

## The Awareness Level on the Value Management (VM) Implementation among Developers

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### Abstract

The construction industry is the primary contributor to the growth of other sectors within a country. Despite the successful completion of several construction projects, awareness of Value Management (VM) development remains limited. VM is a practice that focuses on ensuring that planned projects can achieve their objectives, particularly in terms of cost, schedule and quality. VM is still in its early stages of development and implementation within the Malaysian construction industry. Due to this scenario, the aim of this research is to expand awareness of the implementation of VM among developers and encourage developers to apply VM to their projects. Hence, the objective of this research is to identify the level of awareness of VM implementation among developers and to determine the challenges that developers faced while implementing the VM method. A quantitative approach was employed, distributing 148 questionnaires, of which 102 were completed and returned. The respondents for this research are among the developers in Negeri Sembilan and Johor who are registered under the Real Estate and Housing Developers Association Malaysia (REHDA). The results indicate that the respondent is aware of the existence of VM and understands the benefits of VM. The highest challenge developers faced was a lack of professional practice in VM. Ultimately, this research paper aimed to help enhance the execution of VM within Malaysian development firms.

**Keywords:** Awareness, Challenges, Strategies, Value management, Developers.

### Introduction

Value management (VM) plays a vital role in construction projects by effectively reducing costs and improving the overall functionality and quality of the project. It is a practice that focuses on ensuring that planned projects can achieve their objectives, particularly in terms

of cost, schedule and quality (Malek et al., 2023). This service involves evaluating and auditing all decisions made by clients or customers against their value system to optimize the functionality of a project from its inception to its completion (Wei et al., 2016). Jaapar et al. (2007), and Tahir et al (2016), found that VM is a claim that represents a systematic, structured, and analytically driven approach aimed at achieving optimal value for resources invested. This entails ensuring that essential functions are fulfilled while maintaining the requisite levels of quality and performance at minimal expense. By employing a systematic approach, VM facilitates the optimisation of resource allocation and enhances overall project success. VM is applicable across diverse sectors, including those within the private and public domains. Its versatility allows it to contribute positively to initiatives undertaken by organizations operating in these distinct spheres. In order to achieve value for money, VM underscores the interplay among cost, function, and value. A key focus of VM is to generate cost savings and enhance competitiveness in evaluating the success of a project (Tahir et al., 2016). VM is beneficial for the construction industry as it aids in improving project efficiency in terms of time, cost, and quality, ultimately enhancing the overall value delivered to the client (Che Mat et al. 2018).

VM was officially incorporated into Malaysia's construction sector in 1986 (Jaapar et al., 2005; Che, 2010; Lop et al., 2014; Yassin, 2022). Despite many successful applications of value VM in Malaysia's private sector construction projects, misconceptions and misapplications of VM practices persist (Yahya et al., 2007; Karim et al., 2017). In Kelantan state, Lop et al. (2014) identified that a significant portion of the respondents were aware of the VM issues in Malaysia. However, Jaapar (2012), reveals participation of private-sector construction professionals in implementing VM remains relatively low. Moreover, negative attitudes towards VM appear to be more commonplace within the private construction domain. Malek et al (2023), mentioned that despite the longstanding presence of VM, the disparity between theory and practice has hindered the effective application of VM, particularly in the methods employed during VM processes.

Despite the proven success of VM in project execution, its use is not common in private projects. There is a critical requirement for broad adoption of VM, not just in public projects but also in private initiatives. Hence, this research only focuses on identifying the level of awareness of VM implementation among developers and determining the challenges that developers faced while implementing the VM method in Negeri Sembilan and Johor State.

