

# DEVELOPING A VALUE MANAGEMENT MODEL BY VALUE-GOAL SYSTEM APPROACH

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This paper develops a conceptual model of value management in construction procurement within the framework of goal-setting theory. Value management is aimed at focusing the definitions of project goals through the interaction between the client and the project team members. Project goal specificity at the commencement of the project enhances participant commitment and facilitates clear cognised decision making throughout the project realisation stage. The decision process in the value management model consists of two value dimensions, affective and cognitive; project satisfaction is concluded as a project outcome which influences future goal setting. This paper investigates the relationship of value-goal specificity, participants' conflict, commitment and satisfaction in a value-goal management model.

Keywords: Decision-making, goal specificity, value conflict, value management.

## INTRODUCTION

Traditional value engineering is mostly based on economic aspects emphasizing techniques, such as brainstorming, functional analysis (Dell'Isola 1982; Kelly & Male 1992) and weighted evaluation (Green 1992, 1994), to solve 'hard' technical problems. However, such approach often fails to consider the management process holistically since both the technical tasks and the human resources variables are equally important.

As advocated by Winch et al (1998), although there is considerable benefit in focusing upon part of a business process in order to optimise it, subsystem optimisation easily degenerates into system sub-optimisation if the part is not examined in the light of a full understanding of the whole. A total project orientation in a holistic perspective is more desirable than the fragmented approach in treating value engineering as a procedural subsystem.

The nature of the project process can be depicted as a flow of information which (1) stimulates and controls the flow of materials (Winch et al 1998) and (2) provides feedback for guiding the project participants' behaviour in attaining project goals (Liu and Walker 1998). It is argued that goal definition (in terms of its specificity translated from individuals' values) leads to types of behaviour which aggregate to performance; the discrepancy between the goal level (the level which is set) and the performance level (the level which is achieved) provides a basis for evaluating outcome (such as satisfaction). Hence, project goal setting is fundamental to the initiation of the project process.

## VALUE PERCEPTION AND THE DECISION MAKING PROCESS

Project information flow is a process of the continual reduction of uncertainty through time (Winch et al 1998); such reduction being facilitated through continual decision making towards goal specificity as the project progresses by processing accumulated information through time. Project goals trigger project realisation in the behaviour-performance-outcome cycle (see Liu and Walker 1998, Liu 1997) and the goal/performance discrepancy gives rise to evaluation of project outcome. Goals are established from value judgements, for instance, value importance dictates goal prioritisation and also constitutes a determinant of goal commitment, i.e. people are more committed to goals that they deem important than those they view as unimportant. Value-shift determines the dynamism of project goals, which provides goals to change over time through client changes and modifications by designers, amendments to legislation etc.

Value has been defined in different theoretical contexts, such as need, desire, interest, standard /criteria, beliefs, attitudes, and preference (Rescher 1969, Rokeah 1973, Katzell 1964). In value management, objective setting considers the participants' psychological needs and desires; subsequent analysis considers the deviation between desired value and that offered by the existing macro and micro-environments. Once the deviation (i.e., value's gap) has been identified, criteria ratings are applied by the participants to seek the (specific) desirable value. Further search in the decision process is carried out for the creation/suggestion of a number of alternatives for the decision-maker to make evaluation and judgement/choice.

There are two approaches in this value engineering decision process, the rational approach and the behavioural approach. Rational approach may include techniques such as decision tree, utility theory model, linear models, trade-off method, value-contribution mode, sensitivity analysis; the behavioural approach includes prospect theory, Nominal Group Techniques, Delphi technique, Krzysztofowicz's group utility model etc.

Feedback is of vital importance throughout all stages of value engineering decision. If the decision outcome is less than the desirable value or the desirable value is changed (due to changes in aspiration level of the individual, environmental analysis interpretation and project audit), the decision-making process reverts to previous stages for revision /amendment until the decision outcome fulfils the aspiration level of the individual (Alexis and Wilson 1967). A decision outcome (inherent with a decision value) is concluded as a standard or guide (i.e., a subsequent goal) for carrying out action(s).

Hence, value in the decision process "is a conception (cognitive) of the desirable (affective) that influences the selection (conative) from available modes, means and ends of action" (Kluckhohn 1959 p.395), and value management is an affective and cognitive decision process in goal setting.

