
A Study of Strategic Decision-making in the Indian Industry

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In this article, the author makes an attempt to study 144 strategic decisions from 94 business organizations in the Indian industry with a view to understand the strategic decision-making process. The decisions are analysed to structure the process of strategy making and a model of strategic decision-making process is developed. It can be observed that the strategic decision-making process is organizationally oriented with prominent information seeking characteristics.

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Most of the literature on strategic decision-making processes can be classified into two groups: Research by cognitive psychologists on individual and group decision-making; and research by management theorists on organizational decision-making.

Research on the cognitive perspective deals with top managers' cognitive models of strategic problems and the factors which affect the ways in which they construct their models (Haley and Stumpf, 1989). This, in turn, affects strategic issue diagnosis, problem formulation, and decision-making. The cognitive perspective specifically covers the concepts of strategic schemata (Axlerod, 1976; Schwenk, 1989; Masson and Mitroff, 1973; Lyles and Thomas, 1988) and cognitive heuristics and biases (Hogarth and Makridakis, 1981; Schwenk, 1988; Taylor, 1975).

Much of the work by management theorists has considered the strategies that organizations pursue. A strategy can be seen as a pattern in a stream of decisions (Mintzberg and Waters, 1982). The decision taken influences the information gathered, the options considered, and the arenas in which the action takes place (Cray, *et al.* 1988). Understanding the strategies of organizations inevitably requires a clearer comprehension of the process of decision-making. Due to the complexity of the process, researchers have been forced to limit the scope of their investigations by focusing on a few cases and/or by concentrating on a few aspects of the decision-making process (Astely, *ct al.* 1982).

Early case studies have provided insights into specific choice situations, but they have not been sufficiently expanded by comprehensive comparative research (Allison, 1971; Cyert, Simon, and Trow, 1956; Pettigrew, 1973). There have been researches where a larger number of cases were studied (Mintzberg, Raisinghani, and Theoret, 1976; March and Olssen, 1976; Axleson and Rosenberg, 1979; Drenth, *et al.* 1979; Nutt, 1984). Quinn (1980) in his study acquired in-depth information by interviewing managers in nine business organizations. The Bradford Studies (Hickson, *ct al.* 1986) were an attempt to expand the study of strategic decision-making in both depth and breadth. The data collection covered a wide variety of organizations and included more than one case in organizations.

In the present study, an attempt is made to study a large number of strategic decisions made in the Indian industry with a view to understand the strategic decision-making processes. The decisions will be then analysed to structure the decision-making process and develop a strategic decision-making process model. This study limits itself to the study of organizational decision-making and does not go into the cognitive perspective of strategic decision-making.

Theory Development

Detailed case studies of strategy making have revealed that the process is extremely complex and is seldom under the complete control of a firm's top management (Pettigrew, 1973). Perceived uncertainty and the need for change play an important role in the strategy making process (Anderson and Paine, 1975; Boeker, 1989; Starbuck, 1985).

The synoptic view of strategic process is expressed by Andrews (1971) and Ansoff (1965). In their view, strategic process is a highly rational, proactive process that involves activities such as establishing goals, monitoring the environment, assessing internal capabilities, searching for an evaluating alternative actions, and developing an integrated plan to achieve the goals. The incremental definition of Quinn (1980) views strategic processes as alternatives or as simply a more accurate characterization of how organizations actually make strategic decisions.

Many authors have provided models of the decision processes of individuals, groups, and organizations. Although all models have their own peculiarities, in many aspects, they are very similar. For example, all of them begin with the sensing of a stimulus or motive and argue that initial actions are critical because they shape what is done throughout the decision process (Mintzberg, Raisinghani, and Theoret, 1976; Cyert and March, 1963; Ansoff, 1965; Lyles and Mitroff, 1980; Fredrickson, 1985; Murphy, 1989; Volkema, 1983). The stimulus may be ranging on a continuum from exploitation of opportunities to reaction to problems and crises. Subject to their own cognitive limits and their organizations' resources, managers faced with this initial stimulus are likely to conduct analyses, search widely for information, and generally engage in activities to make decisions important for their organizations (Billing, Milburn, and Schagelman, 1980).