### **Definition of Value Management**

Several definitions have been proposed by researchers who have delved into this field, each offering unique perspectives and insights into the concept of VM. These definitions vary in their scope, emphasis, and application, reflecting the diverse approaches and methodologies employed by scholars in their exploration of VM. The Institute of Value Management Australia (IVMA) defines VM as a crucial planning and evaluation procedure characterized by its structured "Work Plan," aiming to attain optimal value or value for money whenever feasible (IVMA, 2017). Wei et al (2016), found that the VM can be defined as one of the services that compares and audits all the decisions made by the client or customer against the value system in order to maximise the functionality of development from the initial stage

until the completion of the project. The primary advantage of VM lies in its capacity to eliminate superfluous costs that are not integral to the project's value, facilities, or system (Jaapar et al., 2005). Institute of Value Management UK, VM is defined as a structured team based approach to identify functional objectives or requirements of projects to achieve optimum function for minimum Cost. VM can also be defined as a combination of planning tools and methods to find the optimum balance of a project between costs and risks (Wei et al., 2016). Yassin et al (2022), deduced from multiple definitions that VM is a collaborative tool that drives ongoing enhancements in the construction sector. It underscores the importance of time, cost efficiency, and improved project quality, aiming to deliver optimal value for clients and promote sustainable construction practices.

### **The Level of Awareness on the Value Management Implementation Among Developers**

There remains a significant lack of awareness regarding VM among diverse professionals in the construction industry. Jaapar et al (2012), noted that private sector construction practitioners have limited involvement, as revealed in interviews with VM participants. The study highlighted that most workshop attendees had only basic knowledge of VM and its practical applications, hindering the effectiveness of the VM process. Kim et al (2016), highlight that the primary obstacles affecting the implementation of value management are primarily attributed to a lack of awareness. Alshehri (2020), and Yassin et al (2022), also found the level of awareness of VM is still lacking among all players in the construction industries. Research conducted by Jaapar et al (2009), and Lop et al (2014), revealed that while 78% of participants were acquainted with VM initially, only 16% demonstrated a comprehensive understanding of VM after training. This limited understanding contributed to the low implementation of VM practices in Malaysia. Yassin et al (2022), found there is a notable gap in awareness and practical application of VM. Lin et al (2022b), affirms that the implementation of VM in smaller construction projects by organizations is relatively low and varies significantly based on project size, regardless of project type. Additionally, the study revealed that the frequency and awareness of practitioners towards implementing VM in small and medium construction projects is still low and unsatisfactory.

### **Challenges in Implementing Value Management**

The challenges of implementing VM in Malaysia include various factors such as a lack of trained professionals in VM, shortage of VM incentive clause in the contract, too expensive to carry out the VM, lack of time to carry out, lack of guideline from local and information of VM and conflict of objectives and interests.

### **Lack of Trained Professionals in Value Management**

Despite being introduced over three decades ago, the use of VM practices is still not widespread in Malaysia, with a lack of trained professionals being a significant challenge to its implementation among developers. This issue is particularly acute in small and medium-sized construction companies, which often lack internal knowledge and awareness about VM and its applicability. Similarly, in Vietnam, Kim et al (2016), found that the absence of VM experts is a major obstacle to the implementation of VM in the construction industry.

Lin et al (2022a), emphasized that the limited expertise in VM has hindered its widespread adoption in Malaysia, with stakeholders' lack of knowledge being a major barrier. Yassin et al. (2022), also highlighted this issue, stating that the limited expertise has made it difficult for stakeholders to practice VM. Furthermore, Lin et al (2022a), identified inadequate VM training and facilitation skills as a major barrier to the implementation of VM in small construction projects.

### **Shortage of Value Management Incentive Clause in the Contract**

The VM Incentive Clause is described as a contractual provision in construction projects aimed at fairly distributing savings and risks between clients and contractors. Che Mat (2010), highlighted that this clause can be included in various Malaysian procurement contracts like PAM, FIDIC, PWD 203A/203. For instance, the FIDIC Contract Form (2002), specifically incorporated the VMIC within Clause 13.2 related to Value Engineering. Lin et al (2022a), pointed out that the absence of corresponding laws or incentives for VM poses a significant obstacle to implementing VM in small construction projects. Therefore, the local authorities should consider the possibility of including incentive clauses in the standard conditions of contract.

