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Approaches to decision making

Richard J. McKenna
Edith Cowan University

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FACULTY OF BUSINESS
School of Management



APPROACHES TO DECISION MAKING

Semester 1,1997



EDITH COWAN UNIVERSITY
PERTH WESTERN AUSTRALIA

Approaches to Decision Making

Richard J McKenna

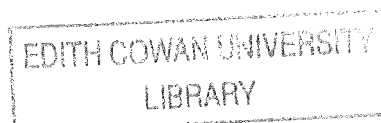
Approaches to Decision Making

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Preface

This book is designed as a brief introduction to the understanding of decision making in work settings. It is designed for use in graduate courses and should be supported by a wide range of additional reading materials and practical exercises. The approach is multi-disciplinary and pluralistic: there are many perspectives from which decision making may be viewed. Similarly, there are many differences in decision making between individuals and between contexts.

The book is intended to contribute to a raised awareness of the many issues and high complexity attaching to important decisions. It may or may not help the reader to become a better decision maker. That outcome depends on personal desire and availability of resources, including time and pressure, as much as anything else. However it is hoped that those readers who are accustomed to the traditional focus on 'rational' decision making will quickly learn that decision making is a complex and many-faceted activity.



The text is divided into six modules or parts, each looking at a specific aspect of decision making in organisations. Module 1 looks at some important philosophical issues, and introduces the 'conventional' theories based in economics and sociology. Theoretical and empirical explanations of the decision process are examined in Module 2. Module 3 explores some of the aids to decision making. The individual as decision maker is the subject of Module 4, and Module 5 examines group decision making behaviours. Module 6 is a review, and suggests some of the implications and consequences of a course of study into decision making.

This book is based on my teaching of the Approaches to Decision Making [initially Managerial Decision Making] course on the MBA programme at

Edith Cowan University [formerly Western Australian College of Advanced Education]. This course is, and always has been, highly interactive and I am indebted to the many students who have participated for many improvements in the content and overall approach.

I also acknowledge the support of the Division of Resources Design and Development and the School of Manacement at Edith Cowan for their assistance in develoing this book.

Richard J McKenna
June 1996

Module 1: What it is about

Chapter 1 Setting the Framework for Learning about Decisions

Aims of this chapter:

- to arouse your interest in the study of decision making;
- to begin the process of breaking down your assumptions and prejudices;
- to introduce the concept of 'ignorance' as a way of understanding 'knowledge';
- to make you consciously aware of different meanings of 'rational'.

Managerial decision making is complex, many-faceted, uncertain and risky. Often, individual managers must make, and take full responsibility for, decisions. But it is also likely that a decision will involve participation by a group – large or small.

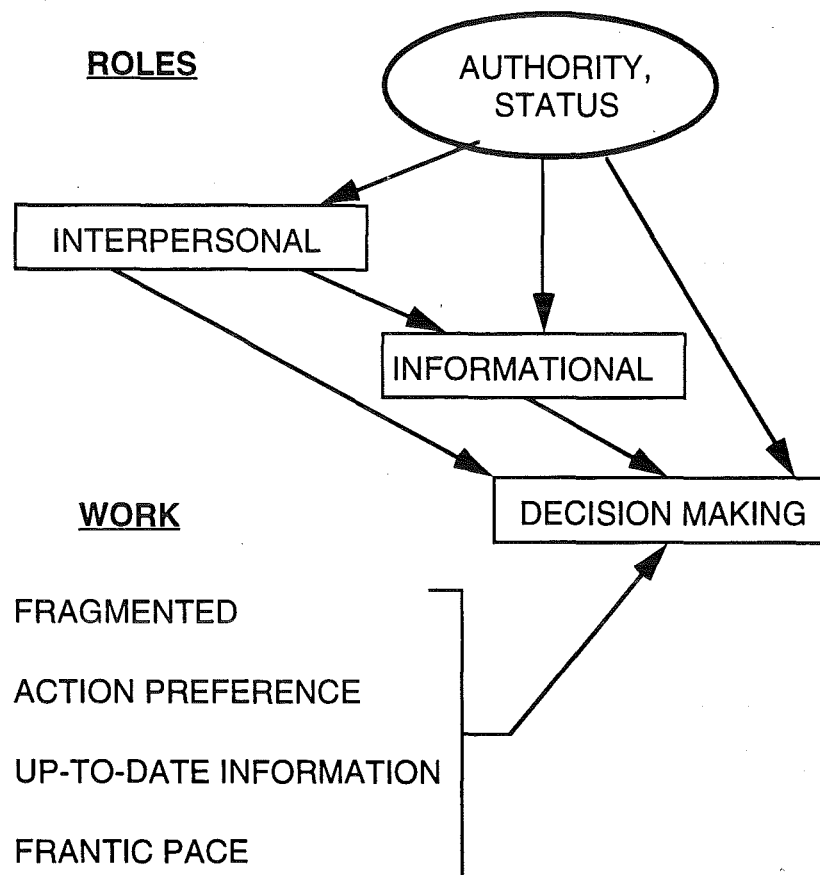
The Manager's Roles

Decision making is a major aspect of every manager's work. This is best illustrated in Mintzberg's [1973, 1975] framework [Figure 1.1]. Because of the authority and status attached to a manager's position in the organisation there are ten roles to be performed. These are grouped into interpersonal, informational and decision making. Mintzberg also described a manager's work as

- having a fragmented nature;
- being action oriented;
- having a preference for live, up-to-date information;
- being performed at a frantic pace.

All of these characteristics and the interpersonal and informational roles have an impact on the manager's decision making.

Figure 1.1
The Nature of Managerial Work
[Adapted from Mintzberg, 1973, Figure 8 and p 28-53]



Dating from Allison [1969] many conceptual models have been developed to enable description and analysis of decisions. You have the opportunity to study several of these during this course. Mason & Mitroff [1981] used the evocative terms 'tame' and 'wicked' – see Lyles and Thomas [1988]; and McCall & Kaplan [1990] used 'prepackaged' and 'ill-defined' to describe the extremes of the continuum of decision types [Figure 1.2].

McCall & Kaplan [1990] reported that there was a fairly even distribution of problems along the continuum from prepackaged to ill-defined [or from well structured through partially structured to unstructured]. This distribution is

Figure 1.2
Characteristics of Decision Types

CHARACTERISTIC	TAME ←————→ WICKED		
	Well-structured	Partially structured	Unstructured
FREQUENCY	Many	Few to many	One-off
TIME SPAN	Short	Short, medium or long	Long
DECISION PROCEDURES	Specified in advance	Partly specified	Cannot be specified
INFORMATION	Complete and accurate	Partial, with known accuracy	Incomplete, unknown accuracy
MANAGERIAL INVOLVEMENT IN RESOLUTION	Little, if any	Final decision using results from structured portion	Resolved using experience, beliefs and judgement
BELIEFS ABOUT CAUSE/EFFECT RELATIONSHIPS	Certain	Certainty regarding some aspects	Uncertain
PREFERENCES REGARDING POSSIBLE OUTCOMES	Certain	May be certain	Uncertain
OUTCOME	Repeated resolutions produce the same result	Two managers may agree on relevant data but reach different conclusion	Managers may reach different conclusions

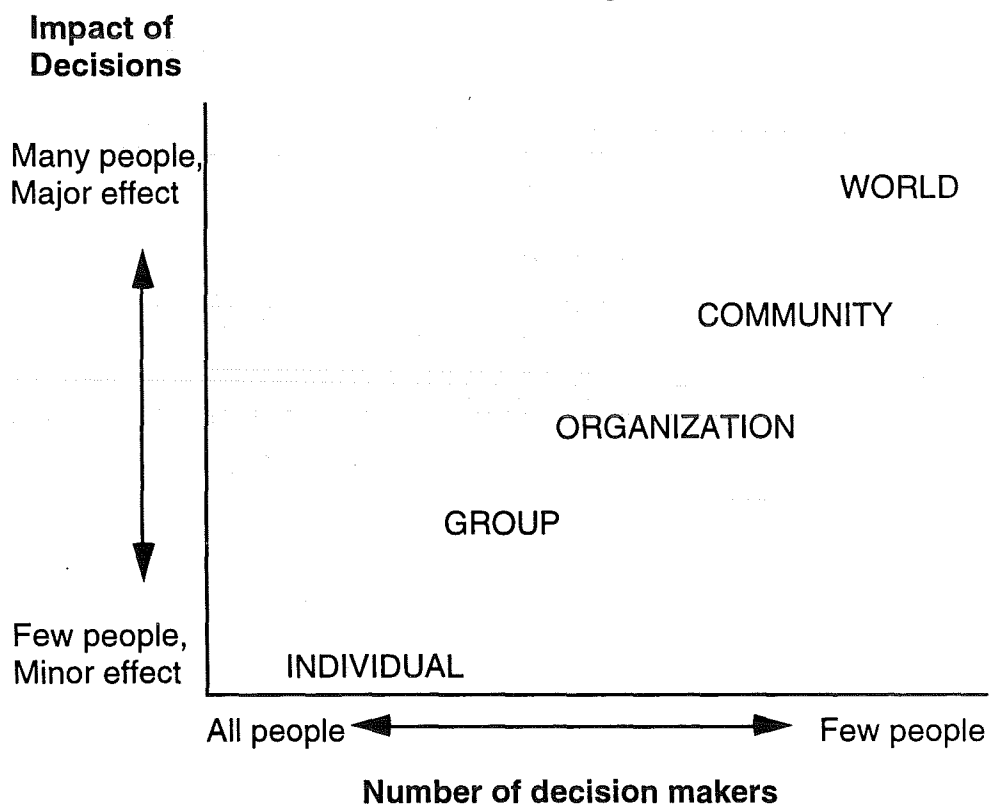
% of total : 22.4 18.2 22.9 15.4 21.1
(McCall & Kaplan, 1990, p13)

shown by the percentages at the bottom of Figure 1.2. In this course, our focus is on the problems near the 'wicked' end of the continuum. The 'tame' problems can be routinized so as to have little analytical interest. A qualification of course

is that at some time in the past these routinized problems were probably new and, therefore, wicked.

Another way to appraise the context of problems is according to the number of people involved in decision making and the number affected [Figure 1.3]. Harrison [1995: 12-17] notes that while all individuals make decisions that affect a limited number of individuals and small groups, a few make decisions which have a very wide ranging impact.