Strategic decision-making processes are composed of a number of elements. Over the years, many such elements have been selected singly or in combination as the major variables for specific studies. The most well-known framework is Simon's intelligence-design-choice

trichotomy (Simon, 1965). Ackerman (1970) analysed investment decisions and found evidence supporting a project definition phase, followed by an impetus phase, and authorization for project funding. Drucker (1973) argues that diagnosis is one important factor in the decision-making process. Mintzberg, Raisinghani, and Theoret (1976) followed Simon's trichotomy, though they defined the phases differently using the terms identification, development, and selection. They described these phases in terms of seven central routines and three supporting routines (decision-control, decision-communication, and political). They also identified six sets of dynamic factors that help to explain the relationships among the central and supporting routines. Together, these constitute the basic elements of the strategic decision processes. Shrivastava and Grant (1985), Fahey (1981), and Thompson (1967) also developed conceptual models of the strategic decision-making processes based on studies of multiple decision situations. These models appear to be either a variation or an extension of intelligence-design-choice phases discussed by Simon (1965). Zmud (1979) discussed the phases of recognizing, structuring, and resolving the decision situation similar to the intelligence phase of Simon (1965).

An approach called 'process reconstruction' was used to identify process types by Nutt (1984). He identified key activities to reconstruct the process. The three phases of identification, development, and selection were rearranged into five stages of formulation, concept development, detailing, evaluation, and implementation. Each of the five stages was divided into three steps of search, synthesis, and analysis where the search step is used to gather information, the synthesis step is used to assemble ideas in a relational format, and the analysis step is used to prune or prioritize ideas, objectives, problems, potential solutions, and the like. Each process may not fit into all elements of the process diagram but is helpful in identifying the elements sequentially as they might have occurred.

Methodology

The present study uses the in-depth field research method to collect qualitative data using a semi-structured questionnaire. The data are analysed using content analysis.

The data collected from the interviews reflected stories of decision-making processes and were recollections of the decision-makers' memories about how they made the particular decision. This technique has been extensively used by many researchers for analysing qualitative data (Daft and Macintosh, 1981;

Bower, 1970; Mintzberg, Raisinighani, and Theoret, 1976; Nutt, 1984).

Sample

Results with a useful degree of generalizability dictated a larger heterogeneous sample. A larger number of varied decisions from diverse set of organizations were required. Within the limits imposed by resources, this eventually led to the collection of data on 144 strategic decisions from 94 organizations over a period of more than two years. One hundred and thirty six top managers participated in the study on the condition of secrecy. The organizations in the sample reflected the diversity of businesses and represented a cross-sectional field. There were 77 firms from the manufacturing and 17 firms from the service sector. The firms in the manufacturing sector were drawn from manufacturers of industrial goods, vehicles, chemicals, consumer goods, drugs, metal alloys, plastics, textiles, packaging materials, cement products, electronics and computers, sugar, and paints. The firms in the service sector were from a population of firms providing computer consultancy services, marketing, financial, transport and tours, and courier services. The distribution of the sample according to the type of organization is shown in Table 1.

Table 1: Distribution of the Sample According to the Type of Organization

<i>Type of Organization</i>	<i>Number</i>
Manufacturing	
Industrial products	17
Chemicals/petrochemicals	10
Consumer goods	14
Drugs	9
Electronics and computers	7
Vehicles	2
Metal alloys	4
Plastics	3
Textiles	3
Packaging materials	4
Cement products	2
Sugar	1
Paints	1
Services	
Computer consultancy	4
Marketing	4
Financial	4
Transport and tours	4
Courier	1

Out of a total of 144 strategic decisions studied, 26 belonged to service organizations and 118 to manufacturing. The list of strategic decisions studied and the type of organizations are presented in Table 2.

Developing the Strategic Decision Process Model

This section describes the reconstruction of the decisions in the sample based on the steps identified in the process. The narrative form of the decision process is programmed in a flow chart form to identify the steps in the process. A strategic decision process model is developed using all the steps identified in the sample decisions.

Identification of Steps in the Strategic Decision-making Process

Out of a total of 144 strategic decisions studied, 70 decisions were recognized by opportunity and 59 decisions by the problem. Only 15 decision situations reached a stage where they were recognized by a crisis. The identification of an opportunity, problem, or crisis resulted in a search for information within the organization or outside. The purpose of this information search was mainly to confirm the situation by additional information and to facilitate the development of a solution. The information so gathered was used throughout the process with additional information search activity. The information search activity was actually found to be a continuous process during the decision-making but the search was maximum during the initial stages of the decision-making process.

It is observed that the decision makers broadly searched for information regarding the industry in which they were operating, their competitors, and customers. Where relevant, decision makers also wanted to know about the status of technology and technological innovations in the field. The decision maker was also interested in finding out the impact of various government regulations. In some cases, decision makers had initiated special market studies to understand the decision situation in a larger perspective.