### **Too Expensive to Carry Out the Value Management**

The client is unable to financially support the VM study for their project because they think that creating a VM team and participating will lead to higher costs. Consequently, the client will shy away from using VM due to its high implementation cost. Moreover, the cost of implementation can obstruct the progress of VM if the client is uncertain about the benefits it can offer. Sabiu and Agarwal (2016) identified the high cost of implementation as a barrier to the implementation and practice of VM in the Nigerian construction industry. However, Jaapar (2011) argued that many clients view VM as an unnecessary expense or a way to enrich professionals, without realizing that the costs associated with VM are minimal compared to the potential benefits. The costs of conducting a VM workshop rarely surpass 1% of the total project costs, while potential savings of between 10 and 15% of the total project costs are possible.

### **Lack of time to Carry Out**

Kim et al (2016), reported that the lack of time for VM implementation did not pose substantial challenges in Malaysia. However, Lin et al (2022a), pointed out that the shortage of time for VM practice is an impediment to its implementation in small construction projects. Maznan et al (2012), noted that the primary reason private sector consultants refrain from participating in VM workshops is a lack of available time. The ideal duration for pre-workshop and post-workshop activities is crucial. The extended length of the VM process may cause clients to hesitate in using it due to difficulties in attending all the workshops.

### **Lack of Guideline from Local and Information of Value Management**

In Vietnam, the lack of documentation aligning with local guidelines and technical standards was identified as a hindrance to VM implementation (Kim et al., 2016). Likewise, in Malaysia, Lin et al (2022a), noted that the absence of adequate guidelines presents a significant obstacle to implementing VM in small construction projects. Yassin et al (2022), pointed out that

specific guidelines remain insufficient, particularly in fields like residential projects. Additionally, Yassin et al (2022), emphasized that limited government support has impeded the widespread adoption of VM in Malaysia.

### **Conflict of Objectives and Interest**

Sabiu and Agarwal (2016), highlighted differing objectives among various stakeholders as an obstacle to the implementation and practice of VM in the Nigerian construction industry. The varying interests and backgrounds of stakeholders can lead to them prioritizing their own interests in the project. For example, if a Quantity Surveyor leads a VM study, they may prioritize cost-related aspects while neglecting the design's aesthetics. Similarly, Saifulnizam et al (2012), pointed out that if a designer leads the VM study, they may focus on the project's aesthetics rather than prioritizing economic considerations.

### **Methodology**

This research adopted a quantitative approach. This research collected data by online questionnaire and electronic mail. The survey has been carried out on the company developer registered and licensed who implement VM in Negeri Sembilan and Johor State. The list of the targeted population was from the Real Estate and Housing Developers' Association Malaysia (REHDA) in Negeri Sembilan and Johor. There are 239 developers registered as members, with 68 in Negeri Sembilan and 171 in Johor. The sampling method for this research was the random sampling method. In order to decide the actual sample size of this type of study, Krejcie and Morgan's 1970 table is referred to, and a sample of 148 respondents is suggested. Yong and Mustaffa (2013) stated that the normal response rate in construction research is around 20 to 30 percent to produce reliable and convincing results. Out of the 171 distributed questionnaires, only 103 have been returned from the respondents. Hence, a response rate of 60 percent was achieved.

### **Findings and Discussions**

#### *The Level of Awareness on Value Management Implementation among Developers*

This section presents findings regarding the level of awareness on the VM implementation among developers. There were three (3) attributes of level awareness on the VM implementation among developers, as shown in Table 1. According to the survey, all three attributes were rated as "agreed" (mean= 4.15).

The company recognizes the benefit of VM in terms of value of money in the project. This ranks first among other developers in terms of level awareness on the VM implementation (mean= 4.29). The understanding of the meaning and function of VM ranked second (mean 4.10), according to the findings. Respondents also agreed (mean=4.06) that knowing that VM is often used in the construction industry especially in private projects. Therefore, we can infer that all respondents are aware of the implementation of VM.

