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PROCESSES OF SUCCESSFUL MANAGERIAL DECISION-
MAKING IN ORGANIZATIONS : A COMPARISON STUDY
OF THE MAKING OF SUCCESSFUL AND LESS SUCCESSFUL
DECISIONS IN BUSINESS AND NON-BUSINESS ORGANIZATIONS

by

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P R E F A C E

Prior to joining the Organizational Analysis Research Unit, my first research attempt in this field was a study of distribution of power in Brazilian steel and textile firms. The "Strategic Contingencies' Theory of Power" had then provided much of the stimulus for this research. With the intention of obtaining a more profound professional commitment in this area and gaining further expertise in research methods in the Social Sciences area, I then contacted David Hickson in 1977. I learned from him that the Unit was involved in a project on Power and Decision Making in Organizations. After joining the Organizational Analysis Research Unit, I gained initial experience by joining in some interviewing that Richard Butler was conducting in the Open University about decision making. This reaffirmed my interest in a research theme which I thought fascinating and worth pursuing.

Having decided to commit myself to research in the decision making area, which culminated with the writing of this thesis, I found myself struggling to learn fresh ways of thinking. Coming from Psychology, most of my earliest research experiences were in experimental methodology where we are taught that concepts have to correspond exactly to what is observable in behaviour. Generalizations and inferences should be restricted to what is directly observable. In the field of work of this thesis I was puzzled at first by the anecdotal style derived from Sociology, and found myself in a dilemma between my first principles and the more discursive argument typical of a less developed research area. I gradually got used to this, and my three years at Bradford's Organizational Analysis Research Unit eventually consolidated my interest in organizations.

The development of a thesis is overwhelmingly dependent on the doctoral candidate's own commitment and previous experience. However, I could not have accomplished the research without the encouragement and help of many people to whom I wish to express my gratitude. In particular, there are so many at Bradford whose support was vital. It would be impossible to acknowledge adequately David Hickson who acted as my supervisor. He devoted much of his time in helping with the elaboration of concepts and project design. I am grateful for his constant encouragement and support in my efforts to learn a new language and adapt to a new country. I also could not fail to mention his patience in correcting the English in this thesis.

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But there comes a point when a thesis leaves the hands of its author and must be entrusted to capable hands on a typewriter. I owe a special debt of gratitude to Wendy Taylor who helped and retyped this thesis with remarkable skill and patience, under the same great time pressure as I was myself. She kept cool, and somehow we did it.

Living in Manchester, I have benefited from the help of many people on that side of the hills that divide Northern England. Dr Michael Lye offered the opportunity to use a spare desk in the postgraduate students' office at the University of South Manchester Hospital. Mr Barr and Mr Kae from the University of Manchester Extra-Mural Department and Mr Cunningham from the Manchester Business School allowed me the use of the computer installations.

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Above all, I must thank my family. I would like to thank my husband Anielo for his encouragement and support which has been constant throughout my professional career. Tercila for her dedication and love to my daughter Angela whilst I was doing this research. My mother, Lenir, for her encouragement and sacrifice which allowed me to go to university. Finally, this work is dedicated to Arthur, my father, who has taught me that one can create what one wants to be.

Muito obrigado a todos voces.--

Suzana Braga Rodrigues

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CHAPTER IINTRODUCTION.1.1. The Stimuli for the Research

Upon reflection, it seems that one gets involved with a particular research problem because of the accidents of personal and professional experience. Then ideas which initiate a project change as a result of what comes across when reading or what is said in conversation with other researchers.

In the case of this project, the initial ideas go back to my early research on distribution of power and decision-making in Brazilian steel and textile firms, when the question of power and decision-making appeared highly interrelated. Then, when joining the Organizational Analysis Research Unit, the Research team's own efforts to unfold the nature of decision-making and translate into concepts provided much of the stimuli to this thesis concern with decision-making and concepts which were later developed.

However, interest in what makes for successful, as against unsuccessful decision-making arose from some peculiar examples which I have witnessed and from reading case studies about decisions whose processes have shown some interesting peculiarity and whose consequences upon the organization were quite visible.

In mid January 1977, for example, the Brazilian government in a reaction to a sudden increase in oil prices and the consequent burden on the balance of payments, decided to reduce oil consumption. One of the measures

Introduced was petrol rationing. On 19th of January of this year, ministers of economy in a television broadcast announced that vehicle owners should, from mid March onwards, buy petrol using vouchers acquired from commercial and state banks. The consumers had to buy a pack of vouchers of different values comprising a minimum of 200 cruzeiros. Instead of a direct increase on the price of petrol, which is fixed in Brazil, the government preferred to adopt a policy intending to achieve compulsory savings in three ways: firstly, the pack of vouchers required a minimum spending cash - the greater number of consumers would not have the 200 cruzeiros available at once. Secondly, consumers would tend to save petrol since vouchers might not easily be available either, for example at weekends. Thirdly, the vouchers implied an increase of 2 cruzeiros per litre in the price of petrol which consumers were entitled to recover after two years. Public reaction was unfavourable, not only because it would mean petrol rationing but because bureaucratic mechanisms would certainly not work efficiently and a "black market price" for vouchers would ensue, if some people wished to pay more to obtain petrol. Industry too has shown reservations as to the policy, particularly the car industry, which would be more affected.

On March 10th, four days before implementation, after vouchers had already been distributed to banks and all procedures had been prepared to put the new scheme into practice, the government announced that the proposal had been withdrawn due to an unexpected increase in export sales having offset the burden of oil costs in the external debt. At this point 30 million

packs of vouchers had been printed by the Brazilian government costing 10 million cruzeiros.

The consequences of this decision were clear: resources had been committed without a return. Interruption of implementation has suggested that consequences could have become serious and wider. Costs to ensure the efficient operation of the system would probably have overcome savings in petrol consumption. Apart from that, vehicle owners would have developed their own ways to cope with the system so as to maintain the usual level of petrol consumption, making the scheme useless as far as the initial purposes were concerned. Thus, events suggest that this decision could have been even more "consequential". The peculiar characteristics of this decision had an intuitive appeal for research. It would be interesting to see whether different types of decisions would have similar characteristics, to reveal whether they would also have unanticipated consequences and whether their initial purposes were achieved.

This initial interest led to a literature search in the early days of the project which disclosed some cases of decision making whose exceptional consequences further focused attention on this research theme. In 1958, for example, the Ford company launched in the USA the middle range price Ford Edzel, which resulted in a loss of 250 million dollars. The Edzel failure was reported by Business Week (November 28, 1959) as follows:

"Ford Motor Company last week admitted for all to know that its Edzel car was one of the most expensive mistakes a USA corporation has ever made. After costing Ford 250 million to bring to the market the Edzel lost an estimated 200 million dollars more during nearly 2½ years it was in production" (Deutsch, 1976:44)

An explanation for the failure provided by Business Week was that Ford had not done a conventional market research but had used instead a motivational type of study, "imagery studies", in which models are supposed to reflect consumer's images (Deutsch 1976:45).

The literature of decision-making has plenty of such examples in which organizations or governments make decisions which have important consequences for people's lives and organizations. Some consequences are so organization-wide that they may create new opportunities and stimulate growth, or on the other side of the coin, they may threaten the survival of the system. As Deutsch (1976) observes, only a big company like Ford could make a mistake costing a quarter of a billion dollars and still survive.

Other examples in the literature suggest that what happens in the decision process may seriously affect the attainment of intended objectives. Allison (1969) describing the Cuban missile crisis decision, reports on the territorial disputes between the CIA and the US Air Force which put at risk the successfulness of the decision. Difficulties in settling the dispute delayed confirming the need for a decision which may have turned the eventual action

into a failure. Allison (1969:705) comments on these events:

"This ten days delay constitutes some form of "failure". In the face of well founded suspicions concerning offensive Soviet missiles in Cuba that posed a critical threat to the United States most vital interests, squabbling between organizations whose job is to produce this information seems entirely inappropriate".

Another example reported in the literature is a case of a Presidential decision which was not implemented because it was invalidated by the Supreme Court. Hah and Lindquist (1975) report this case in which President Truman embargoed the steel mills in an attempt to avoid an industry strike in a period where the maintenance of steel production was very important for the USA performance in the Korean war. The steel workers' strike started immediately after the Supreme Court's decision. As Hah and Lindquist (1975) note, this was the first time in the history of the United States that the Supreme Court had invalidated a president's decision. Pressure of time, White House inability to anticipate events, and lack of presidential power to influence events, left no other alternative to the President, who decided to attempt seizure to guarantee steel production.

The case examples above suggest, in the first place, that consequences of decisions are quite visible, that is, it seems possible to distinguish decisions by outcomes. Then a question which this immediately prompts is - Can decisions be defined as more and less successful by comparing their outcomes?

A second question which emerges as a consequence of the first is - Would there be many reasons for failure and success? Answers to such questions are neither easy, simple nor immediate. The interest to clarify some of the many questions linked to the problem of decision failure and success led to the design of a project aimed to define the characteristics of more and less successful decisions and aimed to understand the reasons for variations in the degree of success.

.1.2. The Focus of the Thesis

In relation to the second question mentioned above, some aspects appeared particularly salient when examining the cases just presented. For example in the Brazilian case a remedial decision was taken under conditions of scarce resources. In the Ford Edzel case, search by the company concerned was said to be insufficient and inappropriate. Deutsch (1976) has argued that in the Ford case, search activities had not been successful in bringing critical information; a change in the consumers' habits and needs had not been detected in time so as to influence the sort of car Edzel should be. President Truman's decision was made under time pressure and was blocked by political contention. The success of the Cuban missile crisis on the other hand, was threatened by unexpected delays, until conflict between different groups as to each others respective areas of influence was solved. Thus, although the aim in providing the case examples was to illustrate the reasons for concern with successful decision-making, some clue has been provided about where explanation for variations in the degree of success would possibly lie. From this earlier

literature review, the means to make a decision appeared to be as important as what happens during the process of deciding.

A further examination of the relevant literature has shown that decision-making is explained within the most diverse perspectives. However, the various approaches have traditionally concentrated on three major themes: MEANS, PROCESS and RESULTS. Each approach has nevertheless focused on mutually exclusive paradigms. Within a means results perspective, normative theorists (Churchman 1961, Alexis and Wilson 1967, Keen and Morton 1978) have focused on the means to achieve intended outcomes; better decisions can be achieved with an appropriate use of time, resources and information. Here one gets the image of decision-making as a goal directed process.

Satisficing theory emerged as an alternative and more realistic view. In this theory, information gathering activity is seen as a process in its own right. This approach has given importance to behavioural constraints to decision-making. Here emphasis is transferred to the limits of the decision-maker as an information processing agent; which seeks courses of action which are only satisficing. Those working within similar lines, have been concerned with rational bounded and irrational aspects of choice (Cohen et al 1972, March and Olsen 1976, March 1979).

Alternative views focus on the process of making the decision itself. Among those, there has been a current enthusiasm for the political aspects of

decision-making (Lindblom 1970, Baldrige 1971, Pettigrew 1973, Abell 1975, Crozier 1976) and for its structural aspects (Witte 1972, Mintzberg 1976).

Within the political view, emphasis is given to the pluralistic aspects of decision-making; studies describe how antagonistic interests compete for common resources and how powerful groups make their views prevail.

Under this perspective, decision-making outcomes are seen as a result of bargaining and use of power. Approaches concerned with the structural aspects of the process address to an entirely different question. Here decision-making is seen as a series of activities which develop over time but not necessarily in sequence. Such activities may be either problem or politically oriented. The various decision-making approaches have thus, concentrated on alternative themes; studies are concerned either with means x results, means x process and yet are interested in the characteristics of the process only. In consequence this project aims to examine the sources of decision-making success which has its roots in alternative paradigms. Successfulness is first examined in terms of constraints set by resources information and time to make the decision; secondly in terms of forms of activation of the decision process which focus on conflict levels and influence distribution. Finally, success is analysed in terms of the pace at which the process proceeds. Focusing on instrumental and behavioural variables, this research represents an attempt to establish the links between MEANS, PROCESS and RESULTS. It therefore meets the criticisms of more recent research in the field which see the need for a theoretical synthesis and refinement (Horvath and McMillan 1979, Astley et al 1980).

The interest in comparing decisions in terms of the degree of success required a research design which led to an attempt to find extreme cases - successful and unsuccessful decisions which made the 53 decision cases studied in this research - and to a definition of the concept of success. Once success is defined a second ambition consists of explaining decision success with basis on the decision-making characteristics just presented above. The need to obtain maximum variation on the instrumental and behavioural aspects led to a project design incorporating decisions from business and non-business organizations. The comparison of the 53 decision cases across these two types of organizations nevertheless did not prove as fruitful as the separate analyses for business and non-business organizations. From this, another major concern emerged which consists of examining the relative importance of instrumental and behavioural aspects in each type of organization, as well as, whether these organizations would differ in their concept of success.

.1.3. The Plan of the Thesis

This thesis is presented in nine chapters. Chapters II, III and IV are theoretical expositions leading to the development of a concept of successful decision-making (Chapter III) and then to the construction of a conceptual model aimed at examining the importance of constraints, modes of process activation and decision pace to successful outcomes of decisions taken across the two types of organizations, business and non-business (Chapter IV). Some hypotheses postulate how these variables are interrelated and how they relate to decision-making outcomes.

Chapter V focuses on the methodology. It describes the sample of organizations and decisions obtained and the reasons for concern with business and non-business organizations. Here some practical problems which researchers have to confront in field studies are also discussed. An account is given of the data collection methods used. In Chapter VI, the operational definitions of the variables of the conceptual framework are given, and the contribution of data analysis techniques, such as factor analysis, is explained. Chapter VII presents an analysis of the plausibility of the hypotheses formulated in Chapter IV in the light of correlational results. Emphasis is given to results for non-business organizations in relation to the importance given to behavioural aspects of decision-making as opposed to instrumental aspects. Some examples of less successful decisions are discussed in this chapter, with a focus on variables which are shown to be important in terms of decision outcomes. A final section discusses some theoretical implications which arise from the empirical results for non-business organizations. Chapter VIII presents the results for business firms as compared to those for non-business organizations. Chapter IX considers the conclusions that can be drawn from this work.

CHAPTER II

SUCCESSFUL DECISION-MAKING WITHIN A THEORETICAL CONTEXT

This chapter deals with two apparently separate themes: first it describes the unit of analysis which concerns this research. Secondly, it provides a theoretical justification for concern with decision-making success. In providing justification for development of a study interested in the definition of decision-making success, three traditional decision-making approaches are examined in their major characteristics. Emphasis is given to rational, satisficing and incremental theory which have broached this subject, but as it will be seen, in a rather superficial manner. In the final section, recent developments in decision-making theory are briefly examined so as to present the reasons for using different types of explanation of decision-making success.

.2.1. The Unit of Analysis

The explosion of studies in decision-making in the last few years has led Horvath and McMillan (1979) to state that decision-making is now at the top of the researcher's agenda. However, the study of strategic and non-routine decision-making has still not received the attention it deserves. A recent review of the literature in decision-making as related to organization theory suggests that researches have concentrated either on case studies or on decisions of a similar kind in just one type of organization. Within this, too much attention is paid to decisions concerning computers and data processing (Butler et al 1979). The major exception is the work of Mintzberg et al (1976) who analysed different

strategic processes in various organizations. They have argued that so far researchers have paid little attention to non-routine and unstructured decisions preferring to concentrate on the ones more easily subjected to quantitative analysis.

If little attention has been paid to the less routine decisions, even less research effort has been spent on understanding the characteristics of the processes of making them in different types of organizations, as Butler et al (1979) point out. This study therefore while providing a framework for the analysis of decisions varying in the degree of success has developed concepts to capture the essence of non-routine decisions potentially in all types of organizations, public and private, business and non-business, etc.

Theoretically, this research focuses on two levels of analysis. First there is an interest in exploring how decisions vary in the degree of success and in explaining these variations by means of the concepts developed in this present research. The theoretical focus is on non-routine decisions and the level of analysis is that of the decision process. From this, a second question emerges which refers to what aspects of the decision process are more salient to decision-making success in different types of organizations. Then the unit of analysis became the organization. Before elaborating on the interest in differences between types of organizations, it is necessary to examine theoretically the characteristics of the type of decisions this research is concerned with to comprehend the subsequent empirical project design.

.2.1.1. Some Characteristics of Non-Routine Decisions

Non-routine decisions have been the subject of concern of both business policy and organization theory although with a different emphasis. Business policy views management as an opportunist agent (Bourgeois and Astley 1979). Organizations theorists, on the other hand, are primarily concerned with the way in which organizations respond to environment (Lawrence and Lorsch 1967, Pugh et al 1968). In its concern with non-routine decisions, business policy is particularly interested in strategic decisions and emphasize quantitative factors. Organization theory, on the other hand, tends to focus on the behavioural aspects of these decisions; then it concerns not only with strategic decisions but with those non-routine which are innovative and represent a change in the organization's state of affairs (Harvey and Mills 1970, Pettigrew 1973).

Differences in the two approaches are also reflected in the way in which strategic decision-making is defined. Business policy is mostly concerned with decisions about resource allocation. Chandler (1962:383) referred to strategic decisions as being those which deal with long term allocation of existing resources and with the development of new resources to ensure the health and growth of the enterprise. These decisions usually affect the selection of product mixes (the business areas of the firm) and the identification of markets (the business which the firm will seek to enter) (Ansoff 1968:18). In Ansoff's (1968) terms "strategic" decisions are the ones "pertaining to the

relation between the firm and its environment". Strategic decisions have some peculiar characteristics: usually they involve important resources, are generally centralized, non-repetitive, and the need for taking them is not easily recognized. This view resembles Drucker's (1963:311) idea of strategic decisions, which he refers to as being decisions to define a situation or resources. Examples of these decisions are: defining business objectives, and the means to attain them; and decisions affecting productivity, on form of organization, and on capital expenditure.

Huntington (1961), studying development of American military policies, distinguishes between strategic and structural decisions on a similar basis. Thus, strategic decisions are those related to international politics and structure decisions to domestic politics. They are also distinguished by content: strategic decisions are concerned with the uses, strength and weapons of the armed forces whilst structural decisions are concerned with financial, manpower and material allocation.

However, organization theory, instead of identifying a strategic decision by its content, defines it in terms of characteristics of the strategic process and of the strategic stimuli. Mintzberg and associates (1976) note that a strategic decision can be distinguished from others in terms of importance of resources committed and precedents which it sets for similar decisions. The strategic decision process is then characterized by "novelty, complexity and open endedness". That is, it is a process in which the understanding of what the situation

is about comes gradually with the making of the decision (Mintzberg 1976:250).

In distinguishing non-routine decisions from the routine ones, organization theory calls attention to the innovative character of the former. If non-routine decisions are new, precedents or guidelines cannot yet have been established. Thus, these decisions are likely to disturb the on-going state of affairs of the organization and require some adaptive changes (Harvey and Mills 1970). Pettigrew (1973) has argued that new decisions are likely to threaten the established resource-sharing patterns of the organization and consequently provide an occasion for political behaviour and power shifts. It seems, therefore, that this kind of decision affects the organization in a much wider manner than the more simple and routine decisions.

Intensity of search and duration appears also to be a distinct facet of non-routine decision-making. When a decision is routine, procedures to handle it are already available within the organizational structure, and search activities tend to be limited and institutionalized. By contrast, a new non-routine decision, due to its unprecedented nature, requires a wider exploration (Harvey and Mills 1970). Because of the amount of search involved, the presence of political behaviour and other reasons, these decisions seem to have a longer duration. Mintzberg and associates (1976) have noted that most of their decisions spanned a long period of time; only a few lasted less than a year.

Non-routine decisions appear therefore to have some peculiar

characteristics. These may be summarized as follows:

- (a) Some non-routine decisions are new to the organizations, therefore
 - they begin with a vague understanding of the situation;
 - they disturb the organizational status quo: and
 - they require some adaptative changes.
- (b) They may involve valuable resources.
- (c) They may involve top management in the organization.
- (d) They may have a long decision process.

Which of these factors are the most important in defining what non-routine decision-making is, is a question which calls for empirical examination, and is at the moment beyond the purpose of this research. All decisions in this present research are non-routine in character. Some fall into the category of strategic decisions and then have some of the characteristics peculiar to these decisions as described above. Others are simply new decisions without any precedents. Nevertheless, most of the decisions studied here are strategic in the sense that they were processed at top management level and have been defined as important to the organization by the chief executive.

In studying the processes of making non-routine decisions, this research is primarily concerned with single decisions. A distinction, therefore, must be made between these decisions and strategy which have traditionally been the concern of business policy (Chandler 1962, Ansoff 1968, Shirley et al 1976, Newbould and Luffman 1978), but has recently awakened the interest of organization

theorists (Mintzberg 1977, Horvath and McMillan 1978, Bourgeois and Astley 1979). Strategy has usually been defined as a set of guidelines which define the overall directions of the organization or as rules for making decisions (Ansoff 1968, Shirley et al 1976, Child 1977). Other studies, nevertheless, claim that this definition is incomplete and does not include those decisions which have gradually evolved into a strategy without any previous clear intentions. These studies prefer to define strategy as a cluster of interrelated decisions which occur over time. (Mintzberg 1977, Hedberg and Johnson 1977, Horvath and McMillan 1979)

This present research does not concern itself with a group of inter-related decisions but with discrete decisions some of which may have been extracted from a stream of decisions, others nevertheless may consist of isolated decisions taken by the organization. The definition of non-routine decisions as summarised above should then be understood within the context of single decisions as they have been studied by Mintzberg et al (1976), Astley et al (1980).

As mentioned in the beginning of this section, only recently has organizational theory directed attention to critical unstructured decisions. In fact, the need for understanding important non-routine decisions has long been felt in organization theory. Bower (1971) has noted that behavioural-decision theorists have neglected the important decisions in organizations under the plea of their unstructured characteristics. It remains to be shown in the

following sections that evaluation of non-routine decision-making has not been integrated into behavioural theory in a coherent and comprehensive form.

Little work has been developed on the relative success of non-routine decisions.

Rational decision-making theory has addressed itself to the question of decision-making efficiency or to the "best decision", nevertheless, reference is made to only technical and routine decisions. The justification of concern for variations in the degree of success of non-routine decisions come from weaknesses in the literature of decision-making which ranges from lack of interest for the subject through failure in integrating it to theory in a coherent and complete manner, to lack of empirical work in the subject.

The following section describes three traditional decision-making approaches in their principal characteristics particularly in how they see the question of a best decision.

2.2. Traditional Decision-Making Approaches: the Best Decision Controversy

Since the idea of bounded rationality has come to the forefront in organizational theory, the notions of attaining the best and most correct decisions as well as the concern for the quality of decision outcomes from the rational model have been rejected. With the impact of these major influences on organizational theory, the problem of relating the decision process to the decision results comes to be seen as not important or not as plausible. The idea that courses of action only achieve satisficing levels suggests that results will be satisficing whatever is done or whatever occurs in the decision process. This argument is discussed

further in this section after the examination of the main propositions of traditional decision-making approaches and the controversy around the best decision issue, in which the idea that analysis of the decision outcomes is not theoretically relevant appears to have originated.

.2.2.1. Rationality Paradigm

Research proposing to deal with decision-making success must not neglect ideas about rationality in decision-making. This concept is so pervasive that it influences not only ideas about how an organization should be (Weber 1969), but what decision-makers should aim at - the assumption of maximization from economic theory - and what means they should use to make decisions under conditions of uncertainty such as Bayesian statistical decision techniques, payoff tables and decision trees' game theory (Moore 1976, Scott 1976, Harrison 1975, Luce and Raiffa 1957). A common characteristic of such approaches is their normative character, that is they propose models of how organizations and decisions ought to be rather than describe what an organization is or how decisions are actually made. Secondly, they are characterized by the aim of efficiency, associated with choosing means which best achieve ends.

At the decision-making level, rational behaviour has been understood as a condition for making the best choice and consequently for obtaining success. The decision-maker is assumed to behave rationally when there is an occasion for a decision. He orders alternatives in terms of their desirability (Arrow 1951),

for "(he) is a maximizer who settles for nothing less than the best" (Simon 1978:2). Given these assumptions, the basic pattern of decision-making process as described by Feldman and Kanter (1965) consists of :-

- (a) Breaking the problem down into its elements.
- (b) Attributing values to a set of preferences according to states of nature.
- (c) Assigning values to consequences of alternatives.
- (d) Choosing the alternative which maximizes utility.

A logical deduction is that the correct decision is the one which follows the rational pattern.

Extended to organizations, rational economic theory assumes that decisions are taken with a view of profit maximization. When the situation is risky, decision-makers are assumed to maximize expected utility (Edwards 1954). When the situation is uncertain, techniques derived from Statistics and Economics provide guidelines for achieving the best choice. As Arrow (1951:409) suggests, the statistician and the businessman find themselves in similar situations:

"The statistician's problem is of the same general type as the businessman's and even the information getting aspects have their economic counterparts. The various theories which have been proposed from time to time as foundations for statistical inference are therefore closely related to theories of economic behavior under uncertainty."

The underlying assumptions of this approach are:

(i) that the decision-maker is omniscient, i. e. that he has perfect knowledge of demand and supply prices; (ii) that there are no conditions which make it impossible to transform choice into action; and (iii) that a choice is made by a single individual. The business firm is seen as a unit where intra-organizational relationships do not operate (Katona 1964).

Despite his different emphasis on organizational structure and systems of authority, Weber's (1969) ideas and those of economists converge at the point where organizations and individuals are viewed as purposive, both choosing the best means to attain ends. Additionally, the assumption that organizational goals and those of individuals correspond is vested in their ideal types.

The ideas of rationality adopted by classical bureaucracy theory and economic theory have been challenged by Simon (1976) who criticized them mostly for their lack of realism. He proposed a new model of organization based on decision-making systems. Another critique which influenced decision-making theory came from Lindblom (1959). He argued that rational theory failed to explain how political decisions are actually made and put forward a model for policy which he believed would enable politicians gradually to introduce drastic changes without rocking the boat or where change seemed impossible (Lindblom 1979).

In the next subsection these two points of view will be examined for their

criticism of the rational models and for the ideas they put forward on decision process and the evaluation of decision-making results.

.2.2.2. Satisficing Paradigm

Although Barnard (1962) had already recognized man's limitations in making decisions, Simon's (1976) criticisms of the rationality assumptions had the greatest impact on the theory of decision-making. In view view, choice instead of being rational is only boundedly rational. Choices are not only made under incomplete knowledge of the consequences of alternatives, they are influenced by psychological factors such as habits, skills and motivations. The decision-maker seeks simplification; search stops when he finds a satisficing alternative (March and Simon 1958). Rationality exists but only in a partial way. Choice behaviour is not integrated by a continuous weighting of means and ends; information comes gradually with the search process. The organization is seen as an adaptive system, it avoids uncertainty by exercising more control over the environment. The organization develops repertoires as a result of learning, so that standard procedures are activated to cope with uncertainty (Cyert and March 1963).

Thus the satisficing approach rejects ideas of a correct decision and sees instead one that will do for the time being in the current circumstances. Simon (1976) also criticized the economic concept of efficiency and showed difficulties in applying it to decisions in non commercial organizations. The usual

criteria for comparing decision results in commercial organizations, an analysis of profits and costs, do not easily apply to public services where objectives are more vague and stated in terms of value. He has argued that while the criteria in commercial organizations tend to be more definite in terms of being based upon economic factors in public organizations the concept has to consider the interest of divergent groups:

"In the language of the economist, the problem of efficiency in the public agency must be approached from the standpoint of the general rather than from the partial equilibrium". (Simon 1976:XXIX)

Simon has also questioned the comparison of means and ends as an alternative criterion for decision efficiency on the grounds that this kind of analysis does not consider the implications of alternatives which have not been chosen, and it does not account for the time factor. Moreover, means and ends cannot in practice be separated and means are not completely free from values. Instead, the only valid distinction is between the factual and value elements of the decision. Value judgements provide the organization's ultimate goals and factual judgements define the implementation of such goals. Therefore, criteria of efficiency can only be employed for factual decisions, for those technical in character. Correctness has no meaning for decisions where value considerations are necessary.

Although rejecting ideas of profit maximization in principle, Simon really does not move very far from those ideas when he proposes a comparison between positive value and costs as a form of evaluating decision results. It appears that he has not completely abandoned the rational perspective as an

explanatory tool. He explains how "Administrative Behavior" should accommodate ideas of rationality and those of bounded rationality:

"Administrative Behavior was first published to construct a model of rational choice that incorporates the actual properties of human being and at the same time retains some of the formal clarity of the economic behavior".

(Simon 1976: XXIX)

The idea that organizations' decisions are oriented towards a single goal of profit maximization has been criticized by Cyert and March (1963) who conceive of an organization as a coalition of individuals with conflicting goals. Both individuals and coalitions of individuals within the organization have their own goals. Goals are not fixed, they are developed through bargaining and change over time as organization members change. Aspiration levels change with past experience. Even though conflict is unresolved, the organization can still survive due to devices such as factoring goals, so that each unit can pursue its own goal without interfering with other units' goals. Coalitions are feasible because there are formal arrangements which specify sequential attention to the claims of different subunits.

Whereas there is common ground for Simon (1976) and Cyert and March (1963) that organizations have multiple conflicting goals, they have different explanations as to how these influence decision-making. Cyert and March (1963) do not believe that organizations resolve conflict. By factoring goals and allowing for sequential claims, different subunits do not need to compromise

or revise their aspirations. In Simon's view, individuals' goals are not necessarily different from those of the organization. The organization's goal is the universe of goals which are not linked to personal motives. The balance between inducements and contributions may alter the extent to which the individual "joins" the organization or accepts the organisation's role. He may do so very fully if the inducements are sufficient. On the other hand, there may not be much coherence. Problems are solved, but only partially, and at a satisficing level. Solutions, therefore, may not be compatible with the organization's overall goals. (Simon 1976:247). Coherence with more general goals may be obtained at the end by mechanisms inherent to the system, such as organizational learning and by establishing penalties and rewards for conformity with role constraints. The system may look uncoupled but not necessarily inoperative.

While satisficing theory has been recognized as providing a broader framework in the understanding of how organizations make decisions, it has been criticized for many reasons. Loasby (1968) and Soeberg (1967) disagree with the idea that organizational goals in fact prescribe choice. Another argument relies on an idea that decision-makers do frequently go beyond the satisficing level, mostly when the situation is one of innovation and requires new patterns of behaviour (Krupp 1961, Soeberg 1967, Loasby 1968).

.2.2.3. Incrementalism Approach

Conventional ideas of decision-making were also questioned in their

main assumption by Lindblom (1959) who proposed an alternative model which he named "muddling through" to characterize the partial and incremental features of the decision-making process as opposed to the static conception of rational theory. An important notion is the one of fragmentation. Whilst rational methods assume perfect agreement on goals, Lindblom's incrementalism assumes that goals and values are fragmented.

At a societal level fragmentation is a result of how democratic societies are organized. Interest groups, by virtue of their specialized functions have different views and attitudes concerning the same issue. Therefore, fragmentation of political interests may lead to analytic fragmentation. That is, if variables central for one group are considered peripheral by another and powerful group, such variables can be left out of consideration when decisions are made (Lindblom 1958). Linked to this idea is the idea of partisan mutual adjustment, which it is suggested occurs in decentralized forms of decision-making where fragmentation exists. In this situation "policy making happens instead of being decided upon", so that connections between a policy and the reasons for making it are not easily identifiable (Lindblom 1979:523). Although Lindblom was referring here to decision-making at a societal level the same may be applied to organizations.

The central assumption lies in the idea of incrementalism. Rather than attempting to foresee all consequences of alternatives, the policy maker, due to his intellectual limitations simplifies the situation and examines only those

alternatives which are slightly different from policies already in effect. As a result, policies are actually made in terms of successive comparisons between the status quo and anticipated marginal changes which may result from the introduction of the policy.

Lindblom (1979) distinguishes this type of analysis which he called simple incremental analysis from disjointed incrementalism which he defines as a type of policy making characterized by a set of strategies to simplify the situation, such as the limitation of analysis to familiar alternatives, the intermixture of values with empirical aspects of the problem, concern for ills to be defined rather than for positive goals, a sequence of trial and error, and fragmentation of policy (Lindblom 1979:517).

Given this view, the analysis of decision-making results cannot be made in traditional terms by comparing means with achievement of ends. Nevertheless, with incrementalism, it is still possible to test a policy against its results by comparing how incremental it was. The best way of making decisions is therefore by an incremental process, little by little, especially in conditions where change seems more difficult or impossible (Lindblom 1979). In these circumstances, it is possible to attain agreement. But here, participants agree on an "ad hoc" policy rather than on ultimate values.

Lindblom's analysis, nevertheless, has been subject to much criticism. First, as an explanatory theory of decision-making behaviour it has been criticized

for being partial, that is, it does not explain behaviour in conditions of innovation where there is no past policy from which to begin (Dror 1969, Cates 1979), or in the most complex political situations (Adams 1979). Dror (1969) argues that intentional use of the method is appropriate only when the results of previous policy are satisfactory and when there is continuity in the nature of the problem and the means of dealing with it. Therefore, it does not provide a sufficient framework to analyse decisions which occur at top level, such as strategic decisions.

Another aspect which has been criticized is the implied use of incremental politics (a concept recently re-elaborated by Lindblom 1979) as a method of policy making. Dror (1969) argues that it is a method for "maximising security" and favours inertia. Other criticisms of incrementalism as a deliberate means of making decisions focus on the remedial aspects because it concentrates more on the relief of symptoms than on the diagnosis of problems and their solutions (Nees 1979).

The idea of agreement on policies as a criterion for the quality of policies is surely a debatable point. While people may agree on sensible policies, they may just as well agree on disastrous ones. Dror (1969) picks up this point and argues that agreement must not be taken as a substitute for examination of alternatives. Some who adopt a pluralistic view, such as George (1972) and Argyris (1976), see conflict and disagreement as functional and as conditions for achieving better decision making. They would certainly oppose the idea that agreement is always associated with the best decisions.

.2.2.4. The Theoretical Challenge and a Justification for Concern with the Relative Success of Non-routine Decision-Making

The major characteristics of the three traditional approaches are presented in Table 2.1. As this table shows, the satisficing and incrementalism approaches have suggested that organizations and, in consequence, the decision process are much more complex than rationalism will have it. Instead of pursuing just one goal of profit maximization, organizations have multiple goals which may not correspond to those of its participants. Decisions are not taken by just a single individual, but are made by a coalition of interests whose goals may be in conflict. As satisficing and incrementalism see it, the decision process is subject to various sorts of constraints, such as limitations of cognition and learning. Based in technical and routine decisions rational theory has suggested that a correct and successful decision is the one which maximizes values. Satisficing and the incrementalism approaches based on less routine decisions argued that most decision-making outcomes are only satisficing or mean a small change in the status quo, respectively. The criterion to assess the successfulness of the decision employed by rationalism also appeared inappropriate to these two approaches. Satisficing theory questioned whether the criteria to assess the successfulness of a decision can be applicable in the same way to technical and less technical decisions and to commercial and public organizations. Incrementalism in its turn defends the point that it is not possible in practical terms to describe objectives of a policy without describing the policy itself. In Lindblom's (1959) views correctness of a decision cannot be assessed as rational theorists argue, since values attributed to consequence of alternatives depend themselves

TABLE 2.1 COMPARISON BETWEEN SOME CHARACTERISTICS OF RATIONAL, SATISFICING AND INCREMENTALISM APPROACHES

Rational approach Assumptions	Satisficing approach Assumptions	Incremental approach Assumptions
<u>As to the decision-making system :</u> There is a unique organisation goal - profit maximization	<u>As to the decision-making system :</u> Goals are multiple and conflicting and change over time with fluctuating participation, changes in aspiration levels and scarcity of resources	<u>As to the decision-making system :</u> Goals are multiple, conflicting
There is no significant difference between the organization's goals and those of the individual participants, therefore there is no goal conflict	Individuals and units have goals that are different from organization's goals	Goals are fragmented across society and different public agencies have different objectives
Choice is made by an individual, the entrepreneur	The organization is recognized as a coalition of interests	Decisions are made by decentralized groups in which autonomous participants affect one another
<u>As to the decision process</u> The decision maker has knowledge of all alternatives and all consequences of alternatives The problem is broken down into components	<u>As to the decision process</u> There is no complete knowledge of the situation due to decision-maker cognitive limits Means and ends cannot in fact be separated	<u>As to the decision process</u> Because of intellectual limitations the decision-maker cannot grasp all the information on a decision Means and ends cannot be separated

TABLE 2.1 (Cont.)

<u>As to the decision process (cont.)</u>	<u>As to the decision process (cont.)</u>	<u>As to the decision process (cont.)</u>
<p>Values are attributed to a set of preferences according to states of nature. Values are assigned to consequences of alternatives</p> <p>Choice is made to maximize utility</p>	<p>The decision-maker does not weigh all alternatives and their consequences, he rather simplifies the situation</p> <p>Search for alternatives stops when a satisficing solution is found</p>	<p>Consideration of alternatives that are only different from the status quo to a small degree (incremental analysis)</p> <p>Choices tend to maximize security and minimize changes</p>
<p><u>As to decision-making outcomes</u></p> <p>There is a correct solution which can be found</p> <p>The criterion for measuring the success is the comparison of means with ends</p>	<p><u>As to decision-making outcomes</u></p> <p>There is not a single correct decision for there are unanticipated and unintended consequences of action</p> <p>Organizations differ in the criteria used to analyse decision-making efficiency: commercial enterprises emphasize outcomes which yield the greatest return; nevertheless this is not directly applicable to public organizations</p>	<p><u>As to decision-making outcomes</u></p> <p>There is not a correct decision when participants cannot agree on values</p> <p>The criterion for evaluating the success of a decision is based on agreement on policy rather than on values</p>

on agreement. When it is not possible to attain agreement there is no way to test for the best policy. While agreement on values is difficult and sometimes impossible, agreement on policy is much more easily attained. This, therefore, should be the test for the successfulness of decision-making.

While satisficing theory and incrementalism have rejected the basic ideas underlying rationality theory, they have also rejected the ideas of decision-making efficiency and therefore, concern for decision-making outcomes come to be regarded as a subject of interest of normative theory. In fact, this issue is at the heart of the argument which distinguishes normative theories from behavioural decision theory. Whereas normative theories are concerned with how people should make decisions in order to arrive at the best ones, behavioural theories are concerned with how people make decisions independently of what the outcomes are (Bauer 1971). Nevertheless, this research addresses itself to a slightly different question which so far has been neglected. Rather than attempting to suggest better forms of making a decision this research aims first to identify the outcomes of a decision and then define what a successful decision-making is. It therefore does not consider satisficing a fixed objective which decisions achieve whatever happens in the decision process. On the contrary, it assumes that decisions vary in the degree of satisficing achieved.

This point has already been indirectly raised by Loasby (1968) and Soeberg (1967), who believe that search activities may achieve various levels

of satisficing. Krupp (1961) has similarly argued that the achievement of differential returns indicates that some firms may satisfice more efficiently than others. It is precisely these variations within the satisficing continuum that this research intends to examine, with decisions as units of analysis. Thus, decisions vary in the degree of satisficing in much the same way as they vary in the level of success achieved.

Those well-established ideas in the decision-making literature and the complexities of organizational processes, added by the behavioural approaches, and yet the lack of a coherent integration of decision-making outcomes within a theoretical context, presents many obstacles to studies interested in examining the degree of success of a decision. These difficulties represent a challenge which this research proposes to face.

Although both Simon (1976) and Lindblom (1959) disclosed various weaknesses of rationalism and raised the point of decision-making quality, little theoretical insight has been gained in terms of what successful decision-making may be. The question of a criterion to evaluate decision-making activities has been left unresolved. The criterion for decision quality based on agreement introduced by incrementalism is not applicable to all types of decisions. For example, it does not apply to non-routine decisions which may involve a radical departure from other decisions taken by the organization. As Lindblom (1959) has noted, decisions which are incremental in nature, are likely to yield unpredictable consequences and agreement may not be possible. On the other hand,

Simon (1976) discusses different ways organizations analyse decision-making activities: by comparing means with ends, by comparing positive with negative values, by analysing how decision-making activities maintain the organization's positive balance of output over input. He suggests that each alternative is incomplete and applicable to some decisions and in some organizations. As he points out :

"Improvement in the quality of decision awaits empirical research into the production function that relates activities to results. Our knowledge of these functions is fragmentary at present yet they are indispensable as a reason, without which it operates in a factual vacuum". (Simon 1976:197)

Up to this point, it has been important to describe the unit of analysis of this study and to justify the reasons for concern with variations in the degree of decision-making success. The examination of traditional decision-making approaches has shown that the analysis of decision-making success is an unresolved issue in organization theory.

The lack of interest and coherent integration of decision-making success by traditional behavioural theory reflects on the little empirical work which has been developed so far. This question is examined in detail in the next section where a concept of success used by this research is elaborated in detail.

CHAPTER III

THE CONCEPT OF DECISION-MAKING SUCCESSFULNESS

In the previous chapter, traditional decision-making approaches were examined in their understanding of decision-making success and related subjects such as decision-making efficiency or quality. This review has shown first that this subject has not been integrated to decision-making theory in a complete and coherent form. Decision-making success comes to be seen as a subject of normative theories. This lack of theoretical interest reflects on the little empirical work covering this area. This is what this present chapter shows, by examining some empirical studies concerned with evaluation of organization activities.

Another point which has been raised in the previous chapter refers to the criteria used to analyse the result of decision activities suggested by the traditional decision-making models. Satisficing and incrementalism theories have criticized the conventional criterion of decision-making efficiency. Simon (1976) suggests that the usual criterion used by normative theory cannot be applicable in the same way to technical as well as to less technical decisions and to commercial and public organizations. Nevertheless Simon (1976) himself does not suggest a criterion which could be applicable to both types of decisions and organizations. On the other hand, the criterion for decision quality based on agreement as suggested by Lindblom (1959) may not be applicable to decisions which mean a departure from previous policies like innovative

decisions and to decisions which are strategic. Thus in a second part, this present chapter proposes and elaborates a concept of success which is potentially applicable to various types of decisions processed in various kinds of organizations public and private, business and non-business.

.3.1. Research on Decision-Making Success

As already mentioned the question of which dimensions best describe decision-making in terms of results has been left open. A few suggestions and many difficulties have been identified by the various types of studies concerned with decision-making outcomes and other studies aimed at evaluating organizational activities.

In general, studies relating decision processes to decision results are of three types. The first type of study investigates small group phenomena, controlling for one or two independent variables. Consisting mainly of laboratory experiments, such studies relate different styles of leadership to different degrees of group acceptance of a decision and, further, to the quality of the decision (Maier 1970). Some of these studies investigate relationships of group size with the quality and speed of solutions (Cummings et al 1974). Others relate patterns of group interaction to satisfaction with the decision process, creativity (Ven and Delbecq 1974) and with quality of solution (Vroom et al 1969). Maier (1970) recognises quality and acceptance as the main dimensions of decision effectiveness. Quality implies a comparison with facts whilst acceptance involves an assessment of whether group members like a decision and/or

believe in it. Effectiveness is a function of both these dimensions acting together. Thus, when either quality or acceptance is zero, the decision is zero in effectiveness.

Experiments with small groups generally consist of a simulation of a problem upon which a decision has to be taken. Usually, the problem is more or less technical, so that it admits a correct solution without much ambiguity. The criteria for the degree of success of these decisions are usually based on the correctness of the decision, on the quantity of ideas generated and on the time taken to arrive at the solution. Satisfaction is assessed by asking group members how satisfied they were with their own participation and with the problem solution.

Another type of study follows the work of authors such as Arrow (1951), Luce and Raiffa (1957) and Churchman (1961) and then follows the presumptions of efficiency and other assumptions of normative theory. A common characteristic of these studies is the suggestion of techniques to improve decision-making quality. For example, decision quality may improve with the use of algorithms or heuristics for well-defined problems but brainstorming should be used when the problem is ill-defined. Taylor (1974) Emery and Tuggle (1976) make suggestions as to how to control people's behaviour during implementation in order to attain better decisions, and other studies concentrate on the improvement of abilities to make decisions (Schuller 1976, Tregoe 1977). Decision-making quality can be measured by the quality of search (Bower 1965), in economic terms (Trull 1966), or by comparing actual performance with desired performance

(Pounds 1969, Ansoff 1971). Most management science research has concerned itself with quantitative criteria of decision-making success and with the efficient means to manage the logistic of the process.

Within organization theory, decision-making studies have moved away from traditional ideas of efficiency. Rather, some studies have attempted to prove that the decision-making process is far from a linear goal-directed behaviour. The widely believed ideas of stages of problem-solving introduced by psychologists like Dewey (1910) and adapted by Simon (1955) to describe the decision-making process in organizations were first challenged by Witte (1972). He defined process efficiency in terms of speed, thoroughness and internal and external friction. His findings have indicated that not a single decision showed a high degree of efficiency in the above criteria. The examination of the thoroughness of the decision process has shown that only one decision has met this criterion. Witte's results have completely refuted the traditional notions of decision-making as sequential process which goes step by step from the identification of the decision problem to evaluation of alternatives.

The traditional assumptions of decision-making as a straightforward process have also been challenged by Cohen et al (1972). They argued that often decision processes do not appear to be much concerned with the making of a decision. The process appears anarchical, where problems are not solved and outcomes are not connected to explicit intentions of the process participants. The efficiency of the decision process in their study is defined in terms of

problem activity, problem latency and decision time. It appears rather, that these dimensions depict the inefficiency of the process: problem activity refers to the amount of time during which unresolved problems are attached to alternatives; problem latency consists of the amount of time problems remain activated but not attached to choices and decision time refers to persistence of choices.

More recent studies contrast decision-making types of performance. Emphasis is given to decision-making as a goal-directed process contrasting with an incremental, muddling process. (Wilson 1980, Astley et al 1980). Sequentiality, continuity, rapidity, incrementality are examples of the concepts used by these studies to depict a decision performance characteristic. Yet, Astley et al (1980) contrasts rapidity with satisficing, incrementality and creativity, again comparing outcomes of straightforward process with outcomes of a slow and incremental process.

Thus organizational decision theory models appear more concerned with process description than with unravelling the different dimensions of decision-making outcomes. They do not attempt to predict the dimensions of outcomes from process characteristics. Some few studies concerned with the characteristics of the decision process leading to better quality decisions are exceptions to this rule. But they focus only on the dynamics of group processes. In these studies, a successful decision process is viewed as one in which a free choice results from examination of a full range of values. These

values necessarily include those attached to unpopular alternatives and conflicting values and beliefs (e. g. George 1972). This model, developed by George (1972), is specifically relevant to foreign policy making. A successful decision for George, results from the involvement of competent people in the decision situation. He defines a successful decision situation as having no maldistribution of power, participants who are able to generate the necessary resources for the decision and time available for the exchange of ideas. Within a similar perspective, Argyris (1976) views effectiveness of a decision as associated to the factors of the generation of valid information, free choice and internal commitment. However, in these studies, the independent variables are treated in a highly sophisticated manner while little concern is shown for the definition of more or less effective decisions. Thus, the effective decision remains a vague construct.

The lack of more sophisticated treatment of decision-making success by current research in the field may be explained by the difficulties encountered in finding a concept which could lead to something more than the over-used and restricted economic measurements. Difficulties in the empirical identification of decision outcomes may also be a reason for the sparse theoretical coverage of this aspect.

As mentioned in the earlier chapter, some types of decisions tend to affect the organisation in a wider manner than others. One problem encountered in judging the effectiveness of a decision is the difficulty of empirical identification

of those effects. On the other hand, time lapses between the occurrence of the decision and its feedback, and the intertwining of decision effects with other ongoing activities, produces a complexity which easily discourages attempts to unravel its dimensions (Shuller 1975).

Further, there is the question of finding criteria to analyze decisions which do not reach the phase of being implemented. Huntington (1961) argues that it is not really possible to speak of effective decision in American government, in the usual terms, since decision processes never reach the final stages. Almost any decision can be appealed to another body. Therefore, criteria for effectiveness can only assess the extent to which the issue has been acceptably settled, however temporarily.

Another problem in conducting this type of research is that judgement of the degree of success that a decision has achieved changes over time. As Emery and Tuggle (1975) point out, there is no guarantee that a good decision today will still be considered as such in the future. To overcome this problem, a judgement about past decisions must be related to the conditions which prevailed at the time it was taken. George (1972) comments on this point and warns researchers about the risk of false evaluation of a decision made on the basis of new information which was not available to decision makers at the time.

While decision-making theorists wrestle with the dilemmas of the multiplicity of decision effects and other theoretical and methodological pitfalls which appear in this kind of research, these dilemmas, however, do not apply only to

studies involved with evaluating decisions. Research on organizational effectiveness and organizational performance has to face similar problems.

Yuchtman and Seashore (1967) and Steers (1975) have reviewed the models used by previous studies to analyze organizational effectiveness and showed that the conceptual approaches employed are far from satisfactory.

Usually, terms such as organizational success and organizational effectiveness have been used interchangeably to compare the achievement of different organizations. A common approach to the problem of comparing organizations consists of defining effectiveness in terms of attainment of goals (Parsons 1956, Thompson and McEwen 1958). However, the analysis of effectiveness by goals attainment has been one of the most controversial issues in organizational analysis. While some studies argue that the goal concept is one of the most useful tools to explain organizational activities (Perrow 1969, Hall 1974), the use of the concept as a standard for appraising organizational performance has also been criticized (Etzioni 1964, Yuchtman and Seashore 1967).

The goal approach has been attacked on various grounds. A major objection lies in the argument that goals, as ideal states, cannot easily be subjected to realistic assessment (Etzioni 1964). Yuchtman and Seashore (1967:893) argue that the goal approach has not only theoretical but also methodological shortcomings. In fact, "organizational objectives are generally ambiguous, if not controversial and therefore difficult to identify and measure". Thus, organization members do not always agree on the goals of the organization. Even

when there is agreement, there is no guarantee that these goals will be realized. Organizations do not have complete control over the environment. Therefore, goals may be imposed by contingencies rather than produced from a chosen situation.

Operational definition of goal attainment involves the use of accounting data such as profits and growth rates (Child 1974, 1975). The concept of goal attainment has also been described in terms of variables such as productivity, flexibility and absence of organizational strain (Georgopoulos and Tannenbaum 1957). In their study goal attainment has been defined as a multidimensional concept, a tendency which is observed in recent studies concerned with evaluation of organization activities. The tendency of recent studies to abandon the quantitative univariate measures and employ concepts which can account for multiple facets of organizational effectiveness has been shown by Steers (1975) who analysed 17 models of organizational effectiveness.

Recent studies concerned with corporate decision-making and organization performance have also followed this trend. Some studies have given equal weight to different aspects of performance, to financial as well as to behavioural aspects (Stagner 1969, Miller and Friesen 1978) and to differences in view of various interests concerning what is seen as successful (Newbould and Luffman 1978). In Newbould and Luffman's views the criteria of success in western capitalist societies have been changing in order to account for the different interests of various groups. As they state:

"Once the movement away from the pursuit of profit has reached as far as it has through the western world, success in business generally, and in large companies in particular, becomes a many-sided and often contradictory concept. What is good for the shareholder is no longer acceptable as a justification for a decision by the board of directors".

(Newbould and Luffman 1978:12)

.3.2. A Synthesis of Concepts and Contributions to this Research Concept of Success

Table 3.1 summarizes the three main forms of evaluating organizational activities used by studies concerned with decision-making or organization performance. Some of these studies focus on decision-making outcomes such as correctness and quantity of ideas generated, on characteristics of the decision process such as speed sequentiality, generation of information and resources or even on the overall performance of the organization such as attainment of goals. It suggests that performance in organizations can be evaluated taking as reference direct outcomes of the decision-making process, how the decision has been made (process characteristics), and by examining the overall effectiveness of organizations. Although these researches have suggested various alternatives to evaluate decision-making activities (by looking at the process, to direct outcomes of the making of a decision, to the overall effect on the organization performance) the concepts they propose are not really appropriate either to the research aims or to the kind of decisions it investigates.

Organization decision-making research is primarily concerned with processes of making decisions. Here, features which describe efficiency

TABLE 3.1 FORMS OF EVALUATING DECISION-MAKING AND ORGANIZATION ACTIVITIES SUGGESTED BY SOME EMPIRICAL STUDIES.

UNIT OF ANALYSIS	EVALUATION CRITERIA	STUDIES
Small group behaviour : decision-making outcomes	<ul style="list-style-type: none"> - Solution speed - Solution quality - Group satisfaction - Quantity of ideas generated - Solution speed - Implementation plan - Quality of the solution - Acceptance and quality of the decision correctness 	<p>Cummings <u>et al</u> (1974)</p> <p>Ven and Delbecq (1974)</p> <p>Vroom <u>et al</u> (1969)</p> <p>Maier (1970)</p>
Organizational Behaviour: (a) Decision Process outcomes	<ul style="list-style-type: none"> - Speed - Thoroughness - Internal and external friction - Sequentiality, continuity, rapidity - Incrementality, satisficity, crescivity - Problem activity - Problem latency - Decision time 	<p>Witte (1972)</p> <p>Wilson (1980)</p> <p>Astley <u>et al</u> (1980)</p> <p>Cohen <u>et al</u> (1972)</p>
(b) Organizational effectiveness	<ul style="list-style-type: none"> - Attainment of organizational goals (Productivity, flexibility absence of organizational strain) (Profitability, Growth) - (Attainment of operational goals) 	<p>Georgopoulos and Tannembaum (1957)</p> <p>Child (1974, 1975)</p> <p>Steers (1975)</p>

(Witte's 1972 and Cohen et al's 1972 concepts) refer to characteristics of the process rather than describing what results from the making of the decision. Although these concepts may be of interest to this present research whilst examining how characteristics of the process affects the decision success, they do not help the definition of success. In the analysis of success this research is primarily concerned with outcomes which emerge after the decision has already been made.

An analysis of the correctness of a decision as suggested by social psychology research cannot really be applied in this research. The kind of decisions these studies are concerned with are relatively simple admitting a single solution which can be treated against correctness. This present research on the other hand is concerned with non-routine decisions which may require some adaptative changes and then may affect the organization in a much wider manner as it was pointed out in the previous chapter. The concepts proposed by social psychology built up from laboratory studies of group decision-making as shown in Table 3.1, may be incomplete in describing organizations' decision-making whose outcomes may be complex and unpredictable.

However, some types of decision-making outcomes proposed by group decision-making, such as creativity and acceptance, can be included under the concept of success developed here, although within a framework made appropriate for the analysis of non-routine decisions. As will be seen further on, one of the dimensions of success is capable of detecting, though indirectly, the

degree of acceptability of a decision. However, we have avoided the use of acceptance as a dimension of decision success, due to the theoretical and empirical difficulties associated with it. It is not easy to judge if a decision is fully accepted or not, given the complications of reality highlighted by Cyert and March's (1963) study where the organization is seen as a coalition of interests who compete for common resources. Competition for scarce resources may yield a situation where gains of a given unit are obtained at the expense of another acceptance may vary between winning and losing. While winners may be satisfied with the decision, losers may hardly agree with it. Theoretically, a concept of success based on acceptance would necessarily require a specification of the various interests having a stake in the decision process. Empirically, however, there would be many difficulties in identifying groups affected by a decision, some of which may not be members of the organization or may have left by the time of data collection.

Thus, whilst accepting the fact that people at different levels in the organization who are affected by a decision outcome may hold different views on its success, the direct investigation of how wide within the organization is its acceptance or how much agreement there is among various interest groups on the successfulness of a decision is a step which is beyond the scope of this research. It is assumed that because most of the decisions included here were processed at top management level, this study should therefore concentrate at least on what decision-makers see as a successful decision. To restrict the investigation in this way does not imply that their views are necessarily the

best or representative. When resources for a project cannot stretch any further, a point of reference has necessarily to be taken.

Finally, various criteria to examine organization effectiveness by relevant studies are proposed, which could be adapted to the decision-making level of analysis. However, most of them are based on the concept of goal attainment which this present research wishes to avoid as being too controversial and as yet an unresolved issue itself in the organization theory. Moreover, the literature examined so far has clearly described decision-making either in terms of a linear goal-directed process organized around the principles of efficiency and attainment of maximization of values or as a process which is unstructured and whose outcomes are unintended. The use of the goal concept would disregard the unintended outcomes of the process and the fact that the decision-makers may not know which goals served as an input for a decision. As Weick (1969) has pointed out, reasons for a decision may only become apparent after it has already been made. "The sequence of action preceding goals may well be a more accurate portrait of organization functioning", Weick (1969: 8).