From the sample, it is evident that the information about the industry was sought in 99 cases, about competitors in 110 cases, and about customers in 112 cases. In 78 cases, information was required about the state of technology, and in 86 cases, the impact of government regulations was sought by the decision makers. In only 14 cases, a special market research was carried out and most of these decision situations belonged to the functional area of marketing.

Table 2 : List of Organizations and the Strategic Decisions Studied

Manufacturing

Industrial Products

1. New product line
2. Reorganization of marketing department
3. New product line
4. Broadening distribution base
5. Computer-based MIS
6. Pricing policy
7. Computer-based MIS
8. New plant and equipment
9. New equipment
10. Diversification into cement production
11. Setting up turnkey projects
12. Setting up a new plant
13. Capacity expansion
14. Strengthening distribution network
15. Rearranging product mix
16. Pricing
17. Computerized MIS
18. Product mix
19. Creation of an export house
20. New product line
21. Computer-based MIS
22. Diversification
23. Improving quality of products
24. New plant (hose-pipe manufacturing)
25. Setting country-wide dealers network
26. Collaboration
27. Capacity expansion
28. New product line (foundry equipment)
29. Shifting location of plant
30. Development of new product (truck mounted crane)
31. Development of indigenous machines

Consumer Products

1. Pricing
2. Modernization
3. Diversification
4. Strengthening distribution network
5. Developing new product standards
6. Reorganizing sales department
7. Relaunch of product with added attributes
8. Launching of a new toothpaste
9. Relaunch of a shampoo with added attributes
10. Launching a new brand of cigarette
11. Pricing the range of products
12. Launching a new product
13. Buying a new automatic machine
14. New market segment
15. Foreign collaboration
16. New market segment (exports)
17. Pricing
18. Modernization
19. Product launch
20. Plant location
21. Product launch
22. Setting up a new factory
23. Product launch
24. Plant location
25. Diversification

Vehicles

1. New product line (tractors)
2. Diversification
3. Setting up a new plant in Pune
4. Introducing a new product

Chemicals/Petrochemicals

1. Capacity expansion
2. Modernization
3. Developing import substitute
4. Restructuring of sales department
5. Product launch
6. Distribution network expansion
7. Product launch
8. Computer-based MIS
9. Developing import substitute
10. Shifting manufacturing to another place
11. Expansion
12. Pricing
13. Foreign collaboration

Pharmaceutical

1. Diversification into diagnostic products
2. Backward integration
3. Setting up a new factory
4. Launching a new OTC product
5. Increasing field force
6. Launching a new product
7. Developing standards of quality
8. Launching a new product

Metals & Alloys

1. Capacity expansion
2. Diversification into construction
3. Entering export market
4. Developing indigenous process
5. Modernization

Plastics

1. Restructuring the organization
2. Capacity expansion
3. Price increase
4. Diversification

Textiles

1. Capacity expansion
2. Product launch
3. Export orientation
4. Diversification
5. Backward integration
6. New product line

Packaging

1. New plant
2. Modernization of plant
3. New product line
4. New equipments
5. Buying new machines

Electronics and Computers

1. Product mix
2. New product line (PC manufacturing)
3. Foreign collaboration
4. Product launch
5. Reorganization
6. Foreign collaboration
7. To enter local telecom market

Cement

1. Setting up a new plant
2. Going for export
3. New product
4. Setting up a new plant
5. Taking over distribution from agents

Sugar

1. Modernization of factory
2. Diversification into cement production

Paints

1. Setting up a factory in North India
2. Product launch
3. Collaboration with a Japanese firm

Services**Computer Services**

1. Custom-made software development
2. Turnkey projects
3. Product launch
4. Setting up R & D facility
5. Taking up hardware maintenance
6. Entering the field of consultancy
7. Developing data bank-related software
8. Concentrating on on-line industrial applications

Financial Services

1. Starting leasing and hire purchase finance
2. Concentrate on corporate deposits
3. To reduce commission
4. Discontinue services in retail business
5. Finance restructuring
6. Developing criteria for best portfolio

Marketing Services/Trading

1. Product launch (vehicles)
2. Entering office-automation line
3. Entering diamond trade
4. Trading of non-canalized items
5. Product launch (pharmaceutical)

Transport and Tours

1. Developing travel sales
2. Concentrating on Hajira for lifting materials
3. Pricing

Courier Services

1. Opening new branches
 2. New service lines
 3. Appointment of agents
 4. Foreign collaboration
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The development of alternatives was identified as a key activity during the process and in 39 cases, analytical methods (operation research and statistical methods) were used to develop an alternative. In 98 cases, specialists were used to develop custom-made solutions. The specialist could be from within the organization or outside consultants. In 13 cases, a ready-made solution found during information search was used as an alternative, whereas in 61 cases, the ready-made solution was modified to suit the organizations' requirements. In 25 decision situations, the decision makers used formal informal brainstorming as a tool to develop an alternative.

