for procurement of materials, enhancement of product’s/ project’s function and quality, and improvement in production processes. The employees of this company perceived VE as a routine activity for product and project development. The application of VE was also emphasized in the mission and quality objectives of the company, for which it is promoted as a culture of always trying to reduce costs and the need to continuously enhance business process using VE.

References


Conclusion

VM offers more than just merely cost management but looking at holistic view of a project. It also proves that VM exercise do away with the stereotypical image of a cost-cutter, in that the workshop may also result to additional costs incurred due to certain additions to the project through the improvement of the functions and spaces. Additionally, VM must not only be practiced by selected group of people but nurtured as a culture within organisation in realizing its indispensable transformation. VM has been introduced into the country three decades ago and various guidelines and manuals have been made available for use for almost a decade, the industry is indeed has achieved certain level of maturity.