In this research it is therefore assumed that whilst some outcomes are worked on and guide decision-making activities, others are unplanned emerging with the process of making the decision. There is no ready explanation for some of these outcomes; their effects may be known only when they have affected the organization or after the decision has been made.

.3.3. Proposed Dimensions of Success

Because many previous research projects have left the task of elaborating what success or effectiveness may be for the reader to figure out, there is a pressing need for a clear and coherent definition of these terms. In view of what has been said in the previous section, it seems that little progress has been made in the search for some form of defining successful outcomes. Whatever means are used must account for the different effects of decision-making and the general characteristics of non-routine decisions. Thus, variables which define successful outcomes are entirely new in formulation and are postulated here for the empirical testing which will be reported later. In venturing into the conceptualization of successful decision-making this research makes no claim to solve all the theoretical and methodological problems which have been discussed here. However, at least the model developed here seems to be appropriate for studying non-routine major decisions, and appears to consider some important facets of success.

The examination of traditional decision-making approaches in the previous chapter have indicated two forms of explaining decision-making activities. The first point of view sees decision-making as a goal directed process oriented towards attainment of maximization of a function. Alternatively decision-making is understood as a behavioural process where outcomes are only satisficing and incremental; then they may be a result of lack of sufficient knowledge on future events, fragmentation of interests and lack of agreement. This same tendency towards polarization can be noted in the empirical studies examined in this chapter. While research which follows normative theory tends to emphasize forms of attaining efficiency, behavioural

studies emphasize the dynamics of the process of making decisions. In attempting to understand these processes, some of these studies have been focused on two contrasting aspects of the processes: the planned, linear and continuous characteristics resembling activities of human thinking and problem-solving as opposed to muddling and incremental characteristics of the process.

The literature examined so far therefore renders two definite and separate views of decision-making. On the one hand ideas like straight forwardness towards an objective, planned intellectual activity and efficiency can be combined to describe an instrumental process. On the other hand unstructuredness, lack of control of the events in making a decision and conflicting views on what objectives to achieve may define some characteristics of a behavioural process. Within the first perspective decision-making outcomes are a result of a planned activity oriented according to norms of efficiency, but within the second perspective outcomes just happen from a process which does not very much resemble the making of a decision. They just emerge and may have no close relation to what has been explicitly planned.

Following the perspective which sees decision-making as an instrumental process studies have been made which tend to follow the classical rationality but nevertheless see organizations in a less strict quantitative form. These studies emphasize the opportunistic aspects of decision-making which is viewed as a response to opportunities and problems (Pounds 1969, Ansoff 1971, Mintzberg 1976). Decision-making consists of activities undertaken to reduce

the differences between actual and desired performance - problem solving functions - coping with threats and exploiting opportunities (Ansoff 1971).

Emphasis is directed to the ability of the organization to recognize and react promptly to environmental changes so that the best advantages of the situation are obtained (Ansoff 1975).

If decision activities are explained within these alternative views then a concept of success has necessarily to include planned and unplanned dimensions. The first results from a planned intellectual or opportunistic activity, the unplanned happen with the making of the decision having no connections with initial intentions. As Perrow (1972) points out, unplanned outcomes are less subject to control and are only noticed when their effects are quite evident.

To describe the concept of success used by the present research and to explain how the idea of planned outcomes is linked to it, it is first necessary to review Mintzbert and associates' (1976) description of the decision process. This study, in fact, provided much of the ground work for the concept of success developed here, since it has dealt with important non-routine decisions. Adopting a similar view to Ansoff (1971), Mintzberg and associates (1976:251) suggest that decisions are evoked by multivariate stimuli which may be categorized in three types. Decisions may be organized along a continuum according to the stimuli which evoked them. Opportunities are at one extreme, crises at the other end and problems in the middle. Differences between the

two extremes are based on the characteristics of the stimulus and the amount of pressure it imposes on the organization. Opportunity decisions may be voluntarily initiated and proceed under low pressure, as opposed to crises decisions where there is an imperative need for action and pressure is high.

In the present research, it has been assumed that decisions are evoked either by opportunities or by problems. Crises and problems are considered within one category. Since crises are rare (Herman 1963), it was thought that data collection would yield too few to be treated separately. Thus, a decision is successful either when the problems which evoked it are solved, as in the case of problem decision, or when opportunities are realized, as in the case of opportunity decisions. Consequently, the two first dimensions of decision-making success are proactivity (which refers to opportunity realization) and closure (which refers to the degree to which problems are solved). Proactivity and closure reflect the instrumental characteristics of the decision process and they constitute so-called "planned dimensions". The assumption is that, upon the recognition of the need for the decision, behaviour is directed to seizing the opportunity or solving the problem. Thus, if a decision is made to resolve an industrial dispute, and settlement is achieved then closure is attained. If, on the other hand, a company is acquired abroad as a mean to expand business in the host country and this is achieved then also proactivity has been attained.

However, not all consequences of a decision are previously planned.

They are better described as "happening" or "emerging". In this case, what results from a decision may not reflect an intellectual exercise, but may emerge within the decision process of making it. Propitiousness and disturbances are therefore included in the category of unplanned success dimensions. Propitiousness refers to any unexpected opportunities which are brought about by the decision process. Thus, in a problem decision, interest conflicts may generate a wider examination of alternatives and a new opportunity may be discovered. Disturbances on the other hand, refer to other problems which may be brought about by the making of the decision. A decision about a wage settlement, for example, may terminate an undesirable strike, but, on the other hand, the organization will have to struggle to cope with additional costs. A decision may intensify conflict between the parts which were already hostile, or may introduce changes in the work situation which make it less interesting. Thus, the concepts of propitiousness and disturbances may be able to capture how the decision has affected the organization's internal environment and performance. In a way, the concept of propitiousness may correspond to the creativity concept of small group studies and the concept of disturbances permits, in a sense, an assessment of the level of acceptance of a decision. For example, propitiousness captures whether a greater share of the market has been obtained with the decision and disturbances grasps whether labour relations have worsened as a result of the making of it. The types of propitiousness and disturbances which appear vary with the decision content.

Table 3.2 summarizes the four dimensions which define the concept of

success used in this present research.

TABLE 3.2 DIMENSIONS OF DECISION-MAKING SUCCESS

Planned dimension of success	Unplanned dimension of success
Closure	Disturbances
Proactivity	Propitiousness

Here, success is understood within a multidimensional fashion following the tendency shown by studies in Table 3.1. Variation in the degree of closure, proactivity, propitiousness and disturbances, gives a rate on the degree of success achieved. Each variable therefore contributes to a final assessment on a continuum of success/unsuccess. Figure 3.1 shows how these four variables in Table 3.2 portray high or low successfulness.

FIGURE 3.1 ILLUSTRATION OF THE CONCEPT OF SUCCESSFULNESS

<u>DIMENSIONS</u>	SUCCESSFULNESS	
	High	Low
	OUTCOMES	
Closure	Problems solved	Problems not solved
Proactivity	Opportunities realized	Opportunities lost
Propitiousness	Propitious (new opportunities evoked)	Unpropitious (dead end)
Disturbances	Undisturbed (Smooth, unimpeded)	Disturbed (Difficulties generated)

The degree of successfulness a decision attains depends upon the combination of these variables. Each varies along a continuum ranging from high to low, representing the variation of scores of each variable. Outcomes which result from a decision process may be specified and vary from high closure to low closure, to high proactivity to low proactivity and so forth. A high degree of three variables (closure, proactivity and propitiousness) combined with low disturbances may define the more successful decisions. Then, some relationship is expected to be found between what the executive sees as a successful decision, examined by the variable perceived success and the outcomes just described above. Less successful decisions by contrast may be defined by combination of other outcomes: low closure, low proactivity, low propitiousness and high disturbances. In this case, some positive relationship is expected to be found between decisions perceived as less successful and these outcomes.

.3.4. Applications of the Concept of Decision Successfulness

As already mentioned, studies which are somehow concerned with evaluation of decision-making have used either a quantitative criterion or have been based on attitudinal measures such as group satisfaction and acceptance. Research on group decision-making and studies based on rational theory have examined decisions which are technical in character or on those subjected to quantitative analysis. Organization theory studies on the other hand have concentrated on the variables of the process which indeed confirms the boundaries between normative and behavioural theory of decision-making mentioned by Bauer (1971). These concepts, however, do not describe outcomes of a decision when resources are committed to implement it.

On the one hand, the examination of satisficing theory in Chapter II has indicated that the quantitative criterion as suggested by normative theorists based on the analysis of profit and costs cannot literally be used to measure the efficiency of certain types of decisions, and in some organizations for which considerations of social character are more important and where factors involved are not directly measurable in monetary terms. An alternative criterion based on agreement has been suggested by Lindblom (1959). Again, this criterion refers to what happens in the process of making decisions; it does not describe the outcomes after resources have been committed to implement it. Moreover, it is based on decisions which represent a small change in the status quo and then it may not be applicable to decisions which are innovative or represent a departure from a previous situation as Dror (1969) has argued.

Thus, while previous studies have suggested a criterion whose application is limited to certain types of decisions and organizations and yet others have given primacy to characteristics of the process, the concept of success elaborated in this present research may be applicable to decisions varying in topic and importance in various types of organizations. Application of the set of variables elaborated in the previous section may permit a comparison of the relative success of decisions having different inputs such as a decision to introduce a new product in the market and a decision to acquire a computer. Similarly, more important decisions such as the opening of a factory may be compared to less important decisions such as the acquisition of new equipment. Additionally, a decision to close a ward in a hospital could be compared in

the degree of success to a decision to close a factory in a manufacturing firm or to a decision to expand the sports facilities in a university.

The concept used here has other advantages, apart from not being as restrictive as the quantitative criterion or too complex and controversial as the traditional goal approach. The use of a multidimensional concept permits the analysis of various facets of success. As mentioned in Chapter II certain types of non-routine decisions such as those innovative may imply a change in the organization's status quo and then may affect the organization in a wider manner. In this, the concept developed here considers how the organization has coped with the situation which evoked the decision and, at the same time, it accounts for any other unplanned decision-making effects. The four success variables are able to depict not only financial but also social outcomes.

Some authors (e. g. Hall 1974) have criticized the use of a multi-dimensional model of effectiveness on the basis that compounded variables may not vary together. By the type of variables included in the concept, achieving effectiveness in one criterion means being ineffective in another. This may not occur with the variables composing the concept of decision success used here since it is expected that these variables vary together, although not in the same direction in the case of disturbance. Moreover, the use of many variables to characterize decision-making success has the advantage of permitting a rich analysis of factors leading to successful outcomes; independent variables can be related to each success dimension.

Having conceptualized decision success and then defined the independent variables, the next step must be to explain variations in the degree of success. The examination of decision-making case studies in Chapter I, the alternative forms of understanding decision-making activities discussed in Chapter II and in this Chapter have suggested some factors which may possibly explain why the making of a given decision has rendered certain types of outcomes.

CHAPTER IV

DECISION-MAKING CHARACTERISTICS AND SUCCESSFUL OUTCOMES

- A MODEL FOR ANALYSIS OF DECISION SUCCESS -

With the conceptualization of decision-making success and the definition of its dimensions, it is now possible to distinguish decisions by variation in the degree of success. Variables like closure, proactivity, propitiousness, and disturbances constitute the dependent component of the conceptual framework. If decisions vary in outcomes and then in the degree of success, this variation needs an explanation. As Heydebrand (1973) points out, comparison of organizational phenomena is fruitless if it is not aimed at an explanatory synthesis. As mentioned in the previous chapter, this research attempts to explain some of the variation in the degree of decision success. In doing so, of course, it does not claim to cover all the infinite reasons for success or lack of success. It can at most concentrate on variables which reflect the major forms of interpreting decision-making activities and then to elucidate features which are more or less salient in different types of organizations.

In attempting to explore the decisional characteristics which could explain the variations in the degree of success this research concentrates on three sets of variables: constraints, forms of process activation and pace. Constraints consist of variables seen as instrumental to carry the decision through; process activation consists primarily of behavioural variables and pace depicts time dimensions of the decision process.

This chapter, therefore, first describes the reasons for concern with the kind of variables described above. Secondly, it shows how the independent component is possibly linked to the success variables. Here, some hypotheses are formulated on the interrelationships among independent variables and between these and the dependent component.

4.1. Justification for the Independent Component

The inclusion of instrumental and behavioural factors as alternative explanations to decision-making can be seen as an attempt to avoid the partiality of previous decision-making studies which have traditionally paid too much attention to certain types of variables while neglecting others. As has been shown in the previous chapters, two forms of interpreting decision-making activities appear to prevail in decision-making theory: while the first focuses on the behavioural aspects, the second pays attention to the instrumental and opportunistic aspects. If some of the studies mentioned in Chapter II, particularly those concerned with means to improve decision-making quality, are recalled it can be seen that while some studies based on management science literature emphasize the use of algorithms and brainstorming, (Taylor 1974) optimum time for a decision, optimum time for a decision, optimum amount of information (Trull, 1966), as important factors to decision-making success/failure other types of studies have concentrated on the dynamics of group processes, on use of power, bargaining, blockage of information by rivals and so forth as an explanation for malfunctions of decision-making (George 1972, Argyris 1976).

As Mouzelis (1967) points out, the tendency towards polarization in theories of organization is historical. Indeed, Gore (1959) reviewing the decision-making literature published up to that date has criticized the state of knowledge of the subject and the tendency of studies to direct attention to just one facet of decision-making. As he states:

"There is a large body of literature dealing more or less directly with some facet of decision-making. (A generous list might run to five thousand entries). The sample of one hundred items included here is a true sample to the extent it reflects no common core, no universal dimensions. It is probably accurate also in reflecting more concern with technical problems than with fundamental organizational problems, such as role conflict and pluralism of objectives".
(Gore 1959:121)

At present, it cannot be said that power and conflict have been completely neglected in organization theory. Certainly the study by Dahl (1957) on power dependence relationships, the subsequent study by Crozier (1964) on control of uncertainty as a source of power, and the addition of the ideas of Bachrach and Baratz (1962) on one-decision, where the use of power prevents non-safe issues from being examined, have prompted conceptions of organizations as arenas for political behaviour. In their wake come recent studies which pay attention mostly to social process in decision-making. Baldrige (1971) for example, explains policy-making in universities in terms of social structure, political action and conflict. Abell (1975) sees organizations as bargaining influence systems where outcomes are the result of the constraints of tasks situations and power over participants' initial preferences. Another significant study sees innovative decisions as an occasion for allocation of resources and redistribution of power (Pettigrew, 1973). Although decision-making theory

has developed to incorporate political models concerned with power and conflict in the process of making a decision, tendency towards concentration in a limited facet of these processes predominates in this field. In the studies above for example, focus has shifted from psychological and instrumental variables to political variables.

The limitation of specialized models have generated criticisms and disputes as to what factors are the most critical determinants of decision-making process and performance. Organization theory studies have been criticized for paying too much attention to power-behavioural processes while neglecting the ways in which systematic data analysis shapes important aspects of strategic decision processes (Quinn 1978, Horvath and McMillan 1979). On the other hand, research focusing on behavioural decision-making has criticized research focusing on normative prescriptions of ignoring the fact that important decisions are made by negotiation and bargaining rather than representing an outcome of a detached intellectual analysis (George 1972, Pettigrew 1973).

Decision-making studies have been criticized for concentrating on limited aspects of the process of decision-making. Nevertheless, the question of whether to give primacy to rational instrumental aspects as opposed to behavioural aspects is much more profound than may have appeared so far. It involves a much more fundamental question in organization theory which has to do with how organizations should be viewed. Within the concept of organizations as open systems, they became seen as systems dependent upon the environment for the exchange of

goods and services (Parsons 1961, Katz and Kahn 1966). Studies following this perspective have focused on how environment impinges upon the organization and its adaptative capacity of fulfilling environmental requirements. (Thompson 1967, Pugh et al 1968, Hickson et al 1971). The basic problem of organizations is therefore to cope with uncertainty; under norms of rationality, environmental influences are buffered and levelled, but when this is not possible, organizations anticipate and adapt to environmental changes (Thompson 1967). Within this paradigm, organization performance depends on whether the organization responds appropriately to requirements of the environment (Lawrence and Lorsch 1967, Woodward 1965). Goal attainment is a function of the way in which resources are mobilized (Parsons 1961) and effectiveness depends on how successful the organization is in obtaining scarce resources (Yuchtman and Seashore 1967) and also whether the organization structure is appropriate to the degree of environmental uncertainty. (Lawrence and Lorsch 1967).

This point of view has nevertheless been attacked on the grounds that it provides a mechanistic view of organizations. As Wilson (1980) points out, "by considering only the influence of external factors organization theory runs the risk of implying that organizations are a passive recipient of external stimuli." Opponents to this point of view argue that organizations do not react; their members do. Attention therefore should be paid to the meanings participants attach to situations; these are the sources of decisions made in organizations (Silverman 1976). Similarly, Child (1972) has criticized those studies which defend the case for a contingency theory in its assumption that contextual factors impinge directly

upon organization structure. He argued that choice of structure depends in the first place on how those who have power to make decisions interpret the limits imposed by the environmental context. The evaluation of the position of the organization by the executives is what provides them with a goal.

It seems that those who criticized this approach argue that behaviour in organizations is not only a rational unified response to external requirements. Organizations do not have goals or needs. As Krupp (1961:169) points out, organizations should instead be understood as an "amalgam of different groups and social classes joined in various ways". These groups have goals and needs, not the organization. Organization analysis should therefore concentrate on examining how members impose their goals on the system. Its task should be to understand the mechanisms by which goals became stable (authority) and the sources of organizational change (power and conflict).

It seems that criticisms of partial views of behaviour in organizations have been taken and acted upon, for recent studies of decision-making have attempted to synthesize contrasting views and have defended the point for a more comprehensive theory of decision-making which would account for both, instrumental and behavioural aspects. For example, an attempt to connect a rational versus behavioural perspective can be found in Horvath and McMillan (1979) who see strategic decision processes as a function of an interplay among contextual and power factors. Bourgeois and Astley (1979) have proposed a model to examine organization strategy, emphasizing organizations as opportunistic agents, (a

perspective widely accepted by business policy), and as a reactive adaptative system, a notion underlying contingent studies (Thompson 1967, Pugh et al 1968, Hickson et al 1969). Along this line, other recent studies have concentrated on testing the relative importance of technical and political aspects (Astley et al 1980, Wilson 1980).

The contrasting views in which decision-making is analysed and the consequent neglect of either instrumental and behavioural facets of decision-making by previous studies and, by contrast, the encouragement given by recent researches providing a more comprehensive view of the subject, led to a study of the relative influence of these two aspects to decision-making success. Following authors like Thompson (1967), Yuchtman and Seashore (1967), Lawrence and Lorsch (1967), it focuses on variables which are seen as instrumental to goal attainment - resources/information.

To examine the importance of behavioural factors the present study focuses on forms of process activation, that is, on how the coalition has made the decision: who was involved, how much influence interest groups had in the process and how much friction there was. According to Baldrige (1971) and Pettigrew (1973) for example, this research focuses on influence and conflict variables.

Additionally, this research focuses on process pace. The study of more complex decisions have urged the understanding of decision-making within a time

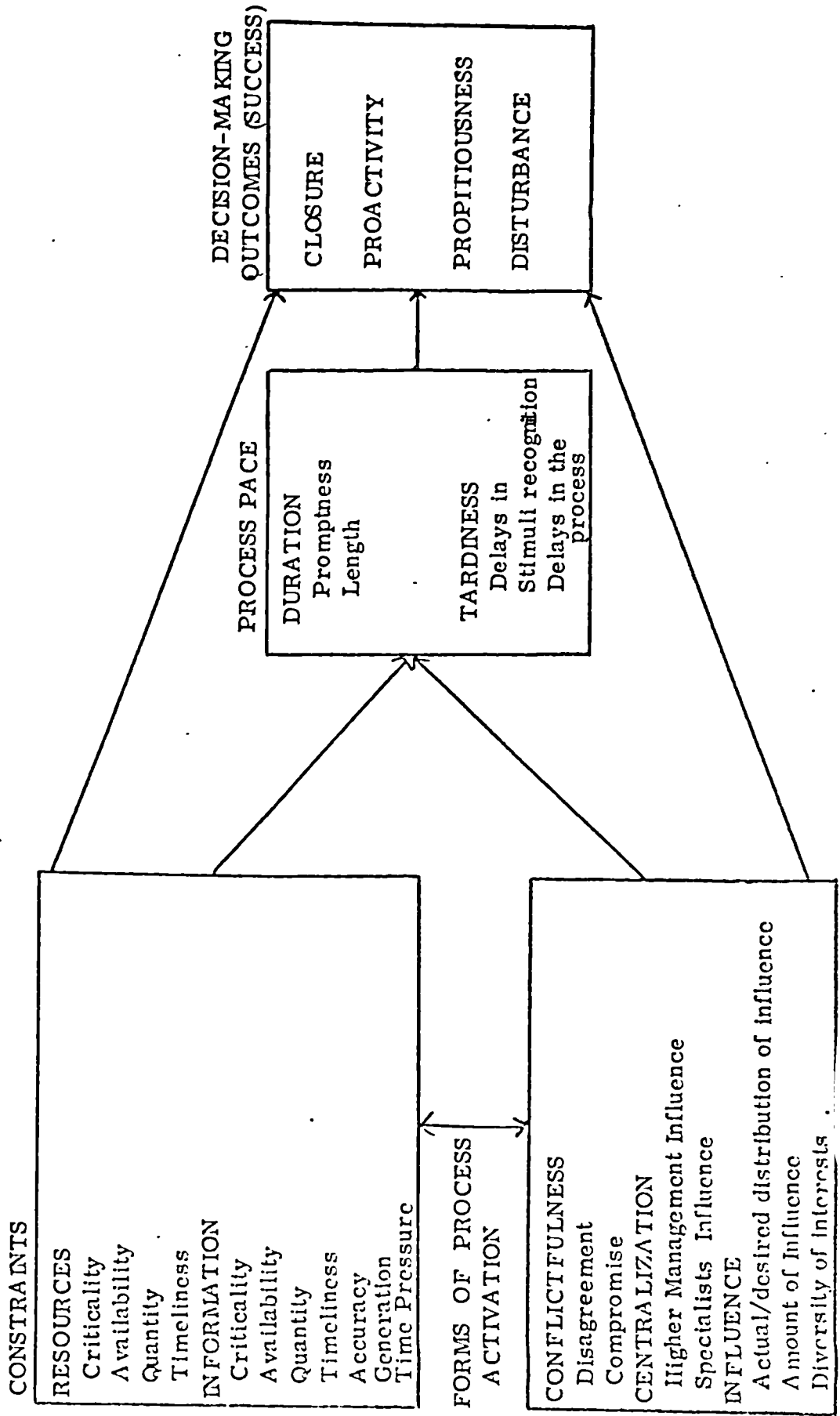
perspective. Studying various examples of complex non-routine decisions, Mintzberg et al (1976) have shown that these decisions are characterized by cycles and recycles for redefinition of the situation and the gathering of more information. They have suggested that the process of making these decisions is far from being linear; rather it is discontinuous and lengthy. Unexpected constraints, such as lack of resources and political impasses are seen as frequent causes of interruptions and delays. Thus, following Mintzberg et al 1976, this research concentrates on process delays and duration, and assumes that variation on these variables depends upon constraints and process activation factors.

Figure 4.1 summarizes the independent and the dependent component of the conceptual framework. (A detailed definition of each of these variables is presented in Chapter VI.) Some hypotheses suggesting the links among the variables of the independent component and between these and the dependent variables are formulated in this chapter. In describing the links among variables of the conceptual framework this research focuses on how decision-making outcomes could potentially result from constraints, process activation and process pace, according to different types of decisions and organizations.

4.2. Process Pace

The study by Witte (1972) and Mintzberg et al (1976) has revealed the non-sequential and discontinuous nature of complex non-routine decisions.

FIGURE 4.1 THE CONCEPTUAL MODEL



Mintzberg et al (1976) have described strategic decision processes as a sequence of events mostly cyclical and discontinuous. Then recent researchers began to study aspects of the decision process such as continuity, rapidity and crecivity (Astley et al 1980, Wilson 1980). Cohen et al (1972) have concerned themselves with the time problems and opportunities dependent upon a decision in an organization where no action is taken. They also called attention to the frequency in which an arena is apparently involved with the making of a decision, but the process drags on for years with no visible outcome.

Secondly, it has been suggested that environmental events, activities for the purpose of gathering information, opportunistic awaiting and political impasses can interrupt the decision process causing delays and thus extending the total length of the decision process (Mintzberg et al 1976). In addition, Hickson et al (1978) have suggested that power distribution in the coalition may impose a pace in the decision process. Would a faster decision process result when external interests exercise more influence in a decision process? Would, alternatively, a slow pace result when a coalition is dominated by internal units?

While these studies have suggested that external and internal factors may influence a decision process being fast or slow, other types of studies have emphasized the importance of a quick adaptative response of organizations as a factor to cope with environmental discontinuity, and rapid decisions as a key element in grasping opportunities (Ansoff 1971).

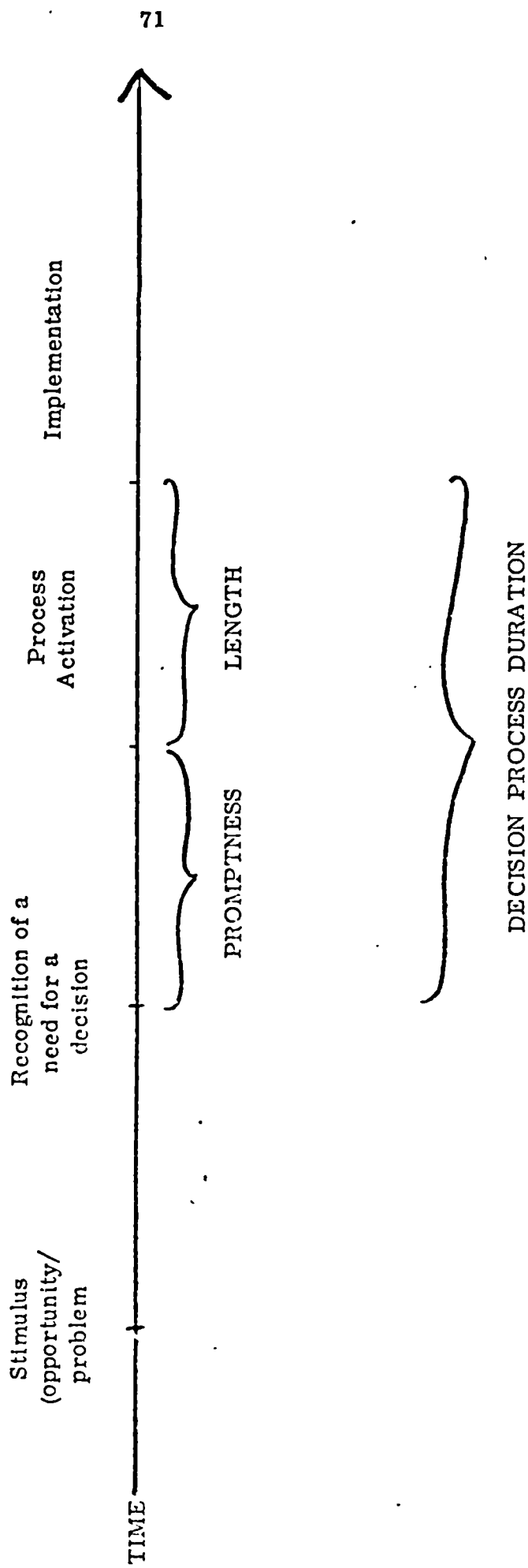
The above studies not only suggest that the decision process consists of a stream of activities which occur over a period of time, but also that there are factors which disturb the continuity of the stream such as availability of resources, influence and conflict. If there are factors which may influence the way that decision activities are distributed over time, delays and long decision processes on the other hand seem to affect whether the intended decision outcomes are achieved.

Insight provided by these studies has led the research reported here towards examining some temporal characteristics of the decision process such as pace. Wilson (1980) has used the term pace to refer to the rate of activities in the decision-making process distinguishing between areas where the level of decision-making activities is high - "urban-type arenas" - from "rural type arenas" where the level of decision activities is low. In this present research, process pace refers to how certain activities in the decision process are distributed over time. It includes concepts which have to do either with the duration of the decision process or with its tardiness. These concepts were derived from Mintzberg and associates' (1976_246) definition of a "decision process as a set of actions that begins with the identification of a stimulus for action and ends with the specific commitment to action". The set of actions includes various steps which the decision goes through but not necessarily in a given sequence. The first step though, is the recognition of the decision stimuli and the last step leads to implementation. The process duration includes, therefore, the period of time from the recognition of the decision stimuli and the commitment of resources to implementation of the decision.

However, reaction to a stimulus for making a decision may not be immediate. The agent that perceives the strategic stimuli may not have the power to initiate the decision, having to persuade powerful interest units to do so (Segev 1976), or the decision issue may be a matter of power struggles before it is allocated to interest units (Baldrige 1971). There is also the question of availability of resources and information to carry the decision through. Non-availability of money may push the decision temporarily into a limbo until prospects as to financial resources improve its feasibility. Lack of information and ambiguity also may retard the initiation of a decision. Hesitation may occur when there is no easy answer for what is happening and what to do. Attention to decision issues depends in the first place upon the clarity associated with the situation which waits for a decision (March and Simon 1958, Olsen 1976). Hence, promptness captures how fast the organization reacts to decision stimuli; it refers to the period of time between the recognition of a need for a decision and activation of the decision process, where a special coalition is formed and interest units start doing something in the direction of solving the problem or seizing the opportunity. It corresponds to Nees (1978-79:70) preprocess which is described as "a time lag between the occurrence of events and the initiation of the process". Once the process is initiated, process length is the period during which a decision remains in activation until implementation.

Figure 4.2 illustrates both concepts which together constitute decision duration. Here it is assumed that the decision stimuli occur over a period of time, during which decision activities may take place. Like Mintzberg and

FIGURE 4.2 ILLUSTRATION OF THE CONCEPTS INVOLVED IN DECISION DURATION



associates (1976) this research has assumed that a decision process starts with the recognition of the decision stimulus. As the organization may not act immediately on the appearance of this stimulus there may be an interval until an appropriate coalition is formed and the decision is allocated to it. Process activation denotes activities which a coalition develops when making the decision. These may involve Mintzberg and associates' (1976) steps which lead to implementation such as diagnosis, search, design, evaluation, choice and authorization. However as will be mentioned further, this research is primarily concerned with the political aspects of activities to implement a decision.

While concepts mentioned above refer to actual decision duration, tardiness of the process refers to perceived delays in activities to implement the decision which took place. It attempts to capture how close these activities are from one another. For the reasons already stated, the strategic stimuli may wander about for some time without recognition. As Mintzberg (1973a) points out, some firms only start making decisions after the problem has already hit the organization; their decisions are remedial in type as compared to those firms which tend to anticipate problems before they are hit by them.

However, independently of the organization, there are conditions in which decision stimuli is not easily identifiable. Organizations sometimes are confronted with unfamiliar and threatening events which are departures from previous experience (Ansoff 1975). According to Ansoff (1975), normal methods of forecasting do not provide information about discontinuities, since these methods are only able to detect "strong signals" in the environment. An earlier identification

of a discontinuous opportunity or threat may only occur if the organization is able to detect small variations in the environment which come persistently over time (Ansoff 1975:23). Thus, an organization which is late in the recognition of a strategic stimuli may suddenly realize that an opportunity has just been missed or that survival of a product line is under threat.

Delays in the process activation as mentioned before, may be due to political impasses, for example, or to lack of appropriate resources where to base the decision. Thimm (1976) reports how a decision to build a Volkswagen plant in the United States had to be postponed due to disagreement within the board and interference of Trade Unions. It is also impressive that in 16 out of 25 decisions cases, Mintzberg and associates (1976) have found political impasses which blocked the decision process or interrupted it for some time. Delays may occur due to some activities to gather information and, on some occasions the process has to be interrupted because personnel to implement the decision has not yet been prepared for it. They have also found a strong relationship between interrupts in the decision process and its duration; the more interrupts the longer the duration of the decision.

Some arguments suggesting how constraints and process activation influence process pace are developed later in this chapter. It is also shown how process pace could possibly affect decision-making outcomes in the last section of this chapter.

4.3. Process Activation

Terms such as dominant coalition (Cyert and March 1963, Thompson 1967), bargaining zone (Abell 1975) and arena (Astley et al 1980) have been used to describe the locus of decision-making. Child (1972:13) points out some advantages in the use of the notion of dominant coalition. First, "it refers to those who collectively happen to hold most power over a particular period". Thus in an organization there may be more than one dominant coalition, and coalitions may confront each other when their interests are challenged. Secondly, although the term may imply a differential access to decision-making it does not necessarily imply that other groups in the organization do not have influence in determining outcomes.

Although including the notion of dominant coalition, the concept of process activation is wider. Similar to Astley and associates' (1980) idea or process arena, process activation is concerned with activities by the dominant coalition, when making the decision.

The notion of process activation indicates how problems and opportunities are energized and changed into outcomes. It is a concept which resembles Cohen and associates' (1972) idea of a garbage can, where activation of a decision depends on participant's attention to opportunities and problems, and/or on their degree of involvement in a given decision. Activity is a major characteristic of the garbage can; in an attempt to attach problems to solutions and

opportunities to choice, participants are activated to commit time and energy. Process activation therefore, denotes activity; what people do towards making a particular decision and how they do it.

When a decision stimulus is recognized and attention is drawn to ways of dealing with it, one of the initial steps is the formation of a coalition which may be composed of diverse interests, representing internal and external units to the organization or both. During the process of making a decision, this coalition will probably go through a series of phases, such as the definition of the situation, gathering information, selection of alternatives, choice and authorization. Process activation refers to how the decision proceeded through these phases but within a political perspective, that is, it captures the diversity of interests involved in the decision process, how much influence each of the interests involved in the decision process, how much influence each of the interests had in the process and how much conflict there was.

The present research therefore, focuses on three forms of process activation: conflictfulness, centralization, and influence. As shown in Figure 4.1 conflictfulness captures how much conflict over views there was in the decision process (intensity of disagreement) and whether some degree of agreement has been achieved (compromise settlement). Centralization examines the amount of influence exercised by higher hierarchical levels (higher management influence) and the amount of influence specialists had on the decision process (specialists' influence). Influence examines the amount of influence exercised

by all interest units in the decision process (total influence), the number of interests in the decision process (diversity of interests), and the distribution of actual and desired influence.

The reasons for concern with conflictfulness, centralization and influence as forms of process activation have their basis in the findings of studies concerned with the behaviour of groups who have a stake in the decision process. Studies by Wilensky (1967), Baldrige (1971) and Pettigrew (1973) for example, have shown how the dynamics of relationships which develop during the making of a decision shape the process and set the limits on what it is possible to achieve. As has been suggested by these studies, who is involved in the process is important. Most influential for the groups are those which possibly have control over the relevant resources of the decisions and information and then set the guidelines for action. Dominance of top management in a decision coalition may result in a faster decision process, as opposed to the case in which specialists predominate. According to Wilensky (1967) independent groups of specialists represent division of values, open conflict and competition. A decision with many diverse interest groups may be held up by paralysing delays. Additionally, Baldrige (1971) has argued that political activities are the essence of the decision process; options are delimited by previous conflicts and outcomes of decisions are changed as those making the decision yield to the pressure of groups who may be affected by the outcomes. Some hypotheses showing how forms of process activation shapes the decision process and outcomes are formulated in the next and following sections.

.4.4. Decision-Making Constraints

In order to examine the influence of instrumental variables, this research focuses on resources, information, and time. These are seen as constraining the decision-making process to the extent to which these factors are scarce and then setting limits under which a decision may be more or less successful. Provision of resources and acquisition of information are traditionally viewed as persistent areas of uncertainty to organizations (Thompson 1967, Yuchtman and Seashore 1967, Dill 1958, Duncan 1972). Because resources/information are scarce and are a source of competition of diverse interests, acquisition of these factors may be problematic to organizations. This may influence organization processes and determine how effective organization activities are.

.4.4.1. Resources as a Problematic Constraint

Scarcity of resources and control over their disposability have been considered as major determinants of organizational behaviour (Thompson 1967, Yuchtman and Seashore 1967, White 1974, Aldrich 1979). Thompson (1967) suggested that although in the short run organizations seek to control uncertainties, in the long run the aim is to obtain munificence of resources to achieve more discretion on reallocation. Yuchtman and Seashore (1967:898) define organization success in terms of obtaining resources. They suggest that success in competing for scarce resources defines the position of an organization on a scale of effectiveness. Organizations are, therefore, more or less effective depending on their capability as a "resource getting system".

Similarly, Aldrich (1979) argues that organizations should be ranked in terms of their efficacy in terms of resource acquisition. Competition for scarce resources is seen as shaping interrelationships between the organization and its environment, and organization success depends on its ability to win this competition.

If organization performance depends upon success in the acquisition of scarce resources in a competitive environment, then a change in the level of resources an organization may make use of may affect important organization activities like goal-setting decisions, as Thompson and McEwen (1958) point out. It seems that the amount of resources available may influence an organization's decision-making process and outcomes in various ways. As White (1972) suggests, new alternatives may be open, norms and rules are changed, criteria reinterpreted as a function of the level of resources available. Lack of necessary resources can slow down or interrupt the continuity of the decision process as Mintzberg et al (1976) suggest and yet may determine who is involved on the coalition making the decision in the first place (Zald 1969, Pfeffer 1972). Scarcity of resources is seen as a motive for dispute among groups claiming the same resource (Baldrige 1971, Pettigrew 1973) and as a reason for increasing the number of participants in a decision (Olsen 1976).

Resources may be ranked on a series of dimensions which capture why organizations compete for them. The more liquid a resource, the more attractive it is (Yuchtman and Seashore 1967, Zald 1969). Resources of a universal

type are highly valued. Personnel, money, physical facilities, raw material, are universal because they are important to all forms of organizations. Other resources are critical because of difficulties in finding substitutes for them, though sometimes organizations develop alternatives as safeguards (Yuchtman and Seashore 1967).

Following Yuchtman and Seashore (1967), this research focuses on resources of the universal type ranging from money and technology to raw material. It assumes that some decisions require critical resources which may not be easily available. Thus, decisions vary in the criticality of resources they require and in their availability. Within the concept of availability, quantity and timeliness can be separated. More strategic decisions involve greater amounts of resources, as Mintzberg and associates (1976) have suggested. Conversely, a greater quantity of resources may be mobilized when a decision is strategic (Wilensky 1967). Timeliness of resources as the name indicates refers to the point when resources become available. For example, an organization may not have the financial resources to build a new plant immediately, but resources may still be obtained in time. Resource availability, criticality, and timeliness may influence modes of process activation, and pace. Some hypotheses on these relationships are formulated further on in this chapter.

.4.4.2. Information as a Problematic Constraint

Availability of information may be problematic to organizations mainly for two reasons. First, information concerning the environment is uncertain

because of the complexity and dynamics of events about the decision situation. Lawrence and Lorsch (1967 :29) have found that decision-making units vary on how they perceive environmental uncertainty. They have defined environmental uncertainty in terms of lack of clarity of information, long time span of feedback and lack of understanding of causal relationships. In a similar approach (Duncan 1972:318) has concluded that decision-makers in organizations subunits operating in a dynamic complex environment experience the greatest amount of uncertainty in decision-making. Environmental uncertainty was defined as lack of information about environmental factors associated with a given decision-making situation, lack of knowledge of the consequences for the organization, inability to predict how environmental events may affect the success or failure of a subunit performance.

Information may therefore be more or less problematic depending on where in the organization the decision process occurs. However, it is also known that information concerning strategic decisions is more problematic than for routine decisions (Mintzberg et al 1976, Harvey and Mills 1970). Situations which strategic decisions are concerned with have been described as ambiguous, novel and complex. Ambiguity comes from lack of patterns to follow. Since they involve new situations, actions cannot rely on past experience, new patterns and standards have to be created.

A second reason for information being problematic is because sources of information are unreliable or because various sources may provide conflicting information. Decision-makers in monitoring the environment may distort information by inadequate scanning and filtering (Aldrich 1979). Indeed, information may already be distorted when it reaches the decision-maker. As Pfiffner

(1960:129) points out, information does not flow in an orderly way through hierarchical channels. It comes from a "galaxy of points" which often are not formal channels of communication.

Thus, information to feed the decision process may be lacking or inaccurate for the complexity of the situation which evoked the decision, or because of obstacles concerning information processing within the organization. In this present research, decisions are compared in terms of information constraints by means of the variables of availability and criticality. Availability examines the amount of information for a decision (quantity), when this information became available (timeliness), how reliable the information was (accuracy) and whether search was successful in bringing relevant information (information generation). Criticality depicts the importance of information which a decision requires. Some assumptions follow later in the chapter on how characteristics of information, in particular availability, affect modes of decision-making, and process pace.

4.4.3. Pressure of Time as a Problematic Constraint

The reasons why attention is directed to a stimulus for a decision have been a concern of recent studies in decision-making (March and Olsen 1976, Mintzberg et al 1976, Segev 1976). Usually, decision-makers do not respond immediately to such a stimulus. Time is a scarce resource; the new stimulus is only one of the many claims on decision-makers' time. Usually, there are more demands on people who know more about the system than on others who know little (March and Olsen 1976). Top manager's attention to decisions tends to be less than stable; continuity of attention to a problem depends on other high priority items in their agenda (March and Simon 1958). Mintzberg (1973b) has argued that top manager's activities

are characterized by brevity, variety and fragmentation. Involvement in too many activities may prevent attention to important issues. Work overload makes routine activities and short term demands appear more important than they really are (Adams 1979). Many demands on time are legitimate, all of them may be important to somebody, and there is usually a price to pay for overlooking more important issues.

Apart from involvement in other decision arenas, there are other reasons why interested parties may hesitate before initiating a strategic decision. As mentioned elsewhere, information for making a decision may be contradictory and vague. Logic dictates making commitments as late as possible consistent with information being available. Thus in some situations decision-makers prefer to wait and gain time before initiating a decision. For example, where a decision involves a major reorganization and power shifts they may prefer a step by step approach, beginning slowly (Quinn 1978).

Nonetheless, it is not always possible to wait for a clear definition of the situation and events do not always come at a convenient time. There are events like sudden environmental discontinuities which require rapid action despite vagueness and ambiguity. Organizations may be caught unaware by events like the petroleum crises, a sudden nationalization, withdrawal of a major customer. As Quinn (1978:9) has noted, "when these events did occur there might be neither time, resources, nor information enough to undertake a full formal strategic analysis of all possible options and their consequences".

Ansoff (1975) argues that in these conditions either the organization reacts quickly despite inadequate information, or it waits until information becomes more precise but then runs the risk of being overtaken by a crisis.

Although urgency may be imposed externally, for instance by the actions of customers, suppliers, or competitors, pressure of time may also come from institutionalized deadlines. Olsen (1976) has noted that when a decision is too complex and difficulties in reaching agreement lead to frequent interruptions, imposing a deadline may be the only way to make a decision process move forward. While pressure on middle and lower management decisions may be imposed by internally set deadlines, decisions at top level may be more subjected to external sources of control.

Within the conceptual model in Figure 4.1, time pressure depicts whether there was urgency to make the decision, either because of the requirements of the strategic stimuli or because of deadlines imposed on the coalition by the organization. As it will be seen, the decision process may have some peculiar characteristics when a decision is made under time pressure. Some hypotheses on the patterns of relationship which develop within the coalition under time constraints, are formulated further in this chapter.

4.5. Constraints and Process Activation

This section is concerned with how resources and information

determine modes of process activation. Some initial hypotheses are formulated as broad guidelines particularly to indicate relationships between principal variables. Although running the risk that the same relationship may not prevail for all the variables of a group there is no attempt to formulate predictions for every relationship between every variable. In a field where so much is speculative this would result only in a mechanistic list of possible links. At this stage only broad lines of thought are expressed, where ideas are most developed. Hypotheses concerning the impact of pressure of time on process activation are examined later in another section.

.4.5.1. Relationship between Constraints and Influence: Some Initial Hypotheses

As mentioned previously, scarcity of critical resources and acquisition of information are a source of uncertainty which organizations must cope with. Pfeffer and Salancik (1974) found that scarcity is related to subunits decisional power, which in turn enables subunits to acquire those resources. Pfeffer (1972) has noted that organizational response to conditions of the external environment tends to be rational: power is concentrated on units able to cope with important sources of dependence. In this respect, Zald (1969) has noted that distribution of power within the board of directors is a function of individual members capability to obtain important resources

that the organization needs. Hickson and associates (1971) suggested that a subunit's power is a function of its ability to cope with uncertainty, that is, a subunit will have power if it can cope with lack of knowledge of future events by prevention or absorption of the uncertainty. The subunit's power would also vary with the substitutability of its capacity to cope, and its centrality in the organizational work-flow. In an analysis of French organizations, Crozier (1964) provides an example where the power of maintenance engineers came from their exclusive knowledge of equipment repairs. An important point about this case is that the engineers kept maintenance details out of the files so as to avoid divulging relevant information to others. Routinization of information reduces power (Hickson and associates 1971).

Additional insights into this type of power are provided by Perrow (1970:67) in a study of departmental power in American manufacturing firms. Perrow observed a similar situation whereby a production department controlled the computer with all information about purchasing and inventory. This enabled the department to give directions to the sales department and draw limits for sales actions. He noted that in this case distribution of power did not follow the "natural" pattern - where the most critical function in an organization tends to have more power - but was instead a situation of power manipulation.

This raises the question of power mobilization whereby groups and individuals gain power by exercising monopoly over sources of critical information. Mechanic (1962:352) has argued that lower participants in an organization have power to the extent to which they can control access to important resources, information, persons and instrumentalities. Some interest units in the organization because of their position in the hierarchy are in a better position to mobilize power and control the flow of information through the organization. Pettigrew (1973) has attributed "Kenny's" power to his gatekeeper role whereby he controlled all information from computer manufacturers to the board. "It was his major ability to control decisional outcomes" (Pettigrew 1973:235). On this same issue, Zald (1978:238) has noted that differential power between subunits may be attributed to a subunit's ability to define internal information flow, the rules of the game, and the external environment.

Possession of information is therefore a valuable resource within an organization for it is an instrument for securing status and power (Burns and Stalker 1961). In Wilensky's (1967:43) views there are many reasons for holding back information and distorting it within an organization since "information is a resource that symbolizes status, enhances authority and shapes carriers". Thus, if interest units are in a position to obtain information not easily obtained by others they are themselves information sources

and they can control the release of information.

These findings suggest that resources and information are closely related to concentration of power. A hypothesis may therefore be formulated :

Hypothesis 1 : the more critical the resources/
information the more influential are the interests
involved.

Under conditions of little information and scarcity of resources, there is more activity in the decision process, search is more intensive (Cyert et al 1958) and more interests are involved in the decision process (Olsen 1976). As Olsen (1976) argues, there may be a tendency to re-view the criteria for decision-making and a pressure for resolving inconsistency. Thus, if as mentioned above organizations tend to be rational in the distribution of influence, and under conditions of scarcity, members tend to direct more efforts to resources acquisition and to resolve inconsistencies, it is likely that any discrepancies in the distribution of influence tend to be perceived by decision-making participants.

At the other extreme of the resources availability scale, under conditions of great slack, decisions can be made without any attempts by the participants to redefine value and solve inconsistencies. "The inconsistencies are in effect buffered from one another by the slack." (Olsen 1976:88) Generation of resources is not problematic and inconsistencies in the distribution of power, if they exist, tend not to be perceived as an obstacle to the smooth running of the decision or to its success. Therefore, two hypotheses may be formulated:

Hypothesis 2: The less resources are available, the greater the discrepancies perceived between actual and desired distribution of influence.

Hypothesis 3: The less resources are available the more the number of interests involved in a decision process.

A common phenomenon of strategic decision-making is the formation of special interests coalitions composed of internal and external interest units. Because of the unprecedented nature of non-routine decisions and the consequent absence of guidelines they tend to be innovative, and as such may be disruptive of the status quo (Harvey and Mills 1970, Pettigrew 1973). Such a decision requires specific effort to gain information to structure the situation and it also makes demands for new resources. Existing patterns of resource sharing may be threatened by this and the generation of resources may eventually fall under the control of different units. In consequence, political

behaviour appears in the course of these decisions as some interests try to gain power whilst others attempt to retain it. Since distribution of influence tends not to follow the usual patterns, members tend to perceive it as "irrational". Thus, it may be formulated that:

Hypothesis 4: The greater the criticality of resources the greater the discrepancies perceived between actual and desired distribution of influence.

.4.5.2. Relationships Between Constraints and Conflict: Some Initial Hypotheses

With a conception of organizations as interdepartmental systems created to cope with uncertainty, influence imbalance and conflict come to be seen as a normal part of organizational life. Subunits are understood as subsystems with unique structures, patterns of behaviour and interests. Lawrence and Lorsch (1967) have noted that subunits are differentiated mostly on three points: each tends to be concerned with different objectives, each develops its own pace of work and orientation to time, and each has its style of interpersonal orientation. Agreement among subunits may be particularly difficult in circumstances where integration is needed, since subunits have their particular ways of looking at problems and have their own performance standards.

The division of work in organizations not only promotes differentiation but also creates task interdependence among them. The way in which subunits depend on each other may provide the opportunity for emergence of

conflict. When subunits are loosely coupled, performance of one may have little effect on another, and therefore, there may be few opportunities for confrontation as opposed to the situation where subunits are tightly coupled and interdependence is reciprocal (Aldrich 1979). Task interdependence may prevail in a coalition, but here, subunits may depend on each other for securing scarce resources and information. In the circumstances where there is mutual interdependence and scarcity conflict tends to be high (Thompson 1967, Aldrich 1979).

It has been mentioned in a previous section that under conditions of scarcity participants tend to review values and inconsistencies. There may then be more conflict of interests since each unit tends to be the guardian of its own share and sees others as rivals competing for the same resources. As March and Simon (1958) point out, limited resources tend to transform decision-making into a competitive game. Olsen (1976:88) describes clearly what happens when resources are scarce in decision-making.

"When slack is further reduced (or time passes without the "managerial" strategies to increase total resources working successfully), more part-time participants are activated and it becomes obvious there is no way all the demands can be met. As the participants confront each other with an overt conflict of interest the "managerial" style of leadership is replaced with a "political" style; and the terms of the organizational coalition are re-negotiated."

Organization subunits may contend not only for material resources

but they compete for information and areas of influence (Pettigrew 1973). Benson (1975) argues that money and authority are the most important resources which decision-makers try to secure. Goldner (1970) has suggested that when organization structure creates overlapping and ambiguity in the division of work, conflict may result from subunits attempt to secure what they see as their area of responsibility. Similarly, Baldrige (1971) has noted that spheres of influence are usually defined in an organization and there is often conflict when a group tries to redefine its domain at the expense of another. Disputes for "territory" occur when rights are weakly held or have yet to be established (Krupp 1961).

As already suggested, information for making the decision may be problematic not only because information is a scarce resource which subunits may deliberately withhold as a power gaining tactic (Wilensky 1967), but also because of the ambiguity associated with the strategic stimulus in itself. March and Simon (1958) have argued that complexity inherent in innovative decisions may impose difficulties in achieving an agreeable solution. In this respect, Harvey and Mills (1970) argued that in a routine situation, as opposed to an innovative one, conflict is minimum since organizations may have developed standardized forms of dealing with problems, narrowing the range of possible dispute. Innovative decisions characterized by ill-structured problems and vagueness as to what steps are necessary to arrive at a solution allow multiple interpretations and encourage vested interests to compete as to where and when resources should be committed.

Considering the arguments developed here it can be seen that lack of resources and information are both related to the arising of conflict in a coalition. It may be, therefore, postulated that:

Hypothesis 5: The less resources/information are available the more conflict in the decision process.

Can any link be foreseen between criticality of information/resources and conflict? The literature provides evidence that political struggles tend to be more frequent in innovative decisions (Harvey and Mills 1970, Pettigrew 1973), in more "critical" than in "routine" decisions (Baldrige 1971:191) and in resource allocation decisions (Salancik and Pfeffer 1974). If critical and innovative decisions involve important resources as it has been argued in Chapter II, it may be that conflict manifestations tend to appear more intense in a decision process involving valuable resources. It may be, therefore, postulated that:

Hypothesis 6: The greater the criticality of resources/information the more conflict in the decision process.

.4.5.3. Relationships Between Constraints and Centralization of Influence: Some Initial Hypotheses

The concept of centralization has been associated with authority for making decisions (Pugh et al 1968, Child 1973, Astley et al 1980), dispersion of the decision making system throughout the organization (Mileti et al 1979),

and concentration of power within the hands of a few people (Hall 1974, Mintzberg 1979). Typically, these studies have investigated how contextual variables such as size relate to centralization of authority and to aspects of organization structure such as formalization and standardization. Only recently, an entirely different question has been proposed in organization theory, namely how centralization affects decision-making outcomes. A notable exception is found in the study by Astley et al (1980), who proposed a model in which the level where a decision is authorized is seen as affecting its level of satisfisicity. This same question is addressed in the present research, although using a concept of centralization based on influence processes rather than on formal authority for making decisions. The concept used here is similar to Tannenbaum's (1968) approach to hierarchical distribution of control.

As mentioned previously, decision-making requires the formation of a special coalition having various interests represented. A decision can involve an outside organization and different internal subunits, or just top management. Thus, an analysis of centralization as defined in this research implies examining how this coalition is composed in the first place. More narrowly, centralization of influence refers to the question of how much influence higher hierarchical levels have in determining decision-making outcomes (as against greater influences by a wider range of interests). For a study interested in how modes of process activation affect decision outcomes this approach was more appealing. While the locus of formal authority may

be the same for various decisions the amount of influence subunits from different hierarchical levels have varied with the decision. As Bachrach and Aiken (1976) point out, a limitation of previous researches on centralization is the lack of distinction between centralization of authority and centralization of influence. Influence on making decisions can be dispersed throughout all levels in the organization but authority may still rest in the higher echelons. This point is also raised in Blau's (1970) study, which like Bachrach and Aiken (1976), argues that conflicting pressures for centralization result in decentralization of influence over some decisions, despite reluctance to formally delegate authority.

Two factors appear important for the level of centralization in decision-making: the kind of knowledge a decision requires as opposed to where in the hierarchy it can be found, and the importance of the decision. These two factors seem to exercise pressure in opposite directions. For making important decisions top management must rely on all possible sources of information which can be found at every level in the hierarchy. Yet while need for relevant knowledge is a pressure for decentralization, the importance of the decision itself is an imperative for retaining control at the top (Blau 1970, Bachrach and Aiken 1976). Probably the importance of the decision is the most compelling factor of the two (Wilensky 1967, Blau 1970). if so it may be assumed that:

Hypothesis 7: The greater the criticality of resources, the more centralized the process (i. e. the greater the influence of higher hierarchical levels).

Although top management may retain control of decisions involving valuable resources, centralization can be selective according to where in the hierarchy the relevant knowledge for making decisions is found (Mintzberg 1979). Mintzberg sees the organization as a "constellation of work groups", some composed exclusively of staff members, others composed of top management and members of staff.

"Each constellation exists at that level in the hierarchy where the information concerning the decisions of a functional area can be accumulated most effectively"
(Mintzberg 1979:198).

In this respect, Lawrence and Lorsch (1967) have argued that for some decisions information may be accumulated at lower management level with specialists and it may not be possible to transfer knowledge up the hierarchy. They have presented evidence that more effective organizations may rely on those hierarchical levels most able to deal with problematic areas. For example, in the plastic firms they studied research and development decisions involved very sophisticated knowledge which was in the hands of lower and middle management and was difficult to transfer to upper levels. Therefore, when technical knowledge is required, and even though final authority for a decision is held by top management, their influence on a given decision process may be small as compared to influence exercised by other levels in the hierarchy. Thus, it follows that:

Hypothesis 8: The more technical the relevant information the more decentralized the process (i.e. the less the influence of higher hierarchical levels).

So far, only the interrelationships between resources - information and modes of process activation have been examined. In the following section assumptions are made on how time pressure changes the pace of the decision process and affects decision outcomes.

.4.6. Relationships Between Time Pressure, Process Activation, Process Pace and Decision Outcomes: Some Initial Hypotheses

There is some evidence that when a decision is made under time constraints the decision process has some particular characteristics. Fewer participants may be involved (Snyder and Paige 1958) and there may be more bias towards preconceptions (Wilensky 1969).