### AIM

The aim of this paper is to develop a value management model from the behavioural paradigm of goal-behaviour-performance-outcome to encompass:

- the translation of value specificity to goal specificity,
- the relationship of value conflict and goal commitment,

- the relationship of goal specificity and project performance,
- measurement of satisfaction as a project outcome.

## THEORETICAL BASE

### Value Dimensions

There are two dimensions of *value*, an affective dimension and a cognitive dimension. The affective dimension of value involves three major components: person, object and environment. Since man is capable of representations and transformations of needs (Rokeach 1973), values must be judged by individuals therefore subjectivity is inevitable and related with human wants, needs, interest, etc. The interdependence of persons, objects and environment impacts upon such value judgement. Values must involve both the person who is engaged in valuing and the object that is being valued (Feather 1975).

In construction development, the *object* is a building product, which exists in an environment and influences the environment. Each project participant's judgement of the value-object is affected by two variables – person (self) and environment. The environmental variable consists of external factors including culture, society, politics, regulation and economics, which influences the individual to internalise, shared conceptions of the desirable. The personal (self) variable is viewed as consisting those internal factors inherent in an individual, such as past experience, future wishes and fears, and the present actual situation (which includes the individual's ability and knowledge, the intensity of the need, the hierarchy of the values and the difficulty of the tasks (refer Lewin et al 1944)).

Values affect project goal setting through an individual's emotions which stem from the valence of past success /failure (Lewin et al 1944) or level of satisfaction /dissatisfaction (Locke 1969). Value is affected by satisfaction (Porter and Lawler 1968) and has the ability to motivate goal directed behaviours by inducing valences (French and Kahn 1962). When a person expects a pleasant event to occur, one often begins to anticipate the actual event and the pleasure it will bring (i.e., the valence).

The cognitive dimension of value involves rational analysis of value itself and the determination of the discrepancy between subjective value and that of the existing environment. This basic conscious action of the individual is the action of choice, or the process of choosing among alternatives.

In the rational system, value can be analysed by eight elements, including modality (e.g., positive and negative value); content (e.g., cognitive, moral and aesthetic value); generality (e.g., thematic and specific value); intent (e.g., instrumental and terminal value); intensity (e.g., categorical and preferential value); explicitness (e.g., implicit and explicit value); extent (e.g., personal and group value); and organization (e.g., systematic value) (Kluckhohn 1959).

Of particular importance in the development of a value management model in this paper are the elements of generality (governing thematic and specific values) and intent (governing instrumental and terminal values). Thematic values emphasise the general conception of desirable /undesirable modes /means /ends of action; specific values emphasise certain situations and content areas. In order to distinguish specific values (focal values) from general conception (value premises), value has to be distinguished as instrumental and terminal values under the means-ends principle. Instrumental value relates to an act or an object which "actors and groups conceive as

means to further ends”, and terminal value is the “aim and virtue which societies and individuals make for themselves” (Kluckhohn 1959 p.413). Feather (1975) points out that terminal values influence the valence of specific outcomes or end-states and instrumental values influence the valence of specific instrumental behaviours or means to ends, so that values influence both the valence of goals or ends and the valence of means or types of activity that can lead to ends.

An individual must consider both terminal and instrumental values in order to move a desired (or utopian) value from the domain of value premises (general conceptual values) to that of the focal values (specific values). As such, value involves an *affective dimension* (as in desired value) and a *cognitive dimension* (rational analysis) and subject to adjustments imposed by a restricted environment on decision making to transform values into goals.

### **Goal-setting Theory**

A goal is considered as a cognitive representation of value and decision making is a cognitive transformation of value. In goal setting theory, Locke and others conducted various experiments to investigate goals’ characteristics (Locke and Latham 1994). Locke (1968) points out that both values and intentions (goals) play important roles as cognitive determinants of behaviour, therefore it is postulated that values and goals possess similar characteristics to influence the project outcome (level of satisfaction). The basic concept of value management is looking for the ‘best’ value (i.e., goal) through decision making in which latent conflict can be stimulated and solved; specific goal can be devised with higher commitment.