Figure 1.3
A Hierarchy of Decision Making
[Based on Harrison, 1987, p 11-16]

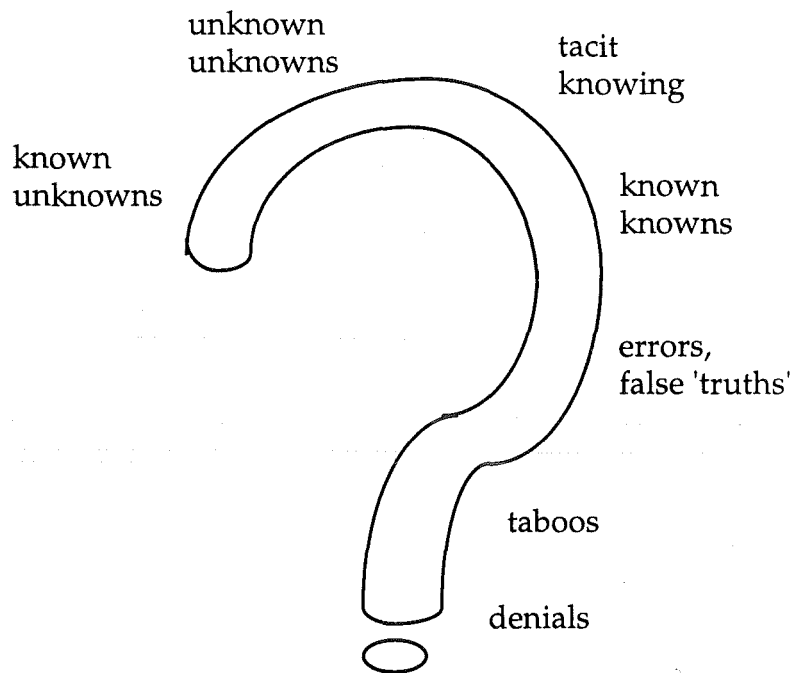


A diversion to the world of ignorance, paradigms and rationality

Most of us are usually fairly certain of our ideas and opinions on most subjects, including those about which we make decisions. This confidence is often misplaced [McCall & Kaplan, 1990; Kerwin, 1993]. In fact, in addition to the things

we know and those we are aware we don't know, we also 'forget' what we have learnt, don't know what we are ignorant about, hold 'false truths', and are ignorant about other things because we don't want to know, or have been told we should not know. These areas of knowledge and ignorance can be mapped [Kerwin, 1993, 1994]. [Figure 1.4]

Figure 1.4
Learning from Ignorance
[Kerwin, 1994]



Given opportunity and desire we can learn about the things we know we don't know, and in doing so we may become aware that there are other matters of which we did not know – our unknown unknowns. Knowing about them makes it possible for us to start learning about them. Also, we often have knowledge of things but are not consciously aware of this knowledge – tacit knowledge. By exploring our unknowns and our known knowns we can discover these things we have forgotten we know, or when needed, they may leap into our consciousness.

Also, there are things we think we know – erroneously. We are wrong! In fact, through time, whole bodies of "knowledge" can be proven wrong. In medical science it has been found that 50% of "knowledge" is proven wrong within ten years. Unlearning erroneous knowledge is as important as developing knowledge from our unknowns.

Finally there are matters which we are not permitted to know, or do not wish to know – the taboos which are outside the ruling paradigm, and our denials or knowledge that is too painful to face.

Thinking about the things we believe we know, and exploring the limits of our knowledge help us to become aware of the assumptions and principles underlying the decisions that we make. This exploration requires a variety of learning methods: discussion, observation, experimentation, finding and reading appropriate books, viewing pictures and films, listening to sound recordings, attending formal courses, etc.

ACTIVITY: THINKING

Think about one or more of the following statements.

What do you know about it? What don't you know?

Map the unravelling of your ignorance, and your knowledge.

- a] Meeting our needs without jeopardizing the prospects of future generations to meet their needs?
- b] The effects of the computer on the kinds of knowledge, forms of communication, and ways of knowing experienced by managers?
- c] Measuring the success of work organisations?

Paradigms

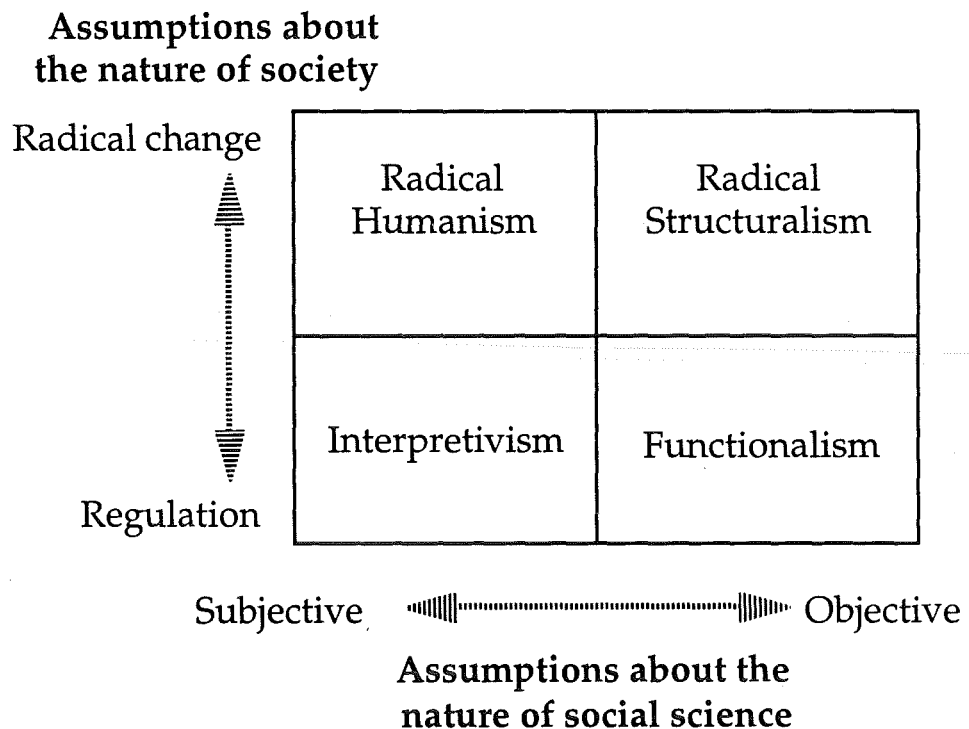
Most of us are aware of the concept of paradigms made popular by Burrell & Morgan [1979/1988] and Kuhn [1970]. The Burrell and Morgan framework is useful in that it helps us appreciate the approaches different people take to organisational life. They classified belief systems along two vectors:

- regulation to radical change;
- subjective to objective.

Taken together these provide four archetypes: interpretivist, functional, radical humanist and radical structuralist. [Figure 1.5] Functionalism dominates organisational theory and research. However, during the 1980s interest in the importance of cognition has brought concepts from psychology into organisation analysis with a consequent emergence of the interpretivism paradigm.

The Burrell & Morgan matrix is just one of many ways of classifying approaches to understanding organisations. Another is through the paradigms used by various communities of scholars [disciplines] such as economics, sociology, psychology, anthropology. Each has assumptions about what is important for the understanding of the behaviour of individuals and organisations. These assumptions define what is legitimate in terms of knowledge and techniques of analysis. Thus, analysts from each can view particular situations and come to quite different interpretations, conclusions and recommendations. Sometimes they may even agree on conclusions

Figure 1.5
Four paradigms of organisational analysis
[Burrell & Morgan, 1979/1988]



and recommendations, but for very different reasons. In coming weeks we will compare some of these paradigms.

The vectors used to classify paradigms are continuums rather than absolutes: there are grey areas of transition from one to another. Each paradigm provides one perspective, and a pluralistic, multi-disciplinary approach is necessary for understanding the decision process – the why and how of any particular decision. You can not declare a particular paradigm view correct and another incorrect in any absolute sense. A view becomes dominant because of the compelling nature of the advocate's argument [Gioia & Pitrie, 1990], and because it is accepted as a

part of the deep cultural patterns of thought and behaviour of a community.
[Bowers, 1995]

Rational behaviour

The way in which we understand the world around us affects the approaches we take to decision making. One important aspect of this understanding is how we define rational behaviour. There are three valid definitions of rationality [Stacey, 1993, p 22-3].

Reality-testing Rationality involves testing for reality, where that reality might be of an emotional, ideological or cultural kind. Rational means sensible, reasonable in the circumstances, sane, not foolish, absurd or extreme.

Rationality Rationality is behaving and deciding only on the basis of propositions that can be consciously reasoned about, rather than on the basis of customs, norms, beliefs. Rational means rejecting that which can not be proven or tested by reason applied to objective facts.

Technical rationality Rationality is behaviour that is preceded by fixing objectives and weighing up options based on observable facts. Rationality is a method of deciding that involves setting clear objectives, gathering facts, generating options, and choosing one that maximises or satisfies the objective.

Of these three meanings of rational

- the second and third reject the first as being irrational;
- the first suggests the others should be avoided.

All three meanings are acceptable, and enable conflicting explanations of how managers seek objectives through strategic decision making.

Definition

So far, I have not attempted a definition of *decision* or *decision making*. This is because it is important that you approach the concept with an open mind. "It is important not to start out by assuming *that which we wish to explain*." [Chia, 1994: 801] Observer-language such as 'decision making' infuse and become part of the intellectual 'baggage' of academic discourse. In writing about and discussing concepts such as 'decision' we impose our own subjective paradigm view of the reality under discussion. In opening up your paradigm view, I should not attempt to replace your prejudices and bias with my own.

It is convenient to explain life, including organisational life, in terms of intention or goal, choice, and significant events. But, underlying these are a myriad of contending subprocesses present in every cognitive act which make present a version of reality. [Chia, 1994: 802] A *decision* is not a black and white event. Rather it is an interactive series of gloriously coloured microcosmic operations and 'being there' which bring forth and insistently make present a version of reality. [Chia, 1994; Langley, et al, 1995] Some useful definitions are:

"[D]ecisions – even those that on the surface seem straightforward, such as the design of a cargo latch – are not simple, discrete events.

...

Decisions are streams of choices.' [McCall & Kaplan, 1990: 3]

"[D]ecisions are active operations which bring forth and hence privilege discrete 'events' and 'entities' at the expense of movement, action and becoming. Such events and entities thereby appear to be unproblematically discrete, independent, identifiable [e.g. a decisional 'event'] and hence readily amenable to systematic analysis." [Chia, 1994: 800]

"[D]ecision-making is best understood as a process of reality creation through organization members' representations of their own role and activity.' [Laroche, 1995: 72]

"[D]ecision, like so many other concepts in organization theory, is sometimes an artificial construct, a psychological one that imputes commitment to action. For individuals as well as for organizations, commitment need not precede action, or, perhaps more commonly, whatever commitment does precede action can be vague and confusing.' [Langley, et al, 1995: 266]

Decision Debacles

Because of the inherent nature of decisions it is difficult to analyse 'good decisions' – the beliefs, operations and beingness that bring forth successful actions and commitments. As Nutt [1989: 13] observes, bad decisions point out the need for better understanding, and better processes in decision making. Thus, a good starting point is to review and analyse some classic bad decisions.

Chapter2 Perspectives on Decisions

Aims of this chapter:

- to introduce different models of Man;
- to introduce theories of the firm;
- to raise your awareness of a range of economic theories;
- to introduce the sociological approach to understanding organisations;
- to make readers aware of the embeddedness of theories.

Whatever the nature of decisions, and however problematic the definition, there is value both in understanding how decisions are made and in developing theories and models to assist decision makers. At least, it is desirable to contribute to a reduction in the number and seriousness of decision debacles. As noted above, each of us approaches the decision field from our own individual perspective, carrying the baggage of our own paradigms. It is useful to appreciate the nature of some of the broad paradigm and discipline categories which can legitimately be applied in describing and analysing decisions, and in explaining and predicting decision making behaviour.

"What each analyst sees and judges to be important is a function not only of the evidence about what happened but also of the "conceptual lenses" through which he looks at the evidence." [Allison, 1969: 689]

Models of Man

A useful starting point is consideration of possible conceptions of persons, or 'models of Man'. There are five generic models which have relevance to the study of organisations and decision making. The models and their basic assumptions are:

Rational Economic Man

Atomistic economic agents, both individual persons and firms, pursue their own self-interests. Consumers seek to maximize utility. Firms seek to maximize profit, and in doing so they

- choose a least cost combination of inputs for each level of output,
- choose that level of output that maximizes profit,
- have perfect knowledge and information,
- behave atomistically – that is, decision makers within the firm act as one in pursuit of a common goal.

Bureaucratic Man

It is recognised that organisational decisions are made by people, and that people are not a homogeneous goal-oriented species. However, individuals are malleable and can be influenced by the structure and design of the organisation. Each manager is a specialist, and can be allowed to exercise discretion according to delegated authority.

Decision makers may be individuals, but their decisions are governed by the office or position held. A powerful organisational internal decision structure governs all decision making.