The impact of pressure of time in the decision process is not clear yet. Some authors argue that search is more vigorous, although less fruitful (March and Simon 1958) and some believe that a full range of alternatives may not be completely investigated (Wilensky 1967) and that decision-makers tend to shorten their decision horizons thereby risking the successfulness of the decision (Smart and Vertinsky 1977).

Furthermore, if pressure to respond quickly arises from a crisis situation there may be a concentration of authority, and standards for decision-making may change so inducing a conflict of values. If conflict intensifies, organization members may leave the decision or even the organization (Herman 1963).

Conversely, Wilensky (1967) argues that pressure of time may induce even higher quality decisions. Urgency makes the system function more efficiently and overcomes many deficiencies in information. Generally, rules become less rigid and structures more flexible; distortions of hierarchy, centralization, formalization and specialization diminish. As Wilensky (1967:76) states: "a hasty decision made under pressure may on average be better than a less urgent one". Comparing the United States' decisions on Korea and the Bay of Pigs crises, he argues that in the former, urgency overcame hierarchy. Communications were less obstructed by formal channels and a wide range of important alternatives was explored. In the Bay of Pigs crisis, the situation was less urgent but hierarchy obstructed communications, exploration of alternatives was limited and consequences were disastrous.

In these circumstances, where success or failure depends highly on the timing of action, the normal patterns of decision-making change so as to speed up the pace of the decision process. Although changes in the process may be greater when the organization is facing a crisis situation, mechanisms to speed up its pace may also be observed in other circumstances. Weiner (1976) reports a case of a decision to promote racial desegregation in San Francisco elementary schools. The deadline imposed by law urged the School District to present a plan to the court in a short period of time. The decision had been "muddling through" for years, but when the deadline was set the result was a redefinition of participation and an increase in the decision pace.

More active participants got more involved and spared more time for the decision, whilst less active members tend to withdraw. Weiner noted that three effects of deadlines were prominent in the decision process: "garbage ejection" when members due to the pressure of time tend to simplify the situation and exclude many problems of consideration; "energy conservation" - a tendency to retain problems which have attracted participants, and "competence multiplication" - when members who are more competent to deal with relevant problems participate more intensively than other members.

It is interesting to note that under time pressure, the tendency is towards centralization, towards elimination of factors which may delay the decision process. Then in successful cases the coalition may develop mechanisms to compensate for the disadvantages of centralization (Wilensky 1967). At this point, a hypothesis may be formulated:

Hypothesis 9: The greater the time pressure the greater the centralization (i.e. the greater the influence of higher hierarchical levels).

As Olsen (1976) notes, the first effect of time pressure on decision-making is to direct organization attention on to the decision issue. Yet the greater the ambiguity associated with the decision the more there is a tendency to avoid any early commitment. Thus although decision-makers recognize the stimulus for a decision, if there is ambiguity action may not begin until

a deadline is imposed. . . What time constraint does is to shorten the interval between recognition of the problem and initiation of the decision process.

When under time pressure, opportunities for political behaviour may decrease. It is well known in Behavioural Psychology that individuals for whom the consequences of behaviour depend on passage of time, tend to reduce the frequency of irrelevant behaviour and engage in more functional behaviour in terms of control of environmental consequences (Lundin 1969, Skinner 1969). For example, students tend to put more effort in preparing for exams when time for examination approaches; athletes engage in more training as the games approach, and car owners queue up at petrol stations when price increases are imminent. When success depends on performing activities within a time limit and time is too short for political behaviour, conflict may be less intense. Thus, if under time pressure decision-maker's activities tend to be more functional in terms of concentration of attention on important issues, it may be formulated that:

Hypothesis 10: The greater the time pressure, the less the conflict and the shorter the decision duration.

Because the decision process then tends to be more goal oriented than political and since success under time pressure depends on the rapidity of the organization response, (as has been suggested above) it may also be predicted that:

Hypothesis 11: The greater the time pressure and the shorter the decision duration, the more proactivity and closure.

On the other hand, when there is urgency a tendency to act on pre-conceptions and to simplify the alternatives may occur. The coalition may be tempted to rely on previously successful courses of action (Wilensky 1967), and problems which do not appear to have an immediate and clear relevance are not given full consideration, as Weiner (1976) notes about the "garbage ejection effect". Similarly, Katz and Kahn (1966) have noted that maladaptive responses may occur when events change the rhythm of activity within an organization. Organizations may cope with the overload created by the interruption to their usual activities by filtering information, neglecting information, and by ignoring some normally necessary tasks. So there may be a failure in processing critical inputs which can magnify problems rather than help with them. Thus under time pressure the full foreseeable consequences of a decision may not be examined and interest units which have a critical role in implementation may not be consulted. As Thompson and Tuden (1976) point out, urgency may lead decision-makers to force issues which are clearly inappropriate and to carry through implementation without agreement being reached. In an attempt to buy time, decision activities tend also to move in parallel rather than in sequences. This can even lead to a decision being implemented with the process of deciding still going on, without authorization or even before knowing what the problem is about.

In short, under time constraints a coalition may be able to process a quick decision which attains proactivity and closure, but in doing so existing problems may be magnified, or new ones may be created (disturbance as a consequence of skipping stages or lack of thorough examination of important issues. Therefore, it may be assumed that :

Hypothesis 12: The greater the time pressure and the shorter the decision duration the more the disturbance.

.4.7. Decision-Making Variables and Decision Outcomes

The preceding sections have focused on the relationships among constraints variables and modes of process activation. The exception was section .4.6. which has already explained how time pressure relates to process pace and decision outcomes. The following sections therefore concentrate on how the other constraints variables are linked to process pace and decision outcomes. Again, emphasis is given to constitutive variables instead of paying attention to individual variables forming a major concept.

.4.7.1. Discrepancies in the Distribution of Influence

It has been said that in rational organizations, influence in decision-making tends to be distributed according to the interest unit's ability to cope with problematic areas. For example, when special knowledge is required for a given decision, interest units which can provide relevant information may have greater influence in determining outcomes. Thus, one should

expect a greater influence of a sales department in a decision to enter into the export market, or the involvement of the production department in a major dispute between management and Unions. However, there may be occasions when marginal groups holding critical information may not be involved, particularly when their possible contributions are not so clear. How they are able to contribute is not apparent so that it may seem reasonable to ignore them. Thus, a coalition may "forget" highly pertinent advice from the production department or may not have time to consult legal opinion. In such an eventuality, this lack of consultation may subsequently force a coalition to interrupt a decision or to review the whole issue even after they have already committed some resources. Hah and Lindquist (1975) provide the notable example described earlier where a decision to seize steel plants by the President of the United States was subsequently invalidated because it was constitutionally illegal. In this case the Justice Department was consulted only after no alternatives were left except the seizure of the steel plants.

There are other reasons why a given unit may not have its interests represented in a decision process. A coalition may conveniently avoid contact with interests that could raise problems or block the decision. Bachrach and Baratz (1962) have drawn attention to situations where groups able to participate do not have access to decision-making. Making a decision behind closed doors may be a form of keeping issues out of examination and avoiding the expression of opposing views. Thus, units whose

Interests will be affected by the decision of groups in charge of implementation may not be invited to meetings, or express their opinion. Nonetheless, whilst this lack of consultation may at the time seem to expedite matters, it may have the effect later on of putting the successfulness of the decision at risk. Lack of acceptability of the decision may lead to withholding information, paralysing delays, or boycotting implementation. Studies both of organization's experience with decentralization, and research on small group behaviour, suggest that people are much likelier to accept a decision where they have had opportunity to influence the outcomes (Litterer 1967, Katz and Kahn 1966, Maier 1970, Heller 1976).

By comparing actual and desired distributions of influence this research should be able to detect situations where interest units were not involved in the decision-making but their participation was perceived as desirable. It may be equally possible to identify the opposite situation, where interest units were too influential in determining outcomes when they should ideally have exercised less influence. It is plausible that lack of representation of a given unit in a decision-making process when its participation is perceived as critical and therefore an imbalance between actual and desired levels of influence, may affect the pace at which a decision process goes and its outcomes. When interest units able to contribute critical resources and information are not in the process arena, many interruptions may occur and so "re-cycles" (Mintzberg et al 1976) for redefinition of the problem.

In view of the arguments put forward in this section, a hypothesis may be formulated:

Hypothesis 13: The greater the incongruence between actual and desired levels of influence, the more delays, the less proactivity, and the more the disturbances.

.4.7.2. Conflictfulness

Interpretations of how any forms of conflict come to affect organizational life have moved away from a perspective where conflict was seen as pathological in organizations (Barnard 1962) to a position where conflict is seen as inevitable. Conceptions of organizations as an interdepartmental systems (Lawrence and Lorsch 1967) or as a coalition formed by interest units having different goals (Cyert and March 1963) have introduced the notion of conflict as a natural phenomenon. Attention has therefore been directed to mechanisms whereby organizations come to handle "differences" and manage to survive despite conflict.

Arguments as to how conflict affects decision outcomes are contradictory; some writers see conflict as dysfunctional, subverting organizational goals (March and Simon 1958), but others view conflict as essential for achieving better conditions if it is properly handled (Boulding 1964, Katz 1964).

March and Simon (1958) have argued that conflict is disruptive of

the rational decision process. It impedes the selection of alternatives.

Conflict represents disequilibrium and attempts are made to resolve it.

As these authors state:

"As in the case of the individual, we assume that internal conflict is not a stable condition for an organization and that effort is consciously directed towards resolving both individual and intergroup conflict." (March and Simon 1958:129)

In their view, reaction to conflict involves either the use of analytic processes or the use of bargaining. Political processes are seen as disruptive of decision-making, and therefore they assume that the initial reaction of an organization to conflict is problem solving and persuasion rather than bargaining. Even when bargaining takes place there will be attempts to conceal it in an analytical framework. This perspective contrasts with Cyert and March's (1963) view of decision-making as a political process where bargaining is a common measure to handle conflict within the coalition.

More recent research, in contrast to March and Simon (1958), sees decision-making as a political process where outcomes are determined by negotiation and power games rather than by a detached intellectual analysis (Pettigrew 1973, Astley et al 1980, Wilson 1980). As has been said, this thesis assumes that a strategic decision process provides an opportunity for political behaviour. Outcomes may not be chosen as a solution to a problem but are rather resultant from compromise, bargaining and competition among interest units which hold different views about the decision issues. Decision-making is then more like a power game where a player attempts to gain the

best advantages in a situation over another, and where possibilities of success depend on the amount of power he has to control the game (Allison 1969). In disputes, interest unit's parochial priorities may prevent recognition of overall needs and may confuse which alternatives are best to solve the problem or to realize the opportunity. In this situation, conflict may be settled only partially or a political impasse may occur; the decision process may be interrupted to gain time or to allow arguments to die down. Mediation may take a bureaucratic form, so that committees to conciliate divergent views may be appointed, as Baldrige (1971) points out. As a result, the process will slow down and to the extent to which a settlement is prevented by antagonistic interests, the decision will take longer.

If conflict persists, outcomes are more likely to be a result of compromises which reflect give and take. Outcomes may be incremental in Lindblom's (1959) terms in the sense that little is changed so as to reduce the pressures imposed by antagonistic interests. In these circumstances, a decision will drag on and not arrive at a lasting conclusion (i. e. low closure) and disturbances may interfere with implementation. The real problem will not be solved. Dissatisfied interests may then block implementation if they have power to do so. It may also be that if parochialism, information distortion and misperception occur in bargaining as Allison (1969) suggests, the full implications of the decision may not be properly examined. As a result it may create more problems than are solved. These ideas may be summarized as follows:

Hypothesis 14: The greater the conflict, and the more delays, the less proactivity and closure and the more disturbances.

Although within this view, conflict is seen as disturbing the decision-making process, it is believed that it may also be functional to decision-making if effectively handled (Litterer 1967, George 1972, Argyris 1976). George (1972) has argued that conflict is potentially healthy for policy making. Disagreements between interest units may improve quality of search and analysis of alternatives. Competition between groups may lead rivals to intensify search and present all available evidence to support their views, and outcomes may therefore be a result of a thorough examination of the implications. As March and Simon (1958) point out, there can be situations in which conflict may be settled by analytical processes which involve enlarging resources and discovering new alternatives. Should conflict be associated with generation of more information in a decision, proactivity and closure may not necessarily be low. The hypothesis is therefore a most tentative statement.

While the views presented above may apply to both business and non-business organizations it is worthy of note that because of some peculiar characteristics of the decision-making system in universities, the strength of relationships among variables may differ for those two kinds of organizations. Baldrige (1971) for example, has noted that in universities the decision-making process is eminently political. Politics determines the

decision outcomes from the very beginning; attention to issues depends on the interests of powerful interest units and allocation of decision-making to a particular group is a result of power manipulation and struggles between internal units. Political controversy dominates until a compromise is eventually reached, or until mediation by another unit formed specially to handle the conflict. In a similar view, Butler and associates (1978) point out that in universities decision-making processes are characterized by internal contention and jostling for power. Although not emphasizing the political aspects, Olsen (1976:83) has suggested that in universities outcomes are a result of poor comprehension of the problems and fluid participation. "The outcome is seen as an unintended product of certain processes having dynamics of their own". These features, therefore, indicate that partial settlement of conflict, or no settlement at all, may be more frequent in decision-making in universities as compared to other organizations. Conflict is likely to influence decision-making outcomes to an even greater extent.

.4.7.3. Centralization

As Wilensky (1967) points out, arguments about the impact of centralization - decentralization upon effectiveness of organization processes are contradictory. The dilemma between the advantages and disadvantages associated with decentralization often confronts decision-makers. If decision-making is concentrated at top level, information may be inaccurate and insufficient for the process to work efficiently. Moreover, top managers may be

too busy with other problems to pay the necessary attention to the decision. They may not have information on the decision background and therefore information may be loose or fragmented and, without specialist support, search may not be properly conducted. With centralization managers may take on unnecessary responsibility and if views are more or less uniform this may foster the illusion of security and reliable intelligence. Such conditions may lead to mistaken policies (Wilensky 1967)

Decentralization on the other hand, has its own advantages and drawbacks. Apart from the opportunity for more democratic forms of decision-making (Katz and Kahn 1966), flexibility and a full examination of alternatives have also been associated with it (Litterer 1967, Wilensky 1967). Nevertheless, as more interests are involved in a given arena, the greater the number of issues raised and so the longer the decision time (Olsen 1976). Another difficulty is the tendency of subunits to present options which are a result of their internal bargaining; consensus is reached at a subunit level so that only a narrow range of options is presented to top management (George 1972).

While decentralization implies diversification of views and the slowing down of the decision process, centralization represents the other side of the coin; a small number of individuals are involved in making the decision (Mintzberg 1979) and there may be a narrower range of views and preferences,

and so less delays (Wilensky 1967). Studies of decision-making in groups provides evidence that the speed of solutions tends to be higher for smaller groups (Maier 1970).

Although the arguments look contradictory, the question seems to be entirely contextual. It has been mentioned before that in rational theory influence is concentrated at the level where knowledge is required, but also that there is reluctance to transfer responsibility to lower levels when the decision is strategic. In this case, the balance of participation may lead to proactivity and closure. However, when there is pressure of time, decentralization may be inappropriate since it gives the opportunity for conflict and delays. Information distortion and blockage is more likely to occur when too many interests are involved in a coalition, particularly if these are different specialists. Each interest unit becomes a guardian of its own standards and skills, and therefore each one may restrict information that could advance the interests of others (Wilensky 1967). Inter-unit rivalry and resultant blocking of accurate information may lead to a decision failure. As Wilensky (1967:57) points out:

"... the greater the number of ranks and the greater the number of organizational units involved in a decision process, the more the distorting influence of rank and jurisdiction and, consequently, the greater the chance of an intelligence failure. It is likely that staff experts communicate most freely with colleagues in the same speciality, second with colleagues in the same workplace, than to subordinates, and last - with greatest blockage and distortion - to superiors and rival agencies."

Therefore, it may follow that:

Hypothesis 15: The greater the influence exercised by specialists and the more conflict, the more tardy the decision process

As mentioned above, the type of outcomes which may result from the combination of these variables may depend on other conditions such as urgency of the decision.

There are also indications that organizations vary in how the degree of centralization affects decision-making. Wilensky (1967) argues that where it is possible to maintain loyalty to organization goals, the tendency would be towards decentralization. In a single purpose organization where goals tend to be clear and stable, decentralization may present few problems. This situation and an effective inculcation of values secure a smooth flow of reasonably accurate information to top management. On the other hand, when goals are ambiguous and diversified decentralization may result in blockage of information, and the decision-making may be characterized by interruptions and decentralization on the whole may be dysfunctional. Baldrige (1971:190) has noted that in universities where decision-makers have varied expertise, "decision-making is likely to be diffuse segmentalized and decentralized". Universities and other government organizations are portrayed as organized anarchies, where internal units have different standards, preferences are inconsistent and ill-defined (Cohen et al 1972,

Weiner, 1976). Thus, it is possible that decentralization will be more problematic for these organizations.

.4.7.4. Constraints

It has been suggested that because information and resources are scarce and their acquisition is problematic both are considered sources of uncertainty which organizations have to deal with. In consequence, performance in organizations is viewed as dependent upon success in reducing these areas of uncertainty.

If information/resources are scarce, they both impose constraints to the successfulness of outcomes. Scarcity of resources and lack of information may slow down the decision process. For example, authorization for a decision may be postponed until the minimum amount of resources necessary to implementation is obtained. An opportunity for acquiring new equipment will have to wait until the next budget when money will be available. As Mintzberg and associates (1976) point out, organizations wait for better conditions until they can proceed with the decisions. On the other hand a decision may be speeded up by an earlier commitment of resources or a greater volume of resources. Thus, a possibility of a new business abroad may lead organizations to increase volume output before the decision is concretized by authorization.

Hence, munificence of resources and availability of information may permit the organization to have a better control of the external/internal environment and to obtain advantages over competitors (Yuchtman and Seashore 1967). As Benson (1975) notes, by having control over resources the organization can establish the rules of the negotiation and force parties accept its terms. Thus, it is apparent that more resources allow the organization to grasp new opportunities (proactivity), to obtain gains and benefits not initially planned (propitiousness) and to resolve problems (closure).

Scarcity on the other hand, limits the degree of success independently of what happens in the activation of the decision process. Although a powerful coalition may be able to obtain the relevant resources for a decision (Pfeffer and Salancik 1974), external competition constraints decision-making (Thompson and McEwen 1958). At this point, a hypothesis can be formulated:

Hypothesis 16: The more available resources/information are, the more proactivity, propitiousness and closure.

Some organizations, nevertheless, may have less flexibility on the control of resources. For example, U.S.A. Public Universities, when compared to other types of organizations, have less discretion over the resources, since State legislature controls distribution of resources they count with (Pfeffer 1972). Harvey and Mills (1970) have suggested that decision-making may be different in non-profit organizations since resources exchanges do not

follow the same pattern as far as profit organizations. While in profit firms internal resources are exchanged for external resources in a competitive market, non-profit organizations are less dependent from market competition but more dependent on a same organization which supplies their financial resources. Thus, the impact of resources availability in decision-making may vary depending on the organization discretion in controlling the flow of resources. In organizations highly controlled by external source where resources exchanges with environment are made by external coalition, by supplies, by governments, such as the electricity firm reported by Butler and associates (1977), the impact of resources availability on decision-making may be less significant. The same may apply to organizations where resources allocation is determined by law, strongly held norms or by government.

.4.8. Process Pace and Decision Outcomes

As has been suggested throughout this chapter, outcomes which emerge from the "garbage can" depend on the combination of variables influencing the decision pace or may result from the impact of each set of variables separately. For example, it has been mentioned that under conditions of time pressure longer delays may lead to lower decision closure. On the other hand, the probability of delays to impose a slow pace on a decision depends on the resources and information available and on the degree of conflict during the activation of the process. For example, organizations may need time to solve problems, particularly if they are of political nature.

Quinn (1978) has argued that decisions which threaten power bases require low promptness; until more information is gained and the situation understood, options should remain open and the decision delayed.

Although there are circumstances in which a slow down may be appropriate for solving problems within the decision coalition, a late decision may prevent an organization from grasping opportunities. For example, development product decisions may often confront a situation where market changes have taken place during the making of the decision. Some of those decisions may take so long a time to reach the point of implementation that the product may have already been overtaken by a new technology or environmental changes may have turned it out of date. The Ford Edzel decision, mentioned in Chapter I is an example of a long build up. The initial Edzel plan went as far back as 1948. Then, the project was interrupted by the Korean War, to be restarted in 1955 when market research had shown that medium price cars had 60% of the market. The main reasons for sales failure have been attributed to inappropriateness of the time when the car was launched and ineffectiveness of search activities. These events were described as follows:

"... the Edzel was a classic case of the wrong car for the wrong market at the wrong time. It was also a prime example of the limitations of market research, with its "depth interviews" and "motivational mumbo-jumbo"... the flaw in all the research was that by 1957, when Edzel appeared, the boom was gone from the medium price field, and a new boom was starting in the compact field, an area Edzel research had overlooked completely" (Time, Nov. 30 1959, Deutsch Ed. 1976:43).

Of considerable importance in opportunity situations is the rapidity of reaction to environmental changes. Ansoff (1975) has emphasized the importance of awareness and quick response in cases of sudden changes in the environment. Speed, boldness, making "dramatic gains" and proactivity appear together in Mintzberg's (1973a:45) entrepreneurial mode. Thus, it may be assumed that a tardy decision process results in low proactivity and propitiousness.

Arguments as to sources of decision success and unsuccess have been presented throughout this chapter. Although constraints imposed on a decision and forms of process activation may by themselves determine the sort of outcomes which emerge from a decision process, they are also seen as affecting the decision outcomes through mediation of process pace. Process pace in its turn is directly able to produce an impact on the degree of proactivity and closure achieved by a decision. Unanticipated outcomes such as propitiousness and disturbances may also emerge from a given combination of those variables. As earlier assumed, successfulness of a decision will, therefore, depend on the contribution of scores each decision attains on the four aspects of outcomes. Table 4.1 lists the hypotheses formulated in this chapter.

TABLE 4.1 LIST OF THE HYPOTHESES IN THE CONCEPTUAL FRAMEWORK

Hypothesis Number	Hypotheses
1	The more critical the resources/information, the more influential the interests involved.
2	The less resources are available, the greater the discrepancies perceived between actual and desired distribution of influence.
3	The less resources are available, the more the number of interests involved in the decision process.
4	The greater the criticality of resources, the greater discrepancies perceived between actual and desired distribution of influence.
5	The less resources/information are available, the more conflict in the decision process.
6	The greater the criticality of resources/information the more conflict in the decision process.
7	The greater the criticality of resources, the more centralized the process (i. e. the greater the influence of higher management levels).
8	The more technical the relevant information the more decentralized the process (i. e. the less the influence of higher management levels).
9	The greater the time pressure the greater the centralization (i. e. the greater the influence of higher levels).

10	The greater the time pressure, the less conflict and the shorter the decision duration.
11	The greater the time pressure and the shorter the decision duration, the more proactivity and closure.
12	The greater the time pressure and the shorter the decision duration the more disturbances.
13	The greater incongruence between actual and desired levels of influence, the less proactivity, and the more disturbances.
14	The greater the conflict and the more delays, the less proactivity and closure and the more disturbances.
15	The greater the influence exercised by specialists and the more conflict, the more tardy the decision process.
16	The more available resources/information, the more proactivity, propitiousness and closure.

CHAPTER VTHE RESEARCH STRATEGY

Whatever the level of analysis a researcher may be interested in, he has to face the embarrassments of sampling organizations. It is in fact a multifold problem, since the researcher faces the situation of having to satisfy the requirements of adequate statistical sampling and theoretical demands within the feasibility of access to organizations and constraints in time and money. In reality, as Udy (1965: 682) notes, in organizational analysis "one is never able to choose freely the organizations to be studied and hence is always open to the charge of failing to employ an unbiased sample of any meaningful population".

Because this study is interested in comparing conditions associated with successful and unsuccessful decisions in different organizational settings and its major concern is in establishing comparisons between those two types of decisions, problems of sample seemed to be twice as complicated and difficult to control. Discussions on the form taken by the sample, difficulties in selecting a homogeneous sample, and methodological implications, have therefore been considered separately in this chapter for each level of analysis.

Data collection methods and the instruments used to gather information are discussed in the last section of this chapter.

.5.1. Sampling Organizations

As already mentioned, the aim of the conceptual model is to capture those aspects of the decision process which might explain decision-making outcomes and then success. Variables were selected and devised with the primary aim of maximising the chances of differences showing up between decisions rather than between organizations, in contrast to previous work (Horvath and McMillan 1979, Astley et al 1980). Therefore when sampling choices came to be made, the principle would be to choose organizations as a means to selecting decisions, though clearly sufficient variation between organizations would be likely to occur in any case to afford some potential explanatory power in terms of the features of organizations themselves. Certain decisional characteristics might be salient in certain types of organization, and there might be differences in how success was defined.

The selection of organizations which diverge in the goals to which they give primacy would provide probable further variation in the components of the conceptual model. There is evidence that organizations diverging in goals may also differ in the decision-making process and how decision outcomes are evaluated. Organization goals set limits upon decision-making for they determine where resources are allocated (Hall 1974) and provide the parameters to the analysis of the effectiveness of organization activities (Thompson and McEwen, 1958).

So there was a case for diversifying the organizations to be studied

such that they would include both manufacturing and service units and, most obviously, business and non-business organizations. It has long been thought that these two types, business and non-business, differ in goals (Blau and Scott 1963, Anthony and Herzlinger 1975), in the criteria used to evaluate activities (Simon 1976) and in their processes of decision-making (Butler et al 1979).

Blau and Scott distinguish organizations by "prime beneficiary", that is, by those whose interests determine the problems and issues which should be dealt with. The prime beneficiaries of business concerns are the financially interested owners and so the dominant problem of these organizations is efficiency. As Blau and Scott point out :

"The dominant problem of business concerns is that of operating efficiency - the achievement of maximum gain at minimum cost in order to further survival and growth in competition with other organizations"

(Blau and Scott 1963:49)

The prime beneficiaries of service organizations, on the other hand, are members of the public in direct contact with the organization, and so the main concern of such organizations is the provision of effective professional services.

Similarly, Anthony and Herzlinger (1975) distinguish between public and business organizations, in that the former are oriented towards providing better services within the resources available, whilst the latter are oriented towards maximization of profits. This raises a question extensively discussed by organization theorists. Traditionally, business organizations have been

viewed as striving to maximize profits. Economists and those following rational assumptions tend to emphasize profit maximization. Yet, some studies have opened the question of whether to speak of improving profits is a sufficient description of the aims of business organizations (Dill 1965, Stagner 1969, Perrow 1969, Miller and Friesen 1978). It has been suggested that goals other than profits are also important to business organizations, such as stability and growth. Nevertheless, authors appear to agree that in these organizations, profit making is an overriding goal to which other goals are subservient. As Dill (1965) points out, profit provides a basic index by which activities of a business firm are judged and it is undoubtedly used more universally in these organizations than in any other type.

As Simon (1976) suggests the primacy given to profits in business organizations makes it possible to evaluate decisions by a relatively simple criterion indicating efficiency. Money is a common denominator. On the other hand, it is more complicated to evaluate activities in public organizations where objectives are stated in terms of values and vary with the opinion of those who have a stake in the decision process.

While Simon (1976) has pointed to the difficulties in finding a monetary parameter in public organizations, other studies have provided some hints on how these organizations may differ from the business type in the decision-making process itself. Peabody and Rourke (1965), for example, have made the point that a private entrepreneur enjoys a greater freedom in decision-making than

do officials of a governmental agency. Public bureaucracies differ from private organizations in that their goals are externally determined by a legislative enactment. In these organizations decisions are usually made centrally and may be constrained by law.

It has been suggested, in effect, that public organizations often have less autonomy in decision-making to the extent to which they have less discretion to control the amount of resources needed for operation. Pfeffer (1972) has taken as examples American universities whose resources are largely controlled by State legislatures or by other outside organizations. Decision-making in hospitals appears to be similarly constrained by those who sponsor their resources (Perrow 1969). While then non-business organizations obtain resources from such sources but are less affected by market competitions, their business counterparts share contrasting characteristics. In their cases internal resources are exchanged for external resources in a supply and demand relationship. Resources are controlled by the rules of competition (Harvey and Mills 1970) rather than by political powers beyond them and success depends on the organization's ability to realize transactional advantages (Williamson 1975).

While business and non-business organizations differ in the ways in which choice behaviour is constrained by external factors, it seems that these organizations also vary in the process of making decisions and in the pace at which activities are developed. Butler et al (1979) have suggested that a

business firm and a university may differ in the manner decisions are made. They provide some hints that business firms' decisions may be more rapid, centralized and more oriented towards rational values. In public organizations by contrast, decisions may be decentralized, more political and lengthy. Nevertheless, as they point out, empirical evidence as to whether and how these organizations differ in the process of making decisions has yet to be provided.

The most recent research results have concerned non-business organizations only, so lacking a comparative dimension. But they are consistent in indicating the political nature of decision-making in these organizations. In general, little evidence has been found for a style of rational decision-making where alternatives are chosen as appropriate to desired ends. Lindblom (1970) has argued that the rational model of decision-making based on the limited problems of industrial firms does not apply to decisions in public administration, which are widely remedial in character and must consider the concerns of independent groups whose values are conflicting. Instead, the essence of decision-making in government organizations can be found in bargaining and conflict. In this kind of setting important decisions are made by negotiation rather than being settled through more detached intellectual analysis (George 1972).

Characteristics of decision-making in universities appear to be not much different from those of public administration. Research in these

organizations has drawn attention to the predominance of political activities in university decision-making, who decides and what is decided is a matter of struggle among internal units (Baldrige 1971). The image of university decision-making provided by Butler et al (1977) is similar; jostling for power to influence decisions is a major feature of processes of making decisions in these organizations. The caricature of universities as "garbage cans" suggests other interesting features. Often the process of making decisions in these organizations does not appear to be concerned with actually making a decision. It may look anarchical. As March and Olsen (1976) describe it :

"Intention does not control behaviour precisely. Participation is not a stable consequence of properties of the choice situation or individual preferences. Outcomes are not a direct consequence of process. Environmental response is not always attributable to organizational action. Belief is not always a result of experience".

(March and Olsen 1976:21)

Hence although direct comparative data are so far lacking in the literature, the presumed contrast between business and non-business organizations is clear, and certainly sufficient to warrant the inclusion of both in any sample in the hope that variation in decision processes will be detected. A broad description of the sample is presented in the following section, and a detailed description of the characteristics of each organization can be found in Appendix D.

.5.1.1. A Description of the Sample

In an attempt to obtain variation and to detect any salient features of a

given type of organization, the sample eventually consisted of two universities, a health district and five business firms in Northwest and Northeast England as shown in Table 5.1. Ideally, such a sample should have included an equal number of business and non-business organizations, for example, and carefully balanced contrasts of service and manufacturing. More care should have been taken to control for extraneous variables such as size and ownership and precise business. But in research perfect designs, and samples to perfectly test them, are elusive ideals. They are worthwhile as ideals for they indicate the direction of striving, what ought to be aimed at, but if failure to attain them forbade research then how little research there would be. The most that could be achieved here was an oddly assorted selection of organizations but as later chapters show even this served to produce interesting results which may be a basis from which others may proceed.

Various influences and obstacles shaped the eventual sample.

To begin with there were hopes of a comparative study between British and Brazilian firms, and then came difficulties in gaining access to organizations in Britain, which are elaborated in the next section.

The unequal numbers in each type of organization were not intended and were a result of a series of decisions taken to improve the possibilities of a sufficient number of organizations participating in the research. Alternatives had to be tried when gaining collaboration proved to be difficult.

TABLE 5.1 ORGANIZATIONS INCLUDED IN THE SAMPLE

Organizations	Size (No. employees)	Business Area
Business Firm 1	800	Engineering
Business Firm 2	12,000	Electrics & Electronic
Business Firm 3	100	Chemical
Business Firm 4	1,500	Engineering
Business Firm 5	600	Confectionery
University 1	4,402	
University 2	4,223	
Health District	7,850	

Since the prime purpose was to make comparisons among decisions, this had to take precedence over the composition of the sample of organizations.

While the reasons for accumulating such a sample should be better

understood as the reader goes through the following sections, one must not forget the fact that although the variations in sizes of the units in the business firms group may enable conclusions to be applicable to organizations of various sizes, and may favour variations in dependent variables, they may nevertheless leave extraneous variables uncontrolled when comparisons between decisions in different types of organizations are made.

As far as the number of organizations is concerned, there is always a trade-off as Blau (1970) points out. Since organizations are too complex systems to study many at a time, with small samples the possibilities of generalization from findings diminishes, but against this there is always the possibility of gaining in details from a more in depth investigation. Thus, whilst conclusions on the organization level may not be confidently attributed to the population, this study may be able to grasp some characteristics of the decision process which otherwise would not be possible.

One must bear in mind three things: firstly, in the comparative organizational literature, people are still trying to define and establish methodological approaches (Heydebrand 1973, Udy 1965). As Udy (1965) states : "... widely divergent methods are often used to attack essentially similar problems. Some researchers compare two organizations; others compare 200. Some use statistical techniques; others do not. And frequently no particular reasons are given for preferring one approach over other possible

alternatives". (p. 689) "This variety of procedures stems partly from the lack of knowledge of the nature of exploratory research" (Udy 1965:686).

Secondly, and on the other hand, this study as most in this area does not claim to be hypothesis testing and as such it does not pursue a strict methodological rationale. Burns (1968) considers the comparative method to be a method of generating questions, and Udy (1965:683) points out that the most important problem with classical hypothesis testing in comparative organizations research is not the problem of sampling, but rather the lack of theory from which the hypothesis can be deduced. Perhaps then the present study can in some way contribute to that theory.

Finally, because organizations are such complex systems a study in depth of a large number is too costly in time and money. But to be able to test propositions and go as far as attempting generalizations, a researcher must go beyond a single case. This is what this study did.

.5.1.2. Access to Organizations

I tend to see the getting of access to organizations as a very personal experience (which is why I have permitted myself to write in a more personal form in this section). Getting acceptance does not depend only on the research theme nor on the time and trouble demanded from the organization by the research but also on the amount of time and money a researcher is prepared and

able to devote to gaining approval for the study so as to ensure the desirable homogeneity and variation in a sample.

For a long time the attempts by the associated Bradford staff project team to gain access for their study on Power and Decision Making had disappointing results, as later reported by Wilson (1980:99).

"Organizations seemed unwilling to allow research in to such topics. At this time the rejection rate from all companies who were approached was running close to 90%".

Perrow (1970) too, reports a high rate of rejection in his study on distribution of power in American firms and Blau (1964) had to change his initial plans and compare two government agencies in his study of work groups in bureaucracy because he did not succeed in obtaining permission from a large private firm.

Much can be said about this, but a detailed description of difficulties in gaining access can be found in a study by Platt (1976:187) of British sociological research. Like some of the researchers who had been the subject of her study, she did not want to appear "out of the blue". As she comments: "the prime reason the sample initially took the form it did was my fear of being refused if I approached people out of the blue. The way I started, therefore was to place my appeal in "Sociology" and write to a few friends and acquaintances."

Such difficulties however are far from being unique to British and American researchers. In my own research on the distribution of power in Brazilian steel and textile companies, permission for the study was granted only after gaining the support of the State Service for Industrial Training (Rodrigues, 1977).

I do not wish, on the other hand, to overstate the difficulties. One should also bear in mind successful cases. Astley (1978) did not report any special obstacle. From 30 initial requests for approval for research 28 had been successful. Hinings et al (1974) also studied 28 sub-units in 7 organizations in Canada and the United States. Apparently, they did not have difficulties, or at least no difficulties were mentioned. In depth case studies, access has also been granted but at informant level as studies by Blau (1964), Dalton (1964), Pettigrew (1973) and Wilson (1980) report. However, in these it was first necessary to overcome suspicion and resistance by a long period of informal contact with informants.

In fact, and taking the simplest view, it appears that organizations are more willing to cooperate: firstly, when the research requires only superficial information about what is going on in the organization; secondly when it does not demand too much involvement from their senior people; and thirdly, if it does not investigate sensitive areas such as financial performance or development of technology and also does not approach certain behavioural areas like decision making or concentration of power.

Nevertheless, there are reasons why organizations help in research. Business firms in the same way as universities or other government organizations, show a sense of social responsibility towards helping in scientific research. A hope that research will uncover problems which may be corrected or an interest in the possibilities that the research can be of use to them have also been pointed to as motives (Scott 1965).

Although this section may have given a pessimistic impression, this is not what was intended. The aim was rather to make clear quite frankly that principles of statistical sampling cannot easily be followed in a context in which researchers are chosen rather than that they choose. Though difficulties in gaining approval for conducting research often impose changes in the initial plan and therefore in the criteria for sample selection, to adapt to the realities, this is rarely if ever mentioned by most authors. This could lead an unaware and inexperienced researcher to think that samples are nicely and smoothly selected. This can be so only when the researcher does not need to obtain the permission of anybody else to conduct research.

.5.1.3. How Access was Gained

A number of considerations governed the selection of organizations. Initially, it was the intention to attempt a cross national comparison between Britain and Brazil, to increase the chances of managements co-operating because of their interest in the research and to obtain introductions from

organizations in Britain to organizations in Brazil, firms were sought which had commercial and/or ownership links with Brazilian firms. Enquiries at the Brazilian Embassy in Britain and also consultation of library sources such as the Kompass register of British Industry and Commerce (1978) yielded a list of such firms, and later others which did not have commercial links with Brazilian firms but were eventually included in the research. Therefore, four out of the five of the business firms in Table 5.1 maintained at least a commercial trade with Brazilian firms.

Pressure of time eventually forced the abandonment of the intended research in Brazil as far as this thesis is concerned, although such research continues to be planned once this thesis is completed. However, approaching firms with Brazilian contacts rendered another advantage. At a time in the project when there was a considerable fear that access to firms might be impossible, it did mean that the managers approached knew something of the country from which I came and had some sympathy with my aims.

An introductory letter was sent to 20 organizations; 2 universities, 2 health districts and 16 business firms. Of these 16, half had commercial links with Brazilian companies or had subsidiaries in Brazil. The letter mentioned the intended comparison with Brazilian firms which I thought at the time would be part of this research, and this apparently succeeded as

"my introduction". Only one firm declined to participate without giving the researcher a chance to explain the study in an interview. From the remaining seven, one failed to respond to follow-up phone calls, two agreed to participate only partially and hence were dropped out.

As far as the firms which did not trade with Brazil were concerned, one turned out to be only a branch not involved in the company's decision-making and therefore was too small to be included in the study, four were not interested in this kind of study and refused to participate, and another one was too late in expressing willingness, doing so after I had already finished data collection. From the first group of companies, four (50%) agreed to participate in the study, and from the second only two (25%). As mentioned above, choosing companies with commercial links with Brazil apparently worked.

Another factor appeared later on as being equally important. In none of the companies which refused to participate either wholly or partially had I provided them with a reason why they were included in the sample. When there was an opportunity for this question to be raised I said that I had picked the name of the company from the Kompas List. All firms for which I could give a reason why they had been included in the study agreed to participate even if merely partially.

Something similar happened in a university which initially declined to participate. When in a follow-up phone call I explained to the Vice Chancellor why co-operation from this university was important he changed his mind and gave his permission to start the interviews. The other university and one health district, on the other hand, immediately agreed. The second health district refused to co-operate on the basis that they were already involved with other researchers.

Apart from briefly presenting the research, the letter of introduction requested co-operation and an opportunity to explain personally to the chief executive if he thought he would be willing to co-operate in principle. In this way interviews were arranged with the top executive first to provide more information about the research purposes, what was being required from the organization and possible contributions. These interviews also had the function of gaining information about the organization in general and obtaining a list of successful and unsuccessful strategic decisions which had been made. The chief executive also usually provided a list of senior people who had been involved in the making of those decisions and whom I could subsequently interview.

After having collected data in a few organizations, this introductory

interview turned out to be more easily handled since I could mention a number of examples of other organizations co-operating (obviously without breaking confidentiality) and also be more confident in identifying decision cases which would be interesting to study as compared to others which would not be worth pursuing. I also was able to be more precise about duration of my interviews. In this interview the questionnaire was presented to the chief executive so that he would know exactly what was being required from the organization in terms of information and time.

.52 Sampling Decisions

To select decisions which have been successful and others which have failed, one has to start from somewhere. From nowhere else could this information be found except in the organization with the decision makers. In a project such as this one, particularly because of its interest in conditions which lead to success, the best move appeared to be to approach top management. Since the purpose was to study major decisions for which the effects were already known, top management would be in the best position to provide information. They might not know the whole story but they would know more than anyone else and enough for the purpose.

Each chief or senior executive was therefore asked to suggest for study an equal number of successful and unsuccessful decisions ranging from three to five of each type. If possible, decisions should vary in content; in

other words, the sample should include examples emphasizing Marketing, Personnel, Product Development and so forth and their equivalents in service organizations. Top management was also asked to include in the list only important decisions which involved commitment of substantial resources or were organization wide in effects. Table 5.2 shows that the distribution of decisions in terms of content is not far from what had been planned. The division of the sample of decisions in the groups below was based on the list of all the decisions included in this research as presented in Appendix A.

TABLE 5.2 DISTRIBUTION OF DECISIONS BY CONTENT

Decision Content	Number of Decisions
Personnel	11
Finance	8
Marketing	8
Expansion	8
Product Development	8
Reorganization	10
TOTAL	53

Figure 5.1 indicates ideally how the decisions should have been distributed across a five point success scale. Since the aim was to contrast decisions which had produced different outcomes, a high number of decisions at both extremes had been hoped for. Figures 5.2 and 5.3 show the actual sample

FIGURE 5.1 DESIRED DISTRIBUTION OF THE SAMPLE OF DECISIONS

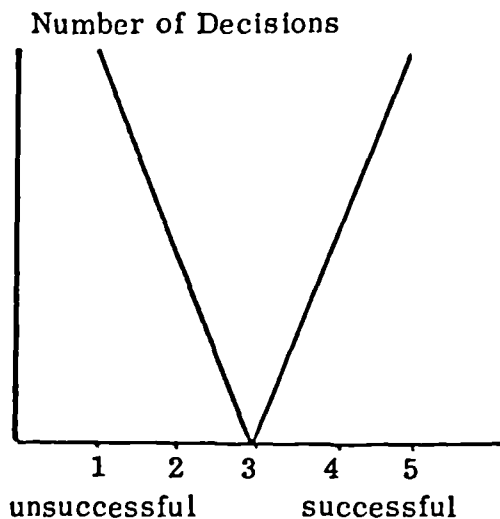


FIGURE 5.2 DISTRIBUTION OF DECISIONS ACROSS A 5 POINT SCALE OF SUCCESS OBTAINED FOR NON-BUSINESS ORGANIZATIONS

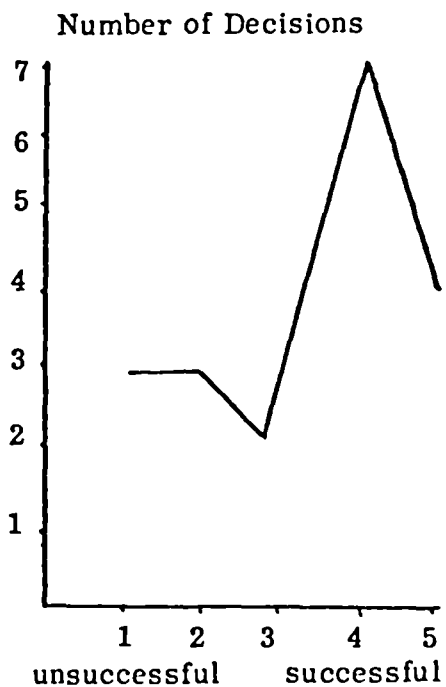
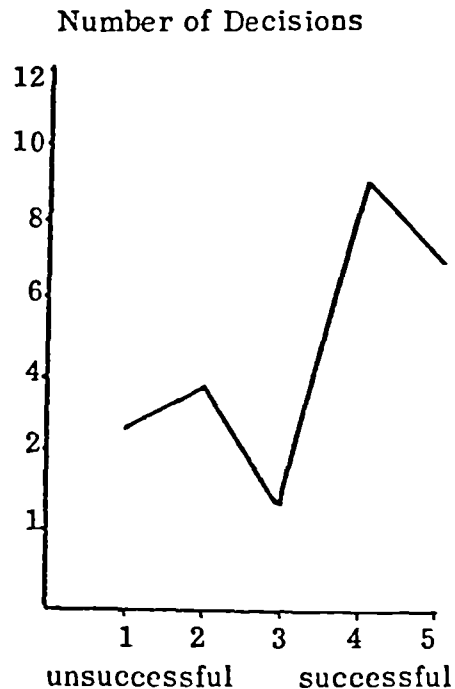


FIGURE 5.3 DISTRIBUTION OF DECISIONS ACROSS A 5 POINT SCALE OF SUCCESS OBTAINED FOR BUSINESS ORGANIZATIONS



of decisions across a five point success scale for business and non-business organizations respectively (ratings obtained by the questionnaire to be discussed in the next section). It is clear that the distribution resembles the desired bi-polar pattern but falls short of it at the less successful end.

Various reasons may explain why the sample took the form it did. In general, chief executives seemed to hesitate to place a decision at either extreme of the scale. In the universities and in the health district the top manager preferred not to divide the list between more and less successful decisions. There were so many arguments which justified actions taken at the time whatever the results later, and different views concerning how "good" or "bad" the outcome was, that they refused to be categorical in this respect. Even in business firms executives found difficulties in selecting decisions for the two categories. Usually they asked for a week to think it over or to discuss with other people involved in the decision before presenting a list. In some cases, other senior people attended the introductory interview and helped to find suitable examples. In some firms where they were not present when the interview began they were later brought in.

The distributions in Figures 5.2 and 5.3 reflect ratings given subsequently by decision-makers who were more deeply involved in the making of the decisions investigated than were the chief executives. Thus their judgements produced a wider scatter than the original chief executive selection appeared to have done

and whilst unsuccessful cases are under-represented there is a variation across the complete range. Given the reluctance of managers to see decisions as unsuccessful - and perhaps the rarity of thoroughly unsuccessful decisions anyway - the distribution is a positive achievement.

Even so, as the criterion for selecting decisions was no more than the decision maker's judgement, it would have been desirable to have obtained more examples. As Glazer and Strauss (1968) note in studies intended for theory generation as this one is, overall sample size is not crucial but rather what is important is the saturation of categories by maximizing differences between groups of cases. In practice this was not possible. As discussed in Chapter III, the complications concerning decision making consequences are too many and diverse, and it may have been unrealistic to hope for as in Figure 5.1.

Another important problem in the sampling of decisions is the difficulty of identifying and isolating any social process. Because of their diachronic characteristics and the dynamic features of strategic decision making, single decisions are difficult to isolate from the stream of events. Therefore, to pick the right one "piecemeal" to study was a complicated task not only for the decision makers but also for the researcher. Boundaries of decisions have been defined abstractly (Mintzberg et al 1976), but it appeared that this is not so clear in managers' minds. For example, in a decision

process compounded of two main sets of decisions it often appeared that the second set was taken to correct a situation produced by an unsuccessful earlier choice. Are these sets then to be treated as two decisions or as one? In such a case process and outcome will be somewhat nebulous and the selection of the "slice" for analysis would be important in terms of sample structure.

The following example may illustrate how easily both the researcher and the decision maker can be misled by the complexity of a situation: in one of the business firms, the stopping of a development program for high technology equipment was presented to the researcher as being an unsuccessful decision. The decision had been taken because the product was no longer competitive in the market. However, after interviewing one of the decision makers it turned out that this decision could also be regarded as successful, in the sense that stopping development had avoided major investments in what could have been a "white elephant". What happened, therefore, was that I was collecting information on a successful case instead of on an example of failure as initially intended. The unsuccessful bit was instead the earlier initiation of the development programme.

Difficulties in selecting appropriate "bits" of decisions occurred sometimes at the beginning of the field work. This was not easy to avoid since in some instances the list of decisions was mailed to me and I did not

know the background of the situation in advance. Only after some experience and being aware of pitfalls, was I better able to control the type of example I was offered for study. Furthermore, intentionally or not, the respondents tended to concentrate on positive aspects of what happened, either because of the "social desirability" effect described by Phillips (1973:56) which affects studies in general, or because individuals tend to rationalize their own failures (Staw and Ross 1978).

As far as the sample of decisions and organizations is concerned, Blau (1964) and Dalton (1964) call attention to the problems that obtaining permission from the top management to conduct the research can create, such as identification with management, and so becoming unaware of restrictions to the exploration of sensitive areas.

Blau (1964) also warns researchers about the bias that self-selection procedures may introduce. He reported that permission to study in old established bureaucracies was refused and access was gained disproportionately in organizations in which bureaucratic rigidities were less accentuated.

Similarly, there is no way in which I could know whether an organization included in this study had relatively few decision making problems and therefore had few decisions at the unsuccessful end (points 1 and 2 of the

success scale) or whether such decisions were being overlooked or even concealed. However, this is only speculation, and it is Blau's (1964) opinion that controlling the bias of self-selection procedures is not easy in a context in which the needs of the organization not those of the observer determine what should be studied.

To finalize the section it should be noticed that whatever the drawbacks this sample may have, it is probably the first time a sample of as many as 53 decisions (19 for non-business and 34 for business organizations) has been achieved using these techniques of data collection.

The study by Mintzberg and associates (1976) of 25 diverse examples of strategic decisions in various types of organizations was the first leap forward in terms of comparative research on decision making. Though some other studies have used a larger sample, their data referred either to one type of organization or to a type of decision. Pfiffner (1960) reported Nicolaudis' study (1960) of a sample of 332 decisions. However, the cases were mostly based on the public sector, and apparently decisions had been sub-divided into smaller ones. Witte (1972) reported a large sample, 233 decisions, but they concerned only the purchase of electronic equipment, and data was collected from sellers of the equipment, which gives only partial account of the decision process by the buying firms.

.5.3. Data Collection Methods

"Types of methods employed like types of research approaches must be selected in the light of the aims and objectives of the research and the kinds of organizations to be examined." (Scott, 1965:299)

Because of this research's purpose of testing a model, and simultaneously exploring interrelationships between variables, the use of multiple measurement techniques would be ideal. Employment of interview and questionnaire, for example, would then help in the attainment of this two fold objective since it would combine techniques each of which is pertinent to one objective rather than the other. For instance, studies employing unstructured interviews are more often based on small nonprobability samples and the data sometimes does not lend itself to quantitative statistical analysis.

Williamson, et al., 1977, take the view that open-ended interviews are appropriate for exploratory studies where the researcher can obtain a more complete and in-depth picture of what he is investigating. Questionnaires on the other hand, structured in rating scales, lend themselves more readily to statistical analysis.

Therefore, in the present study, it was decided to use both methods, to obtain the advantages of each. The questionnaire was mostly designed to measure variables included from prior theoretical analysis in the research conceptual framework, and the interview to detect variables which were not

foreseen, to explore new avenues.

Another reason for using more than one data collection method is, as Williamson et al (1977) and Madge (1965) suggest, as a means to improve validity. The data obtained from one can be checked against the data obtained from the other. However, in this research it has not been possible to analyse validity by comparing interview and questionnaire data. If the interview is being used with the purpose of creating an opportunity of finding new explanations beyond the conceptual model, then they cannot both comprise similar questions. Nevertheless, as it will be seen later, some procedures to increase the probability of obtaining more reliable information in the interview have been adopted.

.5.3.1. The Interviews

As mentioned before, interview informants were indicated by the chief executive. For a research project interested in past events and therefore requiring people who were somehow observers of those events, a random sampling of informants was obviously inadequate. As in Zeldith's (1962:576) opinion:

"to demand that every piece of information be obtained by a probability sample is to commit the research to grossly inefficient procedure and to ignore fundamental differences among various kinds of information".

With duration ranging from 1 hour to 1½ hours, interviews had mostly the purpose of gathering general information on the background of the decision to understand the situation in which it was made. As Blau (1970) suggests, the analysis of any social process requires investigation of links between an earlier state and a system or structure which occurs subsequently. A questionnaire would not be able to grasp the full sequence of events and context in which the decision occurred.

Initially, interviews were less structured. Informants were requested to describe why the focal decision had been taken and how it was taken and by whom. The idea was to improve the study's conceptual framework and consequently to arrive at a more structured form of interview. Unstructured interviews have been recommended when the purpose is exploration and the development of new ideas about the phenomenon under investigation (Kerlinger, 1979; Phillips, 1966; Williamson et al. 1977).

On the other hand, it was thought that use of a semi-structured interview would be ideal since it not only would enable the collection of more uniform data in all organizations, but would make it easier to control the conversation. Furthermore, despite employing standardized items the researcher could still go beyond the questions in a flexible manner and

obtain information to clarify previous assumptions. A semi-structured interview schedule was therefore designed and summary of topics it covered is shown in Appendix C.

In an attempt to test for reliability, the chief executive was requested to nominate two people closely involved in the making of each decision, to be interviewed. Nevertheless, it soon became apparent that interviewing two people per decision would not be possible in all organizations, apart from being costly in time and money. First attempts in the field showed that sometimes either the second informant had no knowledge of what happened in the focal decision at all, or had been involved in different stages of its making. Interviewing people who had a secondary role on the decision would introduce another source of bias resulting in low reliability. This was the case in one small size organization, BF5, where just an interview was done on each decision topic. Secondly, it was rather difficult to get hold of some of the second informants since many of the decisions investigated occurred in the sixties or early seventies. Some of them had already retired or had moved to another organization. Thirdly, in some organizations there were only a small group of people who participate in the making of decisions. This meant that two interviews or more had to be done with the same informant about different subjects, and this would also have required from him filling in two or more

questionnaires. Informants would hardly have welcomed this possibility.

Despite these difficulties, interviews for cross-checking purposes were done for every organization as shown in Table 5.3. The reason for just

TABLE 5.3 DATA COLLECTION INTERVIEWS

ORGANIZATIONS	INTERVIEWS HELD				Total
	Having also a Questionnaire	Having a Missing Questionnaire	For Cross-Checking	Non-Pertinent Cases	
Business Firm 1	6	2	3	0	11
Business Firm 2	9	0	5	0	14
Business Firm 3	7	0	2	0	9
Business Firm 4	6	0	2	0	8
Business Firm 5	6	0	1	0	7
University 1	5	1	2	2	10
University 2	7	2	4	10	23
Health District	7	0	5	0	12
TOTAL	53	5	24	12	94

one cross-checking interview in BF5 is given above.

Examination of the interview material showed nevertheless that there were not many disagreements between respondents reporting about a decision process. Rather, differences were mostly in how superficially or deeply people described events. In any case, those discrepancies which did appear were checked on the spot, during the second interview.

As shown in Table 3, the number of interviews amounted to a total of 94: of these only 12 could not be used in the data analysis. Unfortunately, time was lost with inappropriate informants and inappropriate examples of decisions. These data had to be eliminated from the analysis because they were non-pertinent to research purposes of investigating strategic decisions. Either the example consisted of reviewing a procedure or the informant had only a minor role in the making of the decision and did not know how it was arrived at.

Such difficulties were mostly encountered in U1. In an introductory interview with the Vice-Chancellor of the University, he suggested some general topics for study and introduced the researcher to the Planning Department staff who, she understood from him should help with the list of decisions. The Planning Department people then made, again, some general suggestions about decisions which she could possibly study. They also indicated people who were likely to help. Unfortunately, when the researcher went to see those

potential informants either the decision was too minor concerning merely procedures repeated each year or the suggested informant was not involved at all in it. Interviews did not progress until further help was requested from the University's Registrar who made a more specific list of decisions and required collaboration of the University staff.

However, another important point to note is that U1 was the researcher's first experience in the field. She learned that approval from the organization top level is necessary, but even more important is to secure their further commitment and involvement.

Non-pertinent cases in the health district consisted mainly of inadequate examples of routine decisions which were of no direct use as far as this thesis is concerned.

After these experiences, chief executives were asked to indicate only senior executives mostly involved in the decision process. This was apparently the most likely way to guarantee that informants would have the necessary knowledge to describe the decision process.

.5.3.1.1. Procedures to Deal with some Possible Sources of Information Distortions

From Madge's (1965) point of view, in the interview process falsification by respondents may occur at any stage, deliberately or not. By

concentrating on the investigation of actions taken in the past, both questionnaire and interview items in the present study were in some ways exposed to distortion from memory failures and lack of knowledge about events which occurred at a distant point in time.