In previous research, a specific goal, which may be based on *assigned* or *participative* goal setting, was proved to produce more interest (Locke and Bryan 1967), greater goal commitment (Raven and Rietsema 1957) and higher motivation (Locke and Bryan 1967), higher level of performance (Ivancevich 1977), than a vague goal such as ‘do your best’. While goal specificity relates to the definition of the target for performance, value specificity mainly influences goal setting in the decision making process. Specific value (through specific goals) guides performance towards successful project outcome(s) through subsequent implementation of project management.

However, high performance will only happen when the individual is committed to the goal (Erez and Zidon 1984). Goal commitment relates to the individual’s motive to reach the goal, since motive is defined as a disposition to strive for a particular kind of goal state or aim or kinds of satisfaction (Atkinson 1983). In the goal setting process, commitment is divided into three dimensions: (1) pre-choice attitudes; (2) subsequent choice of a personal goal-value; and (3) maintenance of that choice (Tubbs 1993). Value-goal commitment represents an individual’s value judgement that entails choosing a goal and then maintaining that choice overtime.

Conflict is inevitable in the decision-making process. It represents a state of disequilibrium and can be destructive but, simultaneously, it provides an opportunity for the participants to think through ideas, produce higher quality solutions (Hoffman 1959), better performance (Pelz 1956) and improve organizational effectiveness (Rahim and Bonoma 1979). Therefore, conflict must not be avoided, eliminated or suppressed but be managed. In order to actively solve the manifest conflict and stimulate any latent conflict (see Pondy 1967), specific personal values have to be clarified, because the core of conflict schema is the belief that the involved parties

have incompatible goals (Klar et al 1987) which stem from individuals' incompatible personal concerns and values.

## THE MODEL

### Concept of the Model

From the understanding of the dimensions and roles of values discussed above, value management is depicted as triggered by the internal and external input factors in the environment leading to a decision-making process which produces decision outcome(s) to define the project goal(s). Output of this (preceding) value management system becomes input to other (subsequent) systems, e.g. decision outcome of value management acts as input to further the project management process.

The transformation of values into goals – as a decision making process – comprises objective setting, objective analysis (including determining an objective hierarchy) and alternatives evaluation. Such project goals being set will initiate required actions towards project realisation (i.e. producing an outcome).