Social Man

In organisations, individuals come together as a group subject to informal guidelines and rules for behaviour. Decision makers belong to groups and are guided by the group's purposes and guidelines. Decision making is governed by the needs of groups within the organisation.

Behavioural Man

There are several models which stress the importance of the 'inner' or psychological factors of the person. These will be reviewed in Module 4. A well known example is Maslow's hierarchy of needs model which states that individual needs form a five-level hierarchy: physiological, safety, belongingness, esteem, and self actualisation. Decision making will be shaped according to the dominant level of need.

Political Man

Within organisations, and other social systems, decision makers have

- a base of power through the control of resources, technical skills, or a body of knowledge,
- the willingness to use this power to optimise their own position,
- political skill.

Political action takes place when an actor [decision maker]

- recognises that the achievement of its goal is influenced by other actors in the situation,
- undertakes manipulative action against some or all of the others.

Theories of the Firm

Theories of the firm provide a perspective for thinking about organisational objectives and a framework for analysing important research problems. [Seth & Thomas, 1994: 166] There are a number of such theories – each set in its own paradigm, and with a particular model of Man. Most fit into the functional cell of the Burrell and Morgan matrix. Many also present organisational life in terms of intention, choice, and significant events. [Chia, 1994, see above.]

Allison [1969: 689-690] argued that

- analysts think about [organisational] problems in terms of largely conceptual models that have significant consequences for the content of their thought;
- most analysts explain [and predict] in terms of the rational economic model;
- two 'alternative' conceptual models – organisational process model and bureaucratic politics model – provide a base for improved explanation and prediction.

All of Allison's models as well as the models reviewed by Seth & Thomas would fit into the Burrell & Morgan functionalst paradigm discussed above.

Seth & Thomas [1994] reviewed several economic theories of the firm from the viewpoint of strategy researchers. The most relevant assumptions of their comparison of seven theories are summarised in Figure 2.2. The theories are also classified on two methodological vectors: inductive-deductive and normative-positive. [Figure 2.1]

The induction process starts with accepted observational statements about specific events and infers a generalisation. The deductive mode starts with a set of assumptions to prove a theorem by some standard set of rules of inference.

Normative theory is prescriptive – the establishing of a standard of what ought to be done. Positivism recognises only positive facts and observable phenomena – its aim is to describe what is, rather than what should be done. Values are excluded. This is the traditional approach of the physical sciences, and the claimed approach of neoclassical economics. Economics, however, is based on a fundamental value assumption – that every individual acts to maximize monetary gain.

Together, the orientation and process vectors describe four categories of research approaches. You should internalise this fact now. In doing so, you must not confuse analytical methodology with what is being observed.

- inductive/deductive and normative/positive provide frameworks for observation and theorising. They are not necessarily the categories of real decision behaviour. An actual decision may be, for example, inductive and normative, or it may be a mixture of all four, or even not any. It can be observed from any of the four methodological categories.

Figure 2.1
The methodology of theories of the firm.

Theory orientation	Positive	Behavioral economics Managerial economics Transactions cost economics	Neoclassical microeconomics New IO economics Agency theory
	Normative	Traditional IO economics	
		Inductive	Deductive
		Process	

Economic theories

Economic theory emerged as a discipline during the seventeenth and eighteenth centuries. Economics became the science of 'interests' with 'passions' excluded and left to the arts and yet to form social sciences. Neoclassical microeconomics was well developed when large industrial organisations began to emerge early in the twentieth century and had a strong influence on the methodology applied in the study of these organisations. Because its assumptions are somewhat unrealistic in the socio-politico-economic systems in which organisations function, neoclassical microeconomics has not always provided satisfactory explanation and basis for policy. Alternative models have been developed.

Both neoclassical theory and industrial organisation theories are based on the profit maximisation assumption, and assume that decision makers have perfect information [including certainty, instant availability of data, and forecasts of the future]. The following summaries rely heavily on Seth & Thomas [1994]

The neoclassical theory of the firm

The concept of rational economic man is central to neoclassical theory. The firm is represented by a production function subject to increasing [and then decreasing] returns to scale. The average cost curve is U shaped and intersects a price curve to define the optimum production level. The firm is an atomistic agent and its managers act uniformly [make decisions] in the interests of the owners.

Traditional IO economics

Observation that microeconomic theory did not always explain market behaviour led to development of industrial organisation [IO] economics. This was a normative approach to explain differences in performance [profits] between industries. The theory uses industry structure to explain performance through conduct. Successful firms perceive and respond to a set of environmental variables.

Figure 2.2
Theories of the firm

[Adapted from Seth & Thomas, 1994, Table 1.]

Theory	Concept of firm	Nature of environment	Goals of firm	Managers' motives behaviour
Neoclassical microeconomics	Theoretical: 'production function'	Certain, deterministic	Maximize profits	Maximize profits/rational
Traditional IO economics	Empirical	Certain, deterministic	Maximize profits	Maximize profits/rational
New IO economics	Theoretical: 'the strategic player'	Various	Maximize profits	Maximize profits/mutual rationality
Behavioural economics	Empirical	Uncertain	Multiple goals	Multiple goals/limited information processing/risk averse
Managerial economics	Empirical	Uncertain	Maximize managerial utility	Self-interest/rational
Agency theory	Theoretical: 'nexus of contracts'	Uncertain	Maximize shareholder wealth	Self-interest/information asymmetries
Transactions cost theory	Theoretical: 'Governance structure'	Uncertain, complex	Maximize profits	Opportunism/bounded rationality

New IO economics

Newer developments in IO theory have adopted game theory principles so that firms are seen as adopting a conduct to effect market structure. Firms make [technically] rational decisions to maximise their profits.

Behavioural theory

This theory rejects the underlying principles of rational economic man, replacing them with an explicit emphasis on the actual process of organisational decision

making. The atomistic firm is replaced by a collection of individuals with multiple goals who operate in a defined structure of authority. The limited ability of decision makers to formulate models and to process information is recognised. Behavioural rules of 'satisficing' [bounded rationality] replace profit maximizing. Resource allocation, output and price decision making are adaptively rational with multiple objectives and continuing organisational learning.

Managerial theories

A characteristic of large firms is that ownership [shareholders] is separated from control [management]. The managerial theories recognise this separation, and that managers have power and discretion to pursue activities beneficial to themselves rather than the shareholders. The profit maximization motive is replaced by maximization of managerial utility which may be achieved through size [sales], growth rate, access to resources and other variables. Self interest and rationality underly decision making.

Leibenstein [1978] introduced the concept of 'X-efficiency' to explain why firms do not maximize profits. X-inefficiency is the excess of actual costs over minimum costs and occurs when competition and environmental elements do not force the firm to choose a minimum cost level of output. Leibenstein sees the individual as the utility maximizing decision making unit. The individual is able to exercise discretionary effort made up of activities, the pace of those activities, their quality, and the time sequence of performing them. Each individual will choose that combination which maximizes his or her utility. The effort option will only coincide with profit maximization if there is appropriate external pressure.

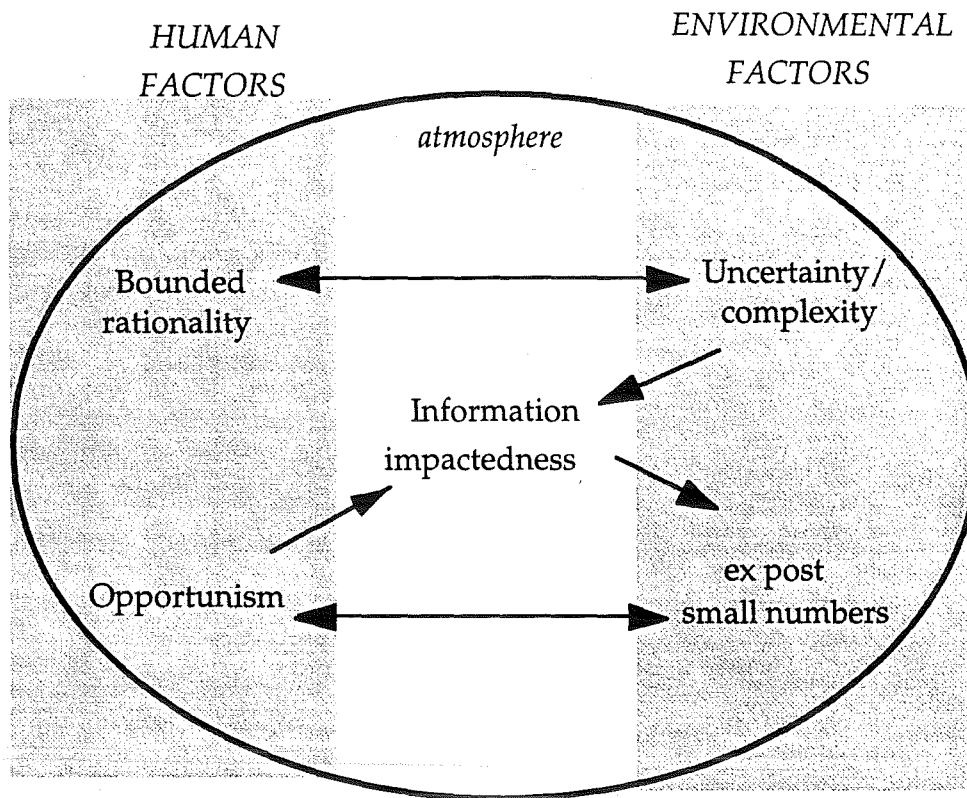
Agency theory

Firms come into existence because of the advantages of team production. Agency theory assumes contractual relationships rather than authority. Owners delegate decision making to their agents [managers]. The problems of self interest are reduced by devices [agency costs] such as monitoring, bonding and incentive packages, and external disciplines such as competition.

Transactions cost theory

Markets and firms are seen as alternative governance structures for completing a set of contracts. This theory argues that under some conditions monopoly

Figure 2.3
The transactions cost framework



markets are more efficient than competition because of 'information impactedness.' [Williamson, 1975] That is, information is not shared equally in a market – e.g. a seller has more information about the product than does a buyer. If market activities are absorbed into an organisation to become part of the hierarchy, then resource allocation, output and price decisions will be based on better information and efficiency [reducing transaction costs] will be increased. As a result both producers and buyers [the community] will be better off. This theory assumes that decision makers have bounded rationality and are opportunistic, and that there is uncertainty and complexity in the environment. The interaction of these variables leads to information impactedness, and to *ex post* small numbers [i.e. each producer serves a small group of buyers, and vice versa]. [Figure 2.3]

Summary

Traditional microeconomic theory has had major influence on the theory of organisations, policy and education. For many decades it was a powerful influence in the modelling of decisions and the decision process, both for research and for application in business organisations. The evidence of the failure of reality to match the behaviour of the theoretical firm led to both theoretical and empirical research into alternative explanations. Industrial organisation, managerial and behavioral theories, and their derivatives have been developed as attempts to find explanations which match the reality of economic behaviour. All suffer the same two major short-comings :

- they are uni-dimensional, seeing only the self-interest, monetary motivation of persons;
- they treat the firm, and the individual, as a 'black box', disregarding the internal cognitions, motivations and behaviours.

Contrasting explanations of decision making are offered by sociology and psychology. Both fields are also partial-analysis.

Sociology

Whilst economics is concerned with the efficient allocation of scarce resources to meet the needs of the community, sociology is concerned with the origin, history, and constitution of human society. Sociologists approach their problem through the study of small groups.

The sociological research into organisations gained its first major impetus from experiments at the Hawthorne plant of Western Electric in USA during the 1920s. Whilst the research was initiated to find ways of increasing worker productivity it found that factory workers are more sensitive to the attitudes of their fellow workers than to economic incentives. That is, workers are motivated more by belongingness than by utility [monetary] maximization.