The literature in social sciences methodology, e. g. Madge (1965), Zeldith (1962), Kerlinger (1979), Cannell and Kahn (1965) and Phillips (1966), forewarns researchers of insufficient knowledge on the part of respondents as a source of bias on topics the research intends to investigate. As Zeldith (1962) states, there are certain events which very few people know about and therefore, in this case, it is useless to choose respondents arbitrarily, or for that matter randomly.

As already mentioned, chief executives were asked to indicate those senior executives mostly involved in the decision process. However, some informants were only partially involved in the making of the decision. The best way around this, seemed to be simply to eliminate their interview data from the analysis. Double interviews permitted some flexibility in including for analysis only those cases where respondents had a more thorough participation in the process.

Moreover, measures to minimise problems of distortion have been taken in this study. In each organization a list with the interview topics was given to the chief executive to pass to all informants, or was mailed directly to them

before the interview took place. As a result, many had prepared themselves for the interview. In most instances, when the interview started, informants already had at hand minutes of meetings, memoranda, letters and other documents in case consulting them were necessary. Moreover, many of them made phone calls or sent for other people to help when in doubt of the exactness of the information. Confidentiality was, of course, assured and the importance of the research had been explained to the informant, before conversation on the decision process started.

.5.3.2. The Questionnaire

The questionnaire consisted mostly of items to measure those variables in the analytical framework which describe conditions associated with the degree of success of decisions taken. Each independent and dependent variable was operationalized into questionnaire measures which were either scores derived from ordinal scales or time dimension scores.

The questionnaire was elaborated and tested on a sample of 13 MBA students at the University of Bradford Management Centre. It soon became apparent that the questionnaire was too long having too many open questions, wording errors and other inadequacies. This small pilot study indicated where and what changes should be made to increase the probability of responses.

First interviews and applications of questionnaires in organizations led to changes in the conceptual framework and also in the technical aspects

of the latter. Non-response rates and over-simplified answers obtained by some items showed that the questionnaire was still too long. Further changes had then to be made which led to elimination of some open questions from the survey altogether or their transference from the questionnaire to the interview schedule.

Therefore, as can be seen in Appendix B, the questionnaire was mostly fixed choice items, but required also specification of the time in which certain events happened and specific short answers to some few open questions.

The content of the questionnaire was not of the attitudinal type. Informants were used in this research in the sense defined by Scott (1965) and Zelditch (1962) as "observers". In other words, informants were used to report events and activities which could not have been directly observed by the researcher. Therefore, all items were perceptions of external events and not of self.

There had to be a tailored questionnaire for each type of organization. The structure of the questionnaires and questions remained unchanged, but items which involved questions about information and resources had to suit the organization's ranges of activities and their internal structures.

In Williamson's (1977 : 149) opinion, the rate of response to self administered questionnaires is very low compared with other methods. As

he notes: "Even if all means for increasing the return rate of self administered questionnaires are employed successfully, it is unlikely that more than 70% of the questionnaires will be returned". He recommends a 50% return rate as a minimum acceptable level for surveys employing self administered questionnaires. Contrary to this pessimistic view, the return rate obtained in this project was not low, being 91%. The rate of response is calculated from the data in Table 5.1.

$$\text{Rate of response} = \frac{\text{cases having a questionnaire}}{\text{number of questionnaires distributed}} \times 100$$

$$\text{Rate of response} = \frac{53}{58} = 91\%$$

The number of questionnaires distributed does not include the ones for cross-checking purposes.

As shown in Table 5.3, for the decision examples for which interview material has already been collected, two questionnaires were never returned from U1 and BF1, and one from HD. Certain factors may have helped obtain a high rate of return. Personal contact and opportunity to explain the research was probably most important. At the end of each interview, the researcher explained to the interviewee why questionnaire information was important in terms of research purposes and how to fill it in.

In the field work initial stages, questionnaires took a long time to

return and some never came back. Phone calls had been made to the respondents requesting co-operation, but too much time had elapsed since the interview and interest had waned. Experience showed that a follow up phone call within a fortnight following the interview was much more effective in securing the return of questionnaires. Astley (1978) came to the same conclusion in his attempts to have his questionnaires returned from the heads of departments of American firms.

Additionally, as the data collection phase progressed, informants were requested to fix a possible date by which the questionnaire would be back. If the questionnaire was not returned within a maximum of five days the researcher then called the informant directly inquiring whether he had experienced any difficulties in filling in the form and whether it needed further clarification.

As Scott (1965) and Astley (1978) point out, there are few standardized and validated measurement instruments in organizational research. Therefore, new measures had to be devised in this research with risks to reliability and validity since in a single project with severe time limits they could not be perfected. On the other hand one can argue that because fixed choice questionnaires guarantee uniformity of stimuli they are therefore less liable to the kind of response bias which affects reliability and validity (Kerlinger, 1964).

Unfortunately, methods to test for reliability suggested by social scientists such as Kerlinger (1979), Phillips (1966), Williamson (1977) were

not applicable to this research. To retest a respondent several times would not have been acceptable either from the respondent's point of view nor from that of the organization's management. Some respondents even expressed their rejection of any type of questionnaire. Examining reliability by an analysis of variance test as suggested by Kerlinger would not be appropriate either, considering the level of measurement of the research data.

The split-half method or the examination of correlations between items as Phillips (1966) and Williamson recommend, could not be considered since there were no items in the questionnaire measuring the same thing: its length had to be too short to permit duplication. Items to test for reliability were not included in the questionnaire. Despite being short it already required more than enough effort from the respondent who in many instances had to consult archives to complete it properly. It was not an attitude-type questionnaire in which respondents tick answers almost automatically.

Validity as indicated by internal consistency was therefore tested not within measures but between measures, in the sense that factor analysis was used to expose what different measures might have in common. Chapter VI returns to this question in detail.

CHAPTER VI

DECISION-MAKING VARIABLES : OPERATIONALIZATION

This chapter deals with the definition of the variables of the conceptual framework, elaborating those given when formulating hypotheses in Chapter IV. The constitutive and operational definitions of each variable are presented first. The great number of variables, and the alternative measures provided by the measurement instruments, have required the use of statistical variables in a meaningful form. Based on these data analysis techniques, variables which also showed conceptual affinities were combined. The resultant combinations then have gained a constitutive meaning, that is, they have become defined by the variables which comprise them. Therefore, a second part of the chapter deals mainly with the use of factor analysis and the constitutive meaning of the factor variables. The final part discusses the theoretical implications of the empirical results focussing particularly on the success variables.

.6.1. Definitions of Decision-Making Variables

The variables of the conceptual framework are those of constraints, modes of process activation, process pace and decision-making success, as in Figure 4.1, Chapter IV. As suggested in that Chapter, constraints variables are of an instrumental type, that is, they are necessary conditions to carry the decision through, and as such, they set the limits under which it may succeed. Variables of process activation, on the other

hand, capture the behavioural aspect of the decision process, while process variables depict its time dimensions. Decision-making success variables describe the outcomes which may result from the decision process.

.6.1.1. Constraint Variables

As shown in Figure 4.1 chapter IV, the constraints variables are those of resources, information and time pressure. Resources comprise a set of variables which are primarily concerned with the availability and importance of resources for a decision. Yuchtman and Seashore (1967:900) have defined resources as "more or less generalized means or facilities that are potentially controllable by social organizations and are potentially usable - however indirectly - in the relationships between the organization and its environment". They assume that some resources such as personnel, physical facilities, technology and money are universal. In other words, all organizations must be capable of acquiring them, though with different capacities to do so.

As mentioned previously, the type of resources this research examines are of a universal kind (see question 14a, appendix B). Criticality of resources examines which of these resources are important for making the decision. The mean of the scores for each resource represents the overall importance of the resources committed. This variable is taken as an indicator of how strategic the decision is. By definition strategic decisions are those which involve critical resources.

Additionally, each decision has a score on the amount of money, time, special knowledge and three other resources in question 14 Appendix B. The mean of these scores represents the overall quantity of resources available. However, the necessary resources for a decision may not be disposable at the time a decision is made. As earlier mentioned, resources are the reason for the dependence of the organization; their availability depends on competition and on the existence of alternative sources of supply (Thompson and McEwen 1958; Blau 1964; Thompson 1967). Thus, resources may be readily available for some decisions but not for others. Timeliness measures this i.e. whether resources were available at the appropriate time. As shown in question 15a(Appendix B), response categories vary from well in time to very late, on a five point scale.

A second set of constraint variables are those of information. For a new product development decision information about competitor's strategies may be critical, whereas this may not be relevant for a decision related to settlement of an internal conflict. Criticality of information of information measures which information is important for a given decision. Each decision therefore, has a score on each information topic indicated in question 7a (Appendix B). The mean of these scores represents the relevance of information in general. Quantity of information on the other hand, measures how much information there is in a decision process independently of its sources. Similarly, each decision has a score on the amount of each type of information that is available, (question 7b, Appendix B).

For the reasons given in Chapter IV, availability of information is also problematic; even if sources of information are within the organization, they may not easily release it, or a more intensive search may be required in order to clarify the initial situation. Thus, timeliness measures if information is available in time (question 8 Appendix B) and generation of information measures whether search activities succeeded in getting the necessary information (see item 10 Appendix C). This variable then takes search as a formal information seeking activity. Aguilar (1967:21) defines search as "a deliberate effort - usually following a pre-established plan, procedure or methodology - to secure specific information or information relating to a specific issue".

Accuracy of information concerns its quality, reliability and certainty. Following Churchman (1961:101), "accuracy entails information about the possible deviations from reality". Response categories to accuracy ranges from 'very inaccurate' to 'very accurate' as question 9 (Appendix C) shows.

While these variables concern the limits set by resources and information, time pressure, as the name indicates, refers to limits of time under which decision has to be taken. Pressure of time therefore, measures the extent to which time for arriving at a decision is perceived as short (see question 13 Appendix B).

The list of all constraints variables and a summary of their definitions is presented in table 6.1.

TABLE 6.1 CONSTRAINTS VARIABLES

VARIABLES	Definition
RESOURCES	
Criticality	The importance of the resources committed in the decision
Availability: Quantity	The extent to which resources were available to implement the decision
Availability: Timeliness	The extent to which resources became available in time or later
INFORMATION	
Criticality	The importance of the information required for making the decision
Availability: Quantity	The extent to which information was available for making the decision
Availability: Timeliness	The extent to which information became available in time or later
Availability: Generation of Information	The degree to which search activities brought out the necessary information
Availability: Accuracy of Information	The extent to which information was correct
TIME PRESSURE	The extent to which there was urgency to implement the decision

* See Appendix E for details.

.6.1.2. Process Activation Variables

As mentioned before, process activation variables concern the behavioural aspects of the decision process. Some of these variables capture aspects of conflict in the decision-making process. The word conflict may denote a quite different phenomenon according to whether it is used in Psychology or Sociology. While in Psychology it has been defined in terms of a response to different patterns of stimuli (Berlyne 1960), in Sociology, conflict and power theorists emphasize the fragmentation of interests and divergence of values within social systems (Boulding 1964, Baldrige 1970, Pettigrew 1973). Boulding (1964:138) suggests that the conflict situation comprises four elements: the parties involved in the conflict; "the field of conflict" which consists of the possible conditions which a conflict could move; the dynamics of conflict which consists of adjustments of a party's position according to that of his opponent, and finally the management and control of conflict.

The variables used here do not capture all these dimensions neither describe how it has occurred in the decision process. Rather, they examine conflict in terms of divergent interests, and instead of concentrating on how conflict occurs the interest lies in the degrees of conflict and in a specific form of conflict resolution - by compromise. Since these variables only examine some aspects of a conflict situation and do not depict its processual nature, the term conflictfulness has been adopted to refer to them.

Disagreement represents the overall degree of conflict over views. It is a summation of scores on the four five-point scales in question 11. All four scales might not be scored by the respondent. If for example divergence over views occurred in three levels, within departments, between departments and within top management, the first to a little degree, the second quite a bit and the third very much, then the sum of scores would be $1 + 3 + 4 = 8$. The possible amount of disagreement would be $3 \times 4 = 12$ and the intensity score would be $\frac{8}{12} = \frac{2}{3}$. Hence, scores vary from zero to one. A score of zero means that there was no disagreement of views at any level. The closer a score approaches to one, the greater intensity of disagreement.

Compromise measures the degree to which divergence is conciliated by compromise. Compromise is pointed out as one of the principal mechanisms to arrive at decisions in modern democracies (Shepard 1964, Katz and Kahn 1966, Gergen 1969). Compromise is an outcome of bargaining, persuasion and debate. The final result may not reflect completely what each interest wanted, but each may have partially achieved its objective or may have obtained a form of compensation. The degree of compromise is measured by question 12 (Appendix B). A ratio is calculated by the same process as for intensity of disagreement.

A second set of variables of process activation are those of influence. Based on Hickson and associates' (1971) concept of power in the

organizational context, influence in this project has been defined as the ability of an interest unit to determine decision-making outcomes by controlling strategic conditions. Power sharing patterns in the decision process are represented by the distribution of influence. (The terms power and influence are used interchangeably, since the distinction between them is not important for the objectives of this present study.) Actual distribution of influence measures the amount of influence each interest unit had in determining decision outcomes, whereas desired influence measures how much influence each desirably should have had.

Several other measures have been extracted from question 10a (Appendix B). Total influence corresponds to Tannenbaum's (1968) measure of total control and indicates the overall influence exercised by all sources in the decision process. The mean of scores of all groups on each part of this question, which follows the format developed by Tannenbaum (1968), is used to indicate the average amount of influence. This, and the overall score, range and skewness will be utilized to describe the distribution.

A fourth measure is computed from this question - diversity of interests - which is the number of interests represented in the decision-making process. It follows Astley and associates' (1980) concept of plurality which indicates the range of interests involved in a decision. A score on diversity of interests has been obtained by counting the number of different

units which have exercised influence in the decision process. Based on Hickson and associates' (1978) idea, interest units are defined as internal and external collectivities which have claims in the decision process.

Related to these variables there is no other group of variables also focussing on influence patterns - centralization of influence - this time with emphasis on the vertical components of influence dispersion. Two aspects of centralization of influence are examined: higher management influence and specialists' influence.

As the name indicates, higher management influence compares the degree of influence exercised in the decision process by interest units located at the top of the hierarchical pyramid with the amount of influence mobilized by other levels within the organization. A ratio to express the concentration of influence at this level has been computed. First, the interest units cited in question 10a (Appendix B) were classified into four organizational levels. Table 6.2 shows examples of the groups mentioned and in which level they were classified for business and non-business organizations. The classification of an interest unit at one level or another followed the pattern indicated in this table, varying with their level in the organization. For example, some committees in the university were classified at top management level, such as the Academic Advisory Committee and the University Planning Committee, whereas others such as the Catering Committee were included at middle management level.

By using these categories, each decision obtained a score on parent organization influence, top management influence, and upper middle management and middle management influence, within a scale ranging from "little influence" to "a very great deal". An index for higher management influence was calculated using the following ratio:

$$\text{higher management influence} = \frac{\text{Parent influence} + \text{top management influence}}{\text{Upper middle management influence} + \text{Middle management influence}}$$

In contrast, specialist's influence measures the proportion of influence exercised by specialists as opposed to higher management. An index representing specialist's influence was calculated from the number of specialized functions which participated in the making of the decision. This resembles Pugh and associates' (1968) measure of specialization where the number of specialisms is given by counting those functions which are performed by specialists. Nevertheless, one must bear in mind that this study is not concerned with a measure of specialisms per se but rather with the specialist's power share in the process of making the decision. The index on specialist's influence was given by:

$$\text{Specialist's influence} = \frac{\text{Number of specialized functions involved in the decision-making}}{\text{Number of interests at higher management level}}$$

The calculation of this index is based on data from question 10a (Appendix B) and on information provided by table 6.2.

TABLE 6.2 SOME EXAMPLES OF INTEREST UNITS
AND THEIR CLASSIFICATION INTO
ORGANIZATIONAL LEVELS

LEVEL	BUSINESS	NON-BUSINESS ORGANIZATIONS
PARENT ORGANIZATION	<ul style="list-style-type: none"> - Head Offices - Holding Company - Corporation 	<ul style="list-style-type: none"> - Area Health Authority (A. H. A.) - University Grants Committee (U. G. C.)
TOP MANAGEMENT	<ul style="list-style-type: none"> - Company Board - Divisional Director - Overseas Director - Subsidiary Director 	<ul style="list-style-type: none"> - District Management Team - Council - Senate - Vice Chancellor - Deans of Faculty - Registrar - Bursar - Academic Advisory Committee
UPPER MIDDLE MANAGEMENT	<ul style="list-style-type: none"> - Department Heads 	<ul style="list-style-type: none"> - Deputy Registrar - Professors
MIDDLE MANAGEMENT	<ul style="list-style-type: none"> - Assistant heads of departments - Head Officers - Heads of Sections 	<ul style="list-style-type: none"> - Committees - Sub-committees - Working Parties - Officers - Services

A summary of the process activation variables and their definitions is shown in table 6.3.

The process pace variables have been broadly described in chapter IV. As mentioned there, the variables duration and tardiness are conceptually based on the work of Mintzberg and associates (1976). They suggested that a decision process begins when management recognizes the need for a decision and then commits resources for the making of it, and it ends with implementation. Duration is therefore the period of time between the recognition of the strategic stimuli and the commencement of implementation. It encompasses any initial latency period, during which the idea is around but nothing specific is done about it, and the period during which identifiable decision-making activities take place, until authorization for implementing is given. Duration, as a variable which indicates the length of a decision from first actions to implementation, has already been used by others, namely Witte 1972 and Astley et al 1980. Two operational variables together - promptness and length - give an indication of duration.

Returning to figure 4.2 (Chapter IV), promptness represents the time interval between the first recognition of a need for a decision and the first specific action towards taking a decision, such as the formation of a special committee to deal with it. It denotes the initial period of inactivity in the decision process. Promptness is expressed in terms of number of months and is measured by comparing replies to question 5a and to question 6a (Appendix B).

TABLE 6.3 PROCESS ACTIVATION VARIABLES

VARIABLES	DEFINITION
CONFLICTFULNESS	
Disagreement	The degree to which there were expressed differences among interest groups as to the decision issues
Compromise	The extent to which conflict was settled by compromise
CENTRALIZATION OF INFLUENCE	
Higher management influence	The amount of influence exercised by interests at higher hierarchical levels
Specialists influence	The amount of influence exercised by specialists
DISTRIBUTION OF INFLUENCE	
Actual distribution of influence	The amount of influence each interest had on the decision process
Desired distribution influence	The amount of influence each interest desirably should have had on the decision process
Total influence	The total amount of influence exercised by all interests on the decision process
Diversity of interests	The number of interest units, internal and external to the organization, which exercised influence on the decision process

* See Appendix E for details.

Process length, on the other hand, refers to the total period during which there was activity in the decision process, no matter how intermittently. Question 17a (Appendix B) measures the process length.

Tardiness comprises a set of variables which attempt to capture how late the decision activities were, by means of a subjective assessment about when they should ideally have occurred. Delays in the recognition of the strategic stimuli is an extension of the idea of promptness, since it adds to the measure of time elapsed between recognition and action, a (subjective) assessment of how late in the day the importance of making a decision was recognized. It is measured by question 5d (Appendix B). Delays in process is again a subjective assessment of how slowly the decision process evolved. In other words, it denotes how much quicker the decision could have been taken if delays which occurred along the way had been avoided. These two component variables give an idea of how far it might have been possible for the organization to have acted quicker than it actually did. A summarized definition of these variables and those capturing the duration of the decision process are presented in table 6.4.

.6.1.3. Dependent Variables - Decision Success

It has been mentioned earlier that the degree of success a decision has achieved is measured in two forms. A first measure consists of a subjective assessment, perceived success. Decision-makers were asked to

TABLE 6.4 PROCESS PACE VARIABLES

VARIABLES	DEFINITION
DURATION	
Promptness	The extent to which the response to the decision stimuli was immediate
Length	The period of identifiable decision-making activity culminating in the decision to implement
TARDINESS	
Delay in recognition	The extent to which the commencement of specific decision-making action was later than it ideally might have been
Delays in process	The extent to which the decision-making process was protracted beyond the time it ideally might have taken

* See Appendix E for details.

indicate how successful the decision was, with response categories ranging from "unsuccessful" to "very successful" (see question 4a, Appendix B).

An alternative form of measuring success involved the use of more objective criteria: closure, proactivity, propitiousness and disturbance. Closure measures the degree to which the problems that initiate the decision were dealt with. It resembles the concept of problem solving where the solution means the removal of the difference between actual performance and objectives, or the reduction of differences between existing and desirable situations (Pounds 1969, Ansoff 1971). Thus, closure compares a problem situation which prevailed before the making of the decision with the situation after it was taken. Question 2b (Appendix B) shows the response categories used to assess the decision closure. The mean of the scores obtained in this question represents the degree of closure a decision achieved.

Proactivity indicates the degree to which opportunities which evoked the decision were realized/taken. Proactivity is a term which has been associated with the ability to anticipate situations and actively search for new opportunities (Mintzberg 1973a) question 3b (Appendix B) assess the degree of proactivity a decision may achieve with response categories on a three point scale.

Propitiousness denotes the degree of serendipity of a decision process. It measures whether the making of the decision brought unforeseen

TABLE 6.5 SUCCESS VARIABLES - LIST AND DEFINITION

VARIABLES	DEFINITION
SUCCESS	
Perceived success	The extent to which the decision was successful in the opinion of decision-makers
Closure	The degree to which the problem(s) which evoked the decision was (were) solved by the making of the decision
Proactivity	The degree to which the opportunity(ies) which evoked the decision was (were) realized/taken
Propitiousness	The extent to which unforeseen advantages were exposed by the decision process
Disturbance	The extent to which unforeseen problems were exposed by the decision process

* See Appendix E for details.

opportunities or fresh advantages. Each decision therefore was given a score which represents the number of opportunities exposed by the decision process (see item 13 Appendix C).

While propitiousness is associated with encountering circumstances which improve a situation or which enable the organization to achieve better performance, disturbance indicates situations which threaten the attainment of intended outcomes or may interfere in the negative sense. It is indicated by the number of additional problems encountered (see items 13, 14 Appendix C).

Table 6.5 presents a list of the success variables and their corresponding definitions.

..6.2. Combining Variables

The conceptual model described in Chapter IV served as a guideline to group the variables in the manner presented in the previous section. However, the many variables involved in the framework and the need to find also an empirical justification to include a variable on one group rather than in another, required the use of a statistical technique which would serve these purposes. Factor analysis which provides data reduction facilities and indicates whether variables may belong together seemed initially ideal for the type of data obtained. However, as will be seen later, its use did not prove to be completely adequate for all groups of variables employed in this research.

.6. 2.1. Factor Analysis

In research with a large exploratory element such as this, representation of concepts by more than one measure is important for reliance upon the results. As Hinings and associates (1974:25) state, "In a project working with new variables exploratory operationalization of multiple sets of data and multiple representations of variables derived from close acquaintance with particular organizations gives confidence in the empirical basis of the study". Employing many variables most of which comprised multiple measures, this project required the use of a data analysis technique capable of providing a parsimonious description of the results. Furthermore, exploratory studies in general require *ex post facto* analysis to secure a plausible interpretation of the findings (Katz 1965).

Factor analysis has been recommended as a technique ideal for research where it is necessary to reduce or simplify the data, as well as for research designed for hypothesis testing and purporting to discover and explore underlying dimensions of a given set of data (Bennet and Bowers 1976, Child 1978, Kim and Mueller 1978a). In fact, the objective in using factor analysis in this research was three fold. Apart from the intent to represent a set of variables in terms of a smaller number of variables, and testing the assumptions about the structure of concepts, new clusters of variables could be uncovered and then aid interpretation.

Based on the conceptual model and results of the correlation

matrix, three sets of variables were separately factor analysed. The first set consisted of all constraints variables with the exception of pressure of time. Pressure of time was not included because it was not composed of sub-variables and because of its distinctive theoretical importance. A second set of variables comprised those of process activation and a third set consisted of the decision success variables.

Process pace variables were not subjected to factor analysis because of the interest in the relationships between them, especially between duration and tardiness. Recent research in decision-making by Mintzberg et al (1976) has found that duration and delays vary together. As factor analysis is designed to minimize correlations between factors of the same set, it was therefore decided that process pace variables should not be factor analysed to avoid any restrictions upon the emerging of intercorrelations among them. Nothing would be gained by combining them in any way. Thus these variables have been grouped according to theoretical interest and correlations between them.

A correlation of .50 between length and promptness justified the combination of their scores into a common index. Duration is by virtue of the combination of these two variables represented by a score resultant from the sum of the standardized scores of each. Tardiness is represented by a score resultant from the sum of the standardized scores of delays in

recognition and delays in process. It represents the overall degree to which the decision is later than it might have been. A correlation coefficient of 0.51 supported summing these scores to represent the new variable.

Returning to the factor analysis results, this technique proved to be of no assistance when applied to some preliminary process activation measures. It just reproduced the separate variables, that is, the results did not provide data reduction. In view of these results no factor analysis has been attempted for the variables shown in Table 6.3.

Although for these reasons factor analysis was not appropriate for the duration and activation sets of variables, it was possible to use it to build up scales for constraints and success. The scales constructed for constraints are factor score based, i.e. they use all variables subjected to this technique, whilst the scores for success are factor analysis based, that is, a scale has been built summing scores only of those variables with substantial loadings, ignoring the remaining variables with minor loadings (see Kimm and Mueller 1978b).

The method of factor analysis used was principal components analysis which permits an analysis of the total variance of each variable (Weiss 1971). The rotation method used was varimax because it is possible with this method to achieve what Thurstone (1947) describes as a simple structure. Approximation to a simple structure is attained when a variable which loads highly

on one factor does not load highly on another. A simple structure is said to have been achieved when for each factor the loads for some variables are near to zero and the others are relatively large. The use of varimax rotation is also recommended when the aim of the factor analysis is the understanding of the nature of underlying dimensions (Weiss 1971).

The construction of constraints and success scores is now described in detail.

.6.2.2. The Construction of Factor Score Scales for Constraints Variables

As mentioned before, from the constraints group the resources and information variables were subjected to factor analysis, excluding time pressure. The number of variables they comprise required finding a construct which could summarize these variables in meaningful form. For criticality and quantity variables, only the mean was entered for factor analysis, instead of using the separate scores of each type of information or resources.

The first output of factor analysis is the correlation matrix which is automatically released by the SPSS Factor Programme by choosing the appropriate option (Nie et al 1975). The matrix is presented in table 6.6. With exception of criticality of resources and criticality of information, the variables of each group are moderately intercorrelated. On the other hand,

the two variables mentioned above are only low correlated with the rest and are moderately correlated among themselves. The correlation matrix seems to indicate two clusters of variables, one for criticality in general and another for remaining variables. However, the underlying dimensions only become evident after factor analysis.

The Initial Factor Matrix is presented in Table 6.7. The results show that an extremely simple structure has been obtained for the constraints group. All variables which load high on the first factor do not load high on the second and vice-versa. Most variables load from moderately to high on the first factor, with exception of variables measuring the importance of resources or information. Resources and information did not appear as separate factors but seem to have a common element. These same underlying factors emerged in the Varimax Rotated Matrix, Table 6.8, which confirms the factors structure obtained in the first matrix. The results suggest two main factors: a first representing resources availability in general and a second which has been named resources criticality. The fact that resources availability and criticality appears ^{as separate} ~~to have a common~~ factors is not too surprising. ^{Also} Many studies in organizational theory, in effect, prefer to treat information as a scarce resource (e. g. Burns and Stalker 1961, Wilensky 1967, Pettigrew 1973).

As Table 6.8 indicates, the percentages of variance accounted for by factor 1 and factor 2 are 75% and 24% respectively. However, rotated

TABLE 6.7 INITIAL FACTOR MATRIX:
RESOURCES AND INFORMATION VARIABLES

Resources and Information Variables	Factor 1 Availability of Resources	Factor 2 Criticality of Resources	Est. Communality
Criticality of Resources	.06	<u>.60</u>	.22
Quantity of Resources	<u>.53</u>	.25	.38
Timeliness of Resources	-. <u>44</u>	.18	.30
Criticality of Information	-.06	<u>.54</u>	.17
Quantity of Information	<u>.74</u>	.12	.56
Timeliness of Information	-. <u>49</u>	.15	.31
Accuracy of Information	<u>.87</u>	-.06	.61
Generation of Information	<u>.65</u>	-.02	.40
Eigen Value	2.95	1.46	
% of Variance	36.9%	18.3%	

TABLE 6.8 VARIMAX ROTATED MATRIX:
RESOURCES AND INFORMATION VARIABLES

Resources and Information Variables	Factor 1 Availability of Resources	Factor 2 Criticality of Resources	Est. Communality
Criticality of Resources	.05	<u>.60</u>	.37
Quantity of Resources	<u>.53</u>	.27	.35
Timeliness of Resources	<u>-.44</u>	.17	.23
Criticality of Information	-.08	<u>.54</u>	.30
Quantity of Information	<u>.74</u>	.14	.57
Timeliness of Information	<u>-.49</u>	.14	.26
Accuracy of Information	<u>.87</u>	-.04	.76
Generation of Information	<u>.66</u>	-.00	.43
Eigen Value	2.45	.79	
% of Variance	75.6%	24.4%	

solutions, though ideal for the understanding of underlying dimensions, are not really appropriate for the analysis of the variance composition (Weiss 1971, Nie et al 1975). The amount of variance accounted for can be better obtained from the eigen values yielded by the initial factor matrix before rotation. Here the first factor explains 37% of the total variance and the second explains 18% (Table 6.7). In general, the criterion for accepting or rejecting a factor varies on an arbitrary basis, and it has been suggested that factors accounting for less than 15% should be rejected and given no further attention. Quantity of resources just passes such a criterion. Pugh and associates (1968) have considered a factor (concentration of authority) with 18.47% percentage of variance as potentially valid.

The degree of validity and nominal reliability of availability of resources and criticality of resources as constructs can also be obtained from this table. As Kerlinger (1979:47) points out, validity "is that portion of the total variance of a measure that shares variance with other measures". Hence valid variance does not include variance due to the unique factor. Reliability on the other hand, is the proportion of variance which is true variance, that is, the variance which is common or specific but not due to errors. Following Nie et al (1975) the calculation of common variance of a factor is given by:

$$\text{Proportion of common variance accounted for by Factor 1 :} = \frac{(\text{eigen value Factor 1})}{(\text{eigen value Factor 1} + \text{eigen value Factor 2})}$$

Hence, from Table 6.8,

$$\begin{array}{l} \text{Proportion of common variance accounted} \\ \text{for by availability of resources:} \end{array} = \frac{2.95}{2.95 + 1.46} = 66\%$$

$$\begin{array}{l} \text{Proportion of common variance accounted} \\ \text{for by criticality of resources:} \end{array} = \frac{1.46}{2.95 + 1.46} = 32\%$$

The validity of the scale for availability of resources is 66%, whilst the validity of criticality of resources is 32%. Because the reliability of a variable includes unique variance as well as common variance, reliability values can be no less than its correspondent validity (see Weiss 1971, Kerlinger 1979). Thus, the minimal reliability rate is again 67% and 32% respectively for each variable. This indicates the probability of replication of the factors in a similar sample of decisions measuring the same variables.

Based on these results two factor score scales for availability of resources and criticality of resources were built up using the SPSS Factor Programme, options 7 and 11. Using these and statistics 7, a factor score coefficient matrix is produced consisting of regression weights used to yield a scale score for each individual case. Each decision therefore obtains a score for availability of resources and another for criticality of resources.

.6.2.3. The Construction of Factor Analysis Based Scales for Success Variable

The varimax factor matrix for the success variables is presented

in Table 6.9. The results appear to satisfy the principle of simple structure, since with exception of proactivity the variables which load high on one factor do not load high on the other and vice-versa. The underlying dimension in the first factor appears to be success, whilst closure which was assumed to be a dimension of success, appears as a separate variable.

The proportion of common variance accounted by each variable is moderate, although the high load presented by perceived success on factor 1 is not common in factor analysis. A variable loading 1.0 on a factor may be a problem for scale construction and is an extreme case from a statistical viewpoint. As Kim and Mueller (1978b) have noted, it is inappropriate to build a scale when one of them is coterminous. On the other hand, the difficulty with this set of variables could not be overcome by the exclusion of perceived success from factor analysis. In the opinion of these authors, entering just a few variables for factoring is not acceptable either.

Because results were not fully satisfactory from the statistical point of view, it was decided not to build a single scale from the scores of all variables loaded on factor 1. Moreover, there was an interest in comparing relationships between perceived success and the other measures. Hence the score on success was given by summing scores on proactivity, propitiousness and disturbance, according to the regression weights indicated by the factor scores coefficient matrix, but excluding perceived success. Successfulness, therefore, became the following combination:

TABLE 6.9 ROTATED MATRIX - SUCCESSFULNESS VARIABLES

Variables	Factor 1 Successfulness	Factor 2 Closure	COMMUNALITY (h^2)
Closure	.08	.68	.47
Proactivity	.46	-.43	.40
Propitiousness	.60	.21	.40
Disturbance	-.55	.10	.31
Perceived Success	1.02	-.04	1.04
Eigen Value	1.93	.70	
Percentage of Variance	73.5	26.5	

$$\text{Successfulness} = \text{Proactivity} + \text{Propitiousness} - \text{Disturbance.}$$

Operationally, success became defined as the degree to which a decision realizes opportunities and discovers new advantages without bringing any further difficulties to the organization. Thus there came to be two measures of decision success: successfulness and perceived success.

The degree of relationship between the successfulness scale and perceived success was taken as an indicator of its validity. Figure 6.1 shows the Pearson correlation coefficients between the success variables. The high correlation between the composite successfulness variable and perceived success (0.84, sig. 0.05) suggests that the created measure has some validity. At least there is indication that they are both measuring similar things. But as expected, the correlation between closure and perceived success is negligible (0.05, sig. 0.01) and its correlation with other variables is also negligible, except with proactivity (-0.30).

Dividing the sample of decisions into those from business and non-business organizations produces consistent results. As Table 6.10 shows, the correlation between success and perceived success was virtually the same again (0.85) for business and non-business organizations. Similarly, the correlation between closure and perceived success is very small, and it is not related to any of the separate variables, except proactivity.

FIGURE 6.1 INTERRELATIONSHIPS BETWEEN DEPENDENT VARIABLES
(Pearson Correlation Coefficients)

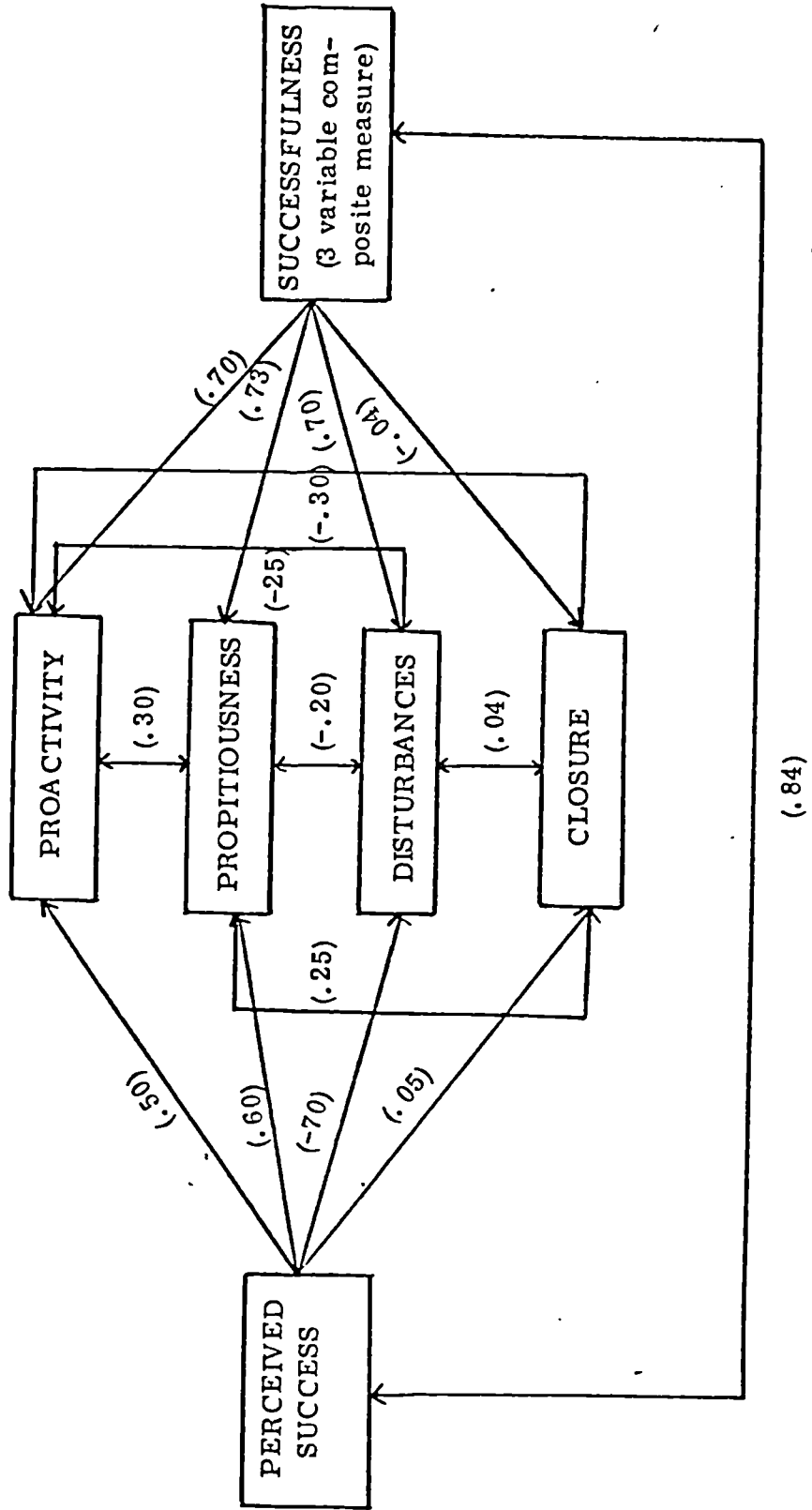


TABLE 6.10 PEARSON CORRELATION COEFFICIENTS BETWEEN DEPENDENT VARIABLES, DISTINGUISHING BUSINESS AND NON-BUSINESS ORGANIZATIONS*

	PROACTIVITY	PROPITIOUSNESS	DISTURBANCES	CLOSURE	PERCEIVED SUCCESS	SUCCESSFULNESS
1. PROACTIVITY	1.00	.30	-.13	-.30	.41	.62
	1.00	.32	-.40	-.30	.60	.80
2. PROPITIOUSNESS		1.00	-.23	.31	.64	.76
		1.00	-.14	.10	.54	.70
3. DISTURBANCES			1.00	.14	-.70	-.70
			1.00	-.20	-.72	-.70
4. CLOSURE				1.00	.02	-.03
				1.00	.14	-.03
5. PERCEIVED SUCCESS					1.00	.84
					1.00	.85
SUCCESSFULNESS (scores on variables 1, 2, and 3 summated)						1.00 1.00

*COEFFICIENTS OF NON-BUSINESS ORGANIZATIONS PLACED BENEATH.

The correlational results in general indicate that some outcomes tend to appear together, for example proactivity and propitiousness. This suggests that when a decision leads to realization of opportunities other unexpected benefits are also revealed. Either for the sample taken as a whole, or for the sub-samples taken separately, both of these variables appeared positively related to success or perceived success. Proactive and propitious outcomes mean that a decision is perceived as successful. On the other hand, disturbance appears negatively correlated to any of the variables, more even strongly with success variables so that the more successful a decision is, the less disturbances there are.

Considering closure, the negative correlation between it and proactivity raises an interesting point. It may be possible that decisions are either problem or opportunity oriented, or that a decision does not completely succeed in attaining multiple objectives at the same time.

Contrary to what has been expected, closure appeared as a dimension on its own, having little in common with the other measures. This raises some interesting questions. For example, it may not be possible to really solve some problems by a single decision. Although there are some authors who tend to identify decision-making with problem solving (Taylor 1974, Tuggle et al 1975, Tracy and Peterson 1977), others define it as an entirely separate activity (Hogan and Wallach 1964, Cohen et al 1972). In Cohen and associates' (1972) view even if problems in the

"garbage can" seem to be solved this is rarely so at least with the first decision purporting to deal with them. So a possible reason for the lack of association between closure and perceived success may be found in the nature of the problems a decision purports to deal with. A decision which apparently solves a problem and gives "closure" may not in fact do so and problems reappear so that merely bringing things to a conclusion is not necessarily successful. The need to find a more clear explanation of the correlational findings led to the examination of the nature of the problems and opportunities which motivated the decision.

.6.3. Content Analysis of Problems and Opportunities: An Empirical Definition of Successfulness

Responses to questions 2a and 3a for each of the 53 sample decisions were inspected. These showed various problems and opportunities as being the source of decisions, and these were categorized as shown in Tables 6.11 and 6.12. There may be some ambiguity and overlap, inevitably so, for these are not sharply defined in exclusive categories but merely an aid to the comprehension of the nature of the problems which stimulated the decisions studied. Any one decision may deal with more than one category of problem or opportunity. The division into categories does not imply that all the problems or opportunities a decision deals with are of the same category; a decision may deal with problems or opportunities of different categories.

Problems were grouped into the six categories in Table 6.11.

TABLE 6.11 RESULTS OF CONTENT ANALYSIS - TYPES OF PROBLEMS WHICH MOTIVATED THE DECISION STUDIED

PROBLEM CATEGORIES	TYPES OF PROBLEMS
INEFFICIENCY OF INFORMATION PROCESSING	To reduce time to process information To improve information channels
CONFLICT OF INTERESTS	To terminate a strike A breakdown of relationships between 2 parties Non-cooperation with a new recruit Competition between 2 unions Complaints from users/staff/customers
FINANCIAL DIFFICULTIES	Deficit on the budget Shortage of funds Overspending Cost increase Profit loss Excess of personnel costs
WORK INEFFICIENCY	Underutilization of space Costs of excess of space Undercapacity of outdated machines Dealing with large scale clerical work Inefficiency of work organization Low labour production Late delivery of products Inefficiency of material flow
MARKET THREATS	Sales reduction Lack of growth of the home market Diminish influx of importers into home market Cut back in main customers orders Replace products overtaken by new technology Suppliers would not be capable to support further developments Reduce product variety Increase product variety
COPING WITH GROWTH	Increase of size and complexity Coordination difficulties after acquisition Replace old buildings Capacity problems due to merger Excess of personnel after adoption of a new technology

An examination of the type of problems mentioned shows that they differ according to whether they occur inside or outside the organization boundaries, and consequently, according to whether they are more or less controllable by the organization's own decisions. For example, by making an appropriate decision an organization can directly alter the utilization of space, inefficiency of material flow or the modernization of equipment. However, unless the organization is monopolistic or is very large, it is only partially able to stop a foreign influx into the home markets. In a decision where the problem is lack of growth in the home market any single decision taken is likely to marginally shape the environment rather than to control it. In fact, control over some market problems will depend on a response from the industry as a whole or from government. In these circumstances, the organization manages to make adjustments to the situation rather than remove the problems with final "closure" of the matter. It would be more realistic to try to describe how far the impact of certain problems upon the organization was buffered by a particular decision.

While a reason for the lack of association between problem solving (closure) and perceived success may be found in the degree of control of problems, an alternative explanation relies on the nature of those listed in Table 6.11. Most of the problems are of a nature that managers want to get rid of or to diminish their effects, such as reducing the time to process information, reducing overspending, removing a conflict, or

terminating a strike. Thus, the types of problems mentioned are negative in character. They constitute in some way undesirable situations which interfere with the organizational goals. Merely solving a problem that is already there is not seen as success because it gives nothing more, no gain, only removal of difficulties.

These findings can be compared to the characteristics of opportunity decisions (as measured by proactivity obtained by inspecting answers to question 3a (Appendix B)).

The examples in Table 6.12 show that opportunity oriented decisions have some definite characteristics. The content of the examples suggests that opportunities decisions are taken to improve a situation (Mintzberg et al 1976, Proctor 1977) or to raise the organization's objectives to better levels (Ansoff 1971). Thus, whilst problem decisions may be characterized as reactive and adaptative, opportunities decisions are better described as proactive, and entrepreneurial. If, on the one hand, problems are described as events which have already happened, opportunities on the other hand are described in terms of expected positive outcomes from certain actions. For example, an organization may decide to reduce inventory, expecting an improvement of cash flow and better profitability. Alternatively, it may decide to introduce a profit sharing scheme to raise productivity or to improve management-worker relationships. Atkinson (1957) has noted that motivation for a decision comes from expected utilities associated

TABLE 6.12 RESULTS OF CONTENT ANALYSIS: TYPES OF OPPORTUNITIES WHICH MOTIVATED THE DECISIONS STUDIED

OPPORTUNITIES CATEGORIES	TYPES OF OPPORTUNITIES
IMPROVE FINANCE CONDITIONS	To save money To improve cash flow To improve profitability Provide for cost reduction Reduce expenditure Spread sales risk
EXPAND ACTIVITIES: (NEW PRODUCTS / NEW BUSINESS / NEW CONTRACTS)	Introduction of a new technology Expand business abroad Further entry in a broad market To tie a major competitor to a subsidiary product To increase the company market share To ensure a new contract with firms
IMPROVE INDUSTRIAL RELATIONS	Improve relationships with unions Better management work relationship
IMPROVE STAFF EFFICIENCY / STAFF DEVELOPMENT	Better utilization of manpower resources Attain better productivity Gain a greater flexibility in training programmes Develop staff computer experience
RATIONALIZATION OF WORK / NEW METHODS OF WORK	Establish new administrative methods Improve operational systems Improve material flow Improve manufacture layout
IMPROVE CAPACITY OF THE INFORMATION SYSTEM	Improve statistical information for decisions Improve information for stock control

with a course of action. He defines an expectancy as a cognitive anticipation that an action will be followed by particular consequences. Following Atkinson's ideas, an opportunity as a stimulus for a decision can be defined as an anticipation that positive outcomes will follow the making of decisions, usually as a result of cues in a situation.

Thus, apart from being associated with gains, with positive outcomes, opportunities as they appear in Table 6.11 concern more specific situations which perhaps are more liable to organization control.

In summary, with a basis in the content of those problems and opportunities which served as a motivation for a decision, two tentative hypotheses have been raised to explain the correlational results. First, it appears that some problems which strategic decisions concern are very broad in character and unlikely to be controlled by a single organization response. Hence, it appears that whilst closure may be a criterion ideal for evaluating a routine decision, or the type of decision which normative theories and small group theories deal with, it is an inappropriate indicator of the successfulness of strategic decisions. For decisions dealing with complex problems, whose dimensions depend on environmental changes not immediately predictable, or problems of a political nature which may only be solved by a step by step approach, another criterion capturing the organization's re-adjustment, or the ability to handle uncertainties and convert the situation into more manageable form, would be more appropriate. Such

a criterion of decision success would correspond to Thompson's idea of organization intelligence behaviour, where rationality is associated to the ability of the organization to anticipate environmental contingencies and to adapt to influences that cannot be "buffered" or "levelled". (Thompson 1967:21)

Secondly, success in general is seen predominantly in positive terms. A successful decision is the one which seizes opportunities (pro-activity) where gains from unexpected advantages do not bring further difficulties which the organization has to cope with (undisturbed smooth decisions). Lack of success, on the other hand, is clearly associated with the appearance of further difficulties and unforeseen obstacles (disturbed decisions). Solving a problem which is already there is not seen as a success because there is no gain, no feeling of having done something more, apart from the reduction or termination of an existing difficulty. In short, to be successful a decision has to give a net benefit over what was already there before.

CHAPTER VII

AN EMPIRICAL ANALYSIS OF THE CONCEPTUAL MODEL : NON-BUSINESS ORGANIZATIONS

This chapter comprises an analysis of the relationships between the independent variables of the conceptual framework and decision-making success. It concerns particularly the results for non-business organizations. Initially, however, the results for the whole sample are briefly discussed. The second section of the chapter discusses the correlational results in relation to the hypotheses formulated in Chapter IV, and the third section deals with some theoretical implications of the findings for non-business organizations.

.7.1. Some Procedures Adopted in the Data Analysis

As reported in the previous chapter, the scores of most of the variables in the conceptual framework have been combined either with a basis in factor analysis results or with a basis in direct correlational affinities. Thus, resources and information variables are now represented by availability of resources and criticality of resources, and the variables of process pace became those of duration and tardiness. The remaining independent variables were not combined either because of their theoretical relevance or because they did not prove appropriate for factor analysis. Therefore, where it is desirable to present a concise portrait of the results, the discussion concentrates on the variables of major theoretical relevance

and on the composed variables rather than on the constituent variables which form each of them.

As regards data analysis, two other procedures have been adopted. First, all data have been standardized to avoid difficulties of comparability between variables which have been measured in different ways: some variables were measured in terms of frequency of events, others by a five or three point scale, and yet others involved units of time.

Secondly, a significance test for the correlational results has been adopted, but only when the whole sample is analysed. Although the test of significance used may be applied to small samples (Freund and Williams 1970) it has been considered that the coefficient yielded for the subsamples would have little meaning. In cases where the sample size was 53 a test of significance has been used based on Freund and Williams, by which the null hypothesis of no correlation can be rejected when:

$$r > \frac{1.96}{\sqrt{n-1}}$$

7.2. Some Preliminary Results: Business and Non-Business Organizations

The interrelationships among independent variables are shown in Table 7.1. In general, correlation coefficients are disappointingly low, with the exception of a few variables which are moderately correlated to others of their own group. For example, disagreements is correlated to

**TABLE 7.1 INTERRELATIONSHIPS AMONG INDEPENDENT VARIABLES
(PEARSON CORRELATION COEFFICIENT) BUSINESS AND
NON-BUSINESS ORGANIZATIONS**

	a	b	c	d	e	f	g	h	i	j	k
a	.1	.10*	.30*	.30*	.30*	-.20	.31	-.13	.30	-.11*	-.20*
b		1	.22*	.20*	.25*	.20*	.30	-.00	.00	-.35	-.30
c			1	.11*	-.14*	.00*	.11	.14	.42*	-.24*	-.28*
d				1	.23*	.08	.30*	-.75*	-.08	.01	-.24*
e					1	.40*	.07*	-.20	-.30*	.14*	.26*
f						1	.20	-.00	-.10	.06*	.14*
g							1	-.10	.02	-.14*	-.30*
h								1	.33*	.00	-.05
i									1	-.30	-.22
j										1	.54*
k											1

N = 53

LEGEND

- a Availability of Resources
- b Criticality of Resources
- c Time Pressure
- d Higher Management Influence
- e Disagreement
- f Compromise
- g Amount of Influence
- h Specialists Influence
- j Duration
- k Tardiness

compromise settlement and tardiness appears correlated to duration by 0.54*. Most of the variables appear to be inversely correlated to tardiness and duration, with the exception of disagreements. Within the limits of the small magnitude of the coefficients, these results suggest that resources availability, resources criticality, time pressure and higher management influences are associated with decisions of longer duration. Perhaps the availability of critical resources and shortage of time spur a quicker central decision.

An examination of the interrelationships between independent and dependent variables does not add much. As Table 7.2 indicates, relationships among variables are weak, which appears to suggest that the variables of the conceptual model explain a very small proportion of variation in decision success. The question is why this may be so. It has been assumed in Chapters IV and V, that the variables of the conceptual model would portray decision-making process and outcomes in various types of organizations. In this, this research has followed Pugh et al's (1968) methodology which compares across organizations of whatever kind. The assumption in designing the conceptual model was that statements linking the independent component to the dependent component would apply to various types of decisions in both business and non-business organizations and would show a meaningful relationship. Thus, by using those concepts developed in the previous chapters, decision-making success could be explained simultaneously in both types of organizations. No provision was, therefore, made in the model for different profiles in different organizations, although variations in the support for some hypotheses were expected for a given type of organization.

TABLE 7.2 INTERRELATIONSHIPS AMONG INDEPENDENT AND DEPENDENT VARIABLES (PEARSON CORRELATION COEFFICIENTS) BUSINESS AND NON-BUSINESS ORGANIZATIONS

	a	b	c	d	e	f	g	h	i	j	k
u	.20*	.11*	.10*	.01	.01*	.05	-.02*	-.11	.07	.20*	.22*
v	.32*	.03	.05*	-.01	-.20*	-.04*	.24	.20	.44	-.06*	-.30*
w	.09*	-.21*	-.03*	-.02	-.32*	-.11*	.20	-.03	.22	.30*	-.09*
x	-.13*	-.03*	.02	.09*	.30*	-.13*	.02*	-.13	-.05	-.07*	-.06*
y	.30*	-.10*	-.00	-.06*	-.40*	-.00*	.20*	.14	.33	.20*	-.21*
z	-.30	-.20	.20*	-.14	-.40*	-.00*	.00	.14	.30	.11	-.04

N = 53

LEGEND

Independent Variables		Dependent Variables	
a	Availability of Resources	u	Closure
b	Criticality of Resources	v	Proactivity
c	Time pressure	w	Propitiousness
d	Higher Management Influence	x	Disturbance
e	Disagreement	y	Successfulness
f	Compromise	z	Perceived success
g	Amount of influence		
h	Specialists influence		
i	Diversity of interests		
j	Duration		
k	Tardiness		

As the results presented above indicate, the analysis of both kinds of organizations together produces no useful result, for no clear relationship among the variables has been identified. Some control for the variation in the type and importance of decisions appears to be gained by dividing the sample into two sub-sets of business and non-business organizations. As will be shown in this chapter and the next, the division in sub-samples makes it possible to identify some principal features of decision-making success in each type of organization. The outcome of sub-dividing the sample contrasts with Pugh et al (1968) who defend a general theory of organizations, where the relationship between context and structure would be maintained across a variety of organizations. It seems that process may differ more strikingly between sub-types of organization as the analysis of the data have suggested. Therefore, instead of attempting a rather fruitless interpretation of weak correlations for the sample as a whole, the analysis of the results is focused on the findings for the two types of organization separately. Interpretation of the results and analysis of the hypotheses for non-business organizations follow in this chapter, and Chapter VIII describes the results for business organizations.

.7.3. The Analysis of the Conceptual Model: Non-business Organizations

The analysis of results concerning non-business organizations involves data on 19 decisions from two universities and the Health District. These are the 19 first decisions listed in Appendix A.

Because of the complex relationships among the variables of the

conceptual framework, the analysis of the hypotheses formulated in Chapter IV will be built up "incrementally", beginning with independent variables.

.7.3.1. Interrelationships Among Independent Variables: Non-business Organizations

Interrelationships among independent variables are shown in Table 7.3. The correlation coefficients are not high but, nevertheless, some support may be found for some of the hypotheses formulated in Chapter IV. The moderate correlation between resources availability and time pressure (0.40) suggests that a greater amount of resources is committed when it is urgent to make the decision, so as to speed up the decision process. If the correlation between time pressure and tardiness is then examined (-.38) it can be seen that the greater the time pressure, the less tardy a decision is, and the shorter the decision duration (Hypothesis 10). These findings support the view that quicker decisions tend to be made when a deadline is superimposed (Wilensky 1967, Olsen 1976, Weiner 1976).

The correlation coefficient between availability of resources and the degree of disagreements (0.35) is again not ideal, but nevertheless it lends some support for Hypothesis 5, which postulates that the less available resources are, the more conflict in the decision. It provides some support for the bargaining view of conflict which sees scarcity of resources as a motive for competition between diverse interests (Pondy 1967, Pettigrew 1973, Salancik and Pfeffer 1974). On the other hand, it can be noticed that resources availability

TABLE 7.3 INTERRELATIONSHIPS AMONG INDEPENDENT VARIABLES
(PEARSON CORRELATION COEFFICIENTS) NON-BUSINESS
ORGANIZATIONS

	a	b	c	d	e	f	g	h	i	j	k
a	1	.09	.40	.05	.35	.07	.23	.13	.30	-.20	-.24
b		1	.40	.23	.03	.11	.24	-.04	-.40	-.61	-.40
c			1	-.02	-.32	-.52	-.33	.20	.40	.07	-.38
d				1	.51	.35	.40	-.45	-.40	-.03	.09
e					1	.05	.08	-.50	-.50	.00	.30
f						1	-.40	-.36	-.36	.15	.34
g							1	-.15	-.25	-.23	-.35
h								1	.50	-.35	-.31
i									1	.23	-.04
j										1	.62
k											1

N = 34

LEGEND

- a Availability of Resources
- b Criticality of Resources
- c Time pressure
- d Higher Management Influence
- e Disagreement
- f Compromise
- g Amount of Influence
- h Specialists Influence
- i Diversity of Interests
- j Duration
- k Tardiness

is positively related to the amount of influence in the decision process.