Three methods of evaluation of alternatives can be observed in the sample. Alternatives are evaluated by the analytical method, bargaining among top executives, and/or the judgement of the CEO. In the sample, the analytical method was used in 56 decision situations and bargaining in 65 to evaluate the alternatives. The judgement of the CEO was found to be the commonly used method of evaluation. In almost all cases (131), the final choice was made by the CEO.

During the course of the interviews, the managers were asked how the decisions, once made, were implemented. It can be noted that in 70 cases, a task force was appointed to implement the decision whereas in 46 cases, a special committee was constituted to implement the decision. Only in 3 cases, a liaison officer was appointed for this purpose. In rest of the cases, the normal hierarchy was asked to implement the decision. A reviewing authority was named in 78 cases to monitor the implementation. Funds allocation was seen as an important activity by 98 decision makers in the sample and signified the commitment of the organization to carry out the implementation. Table 3 summarizes the activities in their percentages as they were observed in the sample.

Table 3 : Identification of Activities in the Strategic Decision-making Process

<i>Activity</i>	<i>Percentage Observed (approximately)</i>
Recognition	
Opportunity	51
Problem	42
Crisis	7
Information Search	
Industry	69
Competitors	75
Customers	75
Technology	54
Government regulations	60
Market research	10

Alternative Development	
Analytical methods	28
Specialists	68
Ready-made solutions	10
Modified solution	42
Formal/informal discussion	17
Alternatives Evaluation	
Analytical methods	38
Bargaining among decision makers	45
Judgement	90
Implementation	
Task-force	50
Special committee	32
Liaison officer	2
Other methods/normal hierarchy	10
Reviewing Authority	54
Funds Allocation	68

Interruptions and. Delays Observed in the Process

Many interruptions and delays in the processes were reported. Specifically, they were: assigning priority to the decision problem, availability of information, comprehending the information, delay in obtaining results of analysis of data, delay in feedback, and the delays due to political activities in the organization. Interruption in the processes also occurred due to changing government regulations and their interpretation. Delays in implementation were reported as the firms were waiting for an opportune time or due to delay in the final commitment of resources.

Most pronounced delays in the process were due to non-availability of information (99 cases) or delays in feedback (96 cases). This points towards the fault of the communication system in the organizations. During the course of the interviews, many decision makers mentioned the need for improving communication. The next frequent source of delay reported was delay due to lack of comprehension of information presented to the decision makers. This was observed in 63 decision processes. The reason given for this was that either the information was not presented in the proper format or there was ambiguity in the information presented resulting in asking for more information and delaying the process. Delays were also reported due to waiting for results of the analysis of the data (63 cases). This delay was reported in the decision processes where analytical methods of development or evaluation of alternatives were used. In 61 cases, political activities at the top were the cause for the delay and this was prominent where the bargaining mode of evaluation of alternative was used.

Interruptions and delays were reported in 48 decision processes for awaiting priority to the decision problem after identification of the issue. Interruptions and delays were also reported in some processes in waiting for an opportune time for implementation (37 cases) and allocation of funds (30 cases). Interpretation and understanding the impact of government rules and regulations was the source of delay in 37 decision processes. Table 4 presents a summary of interruptions and delays observed in the sample.

Table 4 : Interruptions and Delays in the Strategic Decision-making Process

<i>Interruptions/Delays</i>	<i>Percentage Observed (approximately)</i>
Availability of information	69
Delay in feedback	66
Lack of comprehension of information	44
Delay in analysis of data	44
Political activities at the top	43
Awaiting priority	33
Waiting for opportune time	25
Allocation of funds	21
Interpretation and understanding of government regulations	25

A strategic decision-making process model can be constructed using all the steps identified earlier. The model is shown in Figure 1.

Discussion

The strategic decision-making process model presented in Figure 1 is not much different from what has already been reported in earlier studies. A distinct feature of this model, however, is that it presents a summation of all possible activities found during the study.

Each of the decision process in the sample begins with recognition and ends with implementation though each decision process may not have used all the activities shown in Figure 1. All the activities observed in the sample are grouped together to present the best available model which could be constructed using the information given by interviewees.