Empirical research into the behaviour of groups advanced rapidly in America during the 1930s. [Cartwright & Zander, 1968] Social norms were recognised as being simultaneously the product of social interaction, and social stimuli which impinge on individual members of a group having those norms. Lewin, *et al* [1939] applied an open systems approach: inputs→processes→outputs. He also contributed to the development of a theory of the use of group decisions as a means of changing community behaviour.

Group behaviour

Behaviour in work groups is determined by activities, interactions and sentiments. [Figure 2.4] This is an open system model in that activities and interactions are imposed by the organisation, and sentiments are shaped by self-interest and motives generated in different groups [family, social, religious, etc]. According to Homans [1950], informal groups develop in work organisations because emergent behaviours [activities] interactions and sentiments supplant or supplement required activities, interactions and sentiments. The group develops its own decision goals, criteria and processes because a group

- is interdependent with its environment for inputs [Figure 2.4] and outputs,
- has interdependence of members, communication and interactions among members, interpersonal consensus, and a common purpose, and
- develops norms of behaviour, structure, and roles for its members. [Figure 2.5]

Futhermore membership of informal groups is governed by attraction and acceptance. [Figure 2.6] Attraction represents the strength of a person's desire to belong to [participate in] a group; acceptance is the willingness of the group to accept the person as a member. An individual's membership of the group can range from full commitment and internalisation of the purpose and norms of the group [psychological membership] to alienation.

The norms, structure, roles, interdependence, consensus and purpose of the group determine its decision making capacity and its decisions.

Sociological theory building commenced as positivist and inductive, and has also developed deductive and normative approaches [compare with economics, Figure 1.6] Like economics, sociology is atomistic, treating the individual as a 'black box'. Psychology and politics approaches look more closely at the cognition and behaviour of individuals as decision makers. These approaches will be developed in Modules 4 and 5. For the time being we accept the atomistic conception, and in Module 2 examine the process of decision making.

Figure 2.4
Determinants of group behaviour

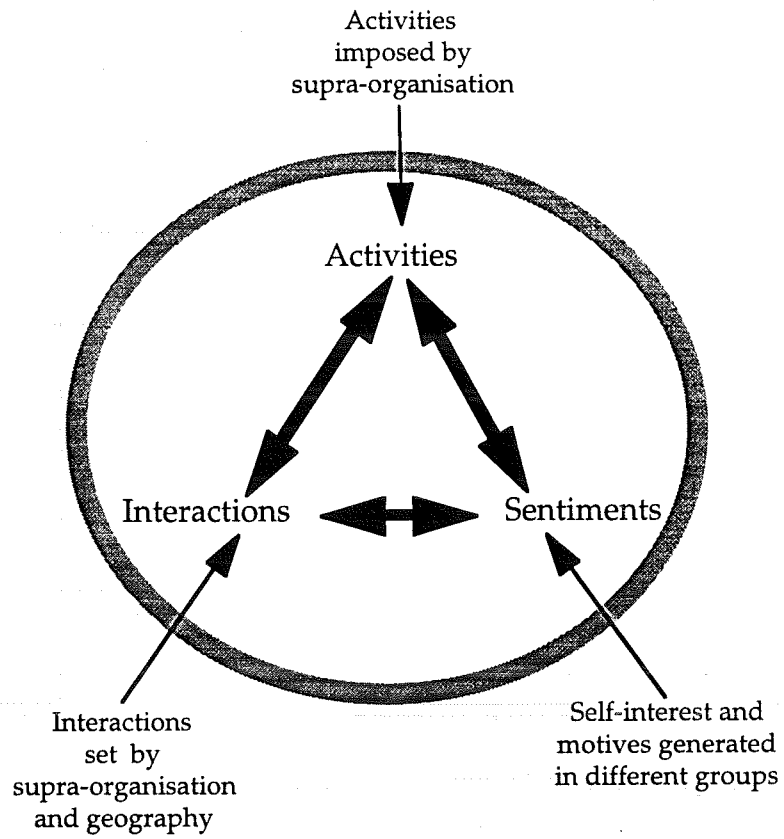
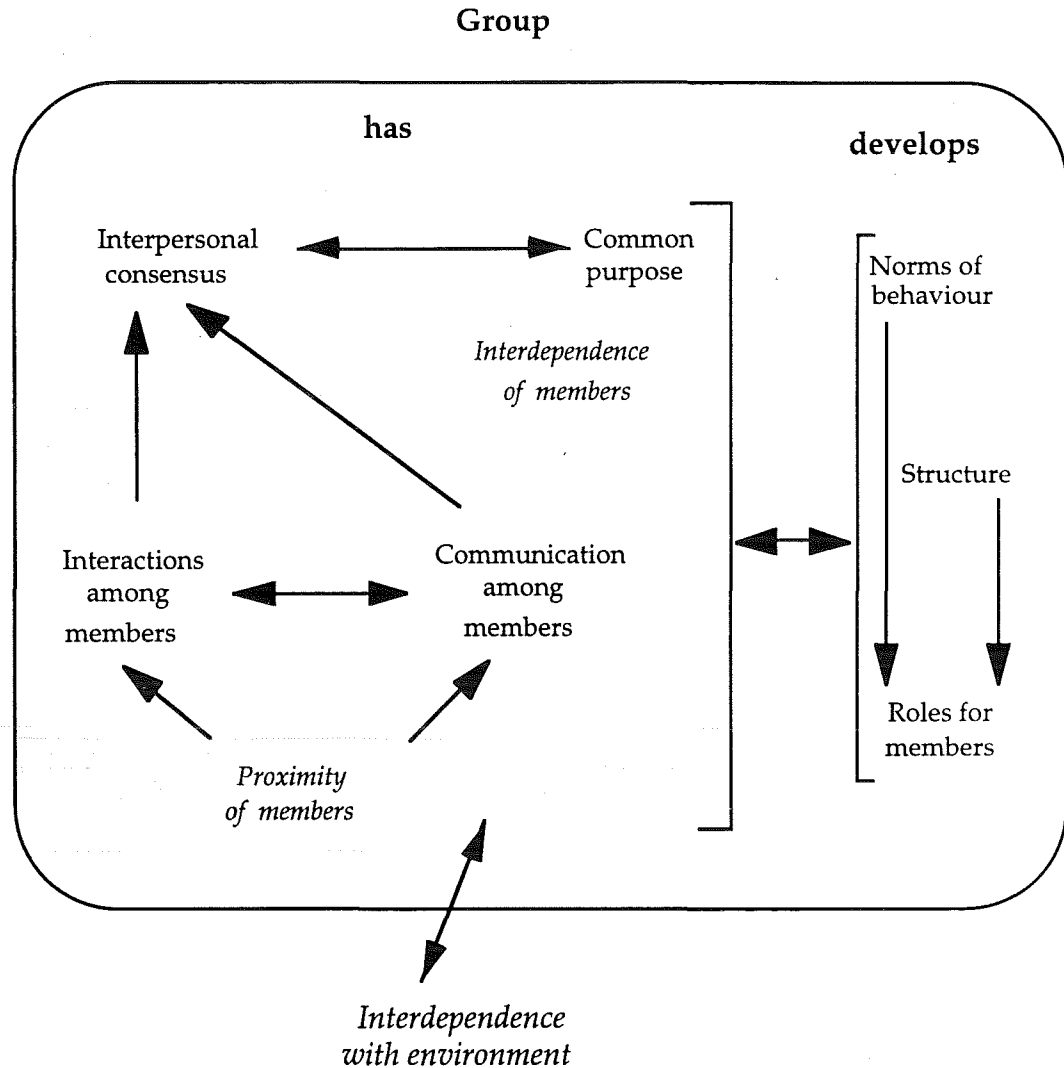


Figure 2.5
Profile of a group



Embeddedness

"Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations." [Granovetter, 1985: 487]

Granovetter criticizes traditional microeconomics as being 'undersocialized', and institutional [industrial organisation economics] and much of sociology as being 'oversocialized'. The embeddedness view presented by Granovetter [1985: 504-5] is that order *and* disorder, honesty *and* malfeasance depend on the structure of personal relations and networks of relations between and within firms. Managers' behaviour which may appear irrational to the neoclassical economist is readily seen as rational in terms of sociability, approval, status, and power. That is, the behaviour of managers may be rational under the first and second definitions on page 10 above, rather than under technical rationality.

Figure 2.6
Group membership

		+ Attraction -	
Acceptance	+	Psychological membership	Marginal membership
	-	Preferential membership	Alienative membership

Module 2: The process

Chapter 3 The Environment

Aims of this chapter

- to understand the complexity of the environment;
- to be able to describe the environmental domains which surround the decision maker;
- to be able to use the causal textures model to explain the nature of an environment.

Introduction

The primary focus of this module is the process whereby decisions come into being. An integral aspect of this process is the environment surrounding the decision maker, both as an individual and as a member of a group. A second aspect is the 'finding of' problems to initiate the process. The third is the decision process itself.

Resolving the nature of strategic problems is an important task of upper level management. [Lyles & Thomas, 1988] Sometimes the meaning of the bits and pieces of raw information is immediately evident, more often the manager must fashion meaning. [McCall & Kaplan, 1990: 23] Decision making does not unfold in discrete sequential stages. Lyles and Thomas [1988: 133] summarize four emerging ideas about the strategic problem formulation process:

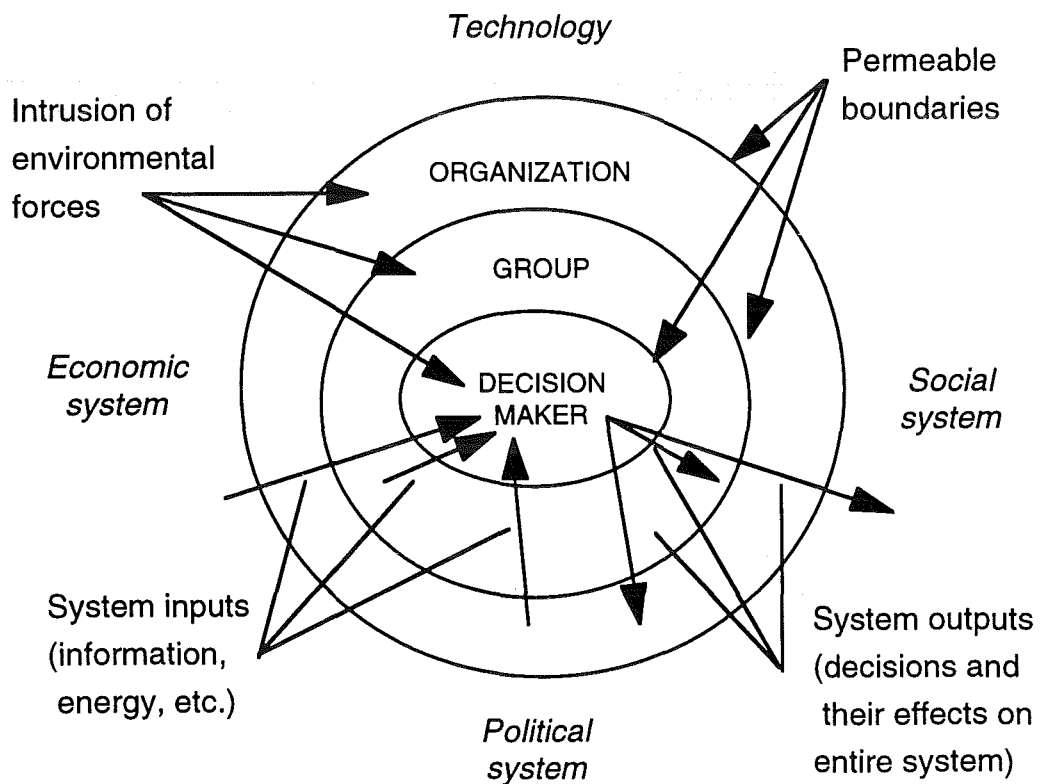
1. Firms do not *explicitly* define unanticipated problems. Solution generation is often adopted as a means of problem sensing.
2. The complexity of strategic problems leads to differing assumptions regarding the nature of these problems. As firms spend less time explicitly defining these messy problems, the psychological and socio-political dynamics become more important. [We will review these aspects in Modules 4 and 5.]