Here, the correlation coefficient is small (.23), and therefore little support is provided for the assumption that where a large amount of resources is involved, so is power, or to the alternative argument that powerful interest units tend to be more able to obtain relevant resources (Pfeffer and Salancik 1974). Availability of resources is inversely correlated to tardiness and duration, but hardly to a satisfactory degree. The decision process does not seem to be held back by lack of resources or activities to gather information. It may be that the type of decisions made in these organizations do not need much scanning or a special kind of resource which the organization does not have immediately available.

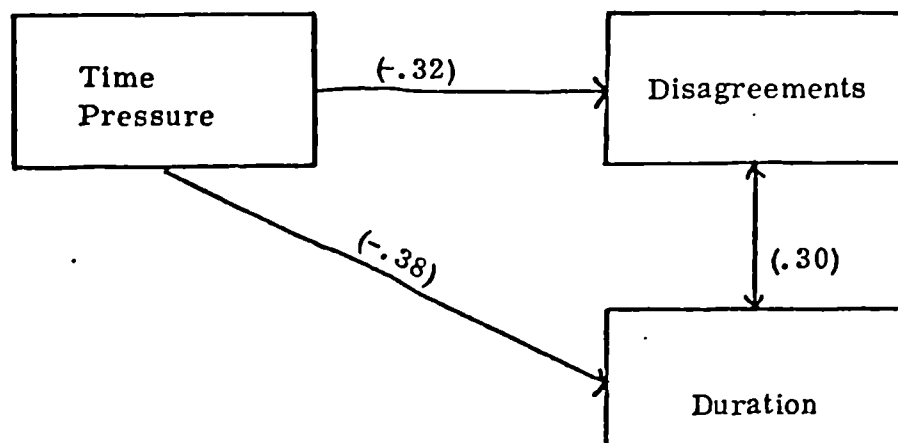
Like availability of resources, criticality of resources is moderately correlated to pressure of time (0.40) which suggests two possibilities: first, it may be that under time pressure, more valuable resources are mobilized to meet the time requirements (Wilensky 1967). On the other hand, it may be that in non-business organizations decisions involving important resources tend to be subjected to a deadline and taken more hierarchically, because of what is at stake. In this there is some support for Hypothesis 7, which postulates that the greater the criticality of resources involved in the decision the greater the influence of higher hierarchical levels in the decision process. Nevertheless, evidence for this hypothesis is weak, since the correlation between criticality of resources and higher management influence is low (0.23). However, neither specialists or their interests are more highly involved in these decisions.

Contrary to what had been expected, criticality of resources and the degree of disagreement are not related. The lack of correlation between these variables provides no support for the assumption that conflict tends to be higher in decisions involving important resources. On the other hand, criticality of resources is inversely correlated to tardiness (-0.40) and to duration (-0.61). These correlations seem to reinforce the argument that decisions involving commitment of critical resources are shorter in duration.

Hypothesis 9 postulated that under conditions of time pressure, the more the tendency towards centralization. However, as far as non-business organizations are concerned, there is little support for this hypothesis. As shown in Table 7.3, there is practically no correlation between time pressure and centralization of influence. On the contrary, it seems that urgency draws in various interests from different parts of hierarchy (see coefficients with different parts of hierarchy (see coefficients with specialists and diversity of interests .20, .40 respectively).

Hypothesis 10 is more complex, involving relationships among three variables. It postulated that the greater the time pressure, the less conflict there is in a decision and the shorter the process duration. Selecting the relevant correlations from Table 7.3, it can be seen that the results tend to support this hypothesis. Figure 7.1 summarizes these relationships.

FIGURE 7.1 ILLUSTRATION OF THE RELATIONSHIPS BETWEEN TIME PRESSURE, DISAGREEMENT, AND DURATION



Continuing the analysis of results on Table 7.3 it can be noticed that higher management influence is moderately related to disagreement, compromise settlement and amount of influence. Following Wilensky (1967), it was expected that decentralization would be associated with a high degree of conflict, assuming that it implies diverse views and disparate preferences. Instead, these results provide evidence that the more influence from higher hierarchical levels, the more conflict not less. Nevertheless, the results lend support to the assumption that conflict slows down the decision process. As for the complete sample, the correlation coefficient of (.34) between compromise settlement and tardiness lends some support to the literature findings that political activities cause delays (Huntington 1961, Wilensky 1967, Mintzberg et al 1976). As in decisions where higher management exert more influence, there is more disagreement, there is no way to speed things up when they are involved (correlation coefficient between higher management influence and tardiness = .09).

It can be seen from Table 7.3 that the amount of influence is inversely correlated to tardiness and duration. Results seem to indicate that a greater amount of influence in the coalition may speed up the decision process i. e. influence can be used to push ahead with the decision rather than to delay it by political activity.

Similarly to the results obtained from the complete sample, tardiness and duration are correlated (0.62). However, the results do not repeat for disagreements and compromise settlement, which here are not interrelated. The lack of correlation between these two variables seems to suggest that compromise does not occur in the same proportion as conflict. In other words, it cannot be assumed that in a decision where there is a high degree of conflict there is an equivalent amount of compromise.

Hypothesis 15 postulated that the greater the influence of specialists in a decision process the more conflict and delays. Here, emphasis has been given to divergent values and goals of different groups as a source of conflict following the concern with the pluralistic aspects of decision-making shown by some recent studies in this field (Baldrige 1971, Pettigrew 1973, Abell 1975, Astley et al 1980). Two measures described in the previous chapter can in fact capture the pluralistic aspects of decision-making: specialists influence and diversity of interests. The correlation coefficient between these two variables is 0.50 (Table 7.3) which seems to suggest that they may be tapping similar dimensions. The more specialists there are influencing the decision the more

the diversity of interests involved, an obvious but reassuring result. Yet as Table 7.3 shows, and contrary to what had been expected, neither specialists influence nor diversity of interests appears positively associated with conflict or duration. Indeed, the opposite. The more interests involved in a decision, the less conflict and the faster the decision process. Again we see interests, as influence, seeming to push things along. Perhaps there is a need to hasten before conflict can arise? The findings of the present research, so far, do not provide support for the assumption so widely made that fragmentation of goals and interests is a source of conflict. Similarly, there is no evidence that many interests in a coalition slow down the decision process as some studies seem to suggest (Olsen 1976, Weiner 1976, Astley et al 1980).

Thus with the results in Table 7.3 it is possible to examine whether the data provides support for many of the hypotheses formulated in Chapter IV, except those involving base variables which have been combined to represent a wider concept such as resources availability. By examining the first row in this table it can be seen that resources availability appears only weakly and erratically correlated to the other independent variables. The examination of each resource variable separately is not warranted for non-business organizations because resources are not shown to be of such importance to decision-making as in businesses (as the following chapter indicates).

The analysis of the independent variables of the conceptual model, has shown that some support has been gained for some of the hypotheses

formulated in Chapter IV. Some interesting relationships among variables, not anticipated, are also revealed. Before drawing major conclusions on these findings it is interesting to see what the analysis of the interrelationships among the independent and dependent variables can add to interpretation.

7.3.2. Interrelationships Among Independent and Dependent Variables - Factors Associated with Decision-making Success

Table 7.4 presents the zero order correlation coefficients between some of the variables in Table 7.3 and success variables (successfulness and perceived success). The results pick out certain variables as affecting the degree of success and decision outcomes. Higher management influence, for example, is inversely related to proactivity and propitiousness and positively related to disturbances. This suggests that when higher management has a stronger voice in the decision process, opportunities may not be seized, there may be no unforeseen gains and new difficulties may appear as a result of the decision! It prompts the thought that in hospitals and universities more equal participation pays off.

Another variable which seems to have an impact on decision success is intensity of disagreement. The more disagreement the less successful the decision is. According to the correlations in Table 7.5 the greater conflict, the more delays, the less proactive and propitious the decision is and the more disturbances are brought in (Hypothesis 14). These findings apparently suggest that conflict is dysfunctional to decision-making in the sense that it may impede

TABLE 7.4 INTERRELATIONSHIPS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES (PEARSON CORRELATION COEFFICIENTS) FOR NON-BUSINESS ORGANIZATIONS

	a	b	c	d	e	f	g	h	i
u	-.20	.08	.11	.00	-.01	.33	.30	.20	-.20
v	.30	-.04	-.22	-.32	-.44	-.30	.04	.00	-.40
w	-.08	-.30	-.23	-.35	-.32	.07	.31	.13	-.32
x	-.20	.13	.20	.45	.70	-.23	.04	.21	.02
y	.20	-.20	-.05	-.51	-.65	-.07	.20	-.01	-.40
z	.00	-.23	-.04	-.70	-.60	-.07	-.02	-.09	-.33

N = 19

LEGEND

a	Availability of Resources	u	Closure
b	Criticality of Resources	v	Proactivity
c	Time Pressure	w	Propitiousness
d	Higher Management Influence	x	Disturbances
e	Disagreement	y	Successfulness (composite measure)
f	Compromise	z	Perceived success
g	Amount of Influence		
h	Duration		
i	Tardiness		

attainment of desired outcomes and even bring further difficulties which were not predicted. However, care must be exercised in interpreting these findings while some appear to believe that conflict may be an obstacle to attainment of the organization's goals as March and Simon (1958) appear to suggest. It appears that this depends very much on forms of conflict resolution, and on the persistence of conflict over time (Assael 1969, Pondy 1967).

It can be seen from Table 7.4 that compromise settlement is not directly related to the success variables. It is, on the other hand, correlated to closure (0.33) and to proactivity (-0.30). Despite the small correlation coefficients, these results appear highly consistent. Conflict theorists have emphasized the muddling through and undoing characteristics of compromise settlement (Boulding 1964, Pondy 1967, Baldrige 1971). Referring back to Table 7.3 for a moment, it can be observed that compromise settlement is positively related to tardiness, which in turn is inversely related to proactivity (Table 7.4). Thus, when time is spent in negotiations and political activities to conciliate different interests there is a certain cost in proactivity when a quick response is essential.

Indeed, the correlation between tardiness and proactivity and between the former and propitiousness suggests that time is an important variable to seizing opportunities and to the guarantee of propitious benefits. Nevertheless, time is important only in the sense of delays because duration simply does not have an effect on success (successfulness and perceived success). Speed is not necessarily success, though it may be. Quick decisions, however, seem to

favour proactivity which provides some support for recent studies in business policy emphasizing the speed of response of organizations as an important factor to seizing opportunities (Mintzberg 1973, Ansoff 1975).

Whilst process activation variables seem to be of some importance to the degree of success a decision achieves, constraints variables are merely weakly associated with it. Resources availability is correlated to closure by no more than -0.20 , which is striking considering the important role given to resources acquisition as a source of organization effectiveness in the literature (Thompson 1967, Yuchtman and Seashore 1967). Resources availability is slightly related to proactivity (0.30), which suggests that success in seizing opportunities does sometimes depend on whether resources are more or less available. Yet criticality of resources (and time pressure) seem to have little direct impact on decision success (successfulness perceived success) in these universities and health district.

.7.3.3. Some Results of Partial Correlation

The analysis of the zero order correlation coefficients has indicated that whilst some variables had a direct association with the degree of successfulness, correlations were not large. To see how far these relationships might be dependent on third variables, and might be seen to be greater if the effects of these were allowed for, partial correlations were calculated.

Initially, the relationships of the principal independent variables were

examined, first by holding duration constant, and secondly by holding tardiness constant. Table 7.5 shows the first order partial coefficients of constraints and process activation variables. Comparing these results to the ones obtained in Table 7.4, one can see that holding duration constant virtually does not change the size of the correlation coefficients relating independent variables to success. If tardiness is held constant, the magnitude of the correlation coefficients with intensity of disagreement and success is reduced a little. Possibly some of the effects of these variables in decision successfulness is mediated by tardiness.

TABLE 7.5 FIRST ORDER PARTIAL CORRELATION COEFFICIENTS
INDEPENDENT VARIABLES AND DECISION SUCCESSFULNESS

Independent Variables	Controlling for Duration	Controlling for Tardiness
Availability of Resources	.20	.10
Criticality of Resources	-.30	-.44
Time Pressure	.05	-.21
Higher Management Influence	-.51	-.60
Disagreement	-.65	-.61
Compromise	-.07	.03
Amount of Influence	.20	.05

N = 19

However, the impact of criticality of resources and higher management influence is greater when controlling for the effects of tardiness. The partial coefficient (-.44) between criticality of resources and successfulness seems to indicate that decisions involving important resources tend to be less successful, but as the magnitude of this correlation is reduced to (-.22) if availability of resources is held constant, the indication is that availability matters more than how important the resources are, though neither is very significant.

A further set of partial correlations was attempted, relating duration, tardiness and success to resources availability and resources criticality, but this time holding three variables constant: intensity of disagreement, higher management influence and total amount of influence. The third order partials are presented in Table 7.6. The magnitude of the correlation coefficients with resources availability are reduced in comparison with the zero order coefficients. These results confirm that this variable has little direct effect in decision successfulness. Most of the effects resources availability have is by mediating intensity of disagreements and amount of influence.

There is no major change in the criticality coefficients when process activation variables are held constant. However, the impact of time pressure on tardiness is greater here, compared with the zero order correlation coefficients.

A final set of partials examines the effect of duration and tardiness on

success when each of them is held constant. These first order partial correlations are presented in Table 7.7, which shows that when tardiness is held constant duration becomes correlated to successfulness (0.30) and indicates that the relationship between duration and successfulness is stronger than at first appeared.

.7.3.4. A Synthesis: An Empirical Basis for the Conceptual Model

Figure 7.2 presents a synthesis of the correlational results. Due to the need to present the main interrelationships among variables clearly and concisely, only the variables of major theoretical relevance are indicated in this figure. Duration is not indicated here because it related with just a few variables of the conceptual model and is of less importance to success. The first order correlation coefficients are presented between brackets and the partials outside. Yet, on the details about the construction of this figure, it is important to mention that only the relationships having a correlation coefficient above .20 are there represented. The interrelationships indicated by the correlation coefficients should really be indicated by two-headed arrows. The one-headed arrows just indicate the emphasis of interpretation given by this project. Partial correlations were not computed for all variables because the idea was just to control for mediating variables. Hence, it was of interest to examine the effects of all variables on success by first controlling for duration and tardiness. Secondly, there was an interest to discover if constraints variables were related directly to success by holding constant the possible intervening activation variables such as disagreement, higher management influence and total amount of influence.

**TABLE 7.6 THIRD ORDER PARTIAL CORRELATIONS CONSTRAINT
VARIABLES - WITH DURATION TARDINESS AND SUCCESSFULNESS**

Constraint Variables	Duration	Tardiness	Successfulness
Availability of Resources (controlling for process activation variables)	-.12	-.05	.15
Criticality of Resources (controlling for process activation variables)	-.60	-.41	-.24
Pressure of time (controlling for process activation variables)	.09	-.43	.03

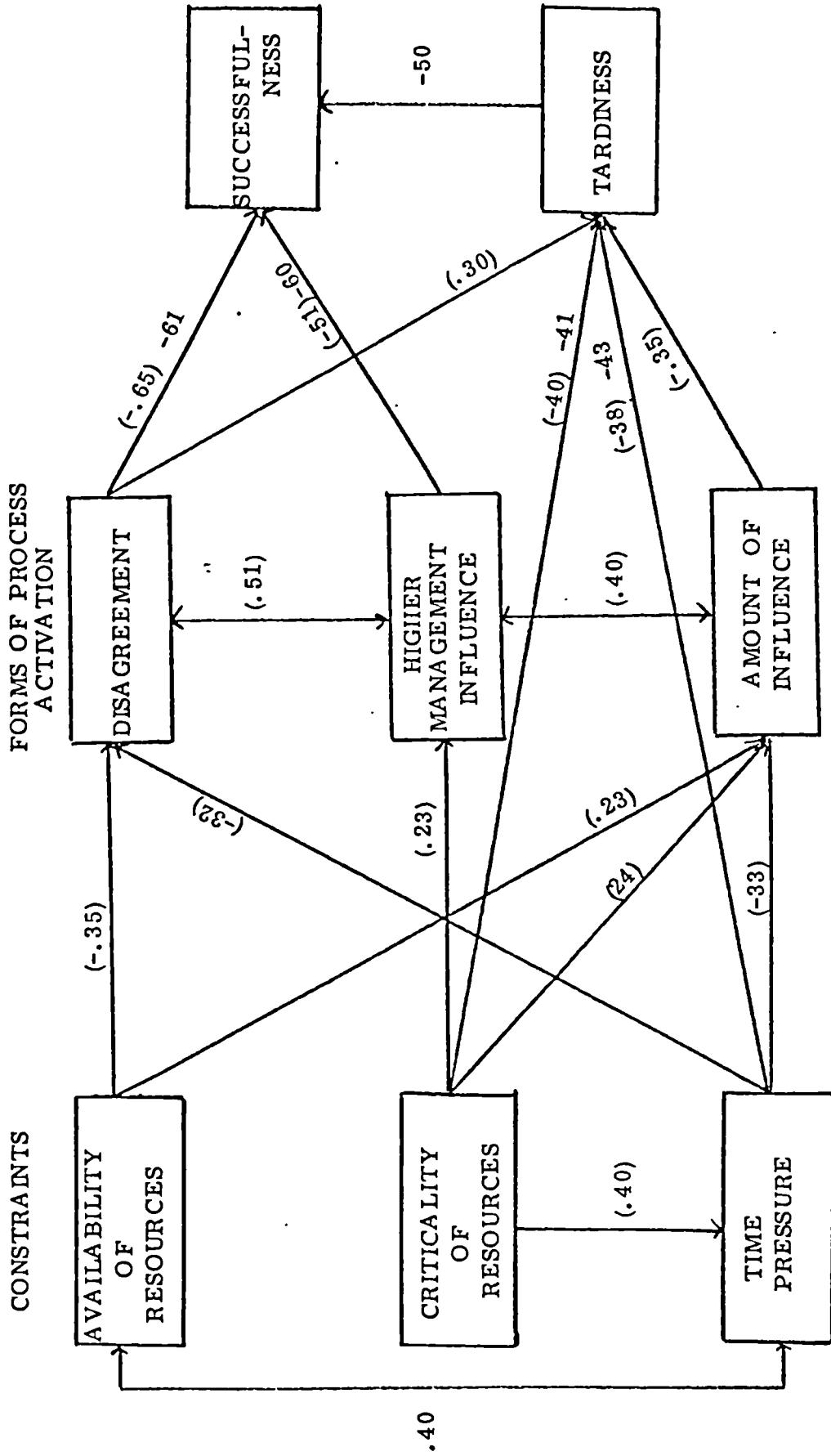
N = 19

**TABLE 7.7 FIRST ORDER PARTIAL CORRELATION COEFFICIENTS:
PACE VARIABLES AND DECISION SUCCESSFULNESS**

Independent Variables	Successfulness
Duration (controlling for Tardiness)	.30
Tardiness (controlling for Duration)	-.50

N - 19

FIGURE 7.2 VARIABLES OF THE CONCEPTUAL MODEL - SYNTHESIS OF THE CORRELATIONAL RESULTS



As shown in this figure, the constraints variables are only weakly linked to the modes of process activation, whilst those are more strongly related among themselves and to tardiness and success. However, although the correlation coefficients linking constraints to modes of process activation are not strong, these results lend some support to some of the hypotheses formulated in Chapter IV. For example, the less available resources are, the more conflict in the decision process (Hypothesis 5); the more critical the resources, the greater the influence of higher hierarchical levels in the decision-making process (Hypothesis 7). Also, as expected, the more time pressure the less conflict in the decision process and the less tardy it is (Hypothesis 10). It is also interesting to note that decisions involving more critical resources tend to be made under time pressure, may be centralized and tend to have a less tardy decision process.

The results also suggest that the greater the influence of higher hierarchical levels, the greater disagreement there is, and the greater the total influence in the decision process. The results confirm that tardiness is a very important variable in the conceptual model. They suggest that a decision process is less late and slow when it involves critical resources, when the decision is made under time constraints and when there are more powerful interests in the decision process. Nevertheless, conflict tends to slow down the process of decision-making, so that powerful interests are more likely to achieve a successful decision if they are in agreement.

From Figure 7.2 two groups of effects on decision-making success appear most evident. First, some factors appear to influence the degree of successfulness indirectly, such as those which may reduce the tardiness of a decision. Secondly, the form in which the decision has been made - for example, whether there has been agreement with the alternatives and solutions proposed by those on the top of the hierarchy - is directly related to the degree of success achieved. It would appear that outcomes are less successful when there is disagreement with the proposals of those on the top. Thus, it can be suggested that in non-business organizations how the decision has been politically conducted appears to be of major relevance to decision-making success in these organizations. However, this finding is not much of a surprise, since most of the literature in non-business organizations emphasize the point that in this kind of setting effectiveness is defined in terms of quality of service and political criteria (Lindblom 1959, Simon 1976, Heydebrand 1973, Kerr 1976). But nevertheless, this does not mean to say that in these organizations decision-making is only behaviour predominating. The presence of both behavioural and instrumental aspects is quite evident from Figure 7.2. Rational-bounded behaviour appears to manifest when there is pressure for a quick decision. A certain degree of control of the decision process seems to be achieved by mobilization of more important resources and reduction of conflict. On the other hand, one can see the political side of the process when conflict seems to increase as a result of who has more influence in the coalition. As is clear from this figure, the blending of instrumental and behavioural aspects determines the pace of the decision process. A more tardy or rapid process depends

on the importance of the resources involved in the decision-making, and on the involvement of more powerful interests. Conflict by contrast slows down the process.

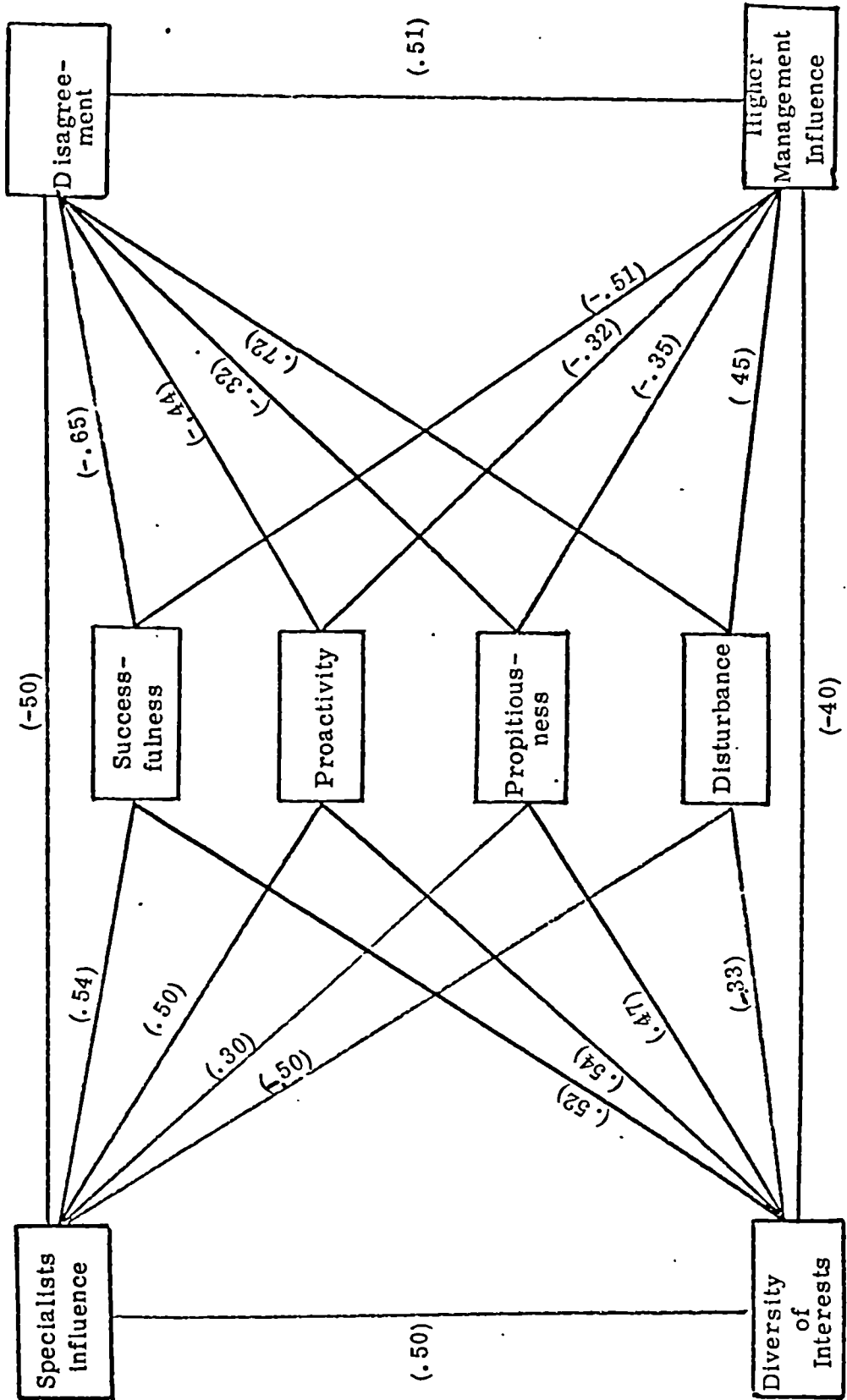
The correlational results have indicated on the other hand that the impact of resources availability on the way a decision is made in non-business organizations is not that significant, neither is resources availability instrumental for decision success. The first reaction of surprise at this result is tempered when it is recalled that it was suggested in Chapter IV that the impact of resources availability would be lower in organizations having less discretion over resources allocations. Salancik and Pfeffer (1974) have noted that variation in the level of resources available provides an occasion for power mobilization and conflict only where the organization has a relative flexibility in controlling resources allocation. There is a cake and it can be sliced up. In universities slices are predetermined by the size of the cake which is usually controlled by external organizations. Recent research comparing patterns of influence in British and American universities has suggested that the former have less discretion than their American counterparts since they rely almost entirely on just one national source of financial support (Beyer and Lodahl 1976). It was mentioned in Chapter VI that universities' resources are mostly controlled by the University Grants Committee (UGC). This has control over buildings budgets, salary levels, research funds and so on.

In the Health District, resources are also state controlled, being

allocated to the District by the Area Health Authority (AHA). Thus, it appears that the non-business organizations in this study have little power to control their own resources. It might be this that explains the small relationship between resource constraints and forms of process activation and lack of association between the first and successfulness in these organizations.

So far the findings of this research support the perspective which sees decision-making in non-business organizations as politically vivid. (Lindblom 1959, Wilensky 1967, Baldrige 1971). Studies which see decision-making as a political process, in particular, tend to emphasize divergence of goals and power imbalance as a source of conflict (Kahn 1964, Assael 1969, Wilensky 1967). These aspects seem to be of particular importance to decision-making success in non-business organizations. However, it is power imbalance rather than conflicting values introduced by the diversity of groups participating in the decision process which appears to be the most probable source of conflict in non-business organizations. This can be observed by examining Figure 7.3. It suggests that in these organizations success is a result of conflicting forces. Two arguments can be put forward, represented respectively by the variables in the boxes on the left and the right of Figure 7.3, success variables being placed in the centre. On the one hand, the greater the number of different interests and the greater the influence of specialists, the more successful a decision is, in that more opportunities are seized (proactivity), more unforeseen benefits are gained (propitiousness) and less difficulties are created (disturbance). On the other hand, if higher hierarchical levels have the

FIGURE 7.3 FORMS OF PROCESS ACTIVATION AND DECISION-MAKING OUTCOMES - MAJOR VARIABLES RELATED TO SUCCESSFULNESS



greatest share of influence and there is conflict, the less proactive, the less propitious and more disturbed outcomes are. In consequence, the less successful the decision is.

.7.4. Some Theoretical Implications of the Non-Business Organizations Findings

In the last section it became evident that distribution of influence, diversity of interests and disagreement have an impact on decision processes and outcomes in non-business organizations. Diversity of interests does not seem to be a source of conflict for the decision studied, which contrasts with the findings of much of the literature emphasizing diversification of values and goals as a basis for friction among different groups (Wilensky 1967, Pettigrew 1973). However, an explanation for these findings may be found in the characteristics of the organization structure.

Universities have been portrayed as loosely coupled systems (Blau 1973, Baldrige 1971). A characteristic of a loosely coupled system is that parts of the system may be relatively insulated from one another, so that adaptations taking place in one part do not affect other parts (Aldrich 1979). Glassman (1973) argues that loose coupling allows local adaptation of subunits facing conflicting demands. University subunits are loosely coupled in the sense that they have independent concerns and have different sets of interactions. As Baldrige (1971:108) points out, in universities "there is an insulating and segregating phenomenon, for the different parts of the system are often protected

from direct conflict because they are concerned with the same issues. To use a sociological jargon, a highly differentiated system may have low degrees of conflict because the various units are highly independent and highly insulated from one another". These structural characteristics of the universities may be a reason why in this research an increase in number of interests or in the number of specialists in a decision process does not necessarily imply more conflict.

On the other hand, any tilting of influence towards higher management - centralization of influence - was clearly revealed as a source of conflict. Here the research findings come together with views which emphasize conflict as an inevitable consequence of imbalance of power (Kahn 1964, Gamson 1968, Assael 1969). Perhaps by examining the influence distribution in the decision processes of these organizations some light may be shed on these findings.

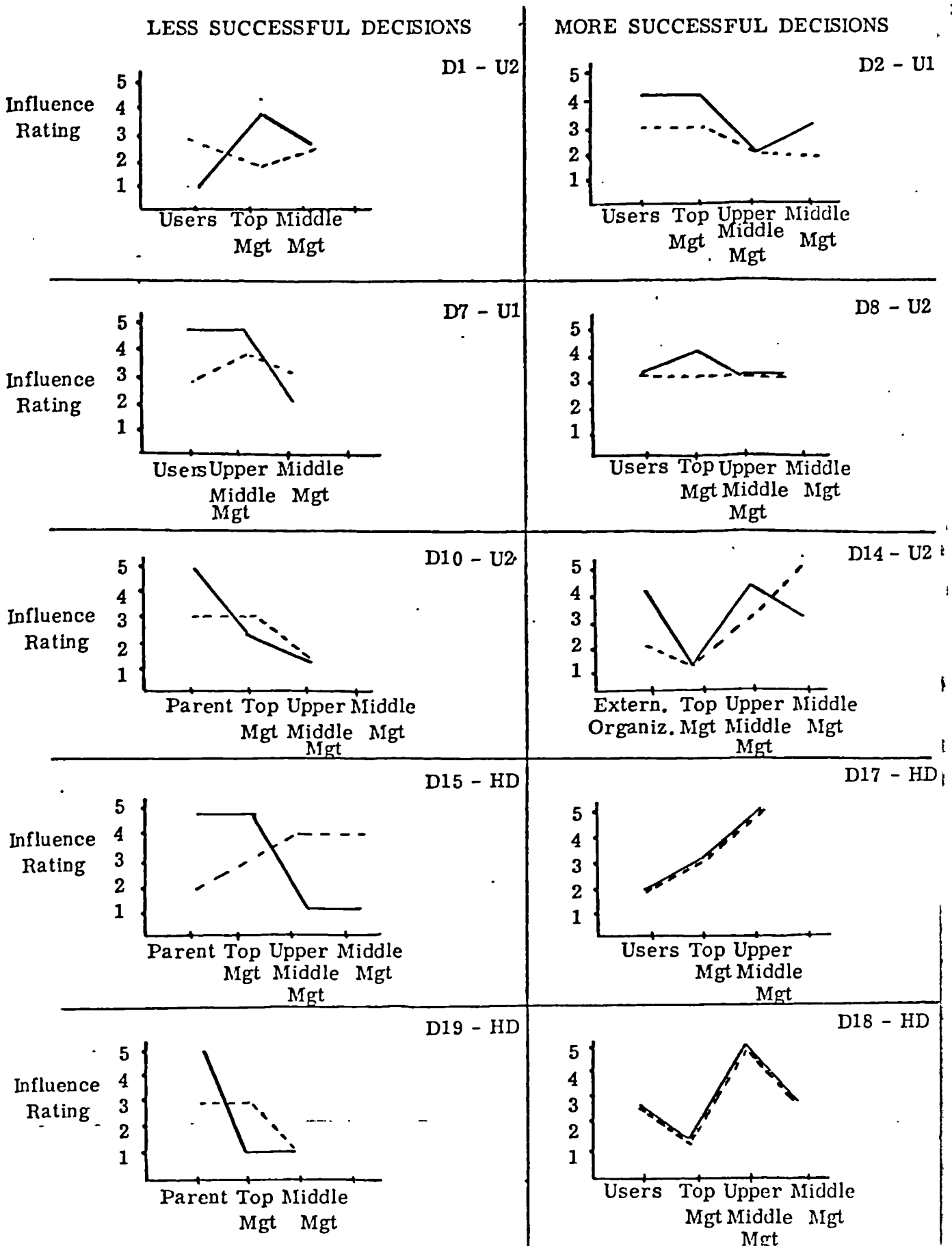
.7.4.1. Distribution of Influence

As the findings have suggested, disagreement with and influence by those on the top are both associated with less successful decisions. Comparing less successful decisions with those which are more successful in the distribution of influence would perhaps add to these findings and help to clarify the linking between influence imbalance and conflict. Five less successful decisions and five more successful decisions were picked out (according to their score on perceived success variable) for closer investigation to check this assumption.

Figure 7.4 presents the curves of influence distribution for these decisions following Tannenbaum's (1968) control-graph method. The less successful decisions are presented on the left hand side, whilst the more successful ones occupy the right hand side. The interest groups involved in each decision vary and there are also differences in groups which have a voice in decision-making in these organizations (according to replies to question 10a Appendix B). For example, the four decisions at the bottom of the page are Health District decisions. In comparison to universities these organizations have less autonomy in decision-making. As mentioned in Appendix D, Districts have to submit a yearly plan to the Area Health Authority which reviews and may challenge the plans. Area Team Officers accountable to the AHA have the specific function of ensuring that the District fulfils its plans. The AHA and Area Team Officers comprise the Parent Level in the influence curves.

Universities' decisions comprise the first six curves. Although the UGC would correspond to the Parent level, this organ did not influence directly the decisions studied in this research. Despite the fact that universities depend on the state's finance resources, UGC interference in decision-making is in general kept to a minimum (Eustace and Moddie 1974). Thus, in the universities' decisions presented in the figure there is no level correspondent to "Parent". Top management level, upper middle management and middle management are classified in this figure according to Table 6.2. in Chapter VI. In the universities "users" comprises the students and groups who use a given service. In the Health district users are the consumers of the health services.

FIGURE 7.4 DISTRIBUTION OF ACTUAL AND DESIRED INFLUENCE IN SOME LESS SUCCESSFUL DECISIONS AND MORE SUCCESSFUL DECISIONS



LEGEND

U1 : University 1 HD: Health District — : Actual influence
 U2 : University 2 — — — : Desired influence
 SEE Appendix A for decisions represented by D1, D2, etc.

Irrespective of the kinds of interests involved in decision-making in these organizations, it can be seen that the pattern of influence sharing and the discrepancies between actual and desirable influence are different for less successful and more successful decisions. Thus in the former, either the parent organization and/or top management are felt to have had too loud a voice in the decision process in four out of five cases. In two cases, (decision 7 and decision 15), middle management should have its voice heard more. It is interesting to note that in decision 15, the distribution of influence should ideally be reversed. In other words, those who had the most influence should have had the least and vice-versa. For the more successful decisions, there are two cases in which there are no discrepancies between actual and desired distribution of influence - decision 17 and decision 18 from the Health District. In the other cases, the size of discrepancies is smaller than in less successful decisions. So less successful decisions have a greater disparity between actual and desired influence, especially for top management, users, or parent organization, in which may lie the seeds of discontent.

These findings may suggest that the roots of conflict in less successful decisions lie in the distribution of influence. Is there any evidence that this does lead to conflict? When the intensity of conflict which occurred in these decision processes is compared, it becomes evident that in less successful decisions the degree of conflict is indeed higher, as Figure 7.5 indicates. Here, the decisions are represented in the horizontal axis. The vertical axis corresponds to intensity of disagreement which varies from zero to 1.00, according to the

measure devised in Chapter VI. So in less successful decisions imbalance and conflict appear together. In more successful decisions imbalance of influence is not so frequent and there is less conflict.

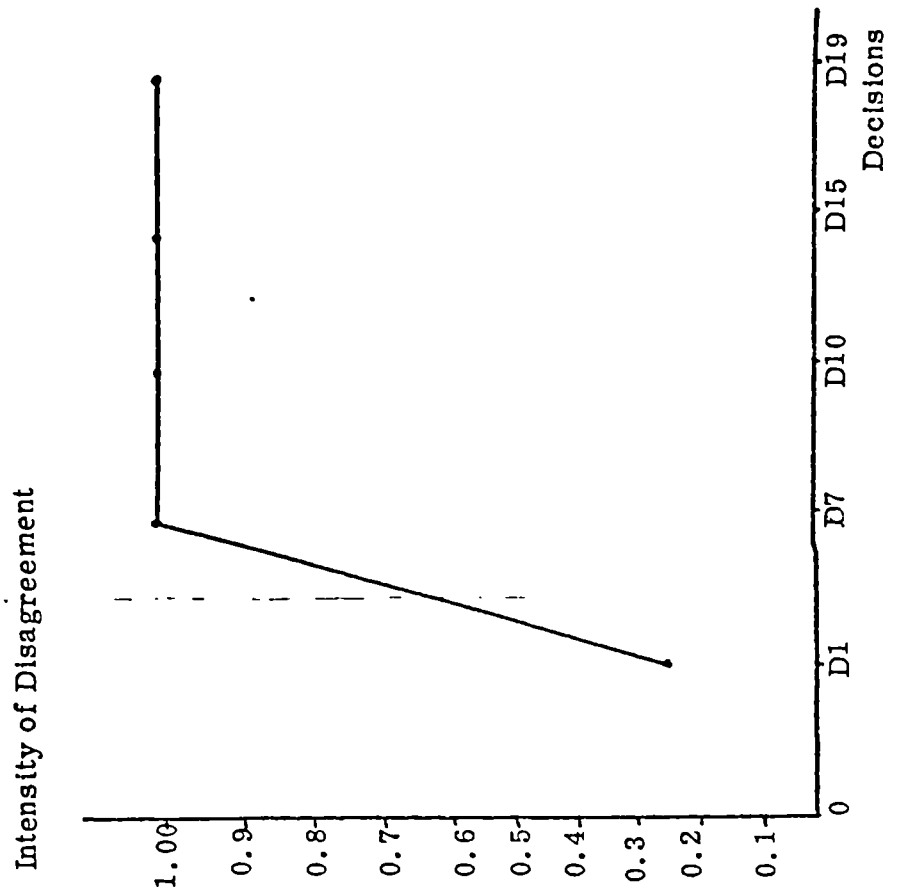
However, imbalance of influence by itself may not be sufficient to cause conflict. In this case, what imbalance means is more important. In a decision what counts is that powerful subunits are in a position to make their views prevail against the interests of others. As Kahn (1964) points out, power is necessarily connected to conflict if it means changing the behaviour of a group of persons against their own wishes. Thus, as will be seen further in decisions where the influence of higher hierarchical levels is perceived as greater than desired, conflict probably takes the form of pressure from groups whose interests may be affected by the decision outcomes. It may well be related to the mobilization of the "have not" groups and the pressure they are capable of imposing in the decision-making arena for the production of different outcomes (Gamson 1968:8). This will become more evident if some characteristics of conflict in non-business organizations are examined. For this purpose the examination of questionnaire and interview data together may aid interpretation.

.7.4.2. Some Characteristics of Conflict in Less Successful Decisions

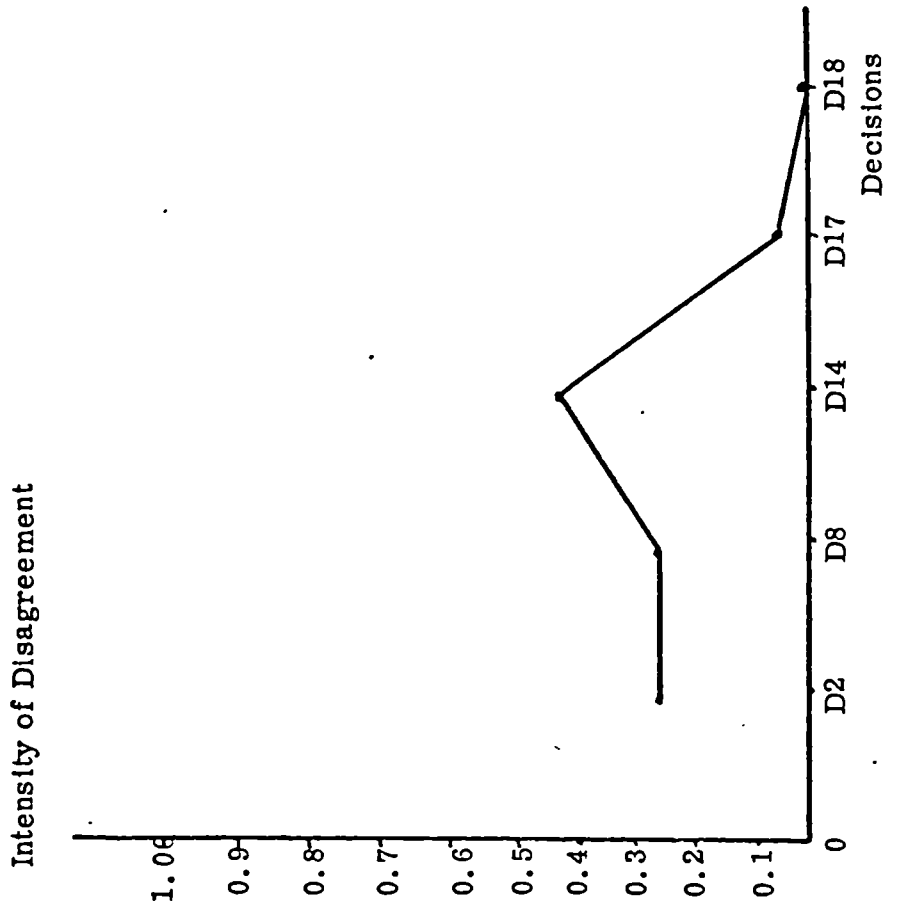
Both correlational results and the curves of distribution of influence and of conflict (or disagreement) have suggested that imbalance of influence

**FIGURE 7.5 INTENSITY OF DISAGREEMENT IN THE DECISION PROCESS -
LESS SUCCESSFUL DECISIONS AND MORE SUCCESSFUL DECISIONS.**

Less Successful Decisions



More Successful Decisions



and conflict appear together in less successful decisions. It seems that hierarchical conflict is at the heart of the matter. It is possible that the analysis of interview data would contribute, so that the nature of conflict in non-business would be more clearly understood, and in consequence the reasons why disagreement and higher management influence are associated with less successful outcomes.

As shown in Appendix D, the structure of British universities is characterized by a parallel system of authority. First, there is the bureaucratic network, and second the professional authority whose voice is expressed by means of the representative bodies of the university, such as senate, council and committees. A consequence of the parallel structure in universities is the overlapping between bureaucratic and professional influence patterns (Baldrige 1971). As this author notes, lines of influence between the various university bodies are ambiguous and shifting. Although Baldrige's study focuses on American universities, their British counterparts are little different, as can be observed from Appendix D. Clashes may occur in the redefinition of areas of concern, or when there is interference in an area which a subunit sees as its traditional area of influence. For example, in decision 10 (U2) in Figure 7.5 the centralization of administration in the halls of residence provoked a strong reaction from the wardens, who so far had been entirely responsible for the administration of the halls. The justification for the decision was said to be continuous friction within the hall's administration and consecutive financial losses. A committee was appointed to collect information and suggest solutions to these problems. A recommendation to create a separate

administration for the halls, accountable to the Registrar's department, gained support in the university administration but encountered resistance from the wardens who saw their traditional area of authority threatened.

In another decision, the centralization of examination timetables in U2 provoked a great deal of controversy, for this has been traditionally under the responsibility of heads of departments. Whilst the change would alleviate the burden on some departments which had a complex timetable, it meant a reduction of control and extra work for other departments that had a simple timetable. This decision, however, was classified as a successful one (decision 14 in Figure 7.5). An interesting difference between this decision and the previous one, is that while in the first decision wardens felt that they were not fairly heard and, therefore, were not ready or willing to co-operate on the new scheme, in the timetable case, negotiations took place with the departments opposing the decision. A compromise was achieved around a solution which would lessen the extra work that would be caused for these departments.

In the Health District, a similar type of conflict between levels is commonplace for the areas of responsibility of each level are ill-defined and overlapping. Thus, types of conflict in such non-business organizations may be not too different. In decision 19 (Figure 7.5), for example, the centralization by the AHA of stores, which had traditionally operated under District supervision, raised resentment at District level, where people felt they had not been properly consulted. It seems that in both types of organizations, lines of

responsibility may be ill-defined creating conditions for conflict when they are challenged.

The overlapping of areas of bureaucratic and professional influence is another structural characteristic which creates conditions for conflict in both universities and Health services. The different orientations and perspectives of professionals and bureaucrats receives a detailed treatment in Etzioni (1964) and in Blau and Scott (1964). Baldrige (1971:158) has described the type of tension which develops between bureaucrats and professionals in university decision-making. While the bureaucrat has a strong identity with the organization, the professional loyalty is to his own speciality. For the bureaucrat, the source of discipline is the hierarchical structure, while for the professional it is the judgement of his own colleagues.

In the health services, the heterogeneous composition of the district creates conditions for clashes between these two perspectives. Whilst doctors and nurses orientations are based on their own profession, administrators are responsible for the provision of a rational and efficient health service. In these circumstances the type of conflict which develops in the coalition may be "substantive" using Rhenman and associates' (1970:78) terms. In other words, interest units do not reach agreement because their views differ about which decision is the right one. Although decision by consensus is a form of protection against clashes between groups which have contrasting values, it may not prevent sharp conflicts when the interests of a given group are threatened. For example,

in decision 15 (Figure 7.4) the AHA had urged the District to take some economy measures so as to control overspending. The treasurer's office then looked for areas where economies could be made. At that time the efficiency of the Gynaecology ward was low. Bed occupancy was low and there had been a decline in the waiting list. The closure of the ward was, therefore, suggested as part of a package of economy measures. A proposal to close the 20 beds of this ward and use it for decanting purposes was put forward in the District Management Team. A sharp reaction came from the Gynaecology department which argued that the ward was important in order to ensure the viability of the teaching unit and maintenance of teaching standards. Cuts would be detrimental to teaching standards and to research the department had planned to undertake in the near future. A great deal of negotiating went on between the DMT and the Gynaecology department, and other teaching units became involved and expressed their reservations. In this case, the DMT was not able to achieve a compromise and the matter was referred to the AHA for a decision. Conflict was substantive, but was aggravated and persisted because a group had its interests threatened. The arguments of the administration were based on the quantitative information about the Gynaecology ward and on the need to balance the budget. But primarily, the administration was suffering pressure from the Area to proceed with economy measures. As Suderland (1977) notes, in the NHS the district autonomy to make decisions is restricted in such a way that in many circumstances the district has no power to satisfy demands of other groups which report to it, even when it agrees with their revindications.

In this example, the need for consensus did not prevent conflict but in many circumstances it does tend to maintain the status quo. Conflict can be anticipated, and topics which are not likely to end up in a compromise settlement are not even raised or may be shelved after initial attempts.

Not only the impossibility of a compromise among the District members makes a decision topic go "into limbo", but also the anticipation of a reaction to the policy by parties affected. Authorities avoid policies likely to generate resistance (Bachrach and Baratz 1962). Baldrige (1971:165) has noted that a common tactic used by organization authorities to test reaction to a policy is the "trial balloon". Before making the decision, hints are leaked about the project to judge whether reaction(s) would be favourable or not. For instance, the possibility of closing a workers club at lunch time in one of the District's hospitals was raised in the District Management Team. Some supervisors were having staff problems of late return from lunch and drinking during working time. However, initial soundings of the possible reaction to closure led to the abandonment of the idea at least for the time being. The decision would have affected other interests like those of the junior doctors who also had their social club open at lunch time. There would have been obstacles in closing clubs in other hospitals which did not have problems with drinking in working time. Furthermore, the union had threatened a strong reaction if the decision went ahead.

In this case, conflict was avoided by the withdrawal of the topic from

the coalition agenda. In contrast with preceding example, in this case the groups which would have their interests affected by the decision outcome were not formally involved in the decision-making. They were in the position of partisans. Partisans are people who may be affected by the decision outcomes in a significant way (Gamson 1968, Baldrige 1971). As Baldrige (1971:131) points out, "Partisans have to live with decisions the authorities make and must function within the limits set by their policies". A characteristic of partisans is that they are continuously revindicating the right to participate in decision-making and to resist decisions which affect them. Conflict between partisans and the decision-making coalition is common both in universities (Baldrige 1971) and in the health service (Klein and Lewis 1976).

When partisans resist decisions of a coalition it may yield to their demands so as to relieve tension. The decision to increase the fees of residence halls in UI met great resistance from the students union (decision 7, Figure 7.5). A strike was called and members were asked to make their payments direct to the union. It was a period of great turmoil in the university and strong feelings arose in the students who wanted to keep to their duties with the university, but were willing to give their support for the strike. Conflict was relieved only after the students union had compromised by agreeing to pay the university in return for freezing the charges of the halls of residence for the next year.

The decision to transfer the luncheon service during vacation periods

from the main refectory to the Communal Building in U1, involved a similar situation. As can be observed from Figure 7.4, decision 1, the users of the refectory had little influence on this decision, but even so an immediate reaction arose from the students, academic staff and administrative personnel who had to travel across to the Communal Building for lunch. A petition urging a review of the decision was signed by 250 students and staff. The result was the reopening of the refectory for the next vacation.

These examples have illustrated types of conflict which arise in some of the less successful decisions studied by this research. In the decisions described, conflict involved units at a higher hierarchical level who were in a position to make their views prevail despite opposition, and other groups which would have their interests threatened by the decision outcomes. There are cases where the outcomes of decisions have been modified and, in some, topics were withdrawn from the agenda as a result of pressure from group affected. In some cases, conflict arose within the coalition when the decision implied disadvantages for one of the parties. In other circumstances, conflict arose from pressure of units external to the coalition wanting to protect their own interests. It seems that even when conflict appeared to be a question of divergence of orientation between bureaucrats and professionals, as in the case of the Gynaecology ward, other factors appeared significant in not reaching a compromise. For example, there was pressure from the Area Health Authority to balance the budget. Here again, sources of conflict were similar: conflict intensified as those affected attempted to protect their own interests against

what they felt had already been decided further up in the hierarchy.

.7.5. Some Preliminary Conclusions : Non-business Organizations

It has been suggested in the theory chapters IV and V that the decision-making process would have elements of both instrumental and behavioural aspects and, in consequence, success would result from an interplay between these aspects. As an instrumental process, decision-making would contain elements of rationality and efficiency in using resources to attain desired ends. In this case, outcomes would be a result of a goal-directed behaviour. On the other hand, slow pace determined by attempts to conciliate divergent interests would describe some characteristics of a behavioural process. Here, outcomes would be a result of conflict and strength of power of divergent interest groups.

The results in this chapter have, in fact, revealed some characteristics of the decision process which are instrumental and others which are behavioural. Manifestations of a goal-directed process can be observed when the decision is made under time constraints: a greater amount of more critical resources and more powerful interests are mobilized and disagreements avoided, so that a final decision could be achieved quickly with the avoidance of major delays. When there is no need for a rapid decision, the process appears to be predominantly political. The process gets behind schedule, as interest groups try to push the decision in opposite directions.

Although the decision pace may be a result of both aspects, it appears

that resources only weakly influence the dynamics of the process. Also, resources availability does not seem to have an instrumental importance in decision-making success. An explanation proposed was that non-business organizations usually have little discretion in controlling the amount of resources available. In this case, interests seem to contend more in order to keep their already conquered resources than to contend for the resources necessary to carry the decision through.

In Chapter VI, successfulness becomes defined in terms of expected benefits (proactivity) and unforeseen gains (propitiousness), together with lack of disturbance. Table 7.8 summarizes some common elements in the process and outcomes of less and more successful decisions. Some conclusions can be drawn from these results which apply to non-business organizations, particularly to universities and hospitals.

It becomes evident that time is important to success; it is of particular relevance to proactivity and propitiousness. Seizing opportunities and gaining propitious benefits depends on a rapid reaction. However, it has been shown that time in non-business organizations is often consumed in political activities, in negotiations to arrive at some form of compromise between interests which do not agree with outcomes of a decision. A decision process then, cannot be quick and grasp opportunities while time is spent in attempts to resolve conflict among interests. The findings of this research suggest that engaging in political activities and being proactive are somehow incompatible, since rapid decisions are a requirement for the attaining of this type of outcome.

TABLE 7.8 CHARACTERISTICS OF THE DECISION PROCESS AND
OUTCOMES OF LESS AND MORE SUCCESSFUL DECISIONS

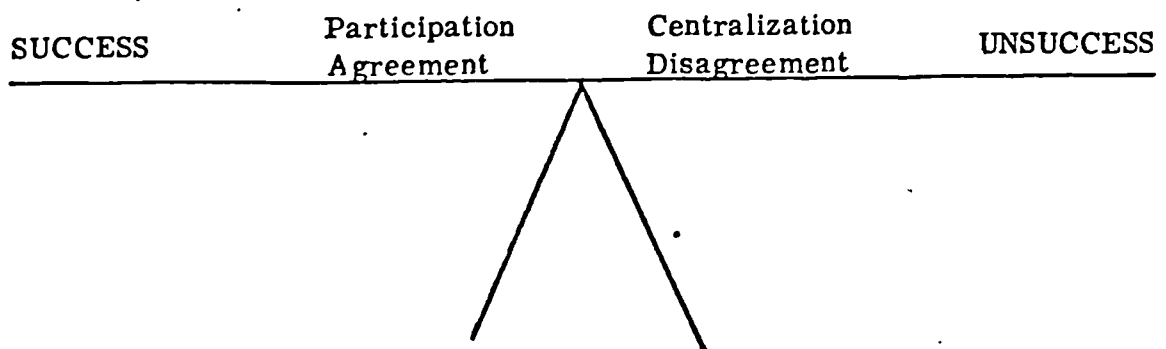
	Less successful decisions	More successful decisions
Process elements	<p>Tardiness</p> <p>Higher Management Influence</p> <p>Influence imbalance disagreement</p>	<p>Diversity of interests</p> <p>Specialists influence</p>
Outcomes elements	<p>Less proactivity</p> <p>Less propitiousness</p> <p>More disturbance</p>	<p>More proactivity</p> <p>More propitiousness</p> <p>Less disturbance</p>

As conflict between groups diminishes the chances of a proactive and propitious decision, it also implies more disturbance. As argued in the previous section, conflict arise as those up in the hierarchy attempt to influence the decision in a given direction which affect other groups interests. In cases where the decision proceeded despite their opposition, pressure became higher during implementation. The groups affected organized themselves and pressure became formalized. As reported, after the vacation catering decision was taken, in the university, various departments expressed their opposition and requested a review of the decision. In the health service decision to close the Gynaecology ward, the negotiations did not stop there. The further difficulties of the department with teaching and with growing waiting lists were brought into the District agenda. A new professor arrived bringing new methods of research, and the number of beds which the Gynaecology Department could count on appeared even more insufficient. The department gained the support of the CHC and pressure in the District grew until finally a compromise was achieved.

By contrast, involvement of a variety of interests in the process itself does not necessarily lead to conflict. Instead, it is related to less conflict, and results in more proactivity, more propitiousness and less disturbance. These findings suggest that participation is of primary importance to decision-making in non-business organizations and is closely attached to the concept of success. Before pursuing this point, it is interesting to summarize these political characteristics which looked salient in the non-business organizations studied in this research.

The results appear to suggest that successfulness results from incompatible political forces working in opposite directions. This can be better observed in Figure 7.6 which summarizes the results presented in Figure 7.3.

FIGURE 7.6 ILLUSTRATION OF NON-BUSINESS ORGANIZATIONS
POLITICAL THEORY



Here the decision political characteristics and success operate as a "see-saw". It may be suggested that successfulness is a function of an alteration in the balance of the "see-saw" represented in this figure. As participation goes high so does agreement. As higher management influence is higher and, in consequence, disagreement, this brings unsuccess with it. The two kinds of forces are of course incompatible; higher values of one result in low values of the other and vice-versa.

