THE EFFECT OF USING GROUP DECISION SUPPORT SYSTEM IN VALUE MANAGEMENT WORKSHOPS: AN EXPERIMENTAL STUDY

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Abstract
Group Decision Support System (GDSS) is a set of techniques, software and technology designed to focus and enhance the communication, deliberations and decision-making of groups. Previous research conducted in the last two decades has demonstrated that GDSS is successful in improving the efficiency, reliability and quality of the group decision-making process. Value Management (VM), which is a group decision-making process, has limitations, and there is a strong demand for improvements in the implementation of VM. This research has been conducted to design a GDSS prototype system, named Interactive Value Management System (IVMS), to investigate the effect of its application in VM workshops. The paper begins with an introduction to the problems of implementing VM in construction. It then proceeds to describe the features of the system. This is followed by a review of literature to discuss under what circumstances there is more possibility for GDSS usage to improve the performance of VM workshops. An experimental study designed to investigate the effect of using the system in VM workshops is described and the results are discussed. Findings from this research indicate that the proposed GDSS prototype is supportive in overcoming the problems and difficulties in VM workshops.

Key words
Value Management; Group Decision Support Systems; Interactive Value Management System

INTRODUCTION

The need to improve the value for money of projects, such as project quality, costs of delivery, and time from inception to occupation, is of longstanding concern to construction industry clients. Value Management (VM) is a structured and analytical process that seeks to achieve value for money by providing all necessary functions at the lowest cost consistent with required levels of quality and performance (AS/NZS 4183, 1994). VM has been widely used in many developed countries for several decades and is a useful tool that can help the industry to meet these challenges.

However, reluctance to use VM often stems from the time that an expensive team has to be employed to undertake the VM process. Therefore, a way should be found of making the process more efficient and effective to make the cost of undertaking VM decrease. VM faces more difficulties when employer-employee and superior-subordinate are in the same team, due to member dominance and conformance pressure. A recent survey has revealed the difficulties encountered in VM workshops as shown in Table 1 (Shen et al., 2004).