3. Individuals will interpret the same situation or environmental cues differently. Individuals have many factors influencing their perceptions of the cues, and these may lead to cognitive biases in the problem formulation process. [Also discussed in Module 4]
4. Strategic problem formulation is a complex process that starts with cues being sensed by individuals.

The Environment

"We do not first see, then define, we define first then see."
[Walter Lippmann]

Figure 3.1
The domain of the organisation
[Adapted from Harrison, 1987:Figure 5.1, 146]



The environment of organisational decision making can be mapped in several ways. One way is to classify the domains surrounding the decision maker, and map the inputs, outputs and influences which penetrate a series of permeable boundaries [Harrison, 1987: Figure 5.1, 146]. [Figure 3.1] The nature of the external domain [economic, social, technical and political], the group, and the inputs and outputs, and the influence of these factors will vary according to the position and role of the decision maker.

A second way to analyse the environmental influence is through mapping its texture [Emery & Trist, 1963; McCann & Selsky, 1984; Baburoglu, 1988]. Emery & Trist defined four sets of legitimate interconnectednesses within the organisation, in the environment, and between the two. [Figure 3.2] These interconnections are influenced by the complex and dynamic nature of the environment – the contextual texture. This contextual texture influences the nature and difficulty of decision making within the organisation.

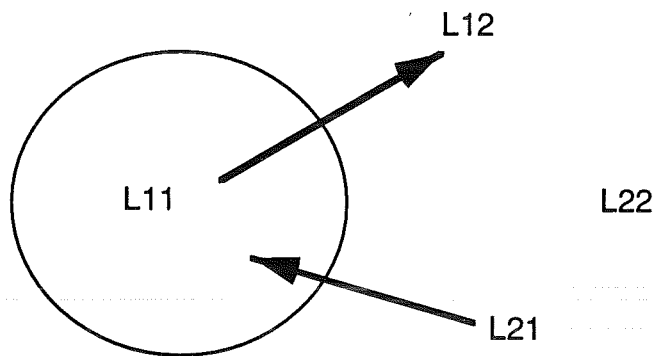
Emery & Trist classified four types of domain, and suggested there may be a higher, but not yet definable type. Baburoglu [1988] has defined this fifth domain type as 'vortical'. [Figure 3.3] The domains range from low complexity and stable to highly complex and dynamic. They are described as

- *placid, random.* there is low interconnectedness and high stability in the environment – much like the economists' model of perfect competition.
- *placid, clustered.* still highly stable, but with some legitimate connections between players in the system. The behaviour of one actor will have some impact on the others.
- *disturbed, reactive.* not only is there interaction between the actors, but the environment is changing at a moderate pace. Any actor's behaviour will result in reaction from others.
- *turbulent.* highly complex interaction whereby every action will cause multiple sets of reactions in a highly dynamic environment.
- *vortical.* the internal processes of the organisation are unable to cope with the contextual complexity and rate of change, attempting to withdraw from legitimate interconnectedness.

In the vortical context the actor's processes L12 and L21 become frozen, while the processes of the external field continue to respond dynamically in conjunction with the highly complex and interconnected relationships, L22. As a result, a set of inappropriate first order responses [superficiality, segmentation, dissociation] leads to second order responses [Figure 3.4], including polarisation and freezing of the L11 [internal system] processes. The system is attempting to seal itself off from

environmental influences. The transactional interdependencies, L12 and L21 (planning and learning), become intradependencies to be utilized in the polarization process. Stalemate occurs when the strategic and tactical actions of the organisation fail to influence the environment. Dogmatism is the refusal to believe or accept the messages [information] being received by the organisation. Dogmatism and stalemate reinforce each other in cutting off the internal processes [L11] from the external interconnections, contributing to the polarisation of values and viewpoints. [Polarisation will be discussed in Module 5.]

Figure 3.2
Lawfull transactional interdependancies of the environmental context
[Emery & Trist, 1963]



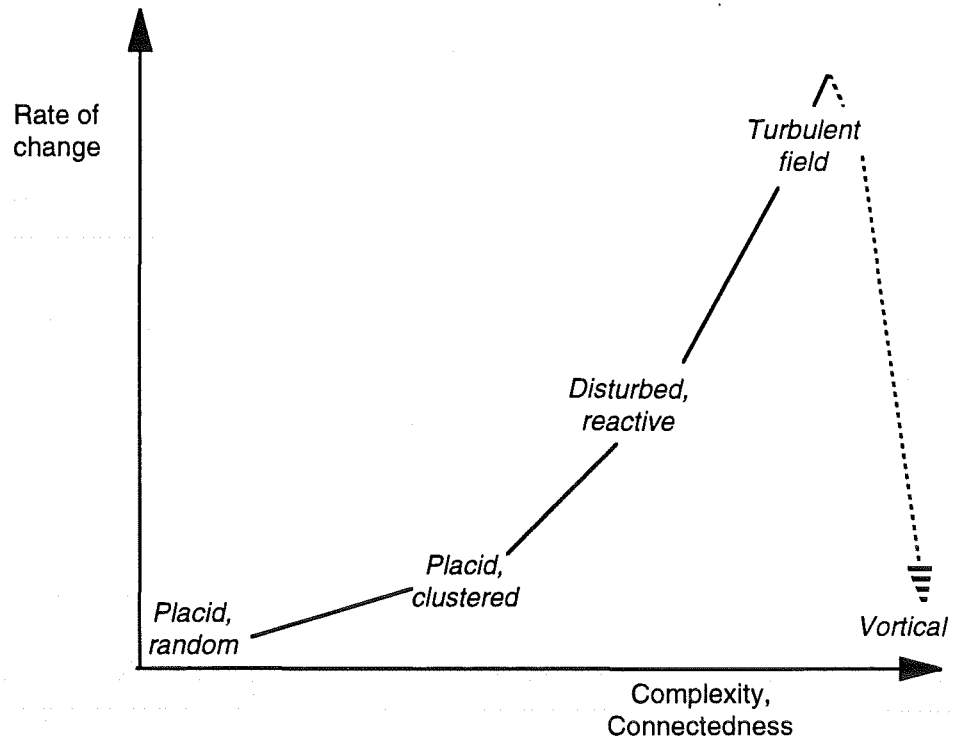
L11 = system processes

L12 = planning/instrumentality processes

L21 = learning processes

L22 = environmental processes, or extended social fields

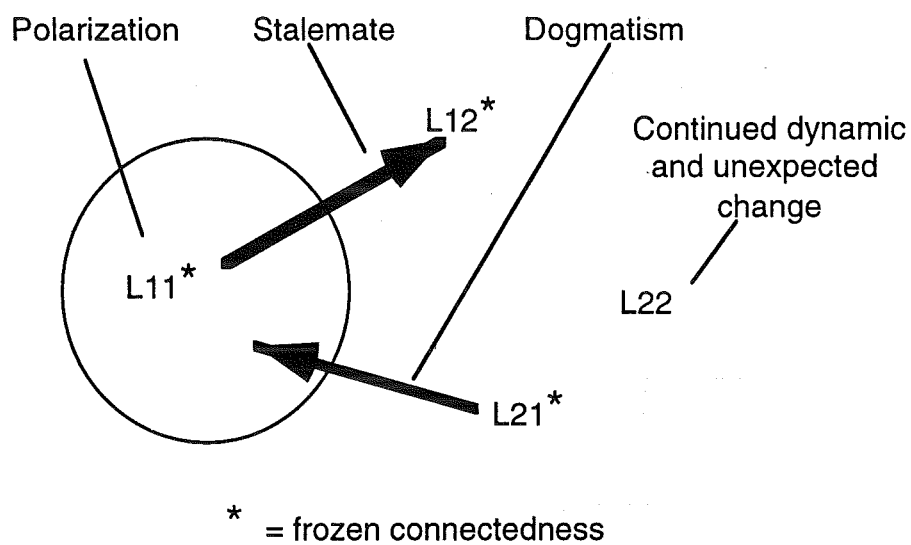
Figure 3.3
Environmental Textures
[Emery & Trist, 1965; Baburoglu, 1988]



An earlier and simpler theory of the hyperturbulent environment suggests that two types of domain can emerge: the social enclave and the social vortex. [McCann & Selsky, 1984] Turbulence is seen as a relative condition not experienced evenly by all members of an environment. Members will attempt to partition the environment to allocate and protect their adaptive capacity. The successful create social enclaves, comprising less turbulent, more manageable social space. A social vortex contains members who collectively lack sufficient adaptive capacity relative to prevailing environmental conditions. Social vortices are analogous to problem situations for which no perceived realistic solution exists in the short run.

Figure 3.4
The second order responses in the vortical environment
[Baburoglu, 1988]

SECOND ORDER RESPONSES =



Chapter 4 Finding Problems

Aims of this chapter

- to understand how decision situations arise or are found;

Introduction

Many poor and wrong decisions are made because decision makers do not understand the issues. By understanding the context, the flows and processes of decision making, both individuals and groups can make better decisions. There are many traps for the unwary [Russo & Schoemaker, 1989], and some examples are listed in Figure 4.1.

The title of Chapter 2 in McCall and Kaplan [1990] is 'Managerial Problems: The Emergence of Meaning'. This is apt: working out what the problem is, is half the battle.

A problem is "a relationship of disharmony between reality and one's preferences". [Smith, 1989a: 27] Problems may be positive or negative

disharmonies, urgent or less pressing. In an organisational context interesting problems are always important.

In Module 1, a decision was defined as a process of reality creation through organization members' representations of their own role and activity. The two terms intertwine – problems and decisions are inseparable. Further, problem identification is not always neatly split from the successive stages in the decision process. McCall & Kaplan's finding that problems are evenly spread from prepackaged to ill-defined were recorded in Figure 1.2. "The problems managers face are, in reality, clusters of information and observations from which meaning emerges." [McCall & Kaplan, 1990: 14]

Figure 4.1
Decision traps
[From Russo & Schoemaker, 1989]

Decision Trap #1	– Plunging in
Beginning to gather information and reach conclusions without first thinking about the crux of the issue, or how the decision should be made.	
Decision Trap #2	– Frame blindness
Setting out to solve the wrong problem, or excluding the best solutions, because you created an inappropriate mental framework.	
Decision Trap #3	– Lack of frame control
Failing to consciously define the problem in more ways than one or being unduly influenced by the frames of others.	
Decision Trap #8	– Fooling yourself about feedback
Failing to interpret the evidence about past outcomes for what it really says because you are protecting your ego or because you are tricked by hindsight effects.	
Decision Trap #10	– Failing to audit your decision process
Failing to create an organized approach to understanding your own decision making.	

Attaching meaning

Smith [1989b: 973], using normative theory and a deductive orientation, provides a structure for this emergence of meaning. He splits problem identification into three phases. He is prescribing that you – the decision maker – adopt a structured framework for problem definition so as to minimize errors. Because definitional mistakes will be made, and new information acquired, definitional practice is cyclical, including a redefinitional module. The three sequential phases are: recognition, development and exploration. The ordering of activities within the phases is flexible.