Going a step forward, it seems that success is defined according to political characteristics of the process. The notions of participation and agreement seem attached to the concept of success in non-business organizations.

As Braybrooke and Lindblom (1970) have noted, agreement is highly valued among those who have a stake in decision-making in public organizations. Agreement appears to act as a substitute for scientific truth and may represent a political virtue. It even seems that if people do not agree on values, policies, rules and procedures, agreement on any basis appears to be important, since agreement in itself is socially valued and therefore may establish parameters for comparison where one does not exist. In this case, Lindblom and Braybrooke (1970) argue, agreement is the only form of resolving social conflict.

The association of agreement and participation with success reflects the dilemma which characterizes the goals of non-business organizations. While there is pressure for a more democratic and decentralized system of decision-making which is said to improve the standard of services, there is simultaneously pressure for retaining control (Klein and Lewis 1976, Baldrige 1971). The ambiguity in needs comes from divergence in goals and values of groups in different hierarchical positions. Authorities may be interested in stability, in containing influence, while those such as partisans may be concerned with enlarging their spheres of influence. Thus, what is seen as leading to more or less success in non-business organizations may be issues such as agreement as opposed to disagreement, stability as opposed to change and lack of control, participation as opposed to centralization.

Such findings appear to be quite consistent with the way effectiveness

is analysed in these organizations. Here, processes in which activities develop are more important than final results. The political climate in which a decision is made is clearly of paramount importance.

CHAPTER VIII

AN EMPIRICAL ANALYSIS OF THE CONCEPTUAL MODEL

- BUSINESS ORGANIZATIONS -

This chapter presents the analysis of the conceptual model for business organizations. It examines whether the pattern of relationships among the variables found for non-business organizations prevails in business firms also and explores which factors may account for successful outcomes in these organizations. In reporting the results for business organizations, data on 34 decisions are examined (in Appendix A from number 20 onward).

.8.1. Relationships among Independent Variables - An Analysis of Hypotheses

Table 8.1 shows the Pearson correlation coefficients for independent variables. In this table all the variables representing the major concepts in the framework are indicated. It can be seen that with few exceptions, the majority of variables are at most only moderately correlated to each other. As opposed to non-business organizations, resources availability appears as the most important variable since it is moderately related to almost every variable. Tardiness on the other hand seems to have less importance for decision-making in business organizations, as the correlation coefficients between this variable and the others indicate.

Based on the literature which explores the origins of distribution of influence in organization decision-making (Hickson et al 1971, Salancik

**TABLE 8.1 INTERRELATIONSHIPS AMONG INDEPENDENT VARIABLES
(PEARSON CORRELATION COEFFICIENTS)
BUSINESS ORGANIZATIONS**

	a	b	c	d	e	f	g	h	i	j	k	
a	1	.10	.40	.42	-.35	-.33	.50	-.23	.30	.09	-.30	
b			.40	.25	.23	.22	.32	.05	.23	-.24	-.32	
c				.20	.02	.01	.11	-.02	.40	-.35	-.20	
d					.05	.07	.30	-.80	.03	.05	-.30	
e						.73	.10	.14	-.07	-.31	-.11	
f							.10	.20	.03	-.21	.09	
g								.20	.80	-.08	-.07	
h									.30	-.20	-.08	
i										-.09	-.00	
j											.60	
k												1

N = 34

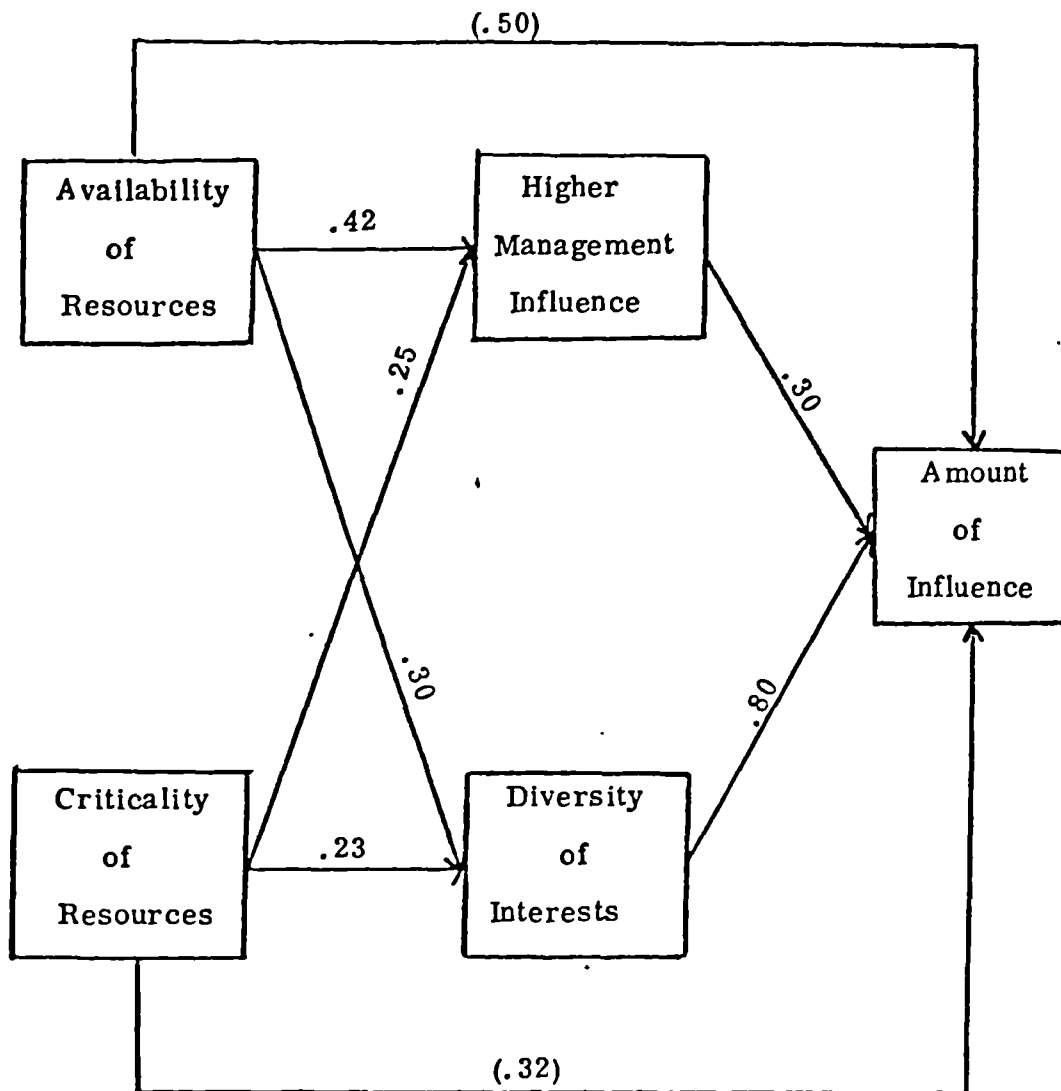
LEGEND

- a Availability of Resources
- b Criticality of Resources
- c Time Pressure
- d Higher Management Influence
- e Disagreement
- f Compromise
- g Amount of Influence
- h Specialists Influence
- i Diversity of Interests
- j Duration
- k Tardiness

and Pfeffer 1974), it has been assumed that resources and influence would be related, that is, more influential sub-units would be involved, in decisions where important resources are at stake (Hypothesis 1). As Figure 8.1 shows, the results lend some support for this hypothesis (r . availability of resources. amount of influence = .50, and r . criticality of resources and amount of influence = .32). Evidence is, therefore provided for Abell's argument that a given bargaining zone will carry more power according to the extent with which it is occupied with decisions involving more important resources. It can be seen from this figure that in these decisions higher management has influence as well as other interests.

Following Olsen (1976), it has been suggested that as the level of resources in the decision process appears to be insufficient, more interests from various points in the hierarchy are called in, in an attempt to obtain the necessary resources for the decision. The results apparently provide no support to hypothesis 3 specifically, which predicted that the less resources available, the more the number of interests in the decision process. Figure 8.1 appears to suggest that more interests are attracted to a given arena when it carries more and various resources. However, there may be some argument as to the meaning of the correlation coefficient between resources availability and diversity of interests (.32). It may be that various interests are pulled into the process because the decision requires various resources which can only be obtained with the participation of various interests. Alternatively, it may be that more interests are also involved where a greater

**FIGURE 8.1 RELATIONSHIPS BETWEEN RESOURCES
AVAILABILITY, CRITICALITY AND INFLUENCE**



amount of resources are at stake, so as to ensure that the decision goals can be attained.

If, on the one hand, more interests are better able to manage a decision involving various resources or even able to obtain the resources needed, those on the top of the hierarchy on the other hand may be less inclined to completely delegate authority over those decisions. (See in Figure 8.1 correlation coefficient between resources availability and higher management influence = .42.) In general, higher management has influence where important resources are at risk or in areas less specific but requiring critical information. As indicated in Table 8.2, there is no relationship between higher management influence and the resources of information (special knowledge) or technology. When special expertise is crucial it may be that higher management has to play second fiddle, even in the area of competitively managed business. Higher management crucial role is to attend to finance and to relationships with external powers such as Unions and Government. Some support therefore is found for hypothesis 8 which assumes that higher management tends to have less influence in decisions requiring technical information. (See Table 8.3, a more detailed analysis of Information: coefficients with Information on Finance, Trade Unions, Government Policies.)

Examining Table 8.2 and Table 8.3 it can be seen that areas requiring top management attention are different when comparing business with non-business organizations. In business firms the primary internal concern of top management is with finance, while in non-business organizations, top

TABLE 8.2 PEARSON CORRELATION COEFFICIENTS BETWEEN
 TYPES OF RESOURCES THE DECISION REQUIRED
 AND HIGHER MANAGEMENT INFLUENCE

Types of resources required	Higher Management Influence			
	Business		Non-business	
Financial	.50	(N = 29)	.28	(N = 12)
Special Knowledge	.14	(N = 31)	-.04	(N = 14)
Customers/users	.20	(N = 27)	.80	(N = 7)
Labour	.11	(N = 21)	.82	(N = 7)
Technology	.12	(N = 25)	.99*	(N = 2)

* Number of cases too small to calculate the correlation coefficient (item not applicable to Non-business organizations).

**TABLE 8.3 PEARSON CORRELATION COEFFICIENTS BETWEEN
TYPES OF INFORMATION THE DECISION REQUIRED
AND HIGHER MANAGEMENT INFLUENCE**

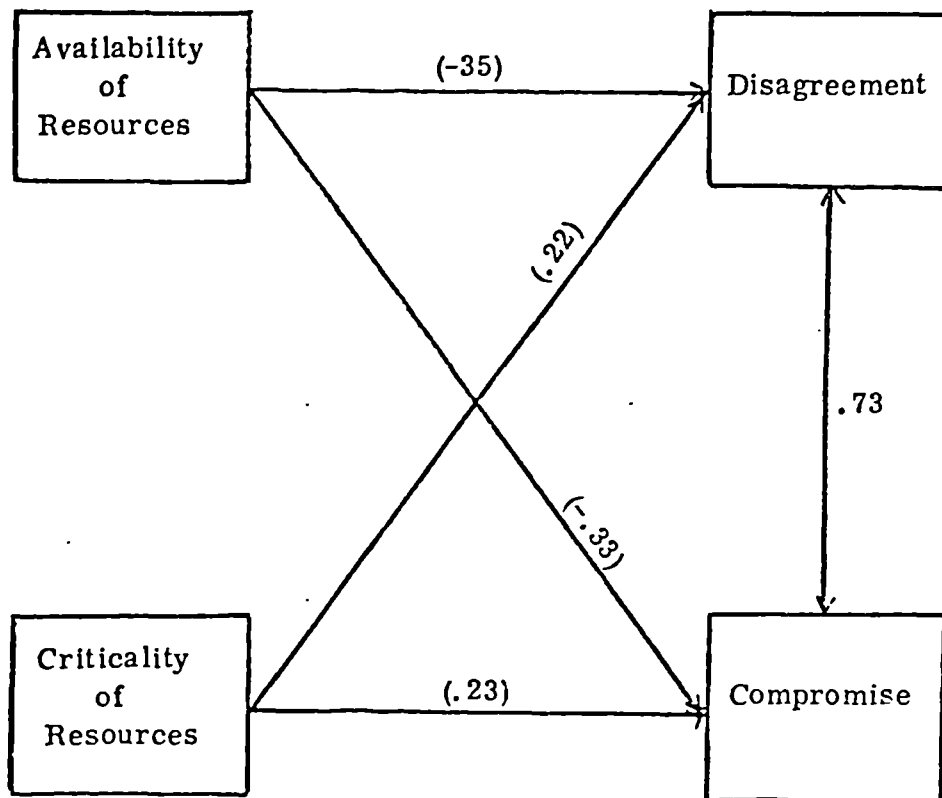
Types of Information required	Higher Management Influence	
	Business	Non-business
Financial	.60 (N = 30)	-.12 (N = 13)
Competitors	.02 (N = 24)	-.30 (N = 12)
Raw Material	-.15 (N = 16)	-.30 (N = 6)
Labour/staff	.32 (N = 27)	.84 (N = 5)
Customers/users	.30 (N = 26)	.50 (N = 7)
Trade Unions	.40 (N = 22)	.99* (N = 3)
Technology	-.05 (N = 24)	-.99* (N = 3)
Government Policies	.51 (N = 19)	-.15 (N = 7)
Specific Information	.33 (N = 12)	-.20 (N = 12)

* Number of cases too small to calculate the correlation coefficient
(item not applicable to non-business).

management has most influence in decisions involving material needs and staff. In the first kind of organization higher management attention is required in decisions involving unions and government; in their non-business counterparts, higher management attention is directed to establishing contacts with similar organizations (other universities and health districts) and with those able to influence the organization decisions, such as customers and users. The (.99) correlation coefficient between resources technology and higher management influence indicates rather that it was impossible to calculate the correlation coefficient due to the reduced number of cases. It suggests in fact that the item did not apply to non-business organizations. (Although the list of resources presented in the questionnaire were of a universal type as explained in Chapter VI, some specific information and resources items could not apply to a kind of a decision in a given organization.)

Based on the notion that sees competition for scarce resources as a source of conflict in decision-making (Pondy 1967, Pettigrew 1973, Olsen 1976) it has been also assumed that the less resources, the more conflict in the decision process (Hypothesis 5). In this instance, the results lend some support to this Hypothesis (Figure 8.2). It seems that there is indeed a tendency for more disagreement when limited resources restrict room for manoeuvre (disagreement is negatively related to resources). Compromise also is negatively correlated to availability of resources which, surprisingly, seems to suggest that conflict settlement is more difficult when resources are more available. Perhaps when the means for a decision are available, and the

FIGURE 8.2 RELATIONSHIPS BETWEEN RESOURCES AVAILABILITY
CRITICALITY AND CONFLICTFULNESS



situation not precarious, people feel secure enough to press their interests. Alternatively, these results may reflect the degree of relationship between disagreement and compromise. The correlation coefficient between these two variables suggests that more disagreement is accompanied by more compromise. Then, fewer resources would result in more compromise in the sense that there is more disagreement to settle. Yet it may be suggested that in business organizations compromise is the usual way of resolving conflict. This result contrasts with what has been obtained for non-business organizations where no relationship between disagreement and compromise was found: as case examples for these organizations suggested, conflict was not always settled during the decision process.

If fewer resources result in more conflict, the criticality of the resources committed in a given decision does not necessarily lead to more conflict. Support for hypothesis 6 - which postulated that the more critical the resources, the more conflict - is minimal, with a small correlation coefficient (Figure 8.2). There is no indication that there will be more disagreements in the coalition because of the type of resources at risk in a decision. Conflict may instead be concerned with the decision feasibility in view of restriction in resources.

In Chapter IV, it was predicted that when there is urgency to make the decision there is a tendency to limit participation and to restrain the decision process to a few members who are able to carry the decision through without

much delay (Wilensky 1967, Weiner 1976). Based on these assumptions, a hypothesis was formulated that higher management tends to exercise more influence in these decisions. As with non-business organizations support for this hypothesis is weak. As can be seen from Table 8.1, time pressure is instead more highly correlated to the number of interests in the decision process. Contrary to what has been expected, urgency to make a decision demands involvement of more interests. Possibly, they are drawn in to ensure more resources or to provide a greater diversity of technical inputs so as to accelerate the process. As Shirley et al (1976) point out, an inclusion of various functional specialities in a firm's decision-making coalition ensures a diversity of expertise which could illuminate more subtle elements of the decision. In fact, there is no suggestion in the data that participation of various interests in the decision slows down the process. (See in Table 8.1 that the correlation coefficient between diversity of interests and tardiness is = -0.0).

Hypothesis 10 relates urgency to make a decision to conflict and duration of the decision process. From Table 8.1 it can be seen that time pressure is related to less tardiness and shorter duration, but not to less conflict. As mentioned in Chapter IV, the arguments as to how conflict affects the decision-making are contradictory. While many studies attribute paralyzing delays and blockage in implementation to political impasses (Hah and Lindquist 1975, Thimm 1976), other studies argue that conflict fosters the generation of new ideas and encourages efforts in finding solutions (Blau and Scott 1964, Bower 1965). The first seems to be very common of decision-

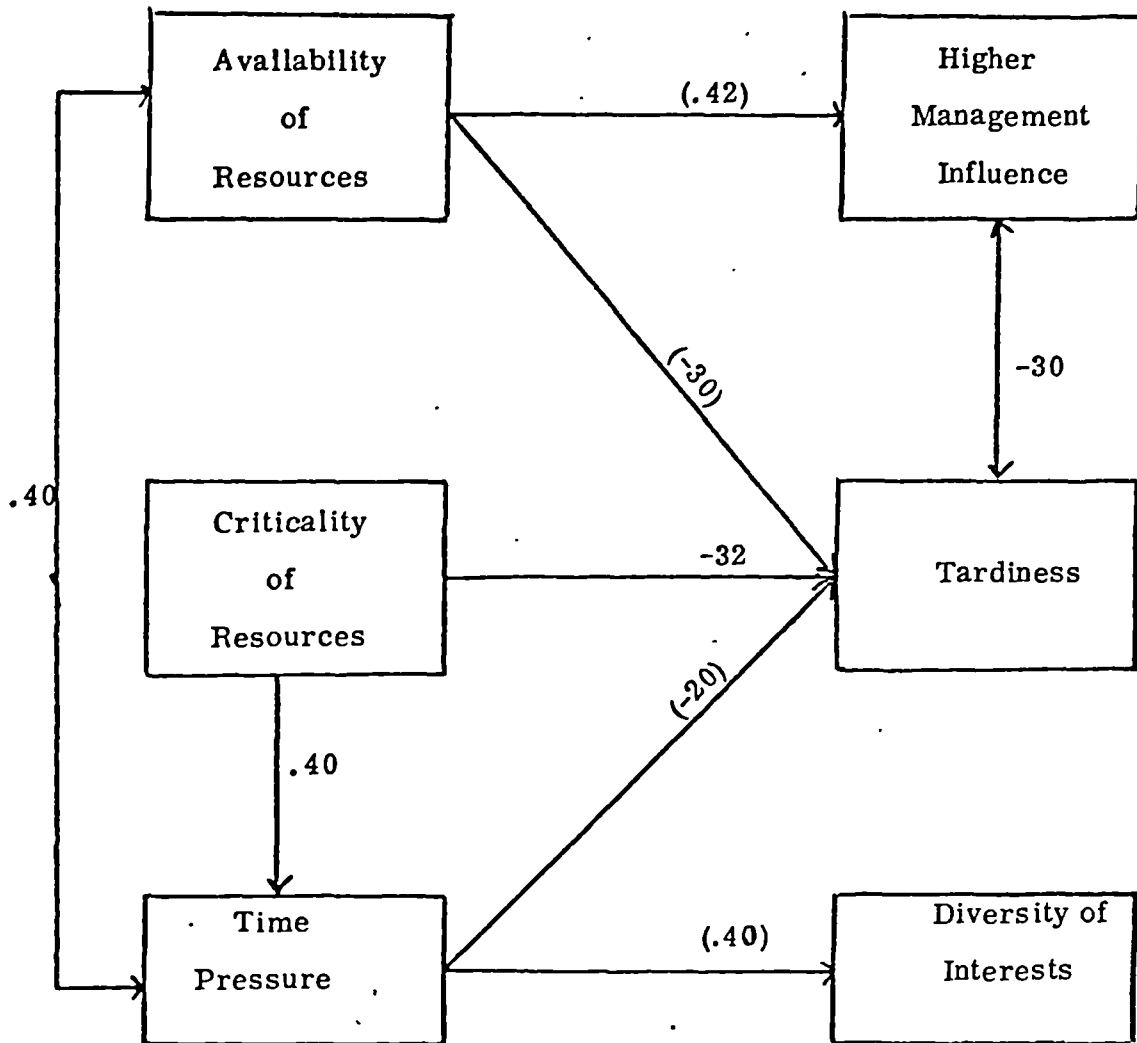
making in non-business organizations, as the findings in the last chapter have suggested. By contrast, in business firms, conflict does not mean a slow pace process. When there is urgency in the business setting, it could be that open disagreement speeds things up, perhaps by exposing problems or by bringing a diversity of inputs to the decision. Many of those who theorize on business firms defend the view that conflict in decision-making is healthy for it means assessment of alternatives from several value perspectives (Bower 1965, Shirley et al 1976).

As far as isolated relationships between constraints, process activation and pace are concerned, the results provide some support for Hypothesis 1, indicating that the more critical the resources the more influential are the sub-units involved; for Hypothesis 5, which suggests that the less available resources are, the more conflict; for the complementary Hypothesis 6, which predicts that the more critical the resources, the greater the conflict for Hypothesis 7, which postulates that the more critical the resources the greater the influence of higher management; and for Hypothesis 8, which suggests that higher management has less influence on decisions requiring technical information. Drawing this together in a generalized picture, which is probably going beyond that which the data directly supports by the size of the correlation coefficients, in business it looks as if decisions where resources are scarce and critical demand the efforts and influence of both higher management and other interests from other parts of the hierarchy. They become the nescus of influence and activity where disagreements are likely but so too are compromises.

If these findings are now examined either under an instrumental or behavioural perspective, it seems that instrumental aspects override. Examining the decision pace, for example, it seems that by contrast with non-business organizations, pace is not a result of an interplay among instrumental and behavioural aspects. Pace depends primarily on the quantity and importance of resources mobilized. As can be seen from Table 8.1, relationships between process activation variables and process pace are very weak. From those interests involved in the decision process, only higher management appears to be able to speed things up. As already mentioned, influence of top management appears to be decisive, primarily when the process is held up by problems of finance, government and unions as the data in Tables 8.2 and 8.3 appear to suggest. The characteristics of an instrumental process nevertheless are more evident. As Figure 8.3 illustrates (using data from Table 8.1), when the decision is made under time constraints, more critical resources are mobilized and also more interest units are drawn in and, possibly also - depending on the problem - higher management, so that major delays can be avoided. Manifestations of a goal directed process are evident in other instances, for example, criticality and availability set constraints on who is involved, how much influence there will be on the process and whether different parties are more likely to engage in conflict (see also correlations on Table 8.1).

As compared with non-business organizations, resources availability and resources criticality have a greater impact on modes of process activation.

FIGURE 8.3 SOME CHARACTERISTICS OF A GOAL DIRECTED PROCESS
BUSINESS ORGANIZATIONS



It seems that more influential sub-units are involved in decisions where important resources are at stake. In these decisions conflict is likely to arise, but it appears that there are differences in the way in which conflict affects the decision process in business organizations as compared with non-business organizations. While, in the former, conflict is related to a more rapid decision process, in the latter it slows down the decision. It may be that characteristics of conflict differ between business firms and non-business organizations, (universities and health district). This is discussed in greater detail further on in the thesis.

.8.2. Relationships Between Independent and Dependent (Success) Variables

Table 8.4 presents the Pearson correlation coefficients between all independent and dependent variables. It shows that just a few variables may account for decision-making success in business organizations; resources availability, the amount of influence, duration, and diversity of interests involved. Following Yuchtman and Seashore (1967), it has been assumed that organizational decision-makers are oriented towards the acquisition and supply of resources to the organization. It has also been suggested that resources/information are instrumental to decision-making in the sense that more resources fosters proactivity and propitiousness.

Support is therefore found for Hypothesis 16: resources availability is positively related to propitiousness and proactivity (Table 8.4: 0.26 and 0.40). Having the necessary resources to hand can allow opportunities to be taken at the

TABLE 8.4 INTERRELATIONSHIPS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES - (PEARSON CORRELATION COEFFICIENTS FOR BUSINESS ORGANIZATIONS)

	a	b	c	d	e	f	g	h	i	j	k
u	-.20	-.00	.10	.03	.01	-.11	-.00	-.30	-.02	.15	.40
v	.40	.08	-.02	.20	.08	.12	.51	.05	.45	.08	-.32
w	.26	-.20	-.11	.13	-.30	-.20	.33	-.30	.31	.41	.33
x	-.10	-.08	.03	-.06	.13	-.09	.04	.14	.01	-.20	-.12
y	.32	-.00	-.08	.20	-.20	.02	.32	-.11	.32	.30	.14
z	.40	-.20	.13	.20	-.20	.03	.23	-.30	.24	.24	.20

N = 34

LEGEND

a	Availability of Resources	u	Closure
b	Criticality of Resources	v	Proactivity
c	Time Pressure	w	Propitiousness
d	Centralization	x	Disturbance
e	Disagreements	y	Successfulness
f	Compromise Settlement	z	Perceived Success
g	Amount of Influence		
h	Specialists Influence		
i	Diversity of Interests		
j	Duration		
k	Tardiness		

right time. As well as good timing, time (or speed) is important. Proactivity has some association (-0.32) with a faster decision. Thus support is again found for theories which emphasize the advantage of rapid response in grasping opportunities (Mintzberg 1973, Ansoff 1975). But a propitious decision process once begun may take longer (r . Duration. Propitiousness $r = .41$, Table 8.4). It may be that unexpected benefits in business organizations tend to be achieved by means of incremental and careful movements. As Quinn (1978) has suggested, perceptive firms, before taking the final step, purposely delay movements to encourage a wider participation, to gain more information, or to build up commitment to a solution.

Hypothesis 14 postulates that the greater the conflict and delays, the less closure and more disturbance. Little support appears for this. As mentioned in the previous section, more conflict is not necessarily related to a tardy decision, which in its turn does not incur less closure for more disturbance. If compromise is not too problematic as has been suggested, and conflict is resolved during the decision process, then disturbances due to unresolved disputes and intensification of conflict would also be less frequent in business firms.

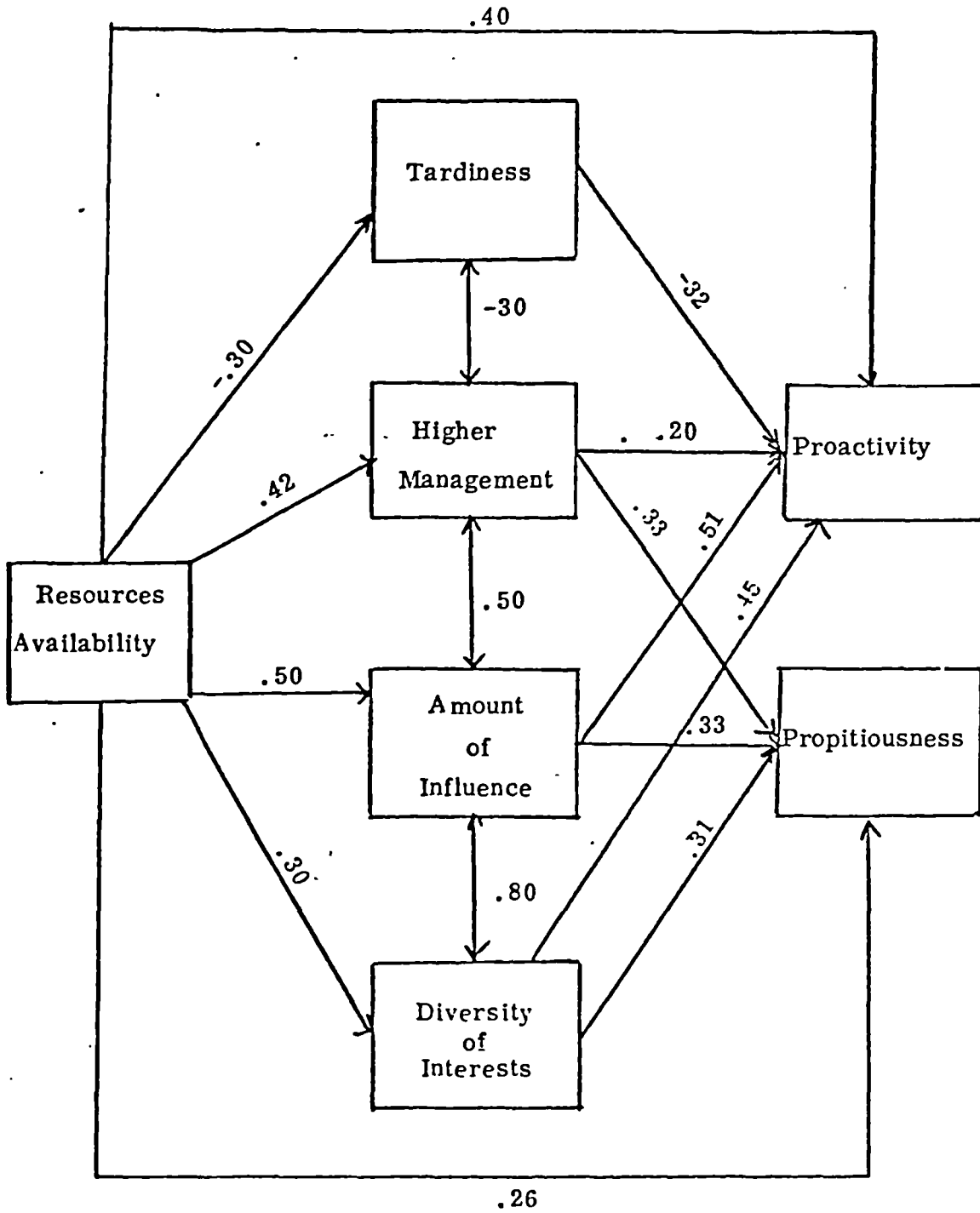
The results on Table 8.2 suggest that decision-making independent variables do not relate consistently to success variables. They are related to one success variable or another but not to all three: proactivity, propitiousness and disturbance. This contrasts with the findings for non-business organizations,

where conflict and tardiness together appeared to contribute to further difficulties and problems created with the decision-making. Because disturbance is defined as an unintended outcome of the process it may be hypothesized that disturbance may result from uncontrolled environmental events. However, more insight can be gained by examining some characteristics of information which was critical/available for making the decision. We should return to this point further on in this chapter.

In view of the results reported above it appears that the conceptual model as originally proposed does not fit business organizations. Most of the process activation variables are not correlated to duration or tardiness as expected. Here the results differ from those for non-business organizations where process activation variables affect the slowness and lateness of the process. Thus, the use of partial correlation between the independent variables and successfulness would not be warranted since pace does not really act as a mediating variable between constraints, process activation and success in business firms.

Nevertheless, the results do indicate which factors are important for proactive and propitious outcomes. Figure 8.4 picks out those independent variables which account for proactivity and propitiousness. Maintaining the theoretical position that resources affect success, through interests, influence and pace, and placing these variables centrally in the figure, the relative importance of instrumental and behavioural variables can also be examined. It

FIGURE 8.4 INDEPENDENT VARIABLES MOST IMPORTANT TO PROACTIVITY AND PROPITIOUSNESS



is possible to trace instrumental and behavioural features, although characteristics of a goal directed process appear to be more evident. The level of resources availability, for example, set constraints involvement in the dominant coalition in the first place. As suggested, perhaps those higher in the hierarchy may be able to pull in more resources or solve some specific problems which may be delaying the decision. On the other hand, it has been suggested that a diversity of interests may be able to bring a variety of inputs to the decision process.

The findings for business firms contrast with non-business organization results where political characteristics have the primacy. The importance of resources availability in setting the parameters for decision-making prompts a more detailed examination of the relative importance of resources variables to successful outcomes, and an analysis of the distribution of influence in extreme cases of success. The dominant coalition, therefore, may be in a position to keep the process moving so that proactivity and propitiousness are achieved. Proactivity and propitiousness depend on whether the coalition is able to fulfil resources needs, which vary from finance to technical expertise. Here some support is found for the view that a dominant coalition is not a random factor, but instead a rational response to requirements of the organization. Further, resources availability may directly raise proactivity and propitiousness (.40, .26) which reinforces the argument that an adequate provision of resources directly affects organization performance (Yuchtman and Seashore 1967).

.8.3. Other Factors Accounting for Successful Outcomes - A Further Examination of Resources Variables

It has been suggested that availability or scarcity of resources may be crucial to decision-making in business. We have seen that resources availability constrains the degree of proactivity and propitiousness that a decision may achieve. In view of these findings; the analysis of how resources constrain decision-making is carried a step further by looking to separate resources characteristics other than amount and criticality in general. This may reveal which specific aspects of resources are related to success and thus may aid interpretation. Table 8.5 shows the Pearson correlation coefficients between some of the variables making up the resources availability scale, and the success variables. Resources timeliness indicates when the resources were available, that is, how late they became available. Availability and criticality of specific information refers to the information which is respectively necessary and critical to a particular decision. Information generation indicates whether search activities have produced the relevant information for making the decision, and accuracy shows whether information corresponded to what has been expected after the decision has been made. Such variables have already been described and more details on their definition and measurement are provided in Chapter VI.

As can be seen, the individual resources variables are more consistently related to success variables. The correlation coefficients between these variables and success suggest that outcomes are more likely to be successful when

procedures to gather information are effective and when a specific and critical piece of information on the decision is available. Generating accurate information is also pertinent (r - with successfulness $= .35$ and r with perceived success $= .50$). The examination of Table 8.5 also reveals the variables which result in greater disturbance. It appears from the correlation coefficients of resources variables with disturbance, that unexpected problems are created when resources are available late and when a piece of critical information is lacking. This result contrasts with findings for non-business where the way in which the decision has been made seemed more important: unacceptable levels of participation and influence could result in lack of cooperation and blockage of implementation by groups affected by the outcome.

It is also noticeable that individual resources variables correlate more strongly with disturbance than with any other decision-making outcomes shown in this table. The same can be observed from the results for non-business organizations where variables which are negatively related to successfulness (higher management and disagreement are positively correlated with disturbance more strongly than with any other outcome variable (see Table 7.5 for details). By contrast to what the data in Table 8.4 suggested, disturbance appears now as an important dimension of success. Since disturbance indicates those unexpected and undesired outcomes, those independent variables which account for more disturbance and low success indicates the areas in which the organization loses control. While in non-business organizations these might be the "politics" of the process, in businesses, these might be readiness of resources

TABLE 8.5 PEARSON CORRELATION COEFFICIENT BETWEEN INDIVIDUAL RESOURCES
VARIABLES AND DECISION SUCCESS VARIABLES

Success Resources	Variables	Proactivity	Propitiousness	Disturbances	Successfulness	Perceived Success
Variables						
Resources	Timeliness	-.20	-.20	.34	-.40	-.43
	Criticality of Specific Information	-.20	-.20	.40	-.40	-.40
	Availability of Specific Information	.20	.30	-.70	.50	.42
	Information Generation	.33	.13	-.30	.35	.32
	Accuracy of Information	.30	.32	-.22	.35	.50

N = 34

and generation of relevant and accurate information. These findings provide support for the assumption that resources and information are areas of uncertainty which constrain goal directed behaviour in business organizations.

The analysis of the importance of individual variables to decision success have confirmed the primacy of the instrumental aspects of decision-making in these organizations. However, before more definite conclusions can be drawn from this, the next section examines some behavioural aspects in more detail. It examines whether unacceptance of distribution of influence and disagreement are traits of less successful decisions as has been found for non-business organizations.

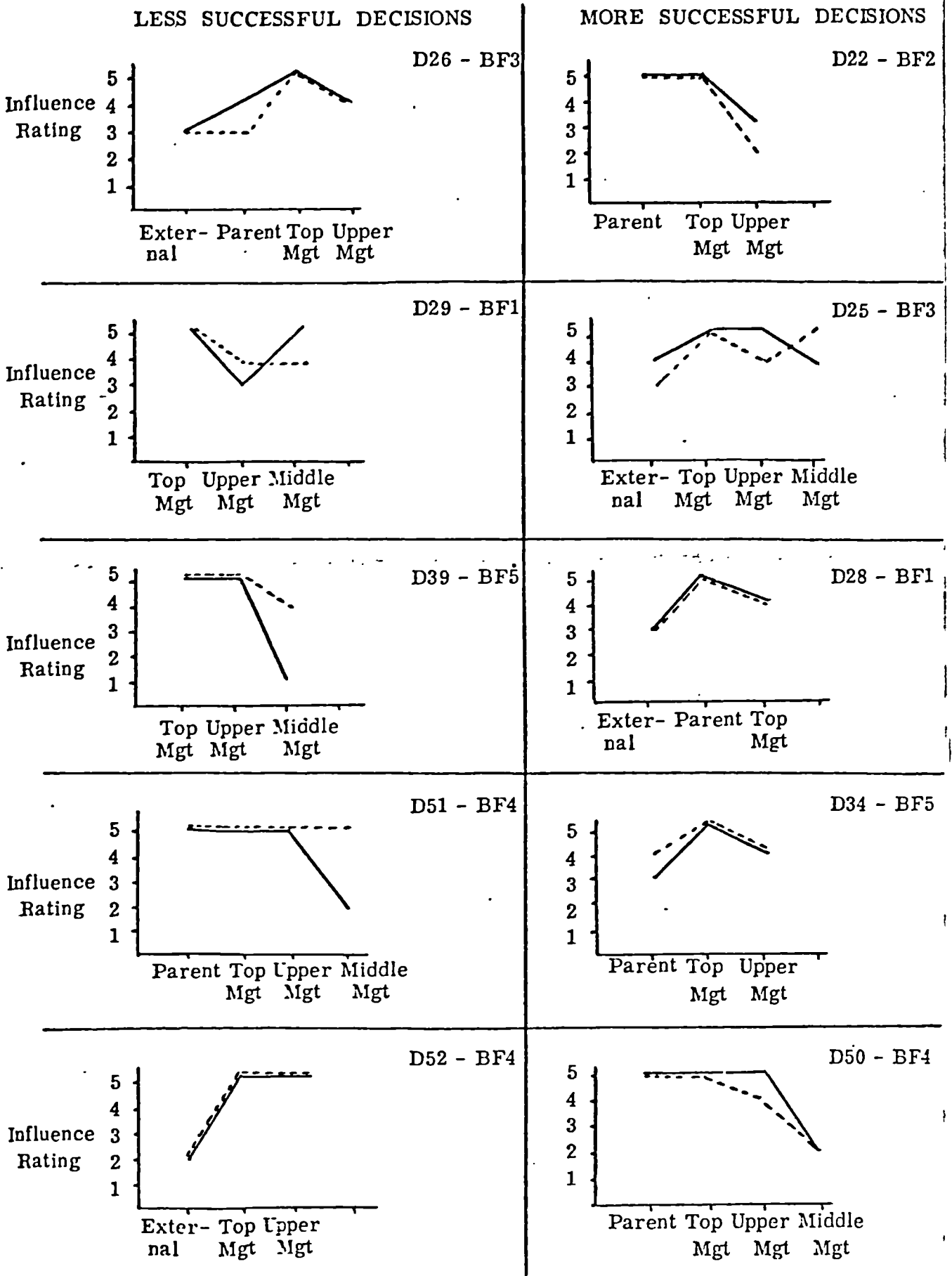
.8.4. Some Characteristics of the Distribution of Influence and of Conflict in Business Organizations

The correlational results have suggested that the amount of influence in the process affect decision-making outcomes; more proactive and propitious outcomes result from the participation and influence of diverse interest units. Conflict nevertheless, does not appear to affect decision-making outcomes (Table 8.4). It has been suggested that compromise may be a mediating factor, that is, the impact of conflict is lessened when compromise is achieved during the decision process. This comes into contrast with what has been found for non-business organizations where conflict did seem to make for less successful decisions. A comparison between extreme cases of successfulness (successful and less so) in these organizations revealed that in less successful decisions

there is more dissatisfaction in relation to the distribution of influence, as well as more conflict in the decision process. It would be interesting therefore, to see whether in business organizations more and less successful decisions could be distinguished by discrepancies in the distribution of influence and conflict in the same way.

Following the same procedure employed in the examination of the distribution of influence in non-business organizations, five less successful decisions and five more successful decisions were picked as examples, according to their score on the perceived success measure. Figure 8.5 shows the distribution of actual and desired influence for these two groups of decisions. The curves of distribution of influence have also been constructed following the same procedure as in Figure 7.4 for non-business organizations. The curves have been constructed following Tannenbaum's (1968) control graph method so that the central axis indicates the amount of influence and the groups involved in the decision-making are placed in the horizontal axis. (Groups were classified according to categories presented in Table 6.2 Chapter VI) What is striking, by comparison to the universities and health district, is the relative concordance of actual and desirable curves. In business the existing pattern of influence is more acceptable. There are, however, some discrepancies between actual and desirable, and these as anticipated are more evident among less successful decisions. An unquestioned distribution of influence goes with better decisions. Perhaps other issues of feasibility of alternatives distract those concerned and issues of influence do not interfere with the course of action adopted.

FIGURE 8.5 DISTRIBUTION OF ACTUAL AND DESIRED INFLUENCE BUSINESS ORGANIZATIONS



LEGEND

U1 : University 1

HD : Health District

— : Actual influence

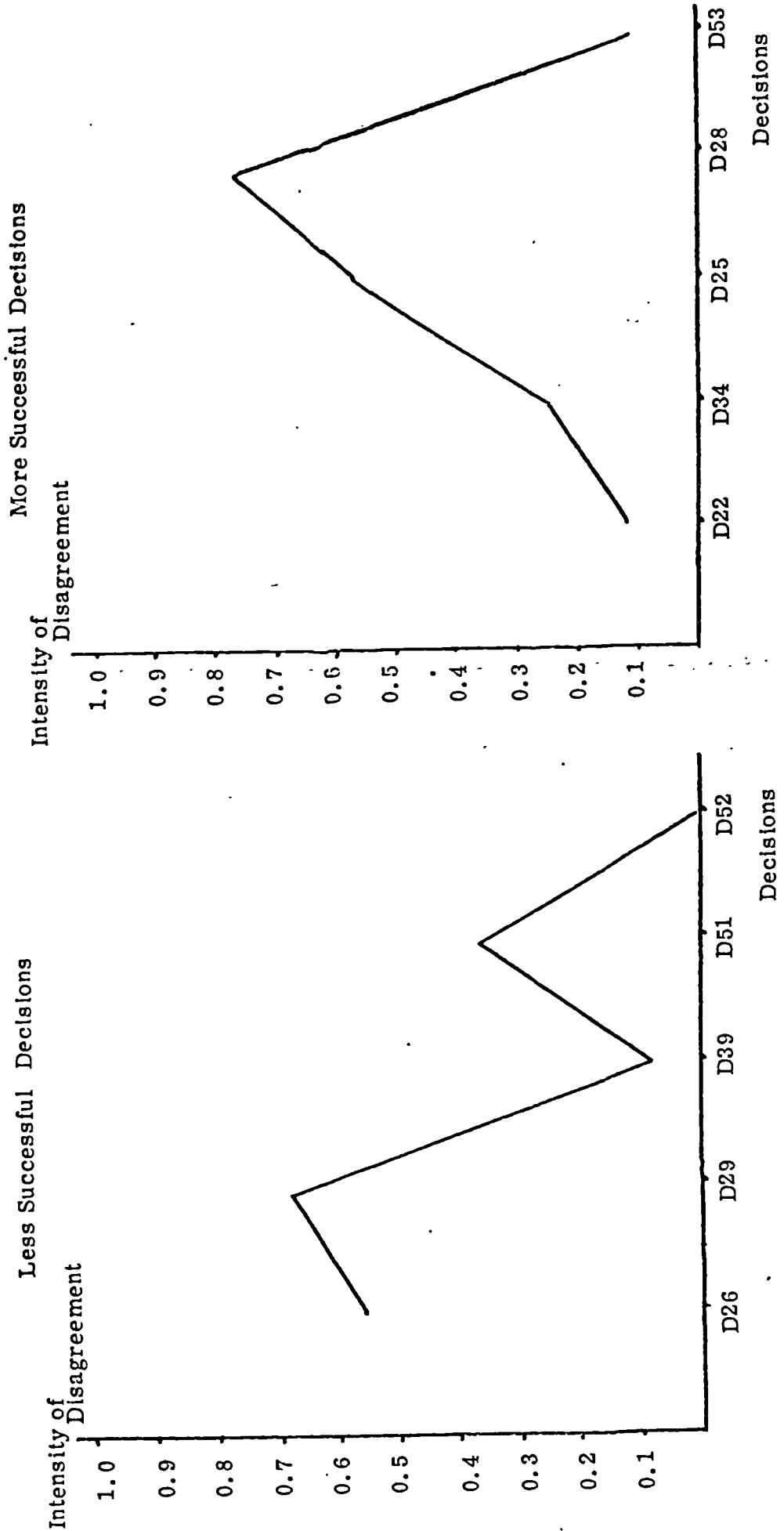
U2 : University 2

- - - : Desired influence

SEE Appendix A for decisions represented by D1, D2, etc.

In line with this thinking, an analysis of the degree of conflict in these same decisions was made. Figure 8.6 presents the intensity of disagreement which occurred in the process of decision-making. Here, the same decisions presented in Figure 8.5 are represented in the horizontal axis. The vertical axis corresponds to the intensity of disagreement which varies from zero to 1.00, according to this variable operational definition presented in Appendix E. As can be seen from this figure, disagreement in views occurs in both more and less successful decisions. In fact, these results are consistent with what has been found by examining Table 8.4. Disagreement is only weakly correlated to success variables. Although disagreement occurs in the same way in businesses decision-making, a compromise can still be reached, and a commitment gained during the process, so that it is still possible to achieve intended outcomes (in Table 8.4, the correlation coefficient between disagreement and compromise = .73). Is it possible, therefore, that the nature of conflict is different in the types of organizations studied so that it may be less problematic to reach a compromise in business organizations? Could dissatisfaction with distribution of influence be a source of conflict as found for non-business organizations? The data do not appear to suggest that this may be so, at least as far as decisions whose distribution of influence were examined in detail for both sub-samples. Examining the curves in Figure 8.5 and 8.6, it can be seen that those decisions which have a questioned distribution of influence do not necessarily present more conflict. For example, in decision 38 (in the less successful decisions group), influence by middle management appears to be less than ideal; the degree of disagreement, however, is not high. Distribution of influence in

FIGURE 8.6 INTENSITY OF DISAGREEMENTS IN THE DECISION PROCESS
LESS SUCCESSFUL DECISIONS AND MORE SUCCESSFUL DECISIONS



decision 28 is acceptable, but we can still find a high degree of disagreement.

Some evidence is therefore provided that sources of conflict in businesses do not lie in dissatisfaction with participation and influence in the process of decision-making. It may be, however, that examining some examples of disagreement taken from interview data, other characteristics of conflict in business firms may be revealed. Decision 26, in BF3, involved a joint investment in a new product between an American parent and its British subsidiary. The new product would be designed in Britain but be destined primarily for the American market. Disagreement occurred between the parent and the subsidiary over the reliability of information about the market potential and the reliability of estimated costs. The subsidiary board felt that the appraisal of the American market potential was optimistic, but they decided to go along with the parent. When the product was introduced in the market it did not produce the expected sales turn-over apart from not being competitive enough in its technology. The board came to the conclusion that search activities were unsatisfactory; cost estimations were too optimistic, the parent was far too enthusiastic about the American market, and there was insufficient information on the competitors product.

In decision 29, BF1, the advent of a new technology spurred the closing down of old-fashioned factories and the opening of new ones. There were disagreements over the closing down of a site where the headquarters had been operating for 40 years. One of the alternatives involved the extension

of a modern site in another region and the complete closure of the sites operating under the traditional and out-dated technology. A second alternative consisted of opening a new plant in a nearby region, and the partial closure of the plants still operating on the traditional technology. Different groups were pressing for each of these alternatives. The manufacturing director of the site operating under the traditional technology and the finance director were against closure, while the engineering directors of the new technology unit argued that the old site was in no condition to stay open since the technology had become obsolete and the factory operational costs were high. These arguments were confronted with people's emotional attachment to the old site and with defensive activation of interests to preserve their current position. As Harvey and Mills (1970) observe, decisions involving adaptive changes have a greater potential for conflict since they usually imply resistance from parties which believe their position will weaken as a result of the decision. Apparently the opening of a new factory in the same region and only partially closing the original plant headquarters have calmed down interests. Nevertheless it soon became evident that operational costs of the old site were too high, the product was no longer competitive since its technology was outdated. Expectations as to the new plant were also disappointing: the labour force did not welcome the new technology, productivity was below the expected standards, and the company had to face continuous problems brought about by the interdependence between the industrial relations climate of two plants situated in the same location.

Decision 39 in BF5, concerned the establishment of a factory abroad

by BF5. The alternatives comprised the equipping of the factory in such a way as to manufacture a wide range of products abroad all at once, or gradually increasing the variety of products manufactured abroad. This second alternative involved maintaining the present contract with the BF4 agent in the host country and also an existing contract supplying a competitor with a given product line not initially manufactured abroad. Disagreement arose as to which alternative would be the right one. The manufacturing department favoured the second alternative but the sales department and the board favoured the first alternative. Since financial resources did not allow much flexibility, the second alternative had been adopted. In 1976, three years after its establishment, the subsidiary was still struggling for survival, the leasing period was about to expire and the company received notification to move. Profits would not cover the acquisition of a new building and the company was not able to convince the parent, or other financial sources in their own country, to lend the necessary funds for the acquisition. In view of the previous financial history of the company no other choice had been left but closure.

In decision 51, which concerned the building of a new distribution depot by BF4, disagreement arose between engineering and design departments as to the concept of a distribution depot. One side emphasised the need for cost reduction and the other emphasised that priority should be given to the flexibility of the building so that adaptations for growth could easily be made. Since chances of gaining board approval for the project were higher for less

costly projects a decision was taken for the second alternative which was later considered less successful than expected. After some few years the depot design was considered obsolete and incapable to absorb new methods of distribution.

The example 52 was a BF4 decision to transfer personnel from an old depot to a modern lay-out depot where new methods of distribution and operation were ready to be introduced. In deciding to locate the modern depot near the old depot BF4 had also made the decision to transfer the personnel from one depot to another. It was known that the work force in the old depot had maintained a low performance standard, and the industrial relations climate was poor. This issue had never been raised when the transference decision was made. There was no disagreement within the board as to transferring the personnel; all were duty-bound to secure employees' jobs. Moreover it had been assumed that industrial relations would improve with a better work environment and the atmosphere that would be provided by the modern depot. The new methods of work nevertheless extended the working day which was strongly rejected by the work force. During its three initial years of existence, performance in the depot was below average and industrial relations problems above average.

The examples above illustrate the type of conflict which arises in some decisions perceived less successful. As opposed to non-business organizations where conflict seems often due to pressure of interest groups

having their interests threatened, the case examples in businesses suggest that conflict manifestations involve different views over whether alternatives are likely to achieve the intended outcomes. Conflict however does not seem to affect decision outcomes, judging by the case examples as well as correlational results. Disagreement/agreement are characteristics of both, more and less successful decisions. In decision 52, for example, there was no disagreement within the coalition concerning the transference of personnel to the new depot, but it has still been considered as less successful for the resultant outcomes: the depot was operating below expected performance standards and industrial relation problems were frequent.

The case-examples show some interesting characteristics of decision-making in businesses, as well as reveal what is seen as relevant to success, and lack of success. In non-business organizations remedial and incremental decisions are taken so as to satisfy vested interests. In businesses, decisions are also remedial, but here, alternatives are chosen which require minimal investment and are less costly. So, solutions would do for the time being, provided that there are no sharp changes in the status quo. Of course traits of a remedial decision to satisfy vested interests were also found, such as in the case of decision 10. Nevertheless, more important than achievement conciliation of interests in this case was the fact that demand for the traditional product was declining sharply, and lack of profits did not compensate maintaining the plant headquarters open even to operate partially. Thus, it seems that in business organizations, the criterion for success is based more on whether expected levels of performance are achieved than is based on process characteristics.

.8.5. Summary and Some Preliminary Conclusions - Business Organizations

It has been suggested that, in general, decision-making outcomes result from an interplay between instrumental and behavioural variables which are intended to capture the essence of the decision-making process. Whilst this general argument is maintained, the separate analyses of non-business and business organizations refine it for each type. It is found that in the study of processes, at least in elite decision-making processes, taking all forms of organization together is not illuminating. At minimum, business and non-business concerns have to be analysed separately. With the subdivision of the sample, some distinct features in the decision process of these organizations were identified, including those features which seem to be relevant to successfulness.

The results for non-business organizations have suggested that the decision pace results from an interplay among instrumental and behavioural aspects: the kind of resources committed is as important as participation, influence and conflict among the parties involved. In these organizations, nevertheless, resources have very little constraint on what is going on in the process and do not appear to affect decision-making outcomes. On the other hand, outcomes are directly related to influence distribution and then to participation and conflict. In business organizations, however, resources are the more immediate concern of, and condition for, decision-making, for they are generated by the work of the organization itself rather than provided by an external organization. Then, the decision issues and the way the process is

conducted, is dominated by whether money, technology, raw material and other specific kinds of information are available or not. If resources are not available everyone is drawn into the decision-making, higher management and external and internal units from various points in the hierarchy. Those in the top of the hierarchy are usually involved in decisions requiring a greater amount of money and may be in a position to resolve some critical issues with external organizations.

In business firms, disagreement does not appear to be linked to influence distribution and to a collision of interests. Rather, it appears that interest units tend to disagree over the best course of action. What appears striking here is that in organizations where profits have primacy and where participation in decision is a secondary value, influence distribution appeared more acceptable. While in business firms influence is shared between higher management and other interests, in the non-business setting the latter is not reported as having much influence (see Table 7.3 for correlation coefficient between amount of influence and diversity of interests). In these organizations a compromise may not be easily reached during the decision process and conflict sometimes tends to persist. In business firms by contrast, compromise appears to be the usual way of resolving conflict. If in these organizations conflict in the decision process reflects difference of views over alternatives more than it involves the reaction of groups who feel their interests are threatened, then conciliation may also be less problematic, and may not lead to delays in the process or result in unpredictable disturbances. In fact, studies

describing conflict in business decision-making tend to focus on disagreement over the feasibility of alternatives, as to whether it fulfils a given economic criterion (March and Simon 1958, Shirley et al 1976), and on conflict between functional groups applying different criteria to evaluate alternatives (Lawrence and Lorsch 1967).

If conflict in business organizations has little to do with decision-making outcomes, resources availability on the other hand, has primacy. Whether the coalition can count on more resources in time, and whether critical information is available with a certain degree of accuracy, is crucial to success. In general, rationality and efficiency seem to be important, if appropriate resources go along with appropriate involvement, some possible delays can be avoided and then proactivity and propitiousness be achieved.

The findings for business organizations appear to be consistent with theories focusing on decision-making in this kind of setting. Thus, what is associated to successfulness in business reflects what has traditionally been seen as theoretically relevant to performance in business firms. Both normative theorists and organization theory, although with a difference in focus, have suggested that acquisition of resources and information constrain success both of the organization and decision-making.

Normative theory has concentrated on issues such as information reliability and feasibility of alternatives. Studies following this line have

focused on methods which can improve the organization capacity to provide information for decision-making (Alexis and Wilson 1967, Keen and Morton 1968). Characteristics of information (such as accuracy, reliability and amount) establish the rules for action; it prescribes procedures to be used in order to decrease uncertainty and thus increase the chance that intended outcomes will be achieved.

Satisficing theory on the other hand, focusing on behavioural aspects of decision-making, has pointed to the limitations of search activities and emphasized the decision-maker's limits in processing information. Achievement of decision-making goals depends on how search has been conducted and on satisfaction with search outcomes.

While aspects of information and efforts to reduce uncertainty associated with it, are seen as factors which constrain success in decision-making by the theories above, at the organization level, performance depends on acquisition of scarce resources (Yuchtman and Seashore 1967) as well as on how the organization characteristics and decision-making systems fit the kind of environmental uncertainty to which the organization is subjected (Lawrence and Lorsch 1967).