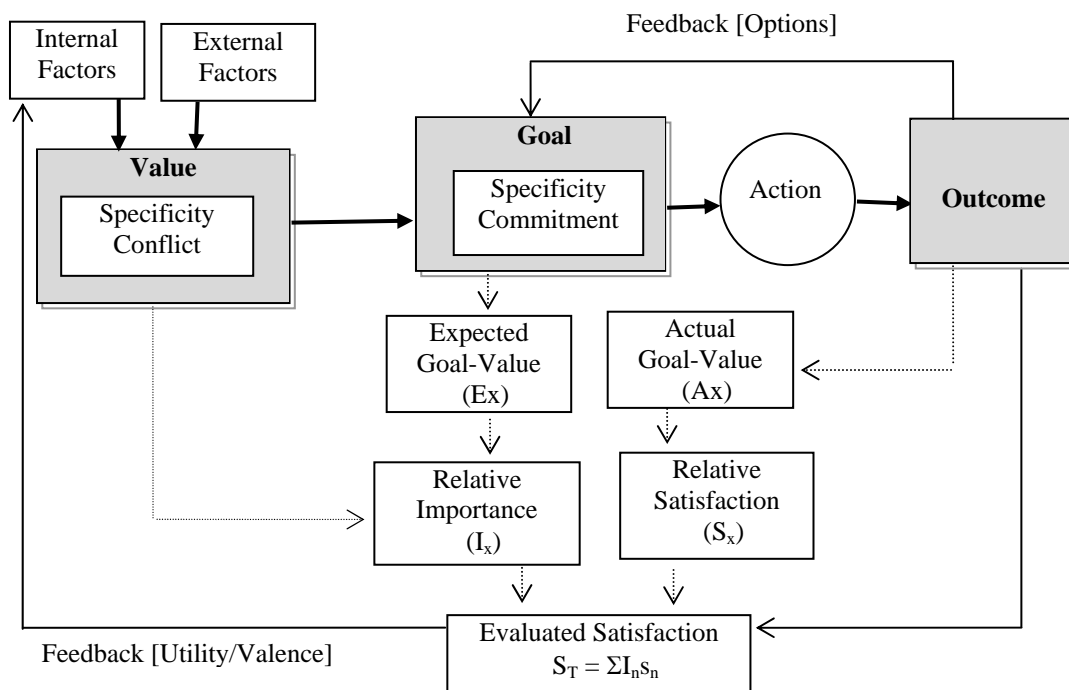


Figure 1: Value management model

Value specificity leads to goal specificity (which, ultimately, enhances an individual's goal commitment). Inter- and intra-personal conflict in agreeing value standards will affect project goal setting amongst the project participants. The nature of conflict in the research model (Figure 1) is presented as the difference between the 'probabilities' of alternatives and 'utilities/valences' of possible outcomes that exist at both the intra-personal and the interpersonal level. When the utilities and event probabilities are specified clearly through the cognitive decision making process, value conflict can be better managed through the process and the participants' satisfaction can also be increased by the proximity of expected goal-value and actual goal-value. (The supporting theories of which are explained in the next section).

Feedback is fundamental in a decision process as one considers viable alternatives, compares with expectations, adjusts efforts in the repetition of the pre-decision, partial

decision and post-decision stages (see Zeleny 1982); hence, feedback is part of the goal-action-outcome cycle which guides the individuals' behaviours (through considerations of options) towards goal attainment (see Liu and Walker 1998).

Feedback also provides a basis for assessment of the project outcome (e.g. satisfaction). Such assessment is influenced by the individual's value importance, i.e. if one values a particular goal achievement, one may be more satisfied than achieving a goal of lesser importance. In determining the utility of the project outcome, the individual considers the valence of success/ failure (Lewin et al 1944) and the level of satisfaction/dissatisfaction (Locke 1969). Both valence of success and level of satisfaction can be expressed in positive and negative amounts (Kluckhohn 1959) which will influence internal factors, e.g. individual's level of aspiration, in future projects.

### Theories behind the Model

The basic premise of the model lies within Naylor et al's (1980) act-product-outcome paradigm in psychology. When an individual decides to do something (set a goal), s/he first must decide what act s/he is going to perform or attempt to perform (the *direction* dimension of an act) and then must further decide how much of her/his resources are going to be committed to the performance of that act (the *amplitude* dimension). The act results in a product which, ultimately, would be appraised (outcome) by the individual; feedback of which would guide the individual's behaviour in future.

However, goals are underpinned by an individual's value system. What s/he values affect the content and specificity of the goals set. When more than one individual is involved in goal setting (as in a construction project), value conflict may lead to goal conflict. Value engineering workshop is thus beneficial in bringing forth any latent and manifest conflict, supporting participative/creative effort in problem solving (driving towards goal consensus), and stimulating the desire to transform value specificity to goal specificity. People are more easily committed to performance with specific goals. Vague goals have shown to have a deterrent effect on high performance (Locke and Latham 1994).

Satisfaction, which is related with a pleasurable emotional state, depends on one's expectation and the actual outcome (Locke 1969). In this research model, satisfaction can be measured based on the discrepancy between the actual goal-value (A) and the expected goal-value (E). While *goal-value* is used in the context of quantifying satisfaction, value-goal specificity refers to the transformation of a specific value into a project goal. In combining Katzell's (1964) research (content and intensity of job satisfaction) with Locke's (1969) process theory (discrepancy between actual goal-value and expected goal-value), satisfaction can be expressed in two levels: relative satisfaction ( $s_x$ ) and absolute satisfaction ( $S_x$ ) (see Figure 1).

Relative satisfaction ( $s_x$ ) =  $1 + f[(A_x - E_x) / E_x]$  ,

where  $A_x$  = the actual goal-value of variable x; and

$E_x$  = the expected goal-value of variable x.

Absolute satisfaction ( $S_x$ ) =  $I_x s_x$  ,

where  $I_x$  = relative importance or intensity index of variable x; and

$s_x$  = relative satisfaction of variable x.

(refer Katzell 1964; Locke 1969)

Each value has two attributes: content and intensity. “The content pertains to what the person wants to gain and /or keep; the intensity pertains to how much he wants to gain or keep it” (Locke 1969 p.322-323). Relative satisfaction identifies the content of the goal-value (i.e., the variables) for satisfaction measurement in rational analysis, while absolute satisfaction introduces the intensity of the variable (i.e., the degree of desired goal-value) as an affective dimension.