Smith [1989a] found that there are three categories of problem identification explanation: problem manifestations, cognitive processes, and organisational roles and procedures. Of 70 problems studied, 36 had problem manifestation as the strongest factor in their identification, 21, were best explained by cognitive factors, and 13 by organisational effects. He defines problems, including crises and opportunities, as "conceptual entities or constructs serving an attention-allocation purpose." [Smith, 1989a: 27]

Researchers have traditionally assumed that the diagnostic [problem identification] processes involve the active, conscious and intentional efforts of decision makers. Dutton [1993: 340] argues that, in fact, there are two modes of diagnosis: reflective or *active*, and unreflective or *automatic*.

The automatic mode is used because decision makers confronted with strategic issues have limited attentional capacity. An automatic processing mode is a type of attentional short-cut, enabling the decision maker to focus on other issues and problems. Conditions operating in organisations, and on strategic-level decision makers in particular, make an automatic strategic issue diagnosis a dominant form. [Dutton, 1993: 341-3] Three sets of conditions effect the use of automatic diagnosis:

- Decision makers connections to the issue: issue familiarity, self-relevance of the issue, and strength of issue evaluation.
- Characteristics of the issue context: time pressure, and information load.
- The organisational context: specialization and routinization of issue management activities, dominance of [group and organisational] norms for consistency, and past performance success.

The automatic diagnosis mode leads to quicker diagnosis, more rapid issue responses, and less resilient issue responses. New issues are seen as old issues, activating issue responses that have been used in the past. The schema that individuals have in memory, and issue categories embedded in organisational routines and procedures serve as important predictors of how decision makers will interpret and respond to newly detected strategic issues. [Dutton, 1993:352]

Patterns in environmental conditions lead people to abandon the automatic mode and switch to an active mode. [Louis & Sutton, 1991: 59] Switching to an active mode is likely to be provoked by

- experiencing a novel or previously unknown situation;

- discrepancy – a disruption, or an unexpected failure;
- a deliberate initiative – an explicit question, or an instruction to 'try something new'. [Louis & Sutton, 1991: 60]

Chapter 5 The Decision Making Process

Aims of this chapter

- to understand and be able to apply some models of the decision making process;
- to understand that for good decision making the process should match the decision subject matter.

"Problems have no existence except through the managers who act on them. . . . The manager acting on a problem is making that problem something unique. By the same token, each problem faced, each action taken, shapes what the manager will be." [McCall & Kaplan, 1990: 87]

"[W]hen decisions are being made . . . there is a strong probability that the process of deciding upon a similar matter in *different* organisations will be similar. But when it comes to implementation, things do not look that way at all. There is no evidence that if the same decisions are taken in two similar organisations, even at about the same time, they will be carried out in the same way." [Hickson & Miller, 1992: 123]

"[S]uccessful problem formulators *should* utilize a process that evokes a debate among multiple representations of the nature of the problem." [Lyles & Thomas, 1988: 140]

"[Although] processes of decision making are patterned primarily by what is being decided, . . . there are considerable differences according to type of organization. This is because for the making of decisions an organization is the ruling framework governing how a decision can be arrived at."
[Rodrigues & Hickson, 1995: 655-6]

Approaches to strategic problem formulation have been classified in several ways. [Allison, 1969; Pfeffer, 1981; Shrivastava & Grant. 1985, Lyles & Thomas, 1988] Each applies a methodology [paradigm], level of analysis, and selection and measurement of variables. Lyles and Thomas [1988] developed a framework for comparison of five generic approaches to model building. The framework is a useful aid in both understanding theorizing about the process of decision making

and in analyzing real decisions. But as was emphasized in Module 1 [page 16], you must not confuse the matter being observed with analytical methodology.

We decide first, then see.

The analytical lenses worn by researchers cause them to see the decision making process in particular ways. Sometimes this way of seeing will coincide with the process being observed. The Lyles & Thomas [1988:135] comparative framework comprises criteria, process, biases, assumptions, evidence, and performance outcome. They compare five alternative approaches: rational, avoidance, adaptive, political, and decisive. Of these, the rational approach matches the rational economic model [Module 1], the adaptive approach approximates the process models discussed in this module, the political approach will be discussed in Module 5, and the others have similarities with other models outlined in Module 1.

We do not know to what extent the strategic decision making models accurately describe the strategic problem formation process and under what conditions. In essence, problem formulation in all model types is embedded in the firm's norms for organisational decision making and environmental scanning activities. [Lyles & Thomas, 1988: 139]

Mintzberg, *et al* [1976] used research into 25 decisions to reduce the decision process to a sequence of routines and dynamic factors. Their process model [classified as 'adaptive' by Lyles & Thomas, 1988: 137] is a useful basis for developing understanding of *the process of reality creation through organization members' representations of their own role and activity* [Laroche, 1995: 72; see Module 1, page 11] which becomes a decision. This model is presented in a modified form in Figure 5.1. The modifications comprise the recognition mechanisms [based on Smith, 1989a] and the two types of implementation. Recognition of the implementation dichotomy is important because implementation with monitoring contributes to the identification mechanisms for other decision processes. Thus in modified form this model provides an ongoing systems view of the decision making process.

The Mintzberg model shows that for the most simple, routine [tame] decisions the process can flow from recognition through analysis evaluation to commitment and implementation. For the more complex decisions there may be cycles through any or all of diagnosis, design, search and screen, evaluation and choice modes, authorisation, and commitment before implementation. At any of these stages there may be interruptions and delays caused by unanticipated events,

political impasses, discovery of new options, etc. Managers may choose to speed up or delay a particular decision. Mintzberg's research found that the decisions took anywhere from a few months to more than four years.

Whilst the Mintzberg *et al* [1976] research examined organisational decisions, the same pattern can be said to apply whether there is only one person, or several involved in making the decision. In Module 4 we will look specifically at how individual cognition, [especially schemata and scripts] contributes to recognition, and, more generally at the influence on the rest of the decision making process.

The Bradford Studies

A major on-going research project carried out by the Bradford Management Centre, UK is looking at how decisions are reached 'at the top' and then how they are implemented. Numerous papers have been generated to report on this research. [Astley, *et al*, 1982; Hickson, *et al*, 1986; Cray, *et al*, 1988; Rowe, 1989; Butler, *et al*, 1991; Hickson & Miller, 1992; Rodrigues & Hickson, 1995] In Module 4 we see that both formulation and implementation are also dependant on the decision maker's script.

Decision making

The Bradford Studies were strongly influenced by the Thompson & Tuden [1964] model of decision strategies. [Figure 5.2] If outcome preferences and beliefs about cause and effect are certain then decision making is a simple computational procedure. It is tame. If both preferences and beliefs are uncertain, then only inspiration can provide the answer: a wicked problem. In the Bradford Studies decisions are classified as problems, interests and processes. [Rowe, 1989: 30] The Bradford researchers developed a model in which decision making can vary in terms of complexity [intricate, ambiguous, uncertain, etc] and cleavage [political activity arising from the varied interests of participants]

Where a decision can be programmed, level of complexity and cleavage are low, and so are levels of scrutiny, negotiation, discontinuity, and centralization. The decision is likely to be made swiftly, and the result is predictable and acceptable to all. [Rowe, 1989: 31] Hickson, *et al*, [cited by Rowe, 1989: 32] found that decision making is never a matter solely of calculation, and that there is no

Figure 5.1
A general model of the decision making process

[Adapted from Mintzberg *et al* 1976]

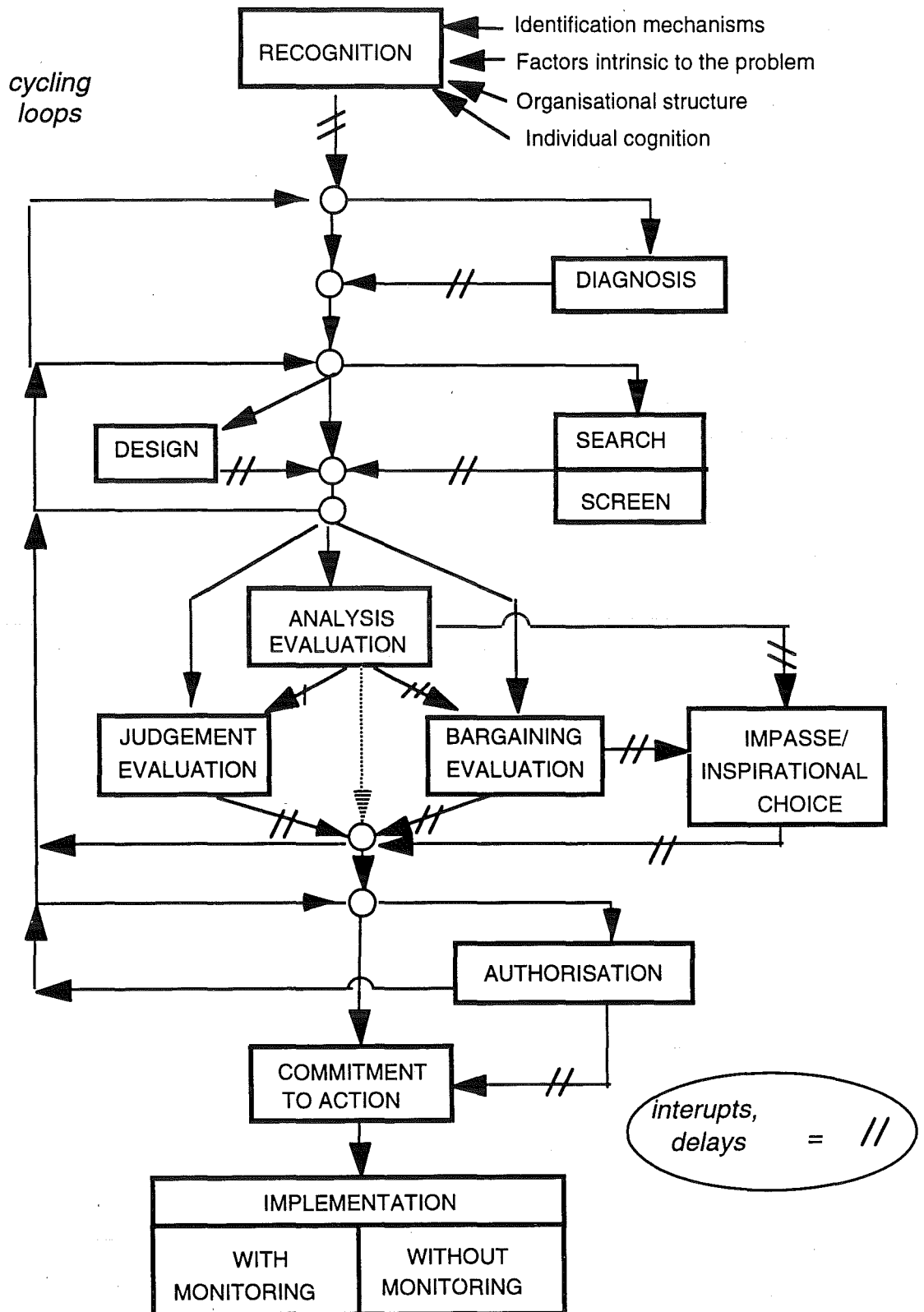


Figure 5.2
Types of decision strategies
[Rowe, 1989: Figure 1, p 30]

		Preferences regarding possible outcomes	
		Certainty	Uncertainty
Beliefs about cause-effect relations	Certain	Computation/ calculation	Compromise
	Uncertain	Judgement	Inspiration

type of process that can be explained by reason of complexity or politicality alone. Particular combinations of problems and interests throw up particular processes – sporadic, constricted and fluid. [Figure 5.3] These can be linked to three kinds of subject matter – vortex, tractable and familiar. Both Rowe [1989] and Hickson & Miller 1992] describe these processes.