If these research results appear to be consistent with the literature findings, any definite conclusions are limited by the small size of the correlation coefficients. Variations in the size of the business firms may have

introduced a wider variance in the type and importance of the decisions studied, which may perhaps explain the small correlation coefficients. While on the one hand this may leave shortcomings in the data, it can be argued that it allows generalizations to a greater variety of business firms on the other.

The absence of strong correlations between independent and dependent variables in business firms suggests that various other factors may yet be found to explain success. Nevertheless, it should not be expected that a conceptual model restricted to decision-making characteristics only, will be able to explain all the variations in decision success. For example, the conceptual framework has not been designed to demonstrate the influence of sudden environmental events upon the decision process and outcomes. An examination of the interview data of some decisions perceived as less successful have suggested that unpredictable changes in the environment may impede achievement of expected outcomes. It became clear during implementation that it would be impossible to attain intended outcomes, and interruptions and obstacles arose. It appeared that even when successful outcomes were taken for granted, environmental discontinuities changed the situation creating further difficulties which seemed to demolish any previous gains. Product development decisions, like decision 30 and decision 41 in Appendix A are typical cases. In these examples the product development programme had to be interrupted because the product was no longer competitive in technology and price.

Decision 48 is another peculiar example. It is a BF4 decision which

involved an extension of a depot in response to a merger of BF4 with another company. Before the merger, BF4 had made an agreement with British Rail to lease a depot served by a rail terminal. The agreement was set up for 40 years, but after 20 years BF4 would have the opportunity to cancel it provided that it paid £61,000 to British Rail. However the merger brought the need for an extension of the depot. In 1969 the firm had been confronted with two alternatives: either it would build a completely new depot in the region or it would have to extend the British Rail depot. In 1970 just after the merger, BF4 decided on the depot extension, but what it did not visualise was its 5% annual growth. It soon became apparent that the depot could not cope with input and throughput requirements after the merger. As a consequence, the company found itself confronting the same problem, but with a further constraint: the land did not allow a further extension of the size needed. The first decision to extend the depot in 1970 has, therefore, been considered by the organization as less successful; the operational costs of the old depot were high, as the lay-out technology had already been overtaken by more advanced technologies, and the land does not permit further extensions.

In the case of the examples above, reasons for success/unsuccess may yet be obscure. It may be argued that information on radical changes in technology and, in the case of decision 48, on sharp changes in past growth curves, were insufficient at the time the decision was made. Alternatively, it may be argued that these decisions were taken at the time according to all possible information existing or to its information capacity at the time.

Informants in the business organizations concerned argued that external changes which altered intended outcomes of decisions were impossible to predict at the time the decision was taken.

Nevertheless, the case examples in this chapter have indicated that business organizations like the non-businesses, also tend to take remedial decisions to satisfy and conciliate divergent interests, however, primarily, due to resources constraints. For example, businesses often do not decide for the most modern product technology. First, because the relevant resources may not be available, scarcity of resources directs the decision towards less expensive projects, even under the knowledge that more advanced product technologies are being developed. Secondly, new product technology may overcome those existing in a shorter period than initially predicted. This seemed to be the case of decisions 30, 41 and 51 where intermediate product technologies, not outdated but not the known most advanced, were adopted in the hope that there would be some time before the latter would be fully developed under feasible costs. Whether reasons for success or lack of it in decisions like those lie external to the organization or are linked to decision-making characteristics is an issue which remains unresolved by the present research. While there are some who suggest that there are certain precipitating events for which there might be neither time, resources nor enough information to be able to predict their occurrences and consequences of these events (Quinn 1978), others point out that most firms have not yet developed the capacity to detect small and gradual changes in the environment

which may indicate a significant departure from the past (Ansoff 1975).

Further research investigating the effects of environmental changes as well as decision-making characteristics is required before any definite conclusions can be reached.

The effect of information, availability/scarcity of resources and lack of control over external events on decision-making seemed more evident in the decisions of business firms. While these aspects are of primary importance in business organizations, in non-business participation and agreement are crucial to achieve success. Although there is conflict in businesses decision-making, and some decisions may be taken to satisfy opposing interests, this is not seen as critical to outcomes. Use of resources, and information, and unpredictable external events, on the other hand, is seen as constraining success. In businesses more important than what happens in the making of the decision are the results, a criterion to appraise whether expected performance standards are achieved appears to be usually in mind. The differences on the criteria for success in between these two types of organizations reflect their different concerns and goals they give primacy to. Thus, as Blau and Scott (1964) points out, efficiency and rationality are clearly of paramount importance to business organizations, while political characteristics define the standards of quality in non-business.

CHAPTER IX

SOME MAJOR THEMES

This chapter discusses some major theoretical and methodological issues which have concerned this thesis. Some of the theoretical points are analysed in the light of the findings on business and non-business organizations taken together, that is, both the firms and the universities and health districts. A study venturing into a new area has obviously to create new concepts, instruments and methods of identification of the phenomena under study. As with much research, methodological restrictions are inevitable for further developments and refinements are still needed. Finally, suggestions for further research prompted by this experience are presented, in the hope that future research will be able to create more complete models of decision-making success and avoid some of the methodological difficulties which this research has had to face.

.9.1. The Respective Predominance of Behavioural and Instrumental Aspects

Based on contrasting forms of theorizing, the conceptual model which guided this research was designed so as to attempt the evaluation of the relative import of instrumental and behavioural aspects in determining decision pace and the outcomes of decisions. The effort to encompass both these aspects, the instrumental and the behavioural (which might better be called the interpersonal or even political) come from an attempt to provide a more comprehensive view of decision-making than hitherto. Previous studies in the field have usually concentrated on mutually exclusive paradigms.

It is repeatedly apparent in the opening chapters of this thesis that the MEANS to decisions, PROCESS, and RESULTS have been the customary themes treated by the various decision-making theories. Studies have tended to focus either on "means and results", as with the normative theorists, or on "means and process" as with those studies concerned with search as a process and the theory of choice, or on process only as with those studies which see decision-making as a power and bargaining game. Within the first paradigm, means and results, for example, behaviour is directed to the attainment of goals, usually expressed in quantitative terms, for which information and resources are the most important instruments. Those studies which concentrate on means and process or on process description, view decision-making as a behavioural *melee* where outcomes are the result of political activities rather than a consequence of an intellectual exercise.

This research can be seen as an attempt to reach beyond the partialities of such previous approaches. It seeks to draw a line through these major aspects of decision-making - means, process, results - in the sense that it examines the instrumental and behavioural balance of each in its contribution to success or failure.

It will be recalled that the separation in terms of goals of business from non-business organizations in analysis and interpretation arose from the failure to find any results of interest on all eight organizations analysed together. The examination of the results separately for 5 business firms and 2

universities and a health service district did suggest that the decision-making of these organizations can indeed be distinguished by their differing emphases on instrumental and behavioural. This is shown figuratively in Figure 9.1. Leaving aside the details of the relationships among variables, which have been fully discussed in the previous chapters, and using for illustrative purposes only those variables which have been shown to be conceptually and empirically most important for success, the findings are depicted in their most simple form. This figure, in fact attempts to reproduce Figure 4.1 (Chapter IV) in a simplified form. (the arrows indicate the direction of the argument).

FIGURE 9.1 PREDOMINANCE OF MEANS X PROCESS IN BUSINESS AND NON-BUSINESS ORGANIZATIONS

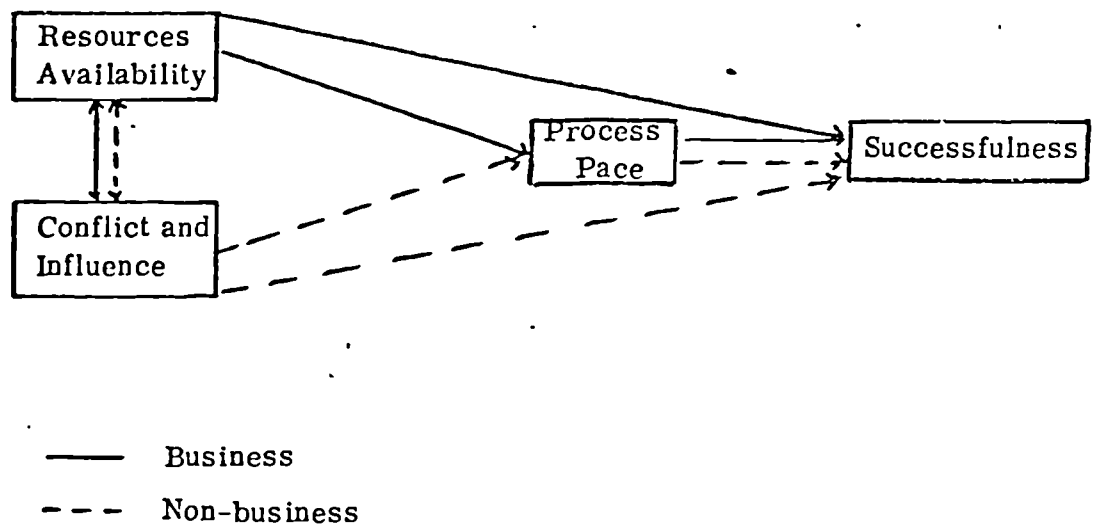


Figure 9.1 implies that for any kind of organization, whatever its goals, successfulness depends on whether relevant resources are available as well as on whether there is conflict among interests who have a stake in the decision

process. But empirical support for this is weak, even fragile. The picture hardens and confidence in interpretation grows when business and non-business are analysed separately. It becomes plain that in the latter what happens during and within the process itself is crucial. Whether intended outcomes are achieved and whether implementation is propitious or disturbed depends on who participates and how much conflict there is in the process. The contrast in the business firms is fascinating. Managerial performance within the coalition is more important. Acquisition of specific and critical information and resources in time are the conditions for attaining intended results, and who is involved and conflict are much less significant or not at all so. Thus, while in business organizations outcomes are constrained by means available to make the decision, in non-business settings where the goals and structure are different they are constrained by what happens in the process.

The findings suggest, in fact, that decision-making may become incremental due in the one situation to resource constraints and in the other to the pressure of vested interests. As described by Lindblom (1959), incremental decisions are basically remedial in nature, not too much different from the status quo. The results of the project reported here suggest that in non-business organizations incremental decisions may be taken to conciliate opponent interests. Here decisions are more politically oriented and concerned with short term goals. By contrast, business firms are motivated to utilise resources effectively towards the achievement of commercial outcomes such as return over investment. In financial terms, the most that

university and health organizations concern themselves with its restraining costs and expenditure (Wortman 1979), especially when they are financially dependent upon an external organization such as the UGC or DHSS in Britain. Yet such concerns must affect one or other of the numerous internal interests which then may well attempt to exercise influence on the decision-making so as to block implementation or at least to defend the resources they already have. In this type of decision, as the case examples have indicated, incremental decisions are seen as a way around, or way to live with, the persistence of conflict. Cost reduction, for instance, cannot be implemented as initially intended, but some reduction has to be carried through any way. So all parties lose in this game, but none lose too much. In some cases, the direction of movement is changed as a result of continuing pressure even after the decision has already been made. In other cases, authorities yield to pressure by the withdrawal of a given topic from the agenda. In these organizations therefore, attainment of intended outcomes is limited by previous conflicts.

Business organizations, on the other hand, may make incremental decisions because either technical or financial resources and information are not available. For example, in the less successful product development decisions the business firms concerned did not implement a product development programme based on the most advanced known product technology. This was because either they had not acquired the necessary resources of expertise and money, or they did not have sufficient information to foresee the effects of the new technology on the industry. As Quinn (1978) points out, many

important decisions in business firms are incremental so as to avoid unnecessary risks, to gain time, to gather more information and better prepare for the implementation of the decision.

Information/resources and conflict/influence respectively may be the areas in which each type of organization lacks control. They are the areas emphasized by theories of decision-making in each type of setting. Theories based on price determination, market simulation, and other problems of industrial firms, tend to focus on information, search activities and resources (Alexis 1967, Scott 1976, Simon 1976, Cyert and March 1963). Inferences from research in public bureaucracies (Lindblom 1959, Allison 1969, George 1972, Crozier 1976) and in universities (Blau 1973, Baldrige 1971, Cohen et al 1972, Butler et al 1977) emphasize instead participation and the dynamics of relationships between independent groups.

9.2. The Differing Concepts of Success in Business and Non-business Organizations

The discussion in the previous section indicates that the empirical results align themselves constructively with theory to point to decisional differences among organizations. The predominance of instrumental or behavioural aspects reflects what these organizations see as their main concern or goal. Turning now to the more perceptual facets of the data, with perceived success in mind, reveals the criteria of success used in the two types of organizations covered by this thesis. Both define success by outcomes, that is, a decision is more successful if intended outcomes are achieved (proactivity)

and if some unexpected gains emerge (propitiousness); a decision is less successful if intended outcomes are not achieved and unexpected problems emerge with the making of the decision (disturbance).

It might then appear that both kinds of organization define success in similar terms. However the concept of success is more complex than is shown by the three dimensions just mentioned. It seems that in non-business organizations success is not defined only by the outcomes of decision-making. The data have suggested that in these organizations, process and outcomes are not very distinct. Conflict for example can be a characteristic of both process and outcome (disturbance). Success is linked to participation and agreement as well as to degree of control over outcomes. Extending the interpretation beyond what the immediate data suggest, and first looking at decision-making from the point of view of the authorities at the top of the hierarchy, a successful decision is the one free of the sort of confrontation with other parties which may block the decision process and decision implementation. From the opposite point of view of those who have less say in the decision-making, participation and a negotiated decision may be the criteria of success.

In non-business organizations, agreement is important to all parties high and low in the dominant coalition, for it may be the only way decisions can reach implementation and thus intended outcomes be achieved and unexpected benefits gained. On the other hand, it may be that difficulties in

reconciling economic criteria with providing a better quality education or health service to users, within limited resources which the organization itself is not able to stretch very much, makes participation and agreement the most visible criteria of decision-making success. It is not the easiest thing to reduce expenditure and obtain the agreement of those affected! In business, on the other hand, what happens during the process of making the decision is not as important as financial performance, which is here the most visible criterion. The analyses of case examples of less successful decisions have shown that even when conflicts of interests led to the course of action most likely to satisfy vested interests, even more visible than conflict was the continuous decline in sales and profits of the product based on the traditional technology. In judging and reporting about less successful decisions executives frequently referred to a quantitative indicator of performance which could be low profits, or low productivity or high costs. Whatever it was, there was always some indication in the case that financial outcomes were disappointing.

The contrasting notions of success in these organizations reflect what has been described as the business and non-business organization's concerns and goals. Thus one implication is that single decisions appear to be oriented according to these goals and then are evaluated with these goals as reference. Where profits have primacy (Heydebrand 1973, Dill 1965) decisions are analysed according to quantitative criteria, which executives always appear to have in mind whatever the type of the decision. Here support is provided for Simon's

(1976) argument that decisions in businesses are evaluated in the light of the organization's conservation objective, which is the maintenance of a positive value between input and output. Where goals are comparatively abstract as they are outside the sphere of business, there is no common denominator by which to appraise activities, such as money affords, and emphasis is given to the political climate (Blau and Scott 1963, Heydebrand 1973). Agreement and power to influence outcomes become the most visible criteria (Braybrooke and Lindblom 1970).

.9.3. The Meaning of the Data

The data obtained in this research by the kind of methodology used must be largely a reflection of differences in perception of what is a successful decision. That should be so for the purpose pursued here. The way organizations react depends in the first place on how the dominant coalition interprets the reality and needs of the organization (Child 1972). Silverman (1976) defends a generalization of this point, that organization behaviour should be interpreted via the meanings participants attach to situations. Thus what is seen as associated with success and lack of success is what executives do and emphasize when making decisions. What they see as linked to success is part of their own assumptions of what causes a given result, and such assumptions therefore may be the guidelines for action. As Wilson (1980) points out, it is upon assumptions of cause and effect that executives choose and negotiate.

When such assumptions are vague, as they may be in decision-making

in non-business organizations, agreement may become a substitute for "truth", as Lindblom (1970) suggests. Agreement becomes the parameter for decision-making. As it does so, connections with the initial intentions become attenuated and this is perhaps one of the features which led Cohen et al (1972) to dub universities as "organized anarchies".

.9.4. Methodological Difficulties and Limitations of the Sample

No research project is perfect, and certainly not this one. The conclusions put forward arise from an empirical basis that suffered more than most from the chances and mischances to which field work is exposed.

The difficulties in finding organizations to co-operate in a project and the time constraints on executing the research resulted in an unbalanced sample. At first, this did not look so important for the initial purpose was to select organizations as a means of selecting decisions. However, since separate analyses for business and non-business organizations eventually proved much more fruitful than the analysis for the 53 decision cases across all organizations, an appropriately balanced sample of both forms of organization would have allowed interpretation and generalization to be more confident. Ideally the sample should have been wide enough to incorporate a greater variety of organizations, manufacturing and services, public and private, and so on, and thus would have permitted more effective analyses of sub-groups, such as was found necessary with business and non-business. It might also have permitted better controls within any such sub-groups. For example, it is obvious

that within the business group there should have been more homogeneity in size to afford the possibility of controlling for extraneous variables such as decision-making autonomy, and the importance and range of type of decisions. To be able to systematically contrast dynamic/stable environments might reveal where control escapes an organization and what then happens to decision-making. Does it become desparate or a ritualized farce? Unfortunately the defects of the sample of organizations in this project limit the generalizations that can be made and reduce confidence in those that are made.

As far as the sample of decisions is concerned the prime objective was to obtain a sufficient number of extreme cases along the success continuum. The sample is not all that could be desired in this respect, but a good spread was obtained with the sample being classified roughly in three groups: more successful decisions, moderately successful and less successful decisions. Here again the ideal was to obtain an equal number of extreme cases of successfulness, but this was not possible for some basic reasons. For example, it was common to find another decision following on an unsuccessful one to correct the latter's mistakes. Managers then tended to concentrate on the successful sequel, that is on the most recent decision. As mentioned in Chapter V, this was not easy to avoid, especially in some cases where the list of decisions was not discussed personally with the chief executive but was mailed to the researcher a few weeks after the introductory interview. Gradually with more personal experience in the field work it became possible to acquire more control over the selection by asking more pertinent questions and

becoming more assured in doing so. In two cases, decision 1 versus decision 2 and decision 41 versus decision 42, it was possible to obtain data both on the unsuccessful decision and on the subsequent readjustment decision. This suggests that a further project might do better in this respect. We learn from experience.

A second explanation for the form taken by the sample of decisions may possibly lie in the difficulties the informants found in defining the criteria for classifying the degree of success in the decision concerned. In the case of non-business organizations, this appeared most evident with what appear to be too many decisions classified as moderately successful. Perhaps these were decisions where the most visible criterion, agreement/disagreement, did not apply. In any case, one would expect to find a greater ambiguity in the appraisal of decisions in organizations where goals are more intangible, and the final product more difficult to measure (Thompson and McEwen 1958). In business organizations, however, managers also hesitated in categorizing a decision as successful or unsuccessful, but here a greater number of decisions were placed at each extreme.

In the business firms also, managers showed more difficulty in classifying decisions whose outcomes had been changed by unexpected environmental events. In these cases, they felt that the decision had been taken with all possible information at the time, but performance was inevitably disappointing in relation to what had been expected because of events intruding between decision and its implementation. Thus, it appears that although managers do appraise decisions

in terms of performance outcomes, whether or not it has been possible for them to exercise control over events appears to be another important dimension of their criteria of success. While with hindsight this now appears clear to the researcher, to the informant it obscured the criteria he himself was using. In such cases executives showed considerable doubt over where to classify the decisions. Was a decision which began successfully but was later seen as a failure because of subsequent events to be called successful or not? This difficulty may well have restricted the distribution of decisions along the success scale.

Furthermore, any research evaluating performance and using perceptual measures is subjected to risks of distortion. There is a large body of research which shows that individuals may cognitively distort the magnitude or implications of a setback (Festinger and Carlsmith, 1959, Weiner et al 1971, Staw and Ross 1978). They may absolve themselves of any personal responsibility and attribute the event to other individuals or to external sources (Streufert and Castore 1968, Weiner et al 1971). However, this is a general supposition and there is no indication or measurement of how much such distortions may have interfered with the sampling of decisions or the perceptual measures of success.

All these difficulties seem to be inherent to the topic of success itself, which always attracts doubt and controversy. It is also a matter which to the organization's members implies evaluation of their own performance, and the data is therefore subject to unknown risks of distortion and concealment. It

is the encouraging intelligibility of the results which gives grounds for hoping that in this research some data is indeed better than no data.

.9.5. Suggestions for Future Research

Following the example of much research in the decision-making area, this research adopted a conceptual framework as a guideline for field work and interpretation. Although this set boundaries for the research, and directed the researcher's attention to certain issues and perhaps therefore away from others, it did not prevent the appearance of considerations which whilst outside the practicable scope of this project might well be taken into the reckoning when designing future research.

.9.5.1. Future Conceptual Models

The conceptual framework was designed to examine possible relationships between decision-making characteristics and decision success. However, in business organizations apart from resources availability only weak correlations were found between other independent variables and success. It is suggested, therefore, that other factors not captured by the model nor tested empirically in this research may yet add to the explanation of success.

If the decision-making variables used here describe those aspects upon which the organization has some control, it may be that an alternative explanation of the degree of success achieved by a decision lies in factors

external to the organization. The more in-depth investigation of the interview data about decisions perceived as less successful provided *some initial clues* as to a wider interpretation beyond that due to resources alone. Unexpected environmental events, for example, may interfere with the attainment of outcomes and new problems may appear as a result of making the decision. In some cases, it seemed that the organization had been caught unawares by a surprise such as a sudden withdrawal of its major customer, the appearance of a new technology or unexpected growth. Here, informants attributed the resultant outcome to the organization's lack of control of the environment. The relevance of external factors may be greatest with business firms, of course, but their possible relevance should be allowed for in research whatever the organizations under study may be.

If the results for business firms have suggested that environment may set constraints in decision-making, the data generated for non-business organizations have pointed towards the role of the organization's structure in shaping the style of decision-making. It is the peculiar features of the structure of universities that apparently provide the opportunity for particular types of conflict. They are simple organizations structurally, being not much more than a set of mutually independent subunits each striving to advance its own "product" but compelled to compete for resources in order to do so. Health districts are very similar but not so extreme in this.

The research reported in this thesis, having concentrated on decision-

making variables only, was not able to compare and assess the potential respective influences of characteristics of the environment and of the organization on the process and outcomes of decision-making. Some research has been carried through in this area (Horvath and McMillan 1978, 1979). These authors suggest that some organizations by their flexible technology system have the capacity to respond more quickly to environmental changes and redesign their product markets. From this point of view, the complexity of technology influences the degree of interdependence between organization subunits and hence whether the decision-making system will be more or less centralized.

Thus further models of decision-making success should include variables capable of depicting the influence of factors other than those of the decision-making process only. More complete models attempt to cover how both variables of environment and variables of organization shape decision-making characteristics and then constrain the outcomes. Encouragingly, some research concerned with how organization complexity impinges on decision-making performance is already being developed by others at Bradford (Astley et al 1980).

.9.5.2. Single Decisions and Strategy

As pointed out in Chapter II, this thesis has been concerned only with single discrete decisions. Empirically the study became limited to those decisions which the chief executive could recall as clear events. These may or

may not include those kinds of decisions some authors argue are gradually formed into a pattern or strategy without there being any clear intention or plan (e.g. Mintzberg 1977, Horvath and McMillan 1979). When this study was first contemplated in 1977, the single decision appeared a more manageable unit of analysis, and it still seems so. But since then research experience in this field has grown, and perhaps from now on more ambitious projects can be attempted.

Because when this study began previous approaches to decision success were restricted to the study of more technical decisions or to those for which quantitative criteria could be used, it was desirable to aim at a greater variety in the type of decisions covered, and that was the priority. This at least was achieved.

Of course, it may be that some or all of the 53 decisions reported in this thesis were extracted from streams of interrelated decisions. As mentioned earlier, some decisions did appear highly interrelated one arising from the problems of another. This does not diminish the validity of the data. The fact that single decisions may be part of an overall strategy does not deny that each has specific form. But if single decisions occur in the context of a "stream of decisions" and if it is possible to identify the principal outcome of a strategy, then here there would be a rewarding area for future work. Single decisions could be analysed in terms of similar dimensions of success, but now in relation to the strategy from which they are extracted

for analysis. In this way, each single research project is one of a stream of projects and tries to make its contribution.

APPENDIX A

APPENDIX A

List of the Decisions Studied by the Present Research

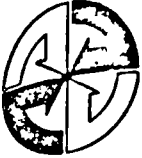
<u>Organizations</u>	<u>Decisions</u>
U1	D1. A policy on vacation catering facilities
	D2. A review of the vacation catering facilities
	D3. Reorganization of computer offices
	D4. The introduction of new disciplinary procedures in the Halls of Residence
	D5. A new building for a new discipline
	D6. Expansion in the sports centre
	D7. The increase of fees for the halls of residence - U1
U2	D8. The increase of fees for the halls of residence - U2
	D9. A reorganization of the university basic structure
	D10. A reorganisation of the halls of residence administration
	D11. Introduction of an administrative computer
	D12. To change the university's administrative computer
	D13. To launch the university's development programme
	D14. The introduction of a system of a centralized timetabling for university examinations
HD	D15. Closure of a ward
	D16. The closure of social clubs in a district hospital
	D17. Rationalization of patients' meals
	D18. Organization of work of school nurses
	D19. Centralization of stores
BF3	D20. The introduction of a new printing press

* See Appendix D for details

- D21. A new business in Germany
- D22. Reduction of inventory
- D23. Reorganization and manning reduction
- D24. A new business in India
- D25. Reorganization of factory lay-out
- D26. The introduction of an American product design
- BF1 D27. The manufacture of a new electronic equipment
- D28. A new contract in Sao Paulo
- D29. The opening of a new factory
- D30. To terminate a development programme
- D31. Reduction of workforce
- D32. The closure of a factory
- D33. The manufacture of a new product
- BF5 D34. Introduction of a profit share scheme
- D35. A new business in France
- D36. To reduce workforce
- D37. Selection of a managing director
- D38. To move into the export business
- BF2 D39. To establish a new factory in Venezuela
- D40. A negotiation with two rival unions
- D41. A development of a new product
- D42. The termination of a development programme

- D43. A new business in Libya
- D44. An introduction of a new shareholder
- D45. Centralization of stores
- D46. Computerization of the clerical work
- D47. Acquisition of new equipment
- BF4 D48. Extension of a depot
- D49. Changing a factory layout
- D50. The introduction of computer terminals in distribution sites
- D51. The building of a new depot
- D52. Staff transference to a new site
- D53. The introduction of a new technology

APPENDIX B



Director and Professor of Management Sciences: J C HIGGINS BSc MA MSc PhD C Eng MIEE

ORGANIZATIONAL ANALYSIS RESEARCH UNIT

ABOUT THIS QUESTIONNAIRE

This questionnaire is about the decision _____

with which you are familiar. Some questions require a brief description of how the decision occurred, but most are rating scales which are quicker for you to complete. For these, please circle the best alternative. Questions on the right hand side are also very important. Please do answer them.

All information will be strictly confidential. Your co-operation is sincerely appreciated.

Thank you

Suzana Rodrigues
Doctoral Programme
Bradford Management Centre
and
Federal University of Minas Gerais, Brazil.

1. What is your job? _____ 2. What was your role on this decision? _____

About this decision
The Beginning

The reason why this decision was taken was:

- (a) To solve a problem(s)
 - (b) To take an opportunity(ies)
 - (c) Both
- Now go to Question 2 and then to Question 4
 Now go to Questions 3 and 4
 Now go to Questions 2, 3 and 4.

- a. If 1(a) or (c) please list the problem(s)
- (a) _____
 - (b) _____
 - (c) _____
 - (d) _____
 - (e) _____

2b. Were those problem(s)

	Not solved	Partially Solved	Wholly Solved
(a)	1	2	3
(b)	1	2	3
(c)	1	2	3
(d)	1	2	3
(e)	1	2	3

a. If 1(b) or (c) please list the opportunity(ies)

- (a) _____
- (b) _____
- (c) _____
- (d) _____
- (e) _____

3b. Were those opportunities

	Not taken (realized)	Partially taken (realized)	Wholly taken (realized)
(a)	1	2	3
(b)	1	2	3
(c)	1	2	3
(d)	1	2	3
(e)	1	2	3

When did a clear idea emerge about what the problem(s)/opportunity/ies were?
(month) _____ 19

Was this:

- At the decision initiation stage (1)
- Not until the decision was finally taken (2)
- At the first attempts to implement it (3)
- Later after it was implemented (4)
- It is still not clear (5)

1. When was the need for this decision recognized?
(month) _____ 19

2. What was this need?

3. When did any action start towards taking the decision?
(month) _____ 19

4. What was it?

5c. Was this recognition:

- Well in time (1)
- In time (2)
- Just in time (3)
- Late (4)
- Very late (5)

5d. About how much later?

(i.e. months, years)

6c. Was this action:

- Well in time (1)
- In time (2)
- Just in time (3)
- Late (4)
- Very late (5)

6d. About how much later?

(i.e. months, years)

Time Information

To what extent was information about each of the following important whilst this decision was being made? (Please change or add examples to fit this particular decision)

	Not Very Important	Important	Very Important	Highly Important	Extremely Important
Money	1	2	3	4	5
Time to make the decision	1	2	3	4	5
Competitors strategies	1	2	3	4	5
Raw materials	1	2	3	4	5
Labour force	1	2	3	4	5
Customers/Users	1	2	3	4	5
Trade Unions	1	2	3	4	5
Technology	1	2	3	4	5
Government policies	1	2	3	4	5
Others (specify)	1	2	3	4	5

7b. To what extent was information available about each of the following whilst this decision was being made? (Please change or add examples to fit this particular decision)

	Not at all	A Little	Somewhat	Quite a bit	Very much
Money	1	2	3	4	5
Time to make the decision	1	2	3	4	5
Competitors strategies	1	2	3	4	5
Raw materials	1	2	3	4	5
Labour force	1	2	3	4	5
Customers/Users	1	2	3	4	5
Trade Unions	1	2	3	4	5
Technology	1	2	3	4	5
Government policies	1	2	3	4	5
Others (specify)	1	2	3	4	5

When did information about each of the following become available? (Please change or add examples to fit this particular decision).

	Immediately	At the initial stages	Not until the decision was taken	During its implementation	Not available
Money	1	2	3	4	5
Time to make the decision	1	2	3	4	5
Competitors strategies	1	2	3	4	5
Raw materials	1	2	3	4	5
Labour force	1	2	3	4	5
Customers/Users	1	2	3	4	5
Trade Unions	1	2	3	4	5
Technology	1	2	3	4	5
Government policies	1	2	3	4	5
Others (specify)	1	2	3	4	5

8b. Was this information:

	Well in time	In time	Just in time	Late	Very late
Money	1	2	3	4	5
Time to make the decision	1	2	3	4	5
Competitors strategies	1	2	3	4	5
Raw materials	1	2	3	4	5
Labour force	1	2	3	4	5
Customers/Users	1	2	3	4	5
Trade Unions	1	2	3	4	5
Technology	1	2	3	4	5
Government policies	1	2	3	4	5
Others (specify)	1	2	3	4	5

Were there any disagreements in views? (Please change or add examples to fit this particular decision).

	Not at all	A little	Some	Quite a bit	Very much
a. Between an outside organization and top or middle mgt	0	1	2	3	4
b. Within top mgt	0	1	2	3	4
c. Between departments	0	1	2	3	4
d. Within departments	0	1	2	3	4

2. What degree of compromise was there? (Please change or add examples to fit this particular decision).

	Not at all	A little	Some	Quite a bit	Very much
a. Between an outside organization and top or middle mgt	0	1	2	3	4
b. Within top mgt	0	1	2	3	4
c. Between departments	0	1	2	3	4
d. Within departments	0	1	2	3	4

The Resources

3. To what extent were time constraints important in arriving at this decision?

- Not very important (1)
- Important (2)
- Very important (3)
- Highly important (4)
- Extremely important (5)

14a. To what extent were the following resources important to implement this decision? (Please change or add examples to fit this particular decision)

	Not Very important	Important	Very important	Highly important	Extremely important
Money	1	2	3	4	5
Time	1	2	3	4	5
Special knowledge	1	2	3	4	5
Customers/Users	1	2	3	4	5
Labour force	1	2	3	4	5
Technology	1	2	3	4	5
Others (please specify)	1	2	3	4	5
	1	2	3	4	5

15a. When did these resources become available? (Please change or add examples to fit this particular decision)

	Not until the decision was taken	In the initial stages	During imple- mentation	Not avail- able
Money	1	2	3	4
Time	1	2	3	4
Special knowledge	1	2	3	4
Customers/Users	1	2	3	4
Labour force	1	2	3	4
Technology	1	2	3	4
Others (please specify)	1	2	3	4
	1	2	3	4

14b. To what extent were these resources available to implement this decision?

	Not at all	A Little	Somewhat	Quite a bit	Very much
Money	1	2	3	4	5
Time	1	2	3	4	5
Special knowledge	1	2	3	4	5
Customers/Users	1	2	3	4	5
Labour force	1	2	3	4	5
Technology	1	2	3	4	5
Others (please specify)	1	2	3	4	5
	1	2	3	4	5

15b. Were these resources:

	Well in time	In time	Just in time	Late	Very late
Money	1	2	3	4	5
Time	1	2	3	4	5
Special knowledge	1	2	3	4	5
Customers/Users	1	2	3	4	5
Labour force	1	2	3	4	5
Technology	1	2	3	4	5
Others (please specify)	1	2	3	4	5
	1	2	3	4	5

16a. When was this decision authorized?

The Authorization

17a. How long did this decision take from the earliest moment you can recall it arising to beginning implementation?

16b. When should it have been authorized?

17b. Could it have been quicker? Yes/No

17c. If yes, how much quicker? (I.e. days, months, years)

THE IMPLEMENTATION

1a. When did the first activities to implement this decision start?

1c. When should these activities have started?

1d. What should they have been?

1b. What were these activities?
a _____
b _____
c _____

2a. How long did it take to implement this decision? (I.e. months, years)

2b. Could it have been quicker? Yes/No

2c. How much quicker? (I.e. months, years)

3. How long was it before any effects of this decision were known? (I.e. months, years)

4. How successful was this decision?

- Unsuccessful (1)
- Moderately unsuccessful (2)
- Successfully (3)
- Vary successful (4)
- (5)

The Results

4b. Why?

APPENDIX C

APPENDIX C
INTERVIEW SCHEDULE

Interview questions :

1. When did this decision start ?
2. What is the earliest thing you can remember about this decision ?
3. Why was it made ?
4. How important was this decision to this organization ? Why ?
5. What was done to clarify the initial situation that originated this decision ?
6. What was the main sequence of events ?
7. Who was involved in this decision ?
When ?
- 8a. Were there any occasions in which it was recognized that things had been overlooked or mistakes made ? What were they ?
- 8b. What was done about them ?
9. Who authorized action and when ?
10. Were all possibilities explored ? If no, which ones should have been explored ?

- 11a. What action was taken to gather the information necessary for this decision to be made ?
- 11b. How far were these activities successful in gathering information ?
- (1) Not at all
 - (2) A little
 - (3) Some
 - (4) Quite a bit
 - (5) Very much
- 11c. What should have been done then ?
- 12a. Were there any disagreements in views about the decision being taken ?
- 12b. How was agreement attained ? What degree of compromise was there ?
13. What unexpected opportunities, advantages and benefits did this decision bring to the organization if any ?
14. What unexpected problems and difficulties did this decision bring to the organization if any ?

APPENDIX D

APPENDIX DTHE SAMPLE : SOME CHARACTERISTICS OF THE ORGANIZATIONS

The purpose of this appendix is to describe the major characteristics of the organizations in the sample, so as to show differences between business and non-business firms in terms of formal organizational structure and decision-making autonomy. Descriptions of organizations have been arranged to provide an idea of their internal formal structure and of links with other organizations which could possibly set limits to or influence their decision-making process. Additionally, each organization has been described in its general activities, size and performance.

In general, the appendix provides complementary information which may throw some light on the interpretation of research findings and may also be useful in the understanding of the context in which focal decisions took place.

For research purposes, homogeneity of information on each organization would be desirable, but it was not possible within the time available to achieve this. Apart from the difficulties arising from differences between diverse types of organizations, collection of data not originally structured by the researcher is always problematic. Organizations' published material may not have similar contents or information may be unavailable for research

purposes. Therefore, when a complete organizational chart was not available for the study and connections of the company with the parent have been built up from published information, from reports and interview data, the figures presented in this appendix may not always represent hierarchical structure accurately. It may happen that more intermediary levels exist between a subsidiary and its headquarters or instead, it could be directly accountable to group board of directors.

Since all business firms studied were wholly owned subsidiaries of corporations, a general description of group activities and performance has also been given for each of them. In general, information on decisions was collected in only one organization of a group or corporation, except in Business Firm 1. Because it is the management company of Trading Company 1 and located on the same site, information was gathered on decisions either taken separately by each of them or jointly. Section on Business Firm 1 therefore, provides a sketch of their organization.

With Health Districts, similarly to business firms, there is an attempt to depict how organizations hierarchically superior to the District such as A. H. A., control District performance and activities.

In the Universities case, however, the chapter presents a description of Council and Senate. Despite the fact that in a university system there

is no corresponding higher level, more or less external to it with powers over its activities, these organs have been described because they have control over resources and university action in a similar way.

Since in the Health Services, organizations at the same hierarchical level have similar duties and patterns of relationships with superior levels, this appendix provides only a general description of districts which can apply to any of them. The same is done for universities. Apart from minor differences between their internal structures their organization is basically the same as any other British university. Therefore, it was not felt necessary to go into separate details for each university of the sample.

1 Business Firm 1 (BF1)

The company history starts with the history of the whole group and goes as far back as 1884 with a small factory in the North of England which produced telegraph equipment. Since then it has diversified its production going from cycle tyres through cables and manual telephone exchange equipment. In 1912 it started production of automatic telephone exchange equipment and during the World Wars it began to develop navigation instruments. In the following years the firm widened its activities even more, developing from street lighting control equipment to domestic appliances.

After a merger with two other groups also engaged in the manufacture of telephone exchange equipment, BF1 became the nucleus of the new joint group. In 1978 it accounted for 40% of the whole group sales and had about 20,000 employees.

At present, BF1 International's major business is telecommunications and although industry and government are its main customers it also develops and manufactures products for the private sector.

Although the company showed an outstanding performance in the last few years it has been hit by a sudden change in market conditions which demanded a re-orientation towards the future. Joint efforts within the whole group have been made towards a quicker modernization.

As shown in Figure 1, BF1 International has under its responsibility 5 subsidiaries operating in the Americas, Europe and Commonwealth countries. They include Telecommunications - Trading Company 3 - in which some of the decisions reported here occurred. Figure 2 shows the internal organization structure of Trading Company 3. Internally, it is divided into five major products technology business, a sector responsible for providing services to customers and five functional areas. It has about 12,000 employees and is also of substantial importance for the company accounting for one-fifth of the group business.

FIGURE 1 BFI GROUP ORGANIZATIONAL STRUCTURE

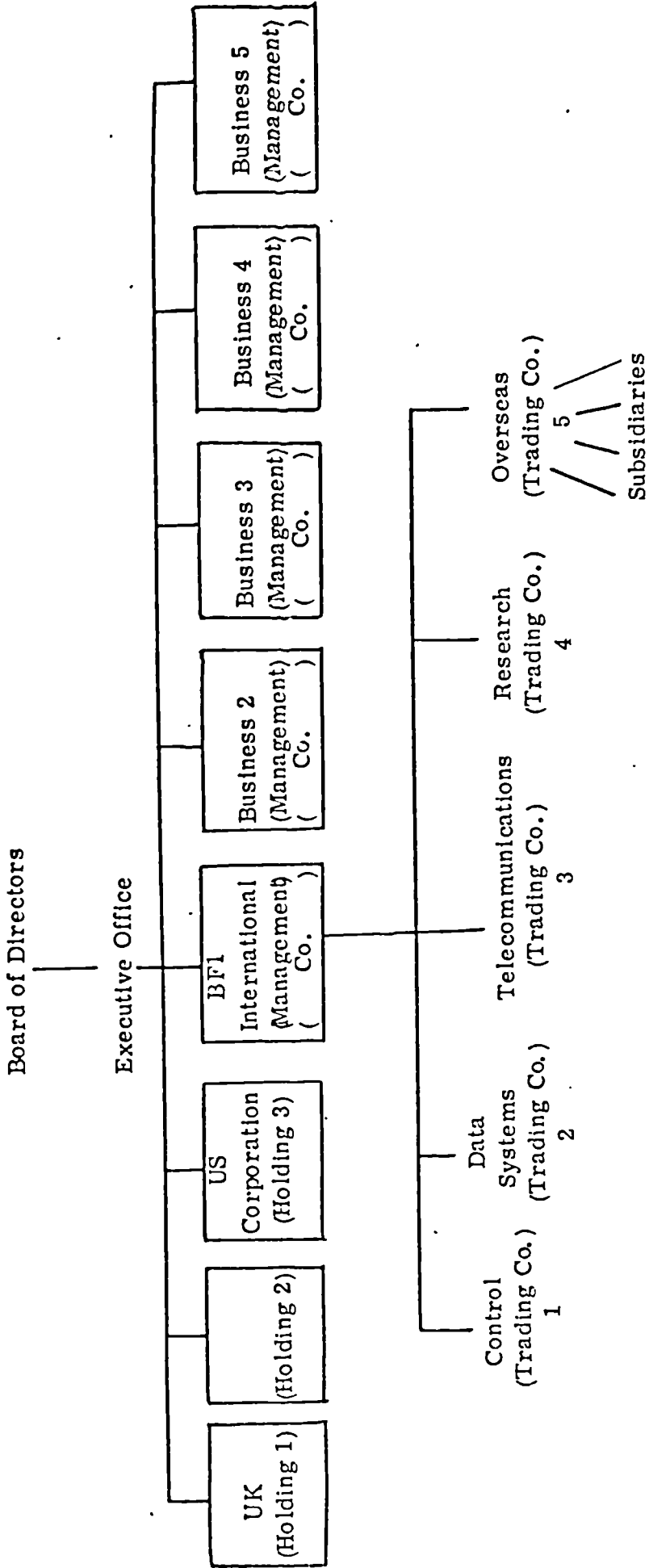
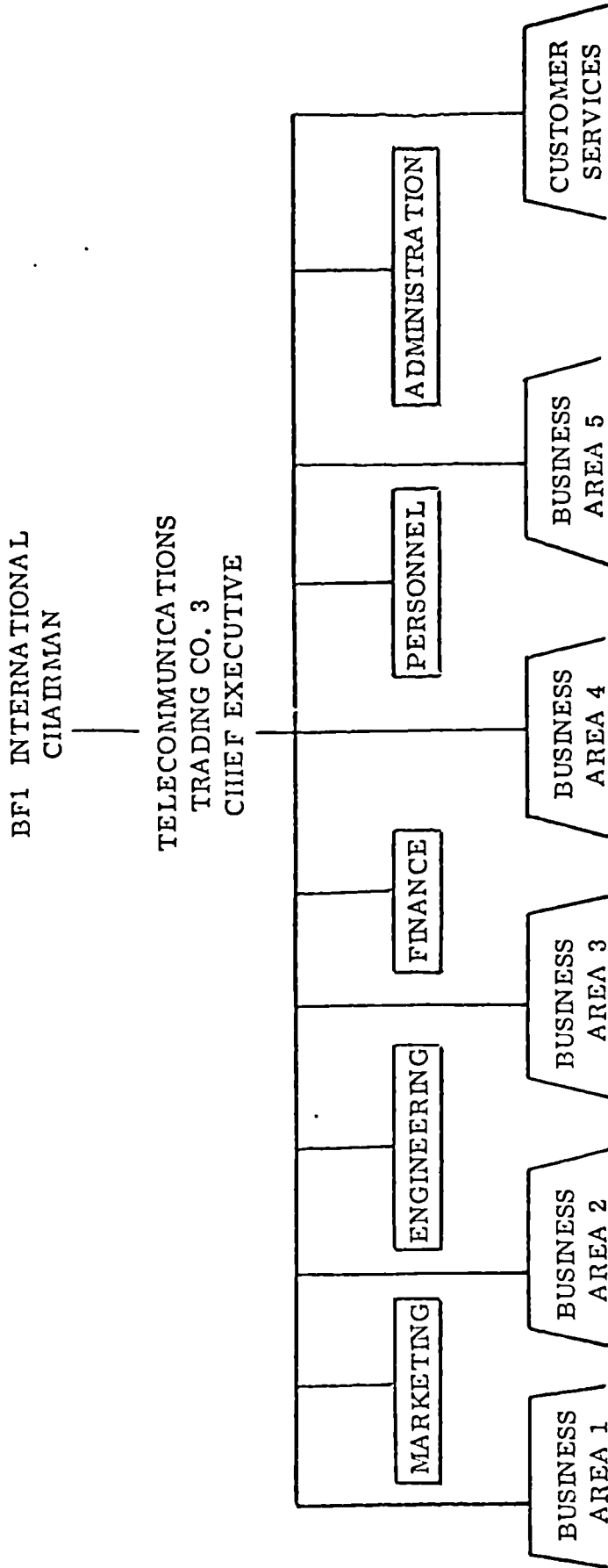


FIGURE 2 TELECOMMUNICATIONS COMPANY ORGANIZATIONAL STRUCTURE



1.1. The Group

As already mentioned, the group was formed in the sixties by a merger between three big telephone and engineering firms who owned a number of subsidiaries. The group operates in five continents and hence serves international and home markets with a total of 300 establishments, and approximately 58,000 employees. It engages in the production of a wide range of products for government and industry, and is organized into two major businesses, electronics and telecommunications.

At the end of March 1978 group sales achieved £611.1 millions. Profit before taxation was £42.9 millions and assets employed till that date amounted to £283 millions. In 1978 the group won the Queen's Award for its performance in exports.

1.2. Links between Business Firm 1 and Group Headquarters

Figure .1 shows the connections of BF1 International and Telecommunications with the headquarters. BF International is under direct responsibility of the executive office, and most of its directors are also on the group board. The company is financially dependent on the holding companies at the same level as itself.

In spite of having its own board of directors the Telecommunications

Company is dependent on the managerial side of BF International and financially on the holding companies. Although some of its directors are members of BF International they do not participate in the Executive office. Financially, this company is entirely dependent on the head offices. Capital investment is authorized only up to £252,000 if it is already on the budget. The Telecommunications company's chief executive can authorize a capital investment of £50,000. There are many regulations concerning expenses, but for regular purchases there is no fixed limit for first rank executives.

All major decisions have to be approved by the Management Company and until the budget is authorized the Trading company 3 cannot move. There is a daily control of cash flow exercised by the corporate financial department. The intensity of the control is dependent on the company's financial performance. A senior executive expressed his concern over the group's emphasis on short term financial targets which in this opinion may be detrimental to long run achievements and growth.

The group adopts standardized procedures for all subsidiaries in legal matters such as contracts, insurances, properties, transport and tender guarantees. Visits overseas, performance bonds, inter-company trading and appointment of executives are also under BF1 International.

.2 Business Firm 2 (BF2)

The company had initiated its activities in the North of England by

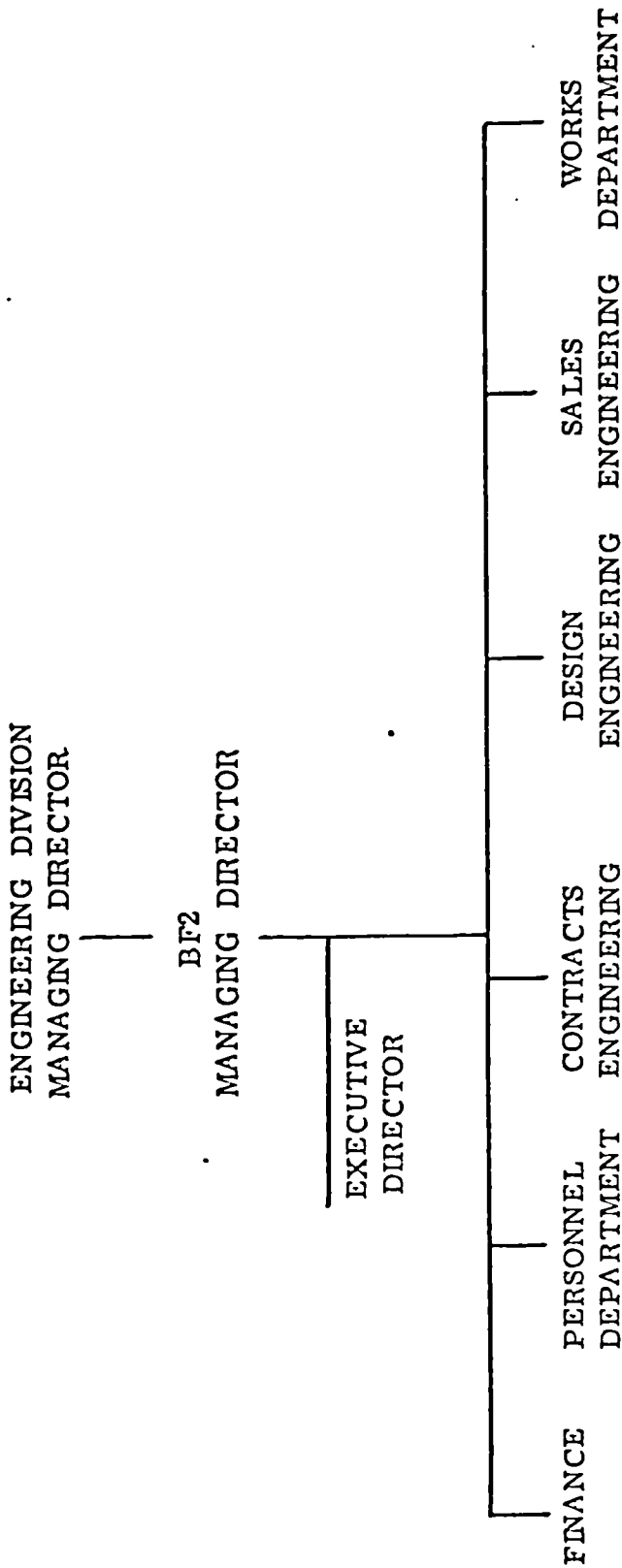
1918. By 1926 it had approximately 500 people and in 1929 it was acquired by an electrical company which then merged with other electric and electronic groups in 1968. At present, it is the management company for the combined switchgear resources of 4 electrical groups. With 1500 employees, it is one of the 16 companies of a group manufacturing and servicing comprehensive ranges of electrical generation and transmission equipment. Activities of the company hence includes development and manufacturing of a wide range of switchgear equipment and associated equipment for service.

In 1977, the company doubled order intake, and increased export orders to two-thirds of the total. Exports have shown a substantial increase in Africa, Asia and America. Unfortunately, separate sales figures for the company had not been published in the whole group report but some of the engineering group figures were, however, available and will be discussed in the next section.

Being a manufacturer of electrical equipment, the company's main customers are other industrial groups and electricity authorities. Competitors in the UK, Europe and the Americas consist of companies owned by other stronger groups manufacturing engineering and electrical equipment.

In its internal structure, the company is divided into 6 major functional areas, whose directors are also members of the board. Figure 3 shows its internal organization.

FIGURE 3 BF2 ORGANIZATIONAL STRUCTURE



2.1. The Group

The group is one of the largest manufacturing groups in the world and its activities include major interests in heavy electrical and power engineering, industrial equipment, telecommunications, electronics and consumer products. As shown in Figure 4 it is divided into five areas of activities which comprise engineering, industrial, telecommunications and electronics, electrical components and consumer products. This present structure is an outcome of a combination in the late 1960's of three of the UK's major electric groups. The company is substantially represented in all continents by its many subsidiaries and associated companies.

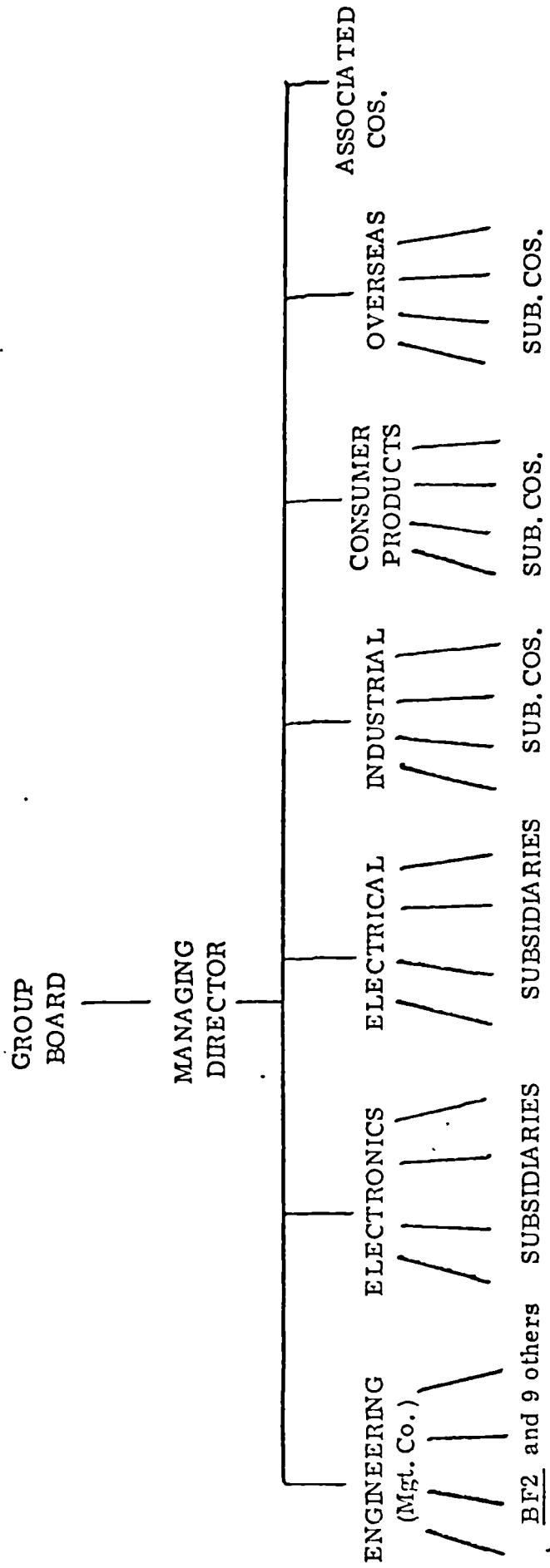
In 1977 the Engineering division comprising 20 companies achieved a turnover of £306M comparing with £2,206M turnover for the whole group, including overseas. Contributions to total earnings were 15% in that same year. The division had also shown an outstanding performance in export sales with a figure of £301M.

Current assets for the company as a whole amounted to £1,520.7M and a profit before taxation of £278M was declared in 1977. For this same year the company declared an average number of employees excluding those working outside the United Kingdom of 156,000.

2.2. Links between Business Firm 2 and Group Headquarters

Although from April 1978 the company was given greater autonomy

FIGURE 4 BF2 LINKS WITH HEADQUARTERS



It still has to obtain board approval for investments superior to £1 million. It is also supposed to submit a proposal to the main board when investment implies a risk for the business as a whole.

The group has a reputation of exercising a thorough financial and budgetary control but still allowing a high level of autonomy in its subsidiaries. In general, the headquarters only influence in terms of guidelines, provided that a company has shown an acceptable financial performance over the years. However, policies regarding wages and salaries and other standardized procedures which run from minor issues such as type of cars for directors to major issues like industrial disputes have been introduced for all subsidiaries. In much the same way the group issues annual accounting instructions and provides a great bulk of accounting procedures, rules for issuing contracts and a code for prices and payments in contracts and licences which is uniform for every unit.

The headquarters, on the other hand, do not interfere with development of technology, and provide central research resources.

The company is linked to Headquarters by means of the management company whose director is a member of the main board, as shown in Figure 4. Although this figure serves to illustrate those links, it cannot be taken as fully portraying group hierarchical structure since it had been built up from annual reports and is probably oversimplified.

Formal meetings with Engineering Division's directors occur five or six times a year, with a budget meeting once a year with the corporation's managing director. Informal contacts by telephone with the Engineering Division Director are more frequent and are always used when a quick decision which is corporation wide in its effects has to be taken.

