Chapter 7
Validation of Model: The Process

ABSTRACT

The validation process for the model largely depends on the behavior of influencers (variables), which are used for measurement of the inputs, processes, and the outputs. In order to indicate the utility of the framework supporting the model conceptualized, this chapter includes detailed discussions on the method adopted. It includes the sampling plan adopted to help the reader appreciate the management principles in categorizing stakeholders and their contributions to overall IT acquisition preparedness in the organization. A three-tier approach is considered important with the grounding theory that every organization displays general hierarchies across three layers, and roles of stakeholders are governed by the expected layer-specific strategies. It is argued that despite layer-specific contributions, overall preparedness in the organization needs convergence among these layers in terms of their roles, tasks, and other deliverables.

INTRODUCTION

The validation process for the model largely depends on the behaviour of influencers (variables) which are used for measurement of the responses received to understand overall behaviour of the model. The measurement is used for assessment of certain metrics developed which are already presented in Chapter 6. This stage involves application of methods which will prepare the survey instruments, and sampling plan testing these instruments. "Likert-scaling" has been used for eliciting responses for influencers. The proposed model tries to estimate the preparedness of various stakeholders in the acquisition process. Since the "stimuli" are aimed at the stakeholders and a "summation" is needed to understand the overall preparedness of the organization Likert scaling method is adopted to conduct the survey and analysis (Mcliver and Camines, 1994). Likert scaling has been adopted in order to accomplish the task of testing hypotheses formulated and the model in turn. Technology selectors, implement-

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ers and users form the basic respondents who scale the questions (stimuli) administered. The study spanned for a year during which an organization tried to implement the action planned. The test was organization specific and thus mostly all the employees were involved in the exercise. In the beginning of the study we did not initiate any orientation plan since we wanted to observe the process and study the behaviour. The strategic users and IT managers found it helpful to use this model as an exercise to identify the strength and weaknesses in the acquisition process and assess the current preparedness of the organization. Summative feature and the multi-item scaling property of Likert scaling are deployed to understand the predictors as well the dependent influencers developed for the measurement (Nunnally, 1978). Workshops were held in the organization in the end of the observations.

Three interrelated tasks were taken up for Likert scaling approach as described below.

- Item Variable
- Item Scoring
- Item Selection

As explained in Figure 1, the stages of the process are considered in this research for adopting the methodology. The questionnaire for the items, variable developed (Basili et al., 1994) is developed based on on GQM principles. The questionnaires thus developed were administered in the organizations. Besides, the questionnaires were discussed among the academicians and practitioners pursuing IS related research as well as implementing the IS methodologies.

Item Scoring

Likert scale with range 1-7 (Mcliver and Camines, 1994); (1: Strongly Disagree, 2: Disagree, 3: Somewhat Disagree, 4: Un-Decided, 5: Somewhat Agree, 6: Agree, 7: Strongly Agree) has been used for eliciting response. The model demands an in depth study on the Organizations. Work Locus of Control Scale (WLCS) (Spector,1988) method which supports Likert's summative scaling, has been adopted for scoring as a) it supports writing of items in a straight forward manner, b) it requires a sample size of around 200 subjects and c) it is not complicated to administer.

Scoring in a summative scale does bring in an "error" to the measurement and describing items plays a vital role in scoring these. A negatively stated item needs to be treated by the respondent differently as compared to that of a positively stated item. Therefore, appropriately worded and described items have been used in the questionnaire for this research survey in order to avoid "polarity" (Mcliver and Camines, 1994). Besides the structured approach to receive responses from the subjects, semi-structured interview process were largely adopted in order to provide qualitative stimuli. Since IT acquisition needs a strategy, qualitative analysis is quite important for having a holistic view on the process.

Figure 1. Steps for developing summative scale (Mcliver & Camines, 1994)