Rowe makes the point that Thompson & Tuden used a deductive approach, and Hickson *et al* applied induction, building their theory from observation of actual decisions. Thompson & Tuden argued that the aim of management is, presumably, to maximize the number of calculation decisions, and reduce dependency on compromise, judgement and, in particular, inspiration. [Rowe, 1989: 30] Thus, it is a normative theory. The Hickson *et al* model is positivist – a description of their observations. However, it can be applied in a normative manner to advise on what type of decision process should be applied in particular environmental contexts. The subject matter [context] and decision process modes are:

- **Vortex-sporadic** – high on both complexity and politicality. Likely to be protracted with disrupting delays.
- **Tractable fluid** – less complex and least political. Delays are less likely as fewer people are involved. The issues are not likely to be serious and the process can be steadily paced, formally channelled

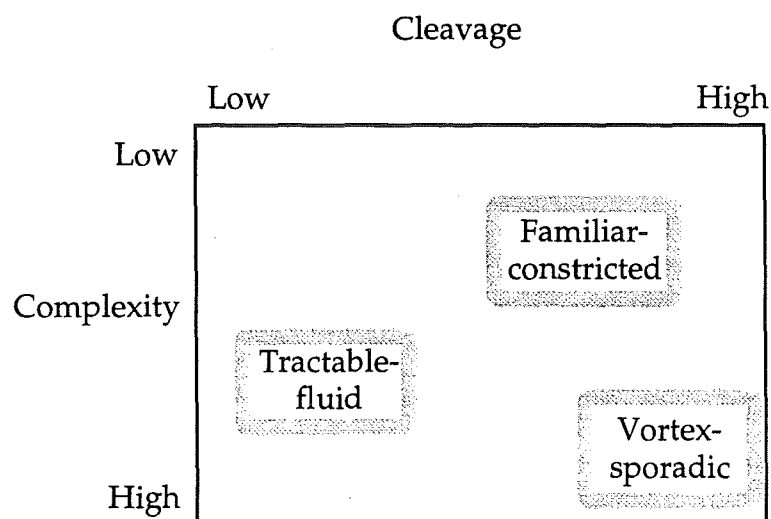
and speedy. They set precedents for later decisions. This decision type is closest to the 'rational economic man' view.

- **Familiar-constricted** – least complex and less political. Normal and recurrent situations, unevenly influenced by internal interests. There can be considerable discontinuity and delays. [Rowe, 1989: 32]

Rowe classifies power as specialist and structural. In Module 5 we identify more categories. He suggests the model needs further development:

1. A decision which may appear straight-forward and non controversial to one actor may be viewed differently by other actors.
2. Decision making is an ongoing process: a decision invariably involves further subsidiary decisions. A pyramid of decisions emerges, and these may be spread across the three modes.
3. The model presents a static view, detracting from the flow of decisions between the cells as the decision process unfolds.
4. As the process of decision unfolds the nature of power in decision making changes.

Figure 5.3
Three forms of decision making
[Rowe, 1989: Figure 4, p33]



Implementation

The process of deciding upon a similar matter is likely to be more similar than different in different organisations. However, the implementing of an identical decision can vary sharply. [Hickson & Miller, 1992: 131] This research is in deductive mode, as the authors search for conceptualisation of the reasons for success in the implementation phase.

Implementation is a political process – implementors may act in a self-interested way which will confound the intentions of others in the organisation. The success of implementation can be measured by four criteria – speed, ease, completion, and fulfilment. [Hickson & Miller, 1992: 128] There are three sets of reasons which determine successful implementation:

Decision characteristics complexity, familiarity, and priority;

Organisational context a degree of crisis, and externalities;

Political characteristics balance of influence, arrival of a new power-holder.

Module 3 Decision models

Chapter 6 Types of Models

Aims of this Chapter:

- to appreciate the different types of models used in decision making;
- to be able to decide when it is appropriate to use models;

Introduction

A model is an explicit statement of our image of reality – a representation of the aspects of the decision with which we are concerned. It presents reality in a simplified, organized form. If successful, modelling will

- enhance the decision maker's understanding of the decision,
- stimulate creativity in the search for possible solutions to the problem, and
- help in the evaluation of alternative courses of action. [Cooke & Slack, 1991: 135]

There is a danger that modelling will also lead to inappropriate application of standard techniques, and reinforcement of pre-existing biases.

Modelling of decisions is not as obviously appropriate and straightforward as economic rationalists would have us believe. Admittedly, some of their models are highly complex, but this does not mean that they are necessarily either cost-effective or realistic. The modelling techniques used by different persons, and in different situations are likely to be different due to the individual schemata, personality, values, etc [Module 4], and to the differing subject matters and environmental textures [Module 2].

The two process models [Mintzberg *et al* and Bradford Studies] presented in Module 2 are indicative of the range of textures and processes that exist.

The factors contributing to individual decision behaviour will be discussed in Module 4. For the present module we need only to clarify the meaning of a few terms.

Schemata – active cognitive structures which frame problems [Neisser, 1976], cognitive representations of attributes and the relationships between them which constitute common-sense social theories [Rumelhart & Ortony, 1977], or abstract conceptions people hold about the social world [Taylor & Crocker, 1983]. [all cited in Schwenk, 1988: 46]

Cognitive map – a concept about aspects of the decision environment and beliefs about cause-and-effect relationships between them; interpretive lenses which help decision makers select certain aspects of an issue as important for diagnosis. [Tolman, 1948 cited in Schwenk, 1988: 45]

Assumptions – the basic elements of a decision maker's frame of reference or world view. [Mason & Mitroff, 1981 cited in Schwenk, 1988: 45]

An individual's schemata are shaped by the assumptions and cognitive map. When several people in a community share schemata they define what is legitimate in terms of knowledge and techniques of analysis in a particular field of study – a paradigm. [See Module 1]

A diversion to the need for a new way of thinking

In Module 1 you were diverted down a trail to consider the world of ignorance, paradigms, and rationality. These concepts are important in understanding our approaches to decision making. They are just as important when it comes to thinking about models. This diversion, however, follows a different path – the philosophy underlying our paradigms.

Success, whether purely economic or more general requires that one be able to examine models from multiple perspectives. The paradox of modelling was clearly stated by Alvin Toffler:

"Today, whether dealing with the economy, health costs, strategic arms, budget deficits, toxic waste, or tax policy behind almost every major political issue we find teams of modelers and counter-modelers supplying the raw material for this kind of controversy.

A systematic model can help us visualize complex phenomena. It consists of a list of variables, each of which is assigned a weight based on its presumed significance. Computers make it possible to build models with much larger numbers of variables than the unaided intellect alone. They also help us to study what happens when the variables are given different weights or interrelated in different ways.

But no matter how 'hard' the final output may appear, all models are ultimately, and inescapably, based on 'soft' assumptions. Moreover, decisions about how much importance to assign to any given variable, or its weighting, are frequently 'soft', intuitive or arbitrary." [Tofler, 1990: 291-292, quoted in Mitroff & Linstone, 1993: 38]

Every type of rationality is completely dependent on all others. For example, each of the economic, legal, political, and social concepts of rationality have been thought, by their advocates, to be separate and primary. However, it has been shown that each of these concepts presupposes the others. There can not, for example be a 'basic economic yardstick' unless there is a preexisting, stable society, a well-accepted legal framework, and a series of accepted social strata. [Mitroff & Linstone, 1993: 170] Hence, models developed within any particular science are embedded in the concepts of rationality of all other sciences. Models can be helpful, and also very dangerous.

Mitroff & Linstone [1993:171] conclude that

- every science is to be found within every other;
- every model presupposes every other model;
- every problem is to be found within every other problem;
- a broader sense of aesthetics and ethics are two of the most vital aspects of every problem; and [page 153]
- we cannot hope to find solutions to our problems if we persist in our old ways of thinking. [My emphasis.]

Types of Models

"A good model is one which reflects accurately our perceptions of the decision area and can be used to aid the decision process in one of . . . three ways" [Cooke & Slack, 1991: 129]

The three ways are description, analogy and relationship. Models can also be classified into verbal and conventional 'scientific' [Figure 6.1] The six generic types of model are [Cooke & Slack, 1991: 127-129]:

Figure 6.1
Generic types of models
[Cooke & Slack, 1991: Figure 5.1, p 130]

Level	Verbal	Scientific
Descriptive	<i>Description of what the observer perceived</i>	<i>Iconic models – the scale of reality is changed and some properties are ignored</i>
Analogy	<i>Comparison of the observed situation with an analogous situation</i>	<i>Analogue models – one set of properties are represented by another</i>
Relationship	<i>Influence relationships between elements of the observed situation are implied or described</i>	<i>Symbolic models – mathematical symbols, letters and numbers are used to convey the relationships</i>

- **verbal description** – a summary of what the observer has observed in the decision making context. It will be subject to the exclusion of some information, and compression or aggregation of comments, reactions, events and entities. Some information is lost, and what remains will be biased.
- **comparison**, or verbal analogue – representing one set of properties by another; e.g. 'like a stick bending until it finally snapped' to describe one side in a negotiating situation. Analogies rely on implication and association to describe the underlying structure of a problem, and may, or may not, be valid.
- **Influence relationship** – a description of the cause-effect relationship observed, or perceived.
- **Iconic** – a 'scale' model representing the reality. Some aspects of that reality are excluded; e.g. the icons on your computer screen,

or a model of a house which can not show the cost of components used to build it.

- **Analogue** – one set of properties is represented by another; e.g. a graph, diagram or map.
- **Symbolic** – a quantified relationship model such using mathematical symbols, musical notes, etc.

The type of model chosen is dependent on the system to be modelled, the purpose of the model, and the schemata, cognitive map and assumptions of the decision maker or modeller. Scientific models can also be classified as: descriptive/predictive, specific/general, local/global, and steady state/dynamic. Statistical techniques can be used in all levels of scientific modelling.

Some useful, simple models

Complex analytical techniques are not always essential. For example [Cooke & Slack, 1991:247-256]:

Scatter diagrams – To examine the connection between two variables, simply plot the observation points on a graph. The diagram will show whether there is a relationship, and its shape. It will not reveal cause-effect.