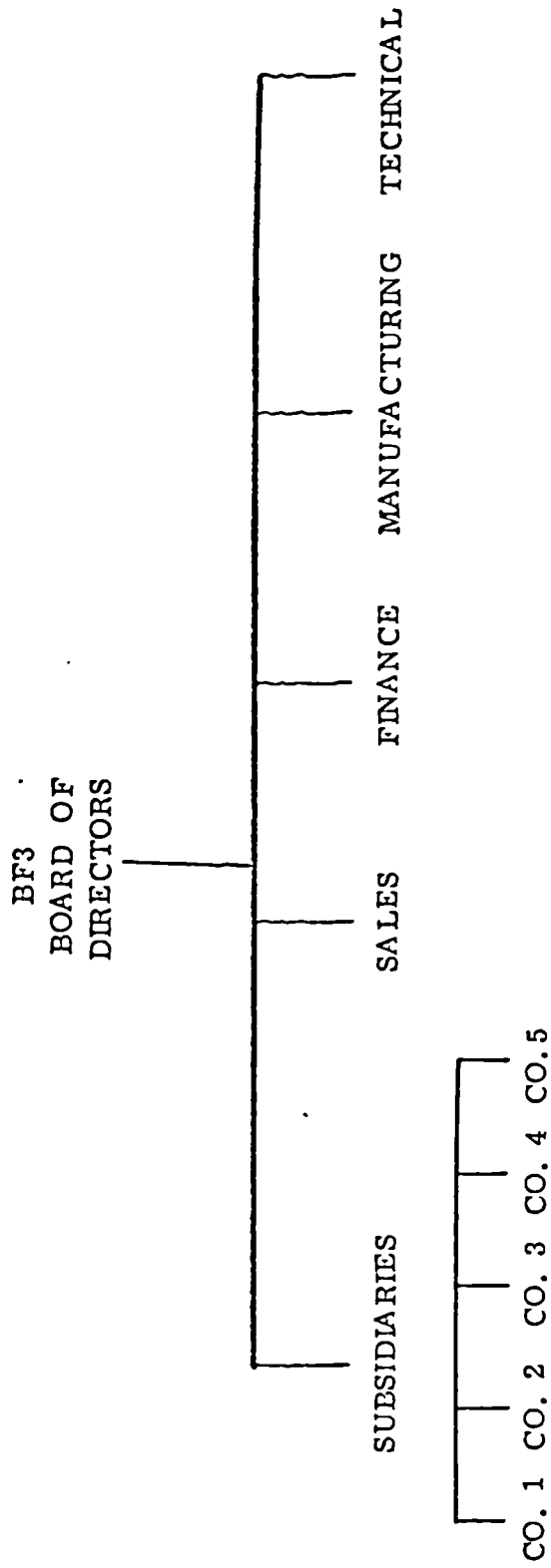
.3 Business Firm 3 (BF3)

The company came into existence in 1887 to manufacture equipment for the newspaper industry under licence from its US parent. In 1895, 15% of the shares were obtained by the American parent which gradually increased its holding until BF3 became a wholly owned subsidiary in 1967.

The company is engaged in development, manufacturing, and marketing of equipment for the printing, graphic arts and computer industries. Its main products are printer's machinery, stereo-casting equipment, and bindery equipment. Although it is small in size, employing only 800 people, and represents only a small proportion of the total group activity, BF3 supplies not only UK but other countries around the world. It is in a highly specialised market in which the activities of competitors can readily be identified.

As shown in Figure 5 it is internally differentiated in four main functions, sales, finance, manufacturing and technical. The directors of

FIGURE 5 ORGANIZATION STRUCTURE



these functions are all members of the board which also has management responsibility over other companies of the same group in the UK and one on the Continent.

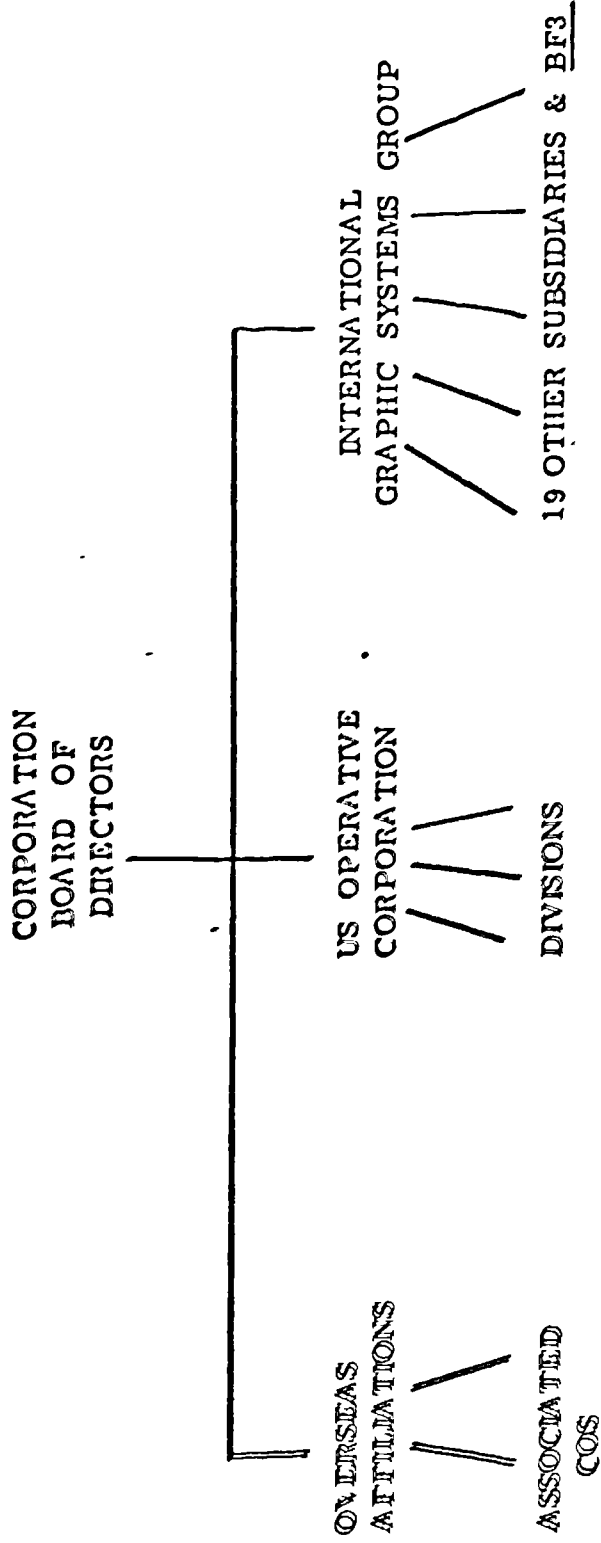
In 1976 tangible assets amounted to £7,276,760 and net profit before tax reached a figure of £2,343,445.

3.1. The Corporation

The company is part of an American corporation founded in 1893, employing today 18,000 around its many subsidiaries in the US and overseas. The corporation was formed in 1963 by a merger of a company engaged in the manufacture of a wide range of electrical products and another whose main activity was development and manufacturing of graphic system. Although the corporation is a diversified manufacturer of electrical, consumer and industrial goods, the electrical product business, which also encompasses typesetting equipment, is responsible for almost 70% of the corporation sales volume. The Graphic Systems group (Figure 6) was a major leader in this performance, achieving record sales and profits. This group is a world leader in the manufacturing and marketing of typesetting and composition systems, and comprises 20 companies in 12 countries, among them BF3 in the UK.

The corporation's current assets amounted to \$466,025,610 in 1977 and net profit in this year achieved a figure of \$3,404,344.

FIGURE 6 BF3 LINKS WITH HEADQUARTERS



3.2. Links with the Headquarters

In the Chief Executive's view, operationally BF3 does not depend for anything on the headquarters. On the other hand, HQ monitors BF3 financial performance and sanctions major items of expenditure. On the management side, the company has to refer to the International Graphic Systems Board for major decisions (Figure 6). In Figure 6 the links between companies and headquarters may be oversimplified.

4 Business Firm 4 (BF4)

BF4 is a transport division of a confectionery and *grocery products* group. It first began as a small department under a sales function in the early sixties. For a while it was moved under the purchasing department, but when the market changed to a buyer's market with the advent of supermarkets and the growth of big customers in the mid sixties, it went back under sales function. By that time, standard of services to customers had become as important as cost control, and the company then formed a transport and a warehouse committee which consisted of specialists in transport and a warehouse committee which consisted of specialists in transport and distribution, a finance expert, and representatives of the purchasing and organization and methods functions.

In 1969 the group merged with another, both incorporating many subsidiaries and associated companies. The merger prompted the creation

of a transport and distribution division to coordinate activities and reduce costs. Transport and distribution, therefore, began to be recognized as a function in its own right and included the following functions: finance and administration, stock movement and control, personnel and training, depot operations and sales. BF4 organizational structure is shown in Figure 7.

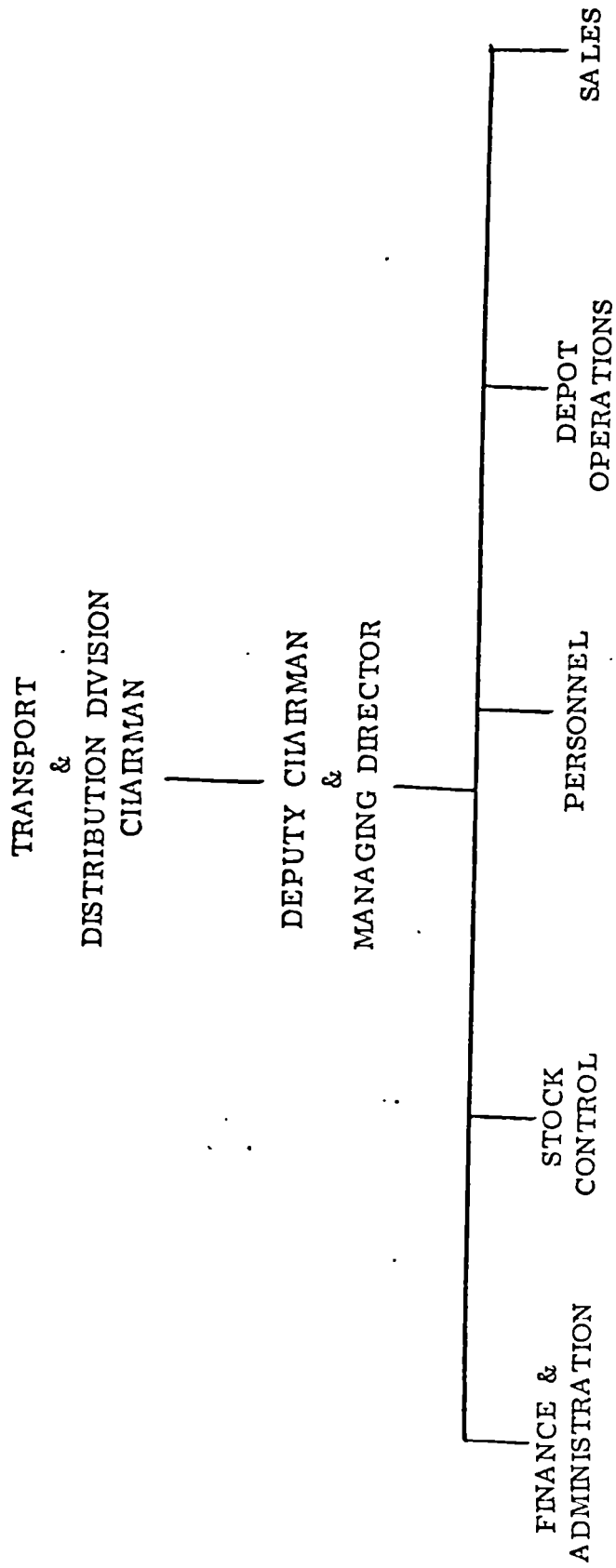
In spite of being small, employing only 600 people and being a service organization, the function is very important for the business as a whole since it serves the main production divisions which represent 50% of the whole group profit. That profit is dependent upon their work.

Apart from its usual job of moving both raw material and finished goods from factory to factory, and from factories to 20 depots and from there to customers, the division also has the responsibility for advising transport and distribution departments overseas. It develops its own methods of warehouse organization and transport, and has facilities for the development of equipment to improve warehouse efficiency.

4.1. The Group

The group was formed in 1969 by a merger of two big companies which had already been associated for some years. The history of the companies goes as far back as the eighteenth century to small shops of grocery and pastry. Since their early days the companies have diversified, gone into exporting, built new factories, and moved into operations overseas.

FIGURE 7 ORGANIZATIONAL STRUCTURE



Now the group is one of the world's largest producers of chocolate, sugar confectionery and grocery products. They have about 30,000 employees operating twenty factories in 4 continents.

With the international headquarters in the North of England, the group is organized into six trading divisions and two service divisions as shown in Figure 8.

The European and Overseas divisions are responsible for factories around Europe and the Commonwealth respectively. The Export division is responsible for sales elsewhere around the world.

Performance of the company in 1977 was outstanding. Sales, profits and capital expenditure were the highest in the company's history. Sales at £469 million were 22% higher than in the previous year; profits rose by £10.2 million to £469 million giving a trading margin of 10% against 9.6% in 1976, and investment in fixed assets amounted to £23.8 million compared with £16.1 million in 1976. Exports from the UK at £49.9 had increased substantially, 59% in value and 27% in volume.

4.5. Links with Headquarters

As shown in Figure 8 the headquarters provides various types of services such as finance, personnel development and computing to companies

which are members of the group, including BF4. It makes use of services which range from decoration of offices to typing, organization and methods, and personnel selection. It is financially controlled through central accounting, central purchasing, and the insurance and contracts department. Despite having a separate budget, BF4 does not have its own bank account, since it is a non-profit organization.

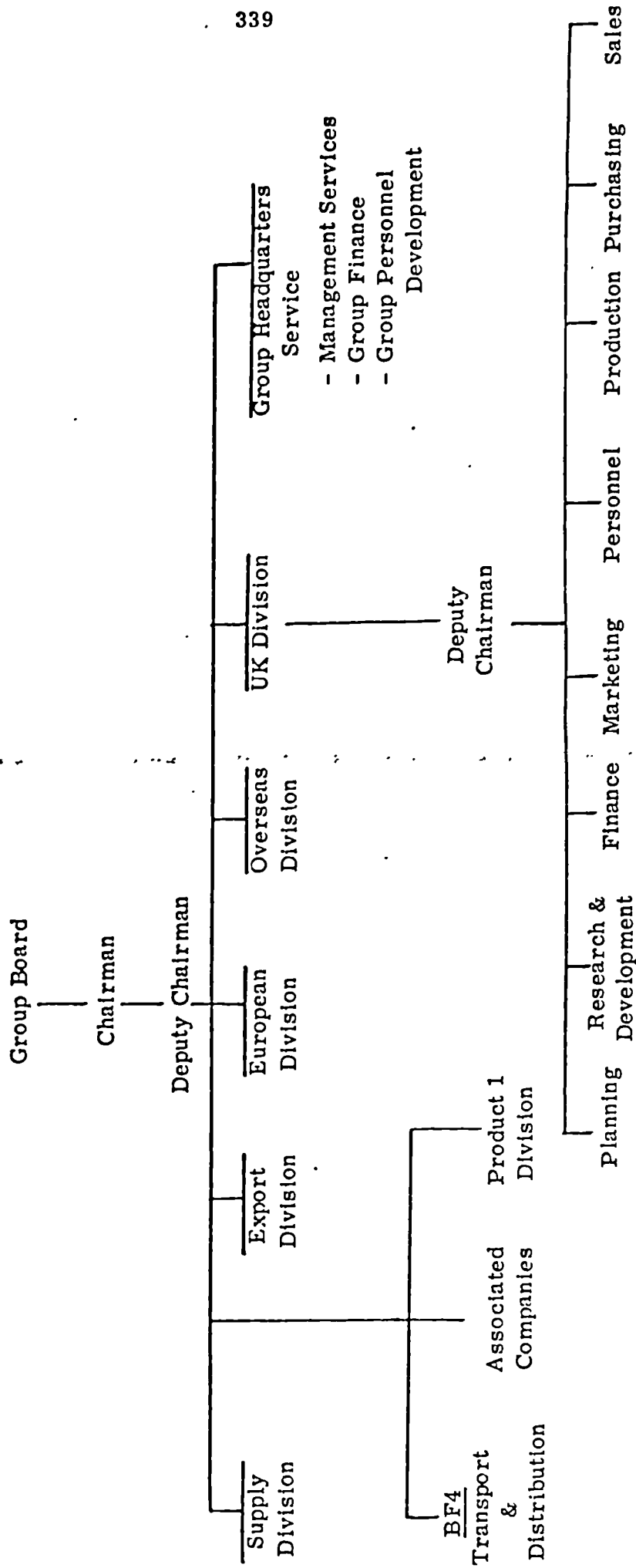
The group has strict budgetary control with very well established rules. Each division prepares a three year plan for inclusion in the general corporate plan. If a project is new and requires expenditure over £100,000 a case must be put to the board. Even if it is operating satisfactorily, a division has nonetheless to prepare a case to the board if any change in direction is needed. Whatever the circumstances, the group board can block a division's plans if there is a company wide risk.

Links of BF4 with headquarters are illustrated in Figure 8. Its chairman is a member of the Group Board. Apart from providing a monthly report on division performance, the chairman and managing director have a monthly meeting with the board to report.

5 Business Firm 5 (BF5)

This company is one of the 28 companies which form the engineering division of a big group. It was founded 26 years ago by two small firms, a textile and soap company, and a plastic and cold cables firm.

FIGURE 8 BF4 LINKS WITH HEADQUARTERS



They then amalgamated to manufacture a single product, cables. When one of the owners died, the other company took over and from then on there was a series of takeovers. BF5 was acquired by its present owners in 1968 and is a wholly owned subsidiary.

The main activities of the company now consist of production of certain plastics and other chemicals for coatings applications.

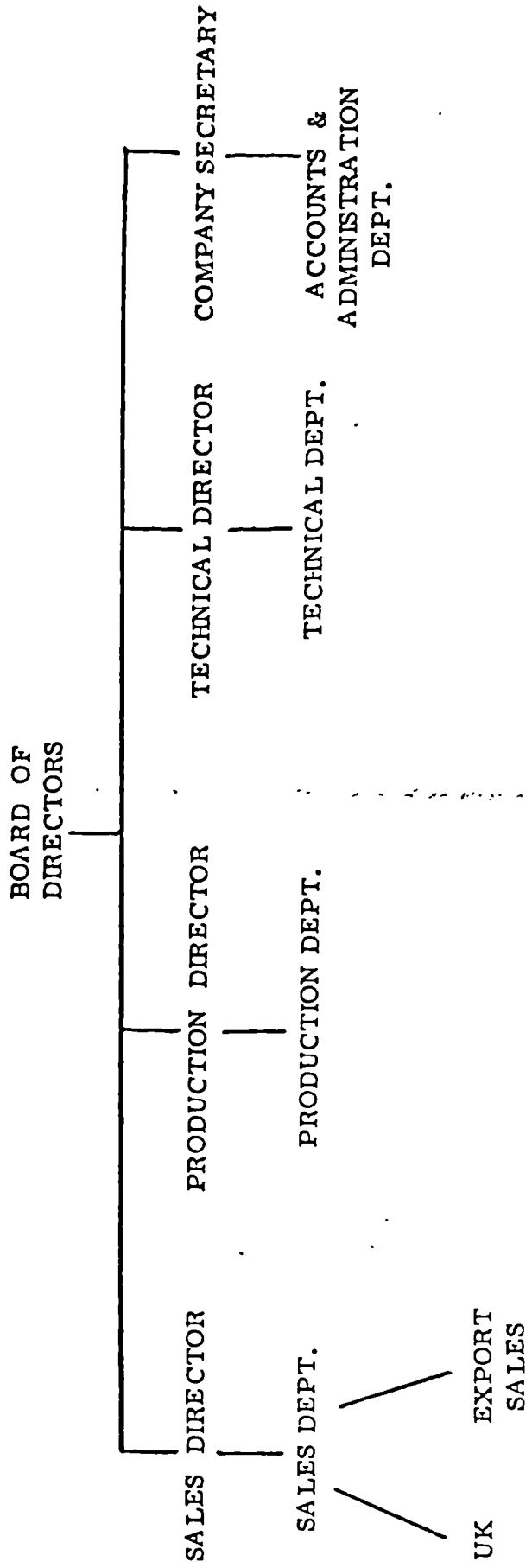
Being a very small company, employing only about 100 people, it faces fierce competition from larger European and British companies. In spite of being small the company feels that they are important for the group as a whole. It commenced building on a new site in 1978 and despite the demands of running the business in difficult world markets whilst organizing the new factory, earned record profits mainly in export markets.

As far as internal structure is concerned, the company is differentiated into three departments and a company secretary's office. Directors of those departments are all members of the board. Organizational structure is shown in Figure 9.

5.1. The Group

The group comprises diverse engineering companies grouped into

FIGURE 9 BF5 ORGANIZATIONAL STRUCTURE



four divisions whose principal activities are: manufacture and marketing of special steels, non-ferrous products, manufacture and supply of machine tool equipment, manufacture of papermaking, textile, hospital and industrial laundry machinery. The company is also engaged in the development of residential, commercial and industry property. BF5 is part of the engineering division, which achieved the group's biggest trading profit.

The whole group employed 14,000 people in the UK in 1978, and has subsidiaries operating in USA, Commonwealth countries and Europe.

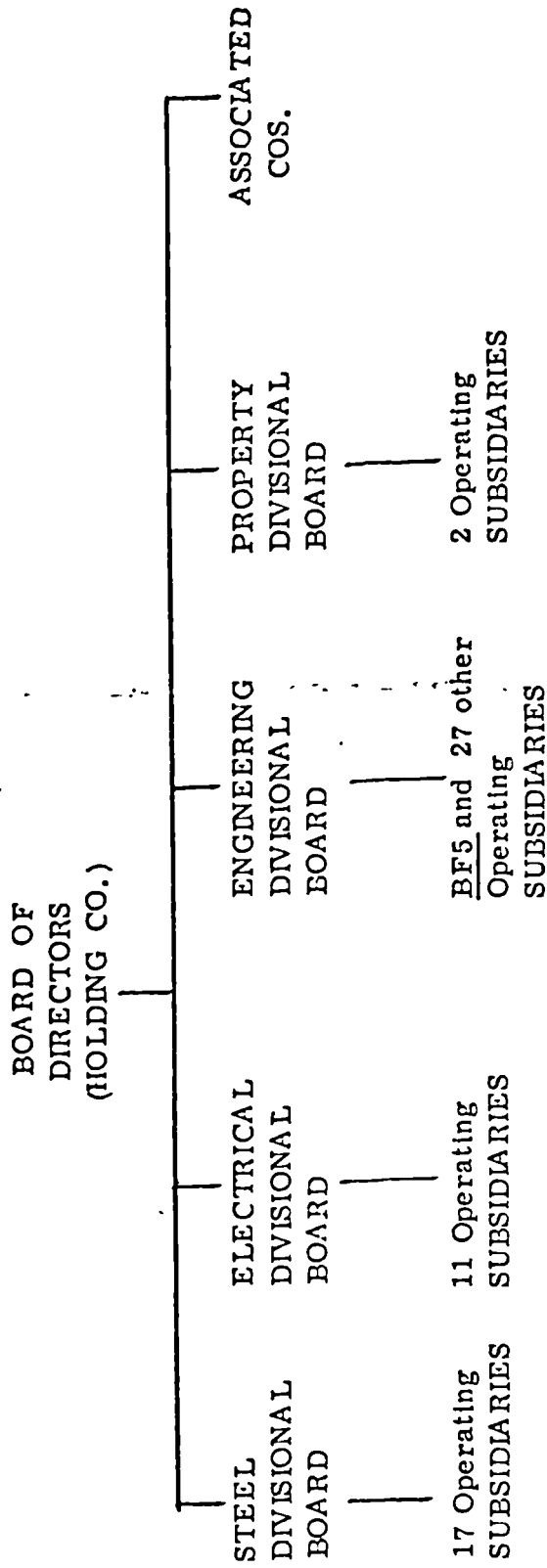
Group sales were £230M in 1977/78 but profits were not sufficient to finance all expenditure. In 1978 net assets amounted to £86.3M.

5.2. Links with Headquarters

Despite being financially monitored by the parent, BF5 has a large degree of autonomy for decisions which do not demand high investment, once capital expenditure is specified in its budget. Apart from being a financial umbrella for BF5, the holding company provides assistance on insurance, auditing, loans, health and insurance.

As shown in Figure 10, each major business area has a divisional board which is responsible for various separate companies which also have their own boards of directors. Figure 10 has been built up from the parent

FIGURE 10 BF5 LINKS WITH HEADQUARTERS



annual report, and should therefore be considered as an illustration of group complexity rather than of details of hierarchical structure.

6 Health District (HD)

HD is one of the biggest districts in the Northern area serving a population of 32,300 with its 9850 staff members. As a teaching district it comprises four hospitals with an overall total of 2567 beds to serve this community.

As a health district it operates within the same framework as any district in the NHS and has similar organization structure and function within the same guidelines. The district is the basic operational unit within the health service and the term refers to population served by health services. The group of people responsible for the planning and operation of integrated services within each district is called a District Management Team, which is usually composed of: District Administrator, District Treasurer, District Nursing Officer, District Community Physician, a Hospital Consultant and a General Practitioner.

Usually in each district there is a single District Medical committee to represent all general practitioners and specialist staff in the hospitals but in this district, due to its size, the two biggest hospitals each has its own medical committee. As opposed to other members, who are appointed, medical representatives are elected.

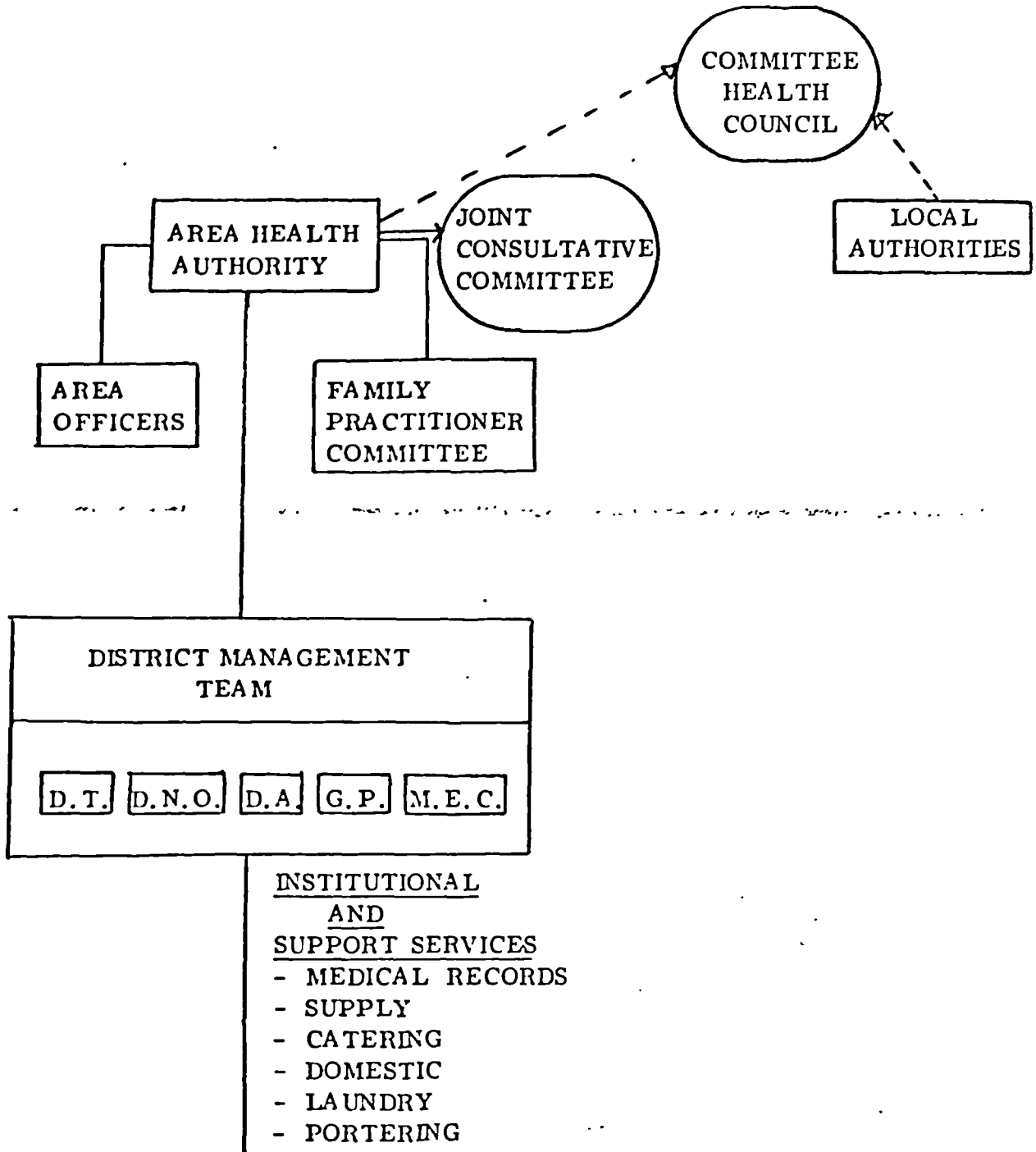
The DMT is responsible for management and coordination of most operational services of the NHS. One of its essential tasks is the formulation of policies and planning of services to attend community needs for health care and consequently the organization of action to diminish gaps between those needs and standard of services actually provided. It is the District's responsibility to implement plans already approved by the next higher level, the Area Health Authority (AHA).

Each member of the DMT has duties concerning his particular office as well as those in which he shares responsibilities with the others in the team. Therefore, apart from being accountable individually to the AHA for the management of some district services they are also jointly responsible for functions delegated to the team. Within the management team, each member is equal in status, no member being superior to another on the managerial side. Decisions should, hence, be reached by consensus. When divergence of views makes consensus impossible of attainment, the decision has to be referred to the AHA.

Frequency of meetings of members of the team varies between once a week and once a month.

Figure 11 shows the organizational structure of the DMT. The DMT is also in charge of providing institutional and support services such as the provision of stores, catering services and maintenance services required

FIGURE 11 HEALTH DISTRICT ORGANIZATIONAL STRUCTURE



- D.T. District Treasurer
- D.N.O. District Nursing Officer
- D.A. District Administrator
- G.P. General Practitioner
- M.E.C. Medical Executive Committee

by hospitals. As it can be seen in this figure, those services are under managerial control of the district.

6.1. Area Health Authority

As can be seen in Figure 2, inter-organizational relationships within the health services are remarkably complex and from the department of Health downwards there are many subsystems within the health services itself and other interest groups which either directly or indirectly influence or impose constraint on DMT actions. Nevertheless since this study does not intend to go deeply into the health services organization structure this chapter will only briefly describe the AHA, the NHS subsystem to which the district is directly accountable.

The AHA which this district is part of also comprises two other districts one of which too is involved with teaching activities. As any other AHA it is responsible for the planning of services, establishment of priorities and allocation of resources according to community needs and national and regional guidelines.

One of the Authority's jobs is to appoint officers, the Area Team Officers (ATO) and members of District Management Teams. It is also responsible for reviewing and challenging objectives and plans submitted to it by the DMT and ATO. AHA should be able to resolve competition for resources among districts and evaluate their performance.

Whilst responsibility for major operational functions is delegated to districts, the AHA has mechanisms of control to ensure that each district under its authority is doing its job properly. Consequently, DMT's have to submit an annual proposal to AHA recommending objectives and priorities for development services, allocation of resources, action to tackle difficulties and to obtain proposed objectives. DMT's have, therefore, autonomy to manage services but within the limits of an agreed plan. As well as helping districts to formulate their proposals, Team Officers advise the area on the approval of those plans and provide information on each DMT's progress towards previously agreed targets. However, ATO are not responsible for district performance. While hierarchically superior to DMT, they are both accountable to AHA.

The same sort of organization structure is repeated in the level immediately above, the regional level, which similarly is in charge of resources allocation to areas and delegates responsibilities to Regional Team Officers to assess area performance. However, whereas RHA and AHA are mostly involved with allocation of resources and setting of priorities according to national policies for the population areas for which they are responsible, districts are primarily absorbed in implementation of plans and identification of community needs.

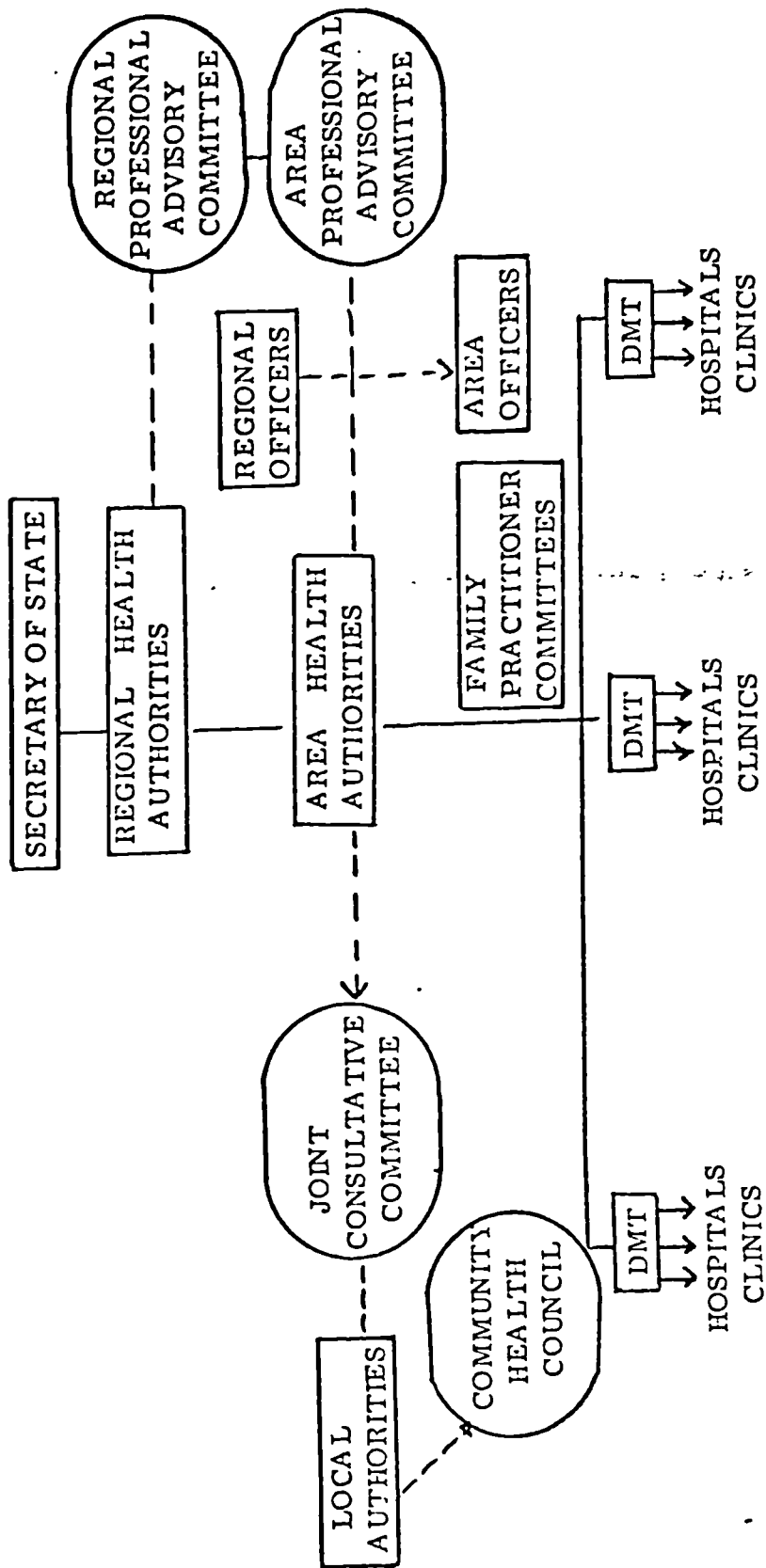
7 The Universities

Although both universities are amongst the most recent of Britain's

universities, they started their activities in the nineteenth-century as colleges of technology. After the Robbins committee suggested in 1963 that Colleges of Advanced Technology should be given the status of universities, they were all granted the Royal Charter late in the decade, including U1 and U2.

Despite having similarities such as size, U1 with 4769 students and U2 with 4283 students (1977 data) and a common emphasis on Engineering and sandwich courses, they differ in academic organization. Whilst U1 has moved away from a departmental type of structure to grouping disciplines in Schools of Studies, U2 on the other hand is structured in more conventional departments. However, at the next level the result is much the same, except for a difference of terms. Whereas U1 arranges its multi-subject Schools into what are known as Boards of Studies, Engineering, Life Sciences, Physical Sciences and Social Sciences, U2 is divided into Faculties of Engineering, Science, Social Sciences and Arts. While disciplines in U1 range from Engineering subjects through Medical Sciences to Computer Sciences and Peace Studies, U2 offers a smaller number of disciplines but puts even more emphasis on contact with industry and commerce. It then has a reputation of being one of the leading Universities in getting rapid employment for its first degree graduates. In 1976 the unemployment rate for U2 graduates was 6.2, well under half the figure for graduates from British Universities taken as a whole.

FIGURE 12 HEALTH SERVICES ORGANIZATION STRUCTURE



In 1978-9, out of 4,918 U1 students, 2,442 were science or technology based, 1130 arts based, 670 arts/science based and 670 post-graduates. In 1977-8, of 3,915 U2 undergraduates, 789 were studying pure or applied sciences, 1796 engineering, 823 were studying arts or social sciences, 507 were engaged in interdisciplinary subjects and 583 were involved in postgraduate courses.

Figures 13a and b show the administrative structure for U1 and U2 respectively. While administrative responsibilities are divided between the Registrar's Department and Bursar's Department in U1, in U2 they are all under the Registrar's control or under direct supervision of the Vice-Chancellor. In U1 for example, the Finance, Estates and Building, and Catering functions are under the responsibility of the Bursar's Department, but in U2 those functions are all encompassed by the Registrar. The Registrar's function in U1 seems, therefore, to be more concerned with academic areas, whereas in U2 this function deals mostly with finance and administrative based activities.

7.1. Organizations which may influence the Universities' Decision Making Systems

As in the health organizations, in universities there are also other people and bodies outside the day to day administrative system which can influence or impose constraints on universities' decision making processes. They are, for instance, financially dependent on other organizations who

FIGURE .13a U1 ADMINISTRATIVE STRUCTURE

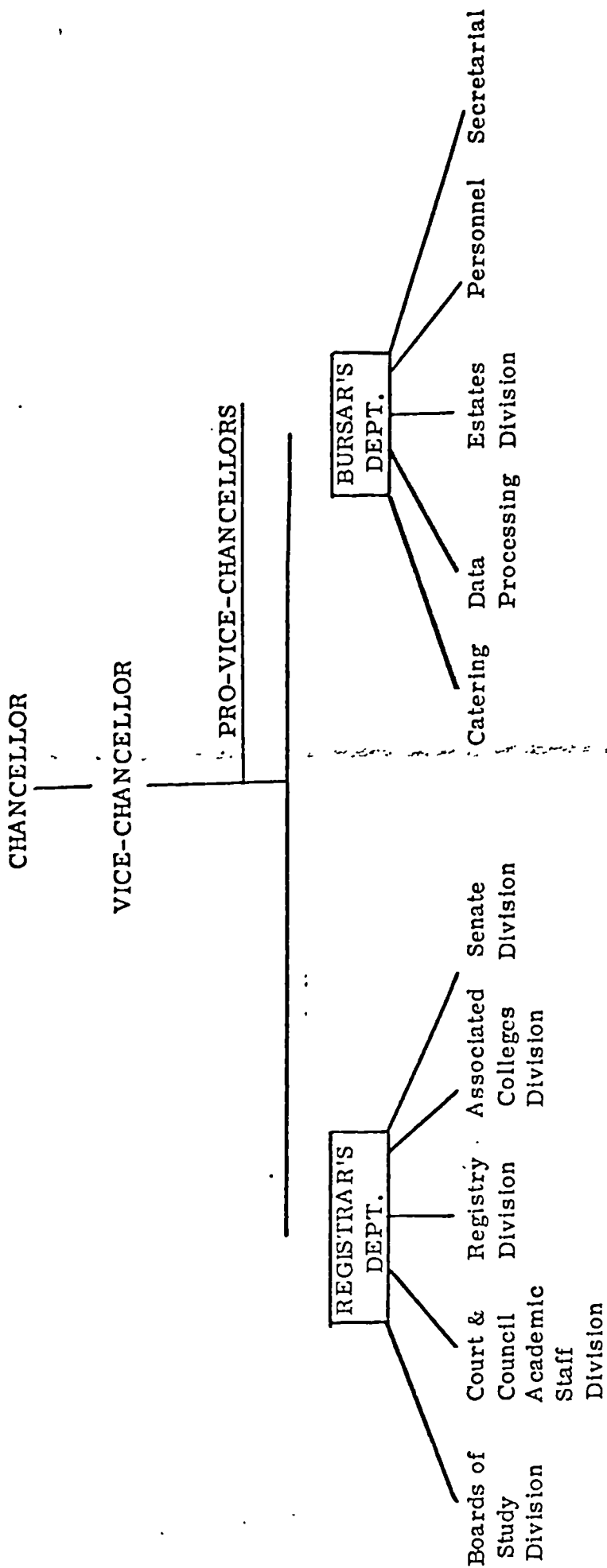
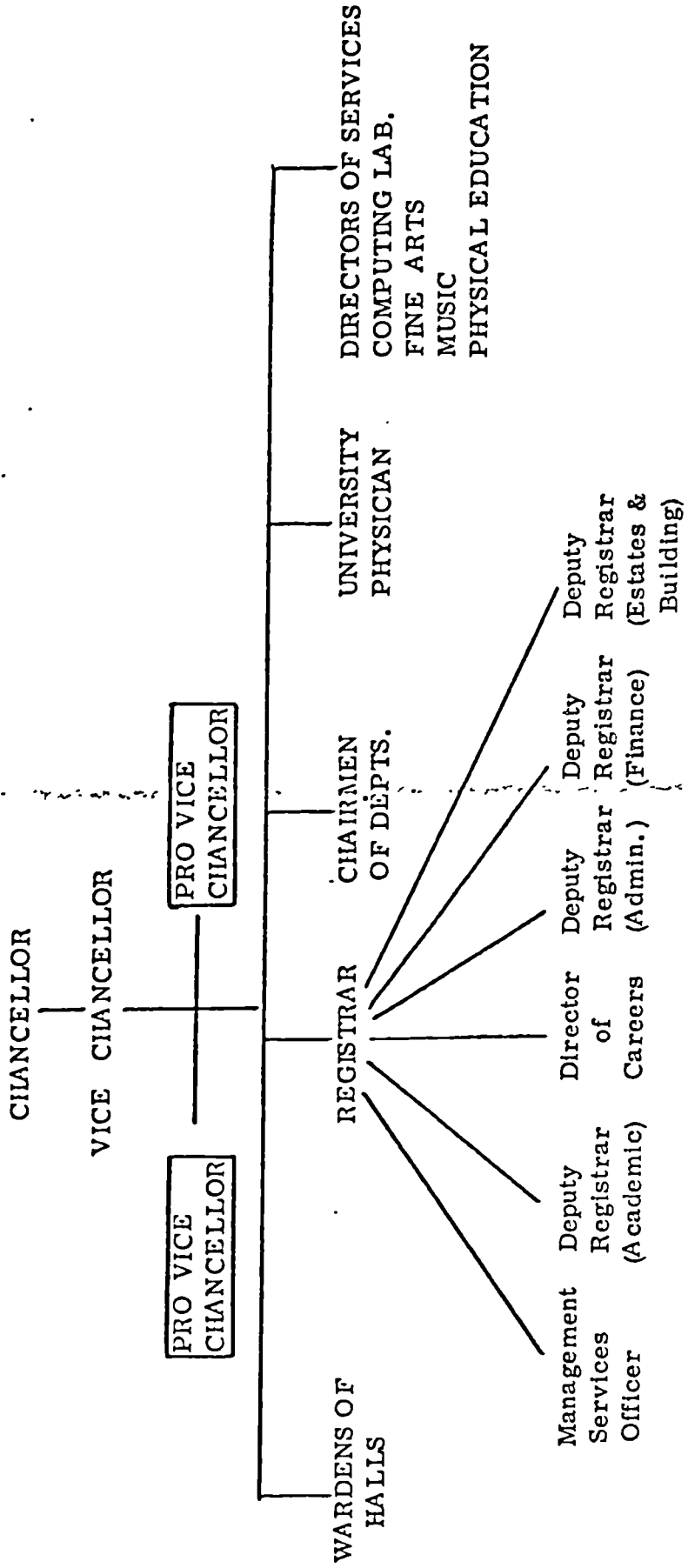


FIGURE 13b U2 ADMINISTRATIVE STRUCTURE

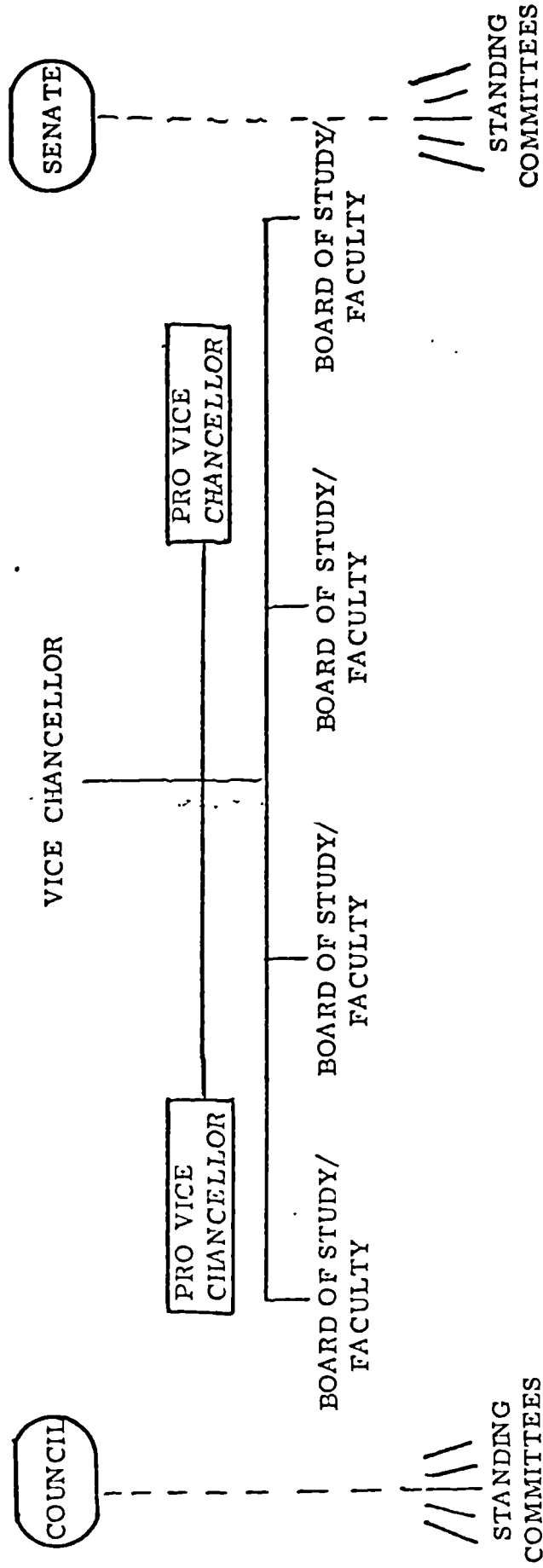


provide money to them such as local authorities (indirectly through student fees), research councils, and mostly on the University Grants Committee.

Figures 13a and b represent mostly a day to day administrative structure. However, the system in which decisions are taken is much more complex than what apparently is shown in these figures. Despite the maximum executive responsibility represented by the Vice-Chancellor, there are bodies which are also responsible for university government such as the Court, Council, Senate and Board of Studies, and there is external representation on the first two of these. The Court is the largest of these and meets annually to receive a report of the Vice-Chancellor on the work of the University and also the annual statement of accounts. It is presided over by the Chancellor and is attended by members of Senate and Council and representatives of educational, religious, civic, industrial, commercial, and professional organizations. The Council, apart from the Vice-Chancellor and Pro-Vice-Chancellor and members of the Senate and Court, similarly includes personnel outside the University such as representatives of counties and industries. This organ is, on the other hand, mostly responsible for control and disposition of all properties and finance of the University.

The Senate, comprising mainly academic staff and the Librarian, is the supreme academic authority in universities. Each Board of Studies, or Faculty, is responsible to it.

FIGURE 14 UNIVERSITIES PARALLEL DECISION MAKING STRUCTURE



While these bodies represent the main line of authority, authorization for non routine decisions is based on information and suggestions made by committees and sub-committees. Senate and Council have powers to establish such committees which are responsible for specific areas and problems. Their job is to gather relevant information, formulate plans and advise Senate and Council on alternatives available. Although the Vice-Chancellor and Pro-Vice-Chancellors are members of all committees which deal with subjects important for the university as a whole, there is also opportunity for participation of students, academic and non-academic staff in those committees. Figure 14 shows this parallel system in which decisions are taken in universities.

APPENDIX E

APPENDIX E: CONSTITUTIVE AND OPERATIONAL DEFINITIONS OF VARIABLES

Composite Variables (composed of more than one base variable) and Non-Composite (or base) Variables shown separately. Questionnaire and Interview Items indicated by (Q) and (I)

A. COMPOSITE VARIABLES

	Constitutive Definition	Operational Definition
	<p><u>RESOURCES AVAILABILITY</u> (The amount of resources/information which are available for the making and implementation of the decision)</p>	
Q14b(Q)	Quantity of resources (The extent to which resources were available to make the decision)	A factor score representing a linear combination of scores of the constituting variables according to their respective loads on the factor.
Q15b(Q)	Timeliness of resources (The extent to which resources became available in time or late)	The mean of a decision's total score on the amount of various types of resources according to a five point interval scale, ranging from "Not at all" (weighted 1.00) to "Very much" (weighted 5.00)
Q7b(Q)	Quantity of information (The extent to which information was available for making the decision)	The total score on the time when various types of information became available, according to a five point interval scale ranging from "Well in time" (weighted 1.00) to "Very late" (weighted 5.00)
		The mean of a decision's total score on the amount of various types of information according to a five point equal interval scale ranging from "Not at all" (weighted 1.00) to "Very much" (weighted 5.00)

APPENDIX E: continued

	Constitutive Definition	Operational Definition
Q8b(Q)	Timeliness of information (The extent to which information became available in time or later)	The total score on the time when various types of information became available, according to a five point equal interval scale, ranging from "Well in time" (weighted 1.00) to "Very late" (weighted 5.00)
Q11b(I)	Generation of information (The degree to which search activities brought out the necessary information)	A score on a five point interval scale ranging from "Not at all" (weighted 1.) to "Very much" (weighted 5.), on how successful activities to gather information were.
Q9(Q)	Accuracy (The extent to which information was correct)	The total score on the correctness of various types of information, according to a five points interval scale, ranging from "Very inaccurate" to "Very accurate"
Q14a(Q)	<u>RESOURCES CRITICALITY</u> (The extent to which resources/information were important for the decision making)	A factor score representing a linear combination of scores of the constituting variables according to their respective load on the factor.
Q7a(Q)	Resources Criticality (The importance of resources committed in the decision)	The mean of a decision's total score for the importance of various types of resources, according to a five point interval scale, ranging from "Not at all" (weighted 1) to "Very much" (weighted 5)
	Information criticality (The extent to which special information was important for making the decision)	The mean of a decision's total score for the importance of various types of information, according to a five point interval scale, ranging from "Not at all" (weighted 1) to "Very much" (weighted 5)

APPENDIX E: continued

	Constitutive Definition	Operational Definition
	<p><u>DURATION</u> (The period of time between the recognition of the strategic stimuli and the commencement of implementation)</p>	
Q5a	Promptness	The sum of the standardized scores on the constituting variables.
Q6a	(The extent to which the response to the decision stimulus was immediate)	The time lag in months between the recognition of the need for a decision and initial decision activities.
Q17a	Length (the period of identifiable decision making activity)	The number of months between the first decision activities and the decision to implement.
	<p><u>TARDINESS</u> (The extent to which the decision process was perceived as late)</p>	
Q5d	Delays in the recognition of the decision stimulus	The sum of the standardized scores on the constituting variables.
	(The extent to which the commencement of specific decision making action was later than it ideally might have been)	The number of months the commencement of decision making activities was perceived to be late.
Q17c	Delays in the process (The extent to which the decision making process was protracted beyond the time it ideally might have taken)	The number of months by which the decision could have been quicker.

APPENDIX E: continued

	Constitutive Definition	Operational Definition
	<p><u>SUCCESSFULNESS</u> (The degree to which a decision brings advantages and takes opportunities without bringing further problems for the organization)</p>	<p>The sum of the standardized scores on the constituting variables.</p>
Q3b(Q)	<p>Proactivity (The degree to which the opportunity(ies) which evoked the decision was (were) realized/taken)</p>	<p>The mean of a total score in a three point interval scale, ranging from "Not solved" (weighted 1.00) to "Wholly solved" (weighted 3.00) on a number of opportunities which gave origin to the decision</p>
Q13(I)	<p>Propitiousness (The extent to which unforeseen advantages were exposed by the decision process)</p>	<p>The total number of opportunities and advantages which unexpectedly appeared with the making of the decision.</p>
Q14(I)	<p>Disturbance (The extent to which unforeseen problems were exposed by the decision process)</p>	<p>The total number of problems and difficulties which unexpectedly appeared with the making of the decision.</p>

APPENDIX E: continued

B. NON-COMPOSITE (base) VARIABLES

	Constitutive Definition	Operational Definition
Q13(Q)	Pressure of Time (The extent to which there was urgency to implement the decision)	A score on a five point interval scale ranging from "Not very important" (weighted 1.00) to "Extremely important" (Weighted 5.00) on the extent to which time constraints were important.
Q11(Q)	Disagreement (The degree to which there were expressed differences as to the decision process)	A score from a five point scale, ranging from "Not at all" (weighted 0) to "Very much" (weighted 4.00), resultant from the following formula: $\frac{\text{Summation of scores on the five point scale}}{\text{Possible amount of disagreement (no. of hierarchy levels} \times \text{maximum amount of disagreement)}}$
Q12(Q)	Compromise (The extent to which conflict was settled by mutual concessions)	A score from a five point scale, ranging from "Not at all" (weighted 0) to "Very much" (weighted 4.00), resultant from the following formula: $\frac{\text{Summation of scores on the five point scale}}{\text{Possible amount of compromise (no. of hierarchy levels} \times \text{maximum amount of compromise)}}$
Q10a(Q)	Actual distribution of Influence (The amount of influence each interest had on the decision process)	A score on a five point scale (from 1, little influence, to 5, a very great deal) attributed to the interests involved in the process by the respondent on the amount of influence each had in the decision process.
Q10b(Q)	Desired Distribution of Influence (The amount of influence each interest desirably should have had on the decision process)	A score on a five point scale on the amount of influence (from little influence - 1, to a very great deal of influence - 5) the respondent would have preferred each interest to have had.

APPENDIX E: continued

	Constitutive Definition	Operational Definition
Q10a(Q)	Total Influence (The total amount of influence exercised by all interests on the decision process)	The total scores of all interests on the five point scales of actual influence.
Q10a(Q)	Diversity of interests (The range of interests in the decision process)	The number of interest units, internal and external to the organization, which exercised influence on the decision process.
Q10a(Q)	Higher Management Influence (The amount of influence exercised by interests at higher hierarchical levels)	A formula of the amount of influence exercised by those in higher management: $\frac{\text{Present influence} + \text{Top Management influence}}{\text{Upper middle management influence} + \text{Middle management influence}}$
Q10a(Q)	Specialist's Influence (The number of functional specialisms involved)	A formula relating specialist and hierarchical involvement, as follows: $\frac{\text{No. of specialized functions involved in the decision making}}{\text{Number of interests at higher management level}}$
Q2b(Q)	Closure (The degree to which the problem which evoked the decision was (were) solved by the making of the decision)	The mean of a total score on a three point interval scale ranging from "Not solved" (weighted 1.00) to "wholly solved" (weighted 3.00) on each of a number of problems which gave origin to the decision

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