It can be seen from Table 3 that a majority of strategic decisions are recognized by sensing opportunity in the environment. This reflects the changing environment due to slow liberalization during 1980s and comparatively faster pace in the 1990s. This

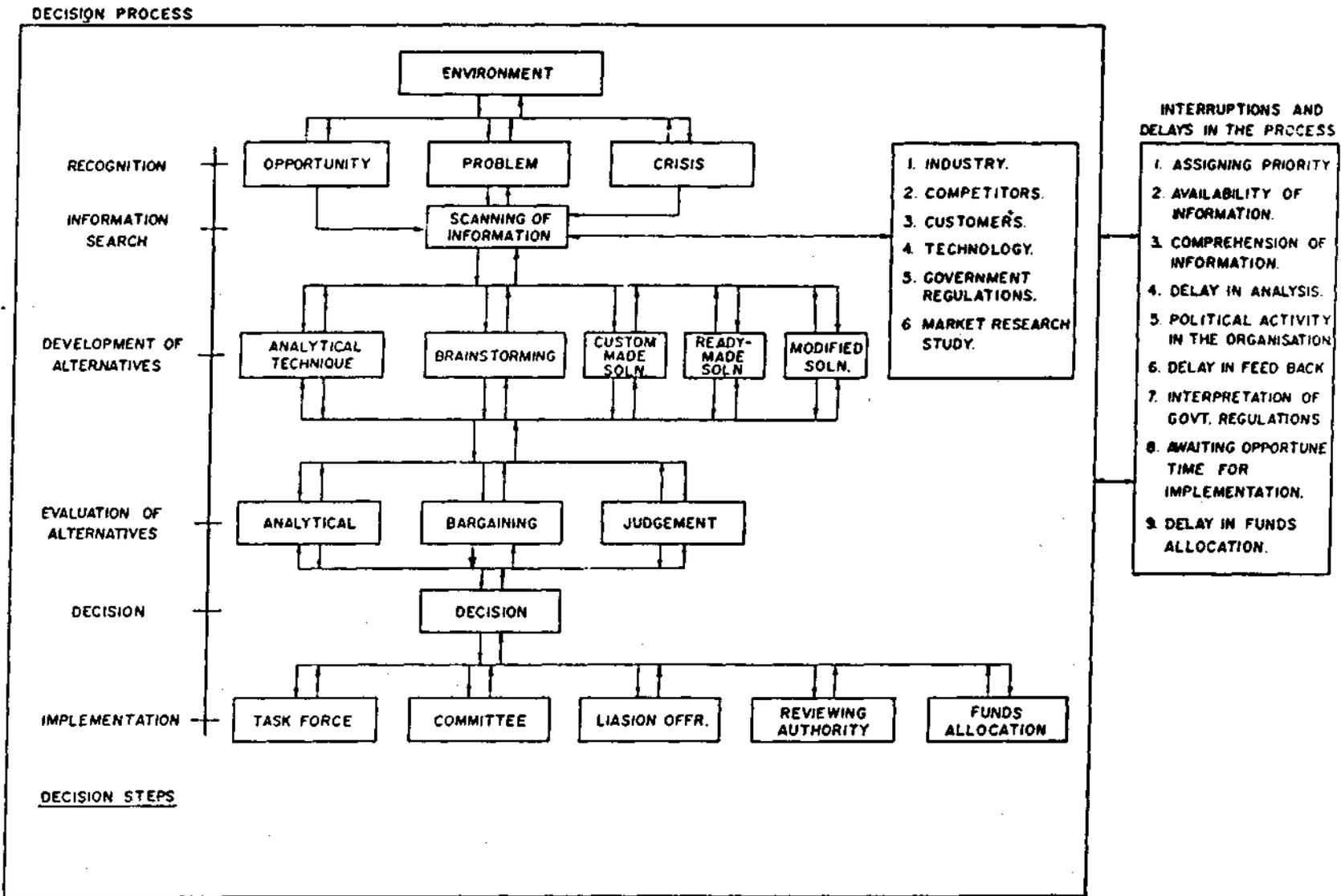
also creates survival problems and crisis situations. In some of the cases, it can be observed that even if the companies could identify an opportunity and had worked out future strategies, they were restrained to act due to non-availability of funds. As Table 4 suggests, almost 21 per cent of the strategies identified are delayed due to lack of funds. The scene, however, is changing very fast now as more and more firms are approaching primary market and/or Euro issue route for funds mobilization. This study was conducted during 1989 to 1992 when very few companies were approaching the market so aggressively. Observance of almost 21 per cent delay in the process because of delay in the interpretation and understanding of government regulations also indicates the fluid nature of liberalization and its impact on decision-making.

