Chapter XII

Decision Based On Organizational Knowledge, Decision Support Systems, Expert System And Business Intelligence

Introduction

Organizations are often seeking techniques for improving the actions to structure decision models. However, with the possible exception of routine and well-structured problems, most of the decision problems found in organizations constitute a chaotic and complex family of problems. The principle of bounded rationality proposed by Herbert Simon suggests the use of a decision model based on a simplified model of a firm with a small number of relational concepts, such as: (a) quasi resolution of conflict, (b) uncertainty avoidance or minimization, (c) search directed around the main objective of the problem and, (d) adaptation of organizational goals based on learning.
Organizations achieve a better decision-making process by searching different levels of knowledge inside and outside the organization. According to March (1999), the pursuit of organizational knowledge (or intelligence) to structure better decision models is made particularly difficult by three problems. The first problem is the problem of ignorance, because not every thing is known, the future is uncertain, and so on. The second problem is the problem of conflict, because organizations seek goals and objectives in the name of multiple, nested actors over multiple, nested time periods. The third problem is the problem of ambiguity, caused by ill-defined or ill-measured preferences and identities.

In order to arrive at good procedures for a decision-making process, organizations adopt some practices leading to intelligent actions. For example, the “rule-based rational action” is considered an intelligent action to estimate the future consequences of possible current actions and choose the one with the highest expected value. Procedures based on “rule-based action,” used together with “organizational learning,” are considered by many authors, as a way to involve assessments of the collective actions and long-term consequences rather than individual action at a particular time.

However, neither “rationality” nor “learning” always assures a reasonable final model. In Chapter IX, a list of problems considered to be the hidden traps in decision making — the anchoring trap, the status-quo trap, the sunk-cost trap, the confirming-evidence trap, the framing trap, and estimating and forecasting traps — is presented. According to the authors of this list, complex and important decisions problems are the most prone to distortion because they tend to involve assumptions, estimates, and the inputs from the most people (Davenport & Prusak, 1998; Matheus et al., 1993; March, 1999).

The Framework for Strategic Decision-Making

In Chapter VIII, a decision problem was presented by three levels of decision: (1) strategic decisions — which refer to the long-range goals and the policies for resource allocation; (2) tactical decisions — referring to the acquisition and efficient utilization of resources in the accomplishment of organizational goals; and (3) operational decisions — concerning the efficient and effective execution of specific tasks. In that chapter, we have noted that the main character-
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