Both Froelich and Wolins’ (1960) and Locke’s (1969) research conclude that more important values produce more satisfaction and dissatisfaction than less important values (Locke 1969). Therefore, satisfaction increases as the actual value of variable x approximates more closely to the expected value and the importance of goal-value increase. In considering the satisfaction evoked by a complex task (such as construction procurement), satisfaction with the totality is then expressed as follows:

$$\text{Evaluated total satisfaction (S}_T\text{)} = I_1 s_1 + I_2 s_2 + \dots + I_x s_x \quad (\text{refer Katzell 1964})$$

Therefore, satisfaction is affected by the relative importance of goal-values and the discrepancy between expected goal-value and actual goal-value.

## DISCUSSION

Traditional value engineering (VE) involves six phases in the job plan. Specificity, conflict and commitment all play important roles in the whole process. For example, specific value is presented by the client at the first stage (information phase), then debated upon and concluded by the participants at the final stage (presentation phase). The intermediary stages of functional analysis, idea creation, choice evaluation and proposal determination stimulate and resolve the latent and manifest conflict of the participants – aiming at transforming value specificity to goal specificity, so that participants’ commitment at the last stage of the workshop will be higher than that at the commencement stage (see Table 1).

**Table 1:** Six Phases of value engineering (refer SAVE 1997)

<i>VE Phases</i>	<i>Roof definition of value management</i>	
1. <i>Information</i>	<i>Specificity (assigned);</i>	<i>] pre-choice commitment</i>
2. <i>Function analysis</i>	<i>Specificity (assigned), &amp; Conflict simulation;</i>	<i>] “</i>
3. <i>Creative</i>	<i>Conflict simulation;</i>	<i>] “</i>
4. <i>Evaluation</i>	<i>Conflict resolution;</i>	<i>] “</i>
5. <i>Development</i>	<i>Conflict resolution, &amp; Specificity (participated);</i>	<i>] choice commitment</i>
6. <i>Presentation</i>	<i>Specificity (participated)</i>	<i>] “</i>

The model in Figure 1 seeks to establish relationships between satisfaction, specificity and conflict in the value management process. It is postulated that participant satisfaction is dependent on value-goal specificity and value-goal conflict levels among the participants in decision-making as shown in the following hypotheses.

### Hypotheses

- *Value specificity leads to goal specificity*, i.e. the more specific the participants’ desirable values are at the commencement of project goal setting, the more specific the goal levels set.

Value specificity is the level of clarity and explicitness of the value which influences goal setting (refer Steers and Porter 1983) and is expressed as a function of the relationships of the person (i.e. project participants), the object (i.e. the project) and the environment. Goal specificity refers to the level of clarity and

explicitness of the goal, which relates to the definition of target level for performance (Wofford 1982).

- *Goal specificity leads to higher participant commitment and satisfaction.*  
Since goal specificity relates to the definition of the target for performance, a specific goal increases the commitment (Raven and Rietsema 1957) to produce higher level of performance (Ivancevick 1977) which if valued by the individual, will give rise to satisfaction.
- *Moderate value-goal conflict level leads to higher participant commitment and satisfaction.*  
Function analysis and creative phases in the value engineering process stimulate the conflict among participants, while the evaluation and development phases may solve the conflict. However, too much conflict tends to break down the relationship in the discussion, therefore moderate value-goal conflict through participative goal setting is desirable. Both manifest and latent conflict can then be solved explicitly in the discussion.
- *Higher value-goal conflict resolution (problem solving) leads to higher participant commitment and satisfaction.*  
Blake and Mouton (1964) classified conflict into five modes: forcing, withdrawing, compromising, smoothing and problem solving. The problem solving mode is the most appropriate style in managing conflict (Burke 1972), because it concerns both self and others in the decision making process to improve performance (Rahim and Bonoma 1979) and, hence, level of satisfaction.