As is evident from the study, information search is very intense in the beginning of the process. Considerable information regarding industry, competitors, customers, technology, and government rules and regulations are collected while formulating the strategic problem. Only 10 per cent of the firms are found using market research study as a tool to collect relevant and precise information. This could be one of the reasons, besides faulty communication system of the organization, for the high incidence of delay in the process due to non-availability of information, lack of comprehension of information, and feedback (Table 4).

Almost 70 per cent of the firms are found to be using internal specialists or outside consultants to develop alternative strategies. Half the firms in the sample are also using their past experiences in developing strategies and are relying on ready-made solutions, i.e., using strategies adopted by other players in the field or modifying ready-made solutions to suit their particular needs. Comparatively few firms use operations research and statistical tools to develop alternatives.

Alternatives are evaluated by quantitative methods and bargaining among top executives. But in most of the cases, it is the final judgement of the top decision maker which prevailed. This indicates that the Indian industry is dominated by industry leaders who preferred their experience and intuition over recommendations of other decision makers in the organization. Table 4 shows that almost 43 per cent of the firms in the sample reported delays due to political activities at the top. While this signifies democratic functioning of the organization, it also stresses on the need for interference from the top to avoid unnecessary delays due to political activity. Still, the influence of these recommendations on the final strategies cannot be overlooked.

Figure 1: Model of Strategic Decision-making Processes in an Organization



Once the decision is made, it is implemented through a task force or a special committee set up for the purpose. A reviewing authority is designated to monitor the progress. Funds allocation for implementation of strategy is recognized as a major activity by 68 per cent of the interviewees. This step is significant as it commits the organization to pursue the strategies evolved.

There has been much discussion in the literature on the effects of organizational planning systems, control systems, and evaluation and control systems on strategic decision outcomes. It has been argued that formal strategic planning systems improve strategic decision-making by making it more systematic and thorough (Steiner, 1979). Other have suggested that formal planning may inhibit innovative strategy making and, therefore, reduce the quality of strategic decisions (Quinn, 1980). A study by Robinson (1982) suggests that formal planning may have positive effects on strategic decision-making, which, in turn, produces better performance. The present study indicates that at the individual decision level, what matters is the choice of a best decision in the given situation whether a planning system is in existence or not. It is possible that organizational planning system and procedures may influence a particular decision in some manner which may not be so visible. Allison (1971) states that many organizational decisions are the result of standard procedures and programmes. When the decision cannot be handled by such procedures, the search for solution follows a particular pattern which is influenced by organizational routine. Organizational adaptation produces changes in structures and routines and subsequently impacts decisions (pp 78-95).

Another significant observation noticed during analysis of data is that though the information search is more pronounced in the beginning of the strategic decision process, the information search continues throughout the process. As the strategic process is considered to be a process where the environmental conditions and signals are observed, assessed, and responded to (Ramnarayan and Reddy, 1989), the finding indicates that strategic decision-making is oriented to prominent information seeking characteristics. The information thus obtained continuously helps in the upgradation of knowledge and search for relevant information necessary for problem-solving. This also helps decision makers in unlearning and learning at the institutional level. This learning process is a key ingredient of strategic decision-making. Learning is the process by which knowledge about action-outcome relations is developed (Duncan and Weiss, 1978).

Organizational effectiveness is determined by the quality of the knowledge base available in the organization for making the crucial strategic choices. Organizational learning is a continuous process. Evidence of continuous information search points towards the fact that companies in the sample have developed formal/informal learning systems which are essential for institutionalization of experience. It also enhances capabilities of the organization to change (Shrivastava, 1983).

Conclusions

The knowledge of the decision process and its subsequent success in actual situations would result in increased confidence of decision makers in making strategic decisions. It will also help in organizational learning process. The findings can be used as instruments of organizational learning for decision makers to learn about the organization and the environment in which it is operating. This will help the decision makers to coordinate the firms' actions and ensure the development of the organization. The skills of acquisition, processing, and dissemination of information can be developed by improving the communication system of the organization.

It is possible that the particular categorization based on earlier models and the way interviews are conducted would have had an effect on the results obtained. The extent to which the results are affected by this methodology could be ascertained by further research by using alternate methodologies using quantitative methods.

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