Table 1

*The Level of Awareness on the Value Management Implementation among Developers*

| Level of Awareness   | Mean | Ranking |
|--|------|---------|
| Companies recognize the benefit of VM in terms of value of money in the project.           | 4.29 | 1       |
| Understanding of the meaning and function of VM  | 4.10 | 2       |
| Knowing that VM is often used in the construction industry especially in private projects. | 4.06 | 3       |
| Average mean   | 4.15 |         |

This study gathers additional insights beyond those uncovered by prior researchers, indicating that there has been an enhancement in developers' awareness of the implementation of VM. Earlier studies have highlighted a deficiency in awareness of VM across all stakeholders in the construction sector (Kim et al., 2016; Alshehri, 2020; Yassin et al., 2022; Lin et al., 2022b).

**The Challenges That Developers Faced While Implementing the Value Management Method**

This section examines the challenges that developers faced while implementing VM. Table 2 presents the six variables that developers face while implementing VM methods. The majority of respondents gave a mean score of 4.37 for "agreed" as the top-ranked challenge to the lack of trained professionals in VM. The shortage of VM incentive clauses in the contract ranks second with a mean of 4.19. The survey also revealed that it is too expensive to carry out VM, which is the third most important challenge (mean = 4.10). Lack of time to carry out with a mean of 4.08, followed by lack of guidelines from local and information on VM (mean = 4.00). The conflict of objective and interest is the only variable that received the score of "neither agree nor agree" with a mean of 3.75.

Table 2

*The Challenges That Developers Face While Implementing Value Management Method*

| Challenges  | Mean | Ranking |
|---|------|---------|
| Lack of trained professionals in VM                 | 4.37 | 1       |
| Shortage of VM Incentive Clause in the Contract     | 4.19 | 2       |
| Too expensive to carry out the VM                   | 4.10 | 3       |
| Lack of time to carry out                           | 4.08 | 4       |
| Lack of guideline from local and information of VM. | 4.00 | 5       |
| Conflict of objectives and interests.               | 3.75 | 6       |

This study concurs with previous research that the absence of VM experts hinders the implementation of VM (Kim et al., 2016; Lin et al., 2022a; Yassin et al., 2022). Prior studies have identified issues with the incentives clause in VM contracts (Lin et al., 2022a), and this study agrees that the lack of a VM Incentive Clause in contracts is a challenge. Implementing VM is associated with higher costs, according to past research (Sabiou & Agarwal, 2016), and this study agrees. Previous studies have also identified a lack of time for VM (Maznan et al., 2012; Kim et al., 2016; Lin et al., 2022a) and insufficient local guidelines and information (Kim et al., 2016; Yassin et al., 2022; Lin et al., 2022a) as barriers, and this study affirms these findings. Past research has found conflicting objectives among stakeholders as an obstacle to VM implementation (Saifulnizam et al., 2012; Sabiou & Agarwal, 2016), and this study finds that conflicts of objective and interest are "neither agree nor disagree" in this context.

### **Conclusion**

As a conclusion, the analysis of the questionnaire data from objectives one and two confirms the successful achievement of the study's objectives. The study effectively determined the level of awareness regarding VM implementation among developers and identified the challenges they encounter during the implementation process. The data analysis revealed a high level of awareness among developers in Johor and Negeri Sembilan, with an average score of 4.15. This indicates a strong understanding of the importance and benefits of VM in project implementation. The primary challenge faced by developers in implementing VM is the lack of professional expertise in VM practices. Future research endeavors will delve into exploring the challenges faced by developers who have not yet adopted the VM approach in their projects, aiming to provide insights and solutions from their perspective. These findings underscore the importance of addressing the skills gap in VM and highlight the need for tailored solutions to support developers in overcoming challenges in implementing VM effectively.

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