The methodology in hypotheses testing has not been concluded but will develop along the lines of triangulated qualitative and quantitative approaches. A simple outline is as follows: specific cases involving implementation of value engineering are to be analysed in detail; analyses of the participants' perception (of commitment and satisfaction) both qualitatively and quantitatively will be mapped with researcher's objective comparison of the projects' performance against stated project goals.

## CONCLUSION

This paper argues that the field of psychology provides a theoretical base for explaining the transformation of values into project goals via the value-goal-action-outcome cycle and emphasises the significant effect of goal specificity. The theoretical constructs provide the underpinning dimensions that must be examined in value management. Individuals' perceptions of values are influenced by a range of factors, and may result in each person's perception being idiosyncratic. The identification of the value dimensions which affect the decision making process in value engineering are fundamental in understanding an individual's perception of the merit of the decision outcome – the specified common project goals – in a relatively 'free from conflict' environment. In construction projects, a common complaint is that the client's brief is inadequate as a document to communicate the goals to the project participants. Values and goals may be implicit and largely unspecified quantitatively or qualitatively, or they may be quite explicit and detailed through the use of targets and quotas. A primary purpose of value management is to specify clients' and participants' values and goals explicitly through a decision-making process.

In order to select the best value (goal), determination of goal specificity and stimulation and resolution of conflict are fundamental to value management.



However, even if common goals could be agreed by all participants to a project the problem of amalgamating perceptions would remain. Hence, we are left with the ability to assess project performance (and satisfaction) by individual participants to the project, or maybe by groups of individuals with perceptions which could be expected to be reasonably common, e.g. architects, structural engineers, member of the client team, if they were able to agree common goals. Since previous research has shown that specific goals and moderate conflict levels produce better performance (e.g., Ivancevich 1977; Rahim and Bonoma 1979), the relationship between value-goal specificity, conflict and satisfaction (i.e., project outcome) in construction project has to be further investigated.

## REFERENCES

- Alexis, M. and Wilson, C. Z. (1967) *Organizational Decision Making*. Prentice-Hall, Inc.
- Atkinson, J.W. (1983) Strength of Motivation and Efficiency of Performance, In Atkinson, J.W. (ed.) *Personality, Motivation and Action: Selected Papers*, N.Y.: Praeger Publishers.
- Blake, R. R., Mouton, J. S. (1964) *The Managerial Grid*, Houston, TX: Gulf Publishing.
- Burke, R. J. (1972) Methods of Resolving Superior-Subordinate Conflict: The Constructive Use of Subordinate Differences and Disagreements, *Organizational Behaviour and Human Performance*, **5**, 393-411.
- Dell'Isola, A.J. (1982) *Value Engineering in the Construction Industry*, N.Y.: Van Nostrand Reinhold.
- Erez, M. and Zidon, I. (1984) Effect of Goal Acceptance on the Relationship of Goal Difficulty to Performance, *Journal of Applied Psychology*, **69**(1), 69-78.
- Froelich, H.P. and Wolins, L. (1960) Job Satisfaction as Need Satisfaction, *Personnel Psychology*, **13**, 407-420.
- Feather, N.T. (1975) *Values in Education and Society*, N.Y.: The Free Press.
- French, J.R.P. Jr., Kahn, R.L. (1962) A Programmatic Approach to Studying the Industrial Environment and Mental Health, *Journal of Social Issues*, July, **18**(3), 1-47.
- Green, S.D. (1992) *A SMART Methodology for Value Management*, Occasional Paper no.53, Ascot: Chartered Institute of Building.
- Green, S.D. (1994) Beyond Value Engineering: SMART Value Management for Building Projects, *International Journal of Project Management*, **12**(1), 49-56.
- Hoffman, R.L. (1959) Homogeneity of Member Personality and Its Effect on Group Problem-Solving, *Journal of Abnormal and Social Psychology*, **58**, 27-32.
- Ivancevich, J.M. (1977) Different Goal Setting Treatments and Their Effects on Performance and Job Satisfaction, *Academy of Management Journal*, **20**(3), 406-419.
- Katzell, R.A. (1964) Personal Values, Job Satisfaction, and Job Behaviour, In Borow, H. (ed.), *Man in a World at Work*, Boston: Houghton Mifflin, 341-363.
- Kelly, J., Male, S. (1992) Functional Analysis Method, in Value and the Client, In *Conference at The Royal Institution of Chartered Surveyors on 29 /1 /92*.
- Klar, Y., Bar-Tal, D., Kruglanski, A.W.(1987) On the Epistemology of Conflicts: Toward A Social Cognitive Analysis of Conflict Resolution, In Stroebe W., Kruglanski A.W., Bar-Tal D. and Hewstone M. (ed.), *Social Psychology and Intergroup and International Conflict*, N.Y.: Springer-Verlag, 112-137.

