Abstract of thesis entitled 'Value Management in Construction Projects' submitted by Mei-yung LEUNG for the degree of Doctor of Philosophy at the University of Hong Kong in 2001

ABSTRACT

Value management attempts to establish a focused definition of a project's goals by formalizing interaction between the client and the project's team members. It involves hard system technique and soft systems methodology. The research presented in this thesis develops a conceptual model for management of value, and investigates principles of value management on construction projects.

Based on psychological value, organizational behavior and system theory, 'soft' systematic value management is modelled using a value-goal-outcome cycle for evaluation of the value management on a construction project. The model consists of a goal setting system (Value–DecisionMaking–Goal) and an implementation system (Goal–Action–Outcome). The research postulates the following:

1. value specificity (level of clarity and explicitness of the value) influences goal specificity (level of clarity and explicitness of the goal) through the goal setting (decision) process,
2. goal specificity, level of conflict and conflict resolution (integration) during the decision process are causal attributes of the participants' satisfaction,
3. participant satisfaction is the highest, when a moderate level of conflict is stimulated in the decision process, and
4. the higher team conflict resolution (integration) in the goal setting process and the more specific the goal induce the higher participant satisfaction.

The major hypothesis of this thesis is that 'participant satisfaction depends on value–goal specificity, moderate level of conflict and higher conflict resolution (integration) amongst the participants in the goal setting process'. This is tested using a questionnaire survey

(stage I) and three case studies (stage II), that analyse data using quantitative and qualitative methods. The measurable hypothetical variables are defined and tested in a general manner in the first stage. The three case studies include public, semi-public and private construction projects, which represent a systematic goal setting process, a traditional decision process and a formal value engineering decision process respectively. A number of decision points are selected in these three researching cases in order to minimize /eliminate the extraneous factors in the case study research. Three qualitative analysing methods are applied including Linear Responsibility Analysis, Case Study Outline Method and Causal Data Analysis, while correlation studies are performed for quantitative data analysis. The main results of the study are as follows:

1. The relationship between value specificity and goal specificity, and between the conflict resolution (integration) and satisfaction are significantly positive.
2. There is a significant inverse U-shaped correlation between task conflict level in the decision making process and participant satisfaction.
3. The correlation between goal specificity and participant satisfaction is shown to have a significant relationship, but further research is recommended for investigation of the correlation between goal specificity, action and final outcome (satisfaction).

The model reflects the relationships between value-goal specificity, task conflict, and participants' satisfaction on decision-tasks identified as being critical decision points for management of the 'value' in a construction project. Case study research methods give us full descriptive decision analysis mechanisms, and are helpful in establishing the generalizability of findings during the more mature stages of the behavioural research.

However, the relationship between team conflict and satisfaction cannot be concluded in this research due to the inconsistent results. Other testing techniques and more cases are required for this sub-hypothesis. Finally, other possibilities of further research are discussed including other Value-Goal contents, the influence of 'action' in the cyclical process, application of the soft system model in the real world, etc.