- Kluckhohn, C. (1959) Values and Value-Orientations in the Theory of Action. In Parsons, T., Shils, E.A. (ed.), *Toward a General Theory of Action*, Cambridge /Massachusetts: Harvard University Press, 388-433.
- Lewin, K.; Dembo, T.; Festinger, L. and Sears, P.S. (1944) Level of Aspiration. In J. McV. Hunt (ed.), *Personality and the Behaviour Disorders*, **1**, NY: Ronald Press, 333-378.
- Liu, A.M.M. (1997) A Model for Application of Conjoint Analysis in Value Management, In Davidson C. H. and Mugged T. A. A. (ed.), *CIB W92 Proceedings, Procurement- A Key to Innovation*, Université de Montréal, Montréal, 413-422.
- Liu A. M. M., Walker A. (1998) Evaluation of Project Outcomes. *Construction Management and Economics*. **16**, 209-219
- Locke, E.A.(1968) Toward a Theory of Task Motivation and Incentives, *Organizational Behaviour and Human Performance*, **3**, 157-189
- Locke, E.A. (1969) What is Job Satisfaction?, *Organizational Behaviour and Human Performance*, **4**, 309-336.
- Locke, E.A., Bryan, J.F. (1967) Performance Goals as Determinants of Level of Performance and Boredom, *Journal of Applied Psychology*, **51**(2), 120-130.
- Locke, E.A., Latham, G.P. (1994) Goal Setting Theory. In O'neil, H. F., Drillings M. (ed.), *Motivation: Theory and Research, and Task Performance*, New Jersey: Lawrence Erlbaum Associates Publishers.
- Naylor, J.; Pritchard R.D. and Ilgen D.R. (1980) *A Theory of Behaviour in Organisation*, NY; Academic Press.
- Pelz, D.C. (1956) Some Social Factors Related to Performance in a Research Organization, *Administrative Science Quarterly*, **1**, 310-325.
- Pondy, L.R. (1967) Organizational Conflict: Concepts and Models, *Administrative Science Quarterly*, 12(1), p.296-320, and in Luthans F. (1972) (ed.), *Contemporary Readings in organizational Behaviour*, 232-249.
- Porter, L.W., Lawler, E.E., III (1968) *Managerial Attitudes and Performance*, Homewood, Illinois: Richard D. Irwin Inc. and Dorsey-Press.
- Rahim, A., Bonoma, T.V. (1979) Managing Organizational Conflict: A Model for Diagnosis and Intervention, *Psychological Reports*, **44**, 1323-1344.
- Raven B.H., Rietsema, J. (1957) The Effects of Varied Clarity of Group Goal and Group Path upon the Individual and His Relation to His Group, *Human Relations*, **X**, 29-45.
- Rescher, N. (1969) *Introduction to Value Theory*, New Jersey: Prentice-Hall.
- Rokeach, M. (1973) *The Nature of Human Values*, N.Y.: The Free Press, Collier Macmillan.
- SAVE International 'The Value Society' (1997) *Value Methodology Standard*, USA
- Steers, R. M., Porter, L. W. (1983) *Motivation and Work Behaviour*, USA; McGraw-Hill.
- Tubbs, M. E. (1993) Commitment as a Moderator of the Goal-Performance Relation: A Case for Clearer Construct Definition, *Journal of Applied Psychology*, **78**(1), 86-97.
- Winch G., Usmani A., Edkins A. (1998) Towards total project quality: a gap analysis approach. *Construction Management and Economics*. **16**, 193-207.
- Wofford, J.C. (1982) Experimental Tests of the Goal-Energy-Effort Requirement Theory of Work Motivation, *Psychological Reports*, **50**, 1259-1273.
- Zeleny, M. (1982) *Multiple Criteria Decision Making*, USA: McGraw-Hill.