Figure 6.2
Fishbone diagram

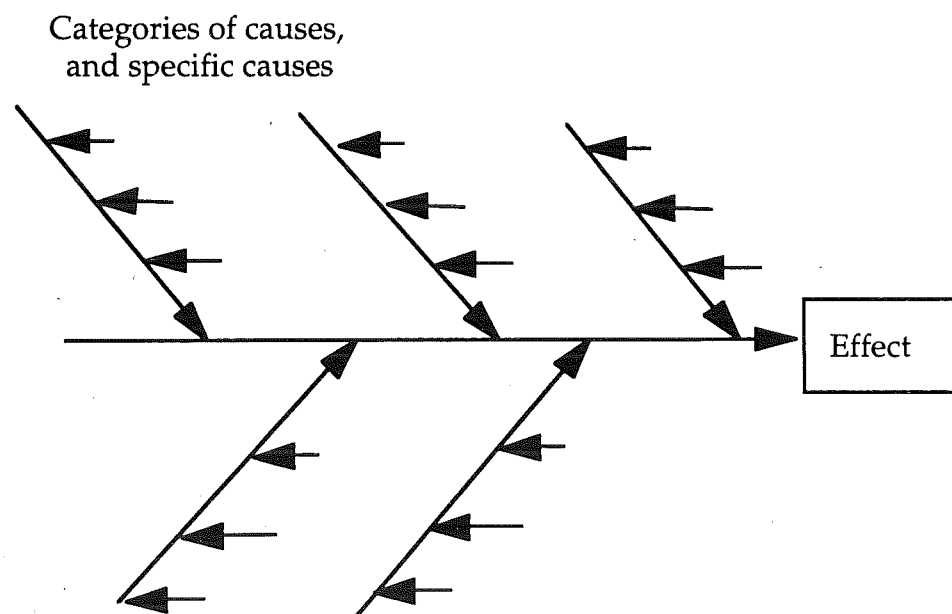
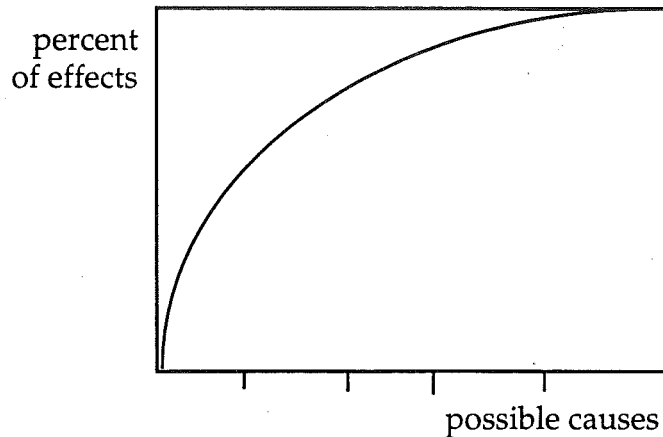


Figure 6.3
Pareto diagram



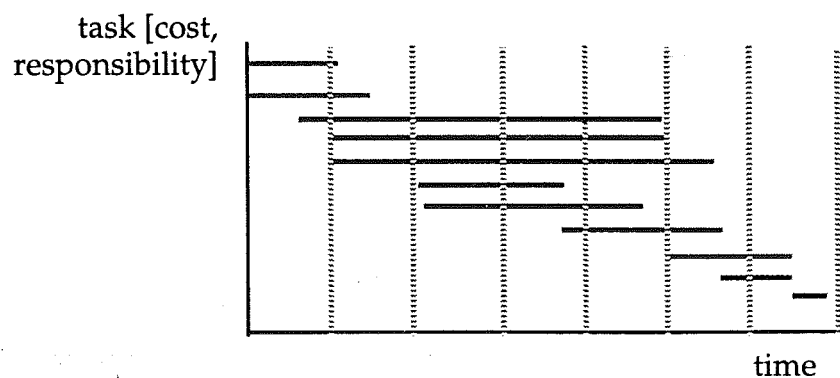
Fishbone [cause-effect] diagrams – assist in the research for the root causes of problems. You ask the what, when, where, who, how and why questions, adding possible answers. [Figure 6.2]

Pareto diagrams– arranging information on the types of problem or causes of a problem in their order of importance. A cumulative chart will have the shape shown in Figure 6.3 – representing the 80-20 rule.

Why-why analysis – state the problem and ask why it occurred. Then ask why for each of the causes and so on.

Network analysis – the process of considering a major task as a series of component activities, with time estimates for each, interactions between them, their costs, and, if necessary, allocation of

Figure 6.4
Gantt Chart



responsibilities. A *critical path network* can be used for the most complex projects. A *Gantt Chart* is a simple representation of work flows, and can also show costs and responsibilities. [Figure 6.4] Computer software is available for both.

Chapter 7 The Process of Modelling

Aims of this Chapter:

- to understand some model building techniques;
- to be aware of chaos, and its implications for modelling in decision making.

Prerequisites of a good model are:

- awareness of the objectives of the organisation and/or key individual, and the constraints or parameters set by other stakeholders and the general environment;
- understanding of the key variables within the decision context;
- knowledge of the cause-effect pattern of influence between the variables;
- appreciation of how mathematical formulation can be used to formulate powerful models, and of when models can or should be used.

The modelling process abstracts from reality, identifying the key elements, including objectives, and their relationships.

Variables

An inherent characteristic of decisions is that elements in the situation can take on different values. These elements are *variables*. In developing models we assume that some of these variables are either *constants* or *parameters*. These simplifying assumptions are necessary because of the limited cognitive capacity of the brain, and the limited resources available for model building, including computer systems. A parameter is a variable which is assumed to have a constant value over the period of time studied or the range of options considered. The paradigms of each research community govern the allocation of status – variable, parameter, constant – to the elements of the subject matter of the decision. Thus

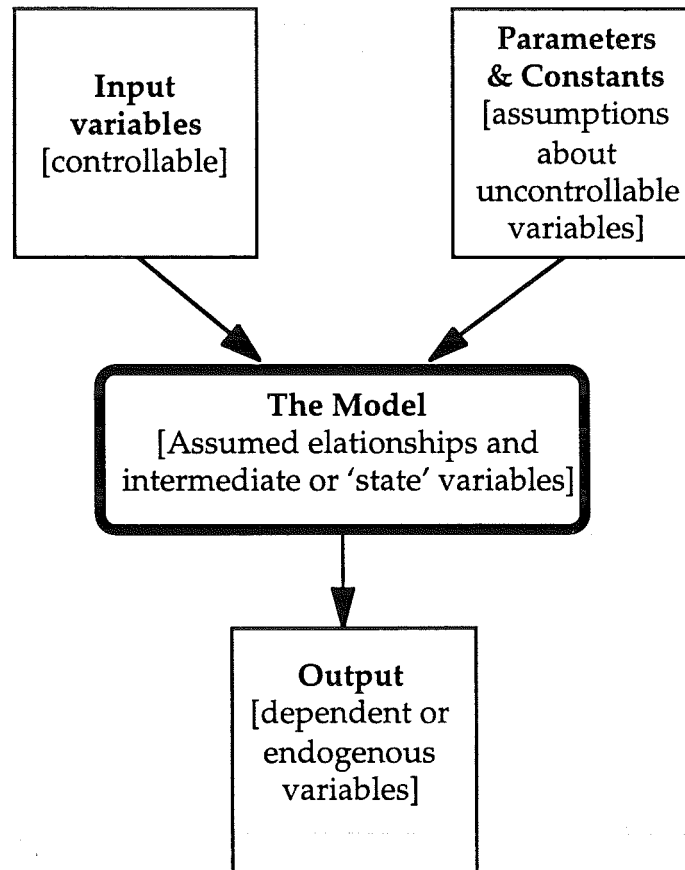
different decision makers [and researchers] may use alternative status sets for any one decision situation.

Variables may also be classified as

- input, independent, exogenous, or
- output, dependent, endogenous.

The input variables are either uncontrollable – factors pre-existing in the environment, or controllable – the factors about which the decision is to be made. Uncontrollable input variables are usually probabilistic – the value is unknown and our belief about them can be represented by a probability distribution. They may also be deterministic – it is possible, or we believe it is preferable, to apply a specific value. Output variables are dependent on the input variables and the assumptions and characteristics of the model used. [Figure 7.1]

Figure 7.1
The generic form of a model
[Adapted from Cooke & Slack, 1991: Figure 5.3, p 132]



Classification of decision models

Cooke & Slack [1991: 151] classify numerate models on two vectors: according to the type of solution sought, and the degree of uncertainty represented by the model. Examples of each type are shown in Figure 7.2. Cooke & Slack discuss these [1991: 136-150] and Jennings & Wattam [1994: 148-173] also provide examples of linear programming, risk analysis, and statistical techniques. Summary statistics – actual numbers, averages dispersion, etc – are included as deterministic/optimising in Figure 7.2 as they can be used to assist in choosing between alternatives when whole populations are measured.

The various types of decision models are more popular in some cultures than others. For example, decision analysis developed in the USA in the late 1960s, but was not widely used in the UK in the late 1980s. [Pearman, 1987] This appears to be because early development at Harvard and Stanford universities could be easily transferred through academia and into business in America by students of the initial researchers. Transfer to other countries is more difficult. Decision analysis grew out of decision tree techniques [economic statistics] with the addition of techniques from other disciplines, particularly cognitive psychology. Decision analysis requires both technical knowledge and flair, and is largely the province of consultants. For an organisation to use the technique independently a 'critical mass' of skilled and experienced employees is necessary. [Pearman, 1987:777] Increasing availability of, computer software intended for non-specialists is making the technique more widely available.

Howard [1988: 680] describes decision analysis as

Figure 7.2
Classification of decision models
[Based on Cooke & Slack, 1991: Figure 5.19, p 151]

	Deterministic	Probabilistic
Optimizing	<ul style="list-style-type: none">• Linear programming	<ul style="list-style-type: none">• Decision trees• Decision analysis
Satisficing	<ul style="list-style-type: none">• Corporate modelling• Heuristic models• Summary statistics	<ul style="list-style-type: none">• Queing theory• Statistical analysis• Stochastic simulation• Risk analysis

"a systematic procedure for transforming opaque decision problems into transparent decision problems by a sequence of transparent steps to provide such clarity of insight into the problem that the decision-maker will undertake the recommended action."

The first step is to fit a formal model to the opaque real situation. Evaluation and appraisal follow with iterative cycles for refinement. [Figure 7.3] Evaluation and appraisal include the preferences of the decision maker and sensitivity analysis.

Intelligent decision systems

Howard suggests combining the decision analysis process with an expert system to form an intelligent decision system. [Figure 7.4] An expert system uses the computer as an artificial intelligence designed with the help of an expert in the field. It is descriptive and positive. Decision analysis is normative. Combined they provide a powerful tool which manages the interaction with the decision maker, and carries-out the formulation, evaluation, and explanation functions. The decision maker provides alternatives, preferences, and information; and receives recommendations and insights. [Howard, 1988: 694]

Chaos

Chaos appears to be common in social environments. [Gregersen & Sailer, 1993:792] Evidence of this began emerging in the late 1980s.

There are two useful indicators of chaos in social systems:

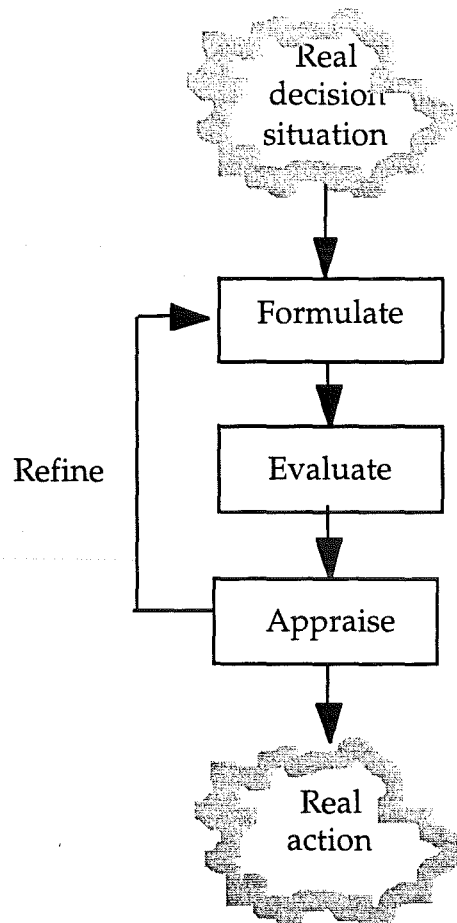
- highly iterative, recursive, or dynamic structures that change over time often exhibit chaotic behaviour over some part of their domain.
- highly discontinuous behaviour in the system. [Gregersen & Sailer, 1993: 779]

Some implications of the presence of chaos have significance for modelling in decision making:

1. Cross-sectional studies are unlikely to discover and model chaotic behaviour, which occurs through time.
2. Poor analytical results are to be expected when analyzing chaotic systems with standard statistical measures. In chaotic systems, entities with similar starting

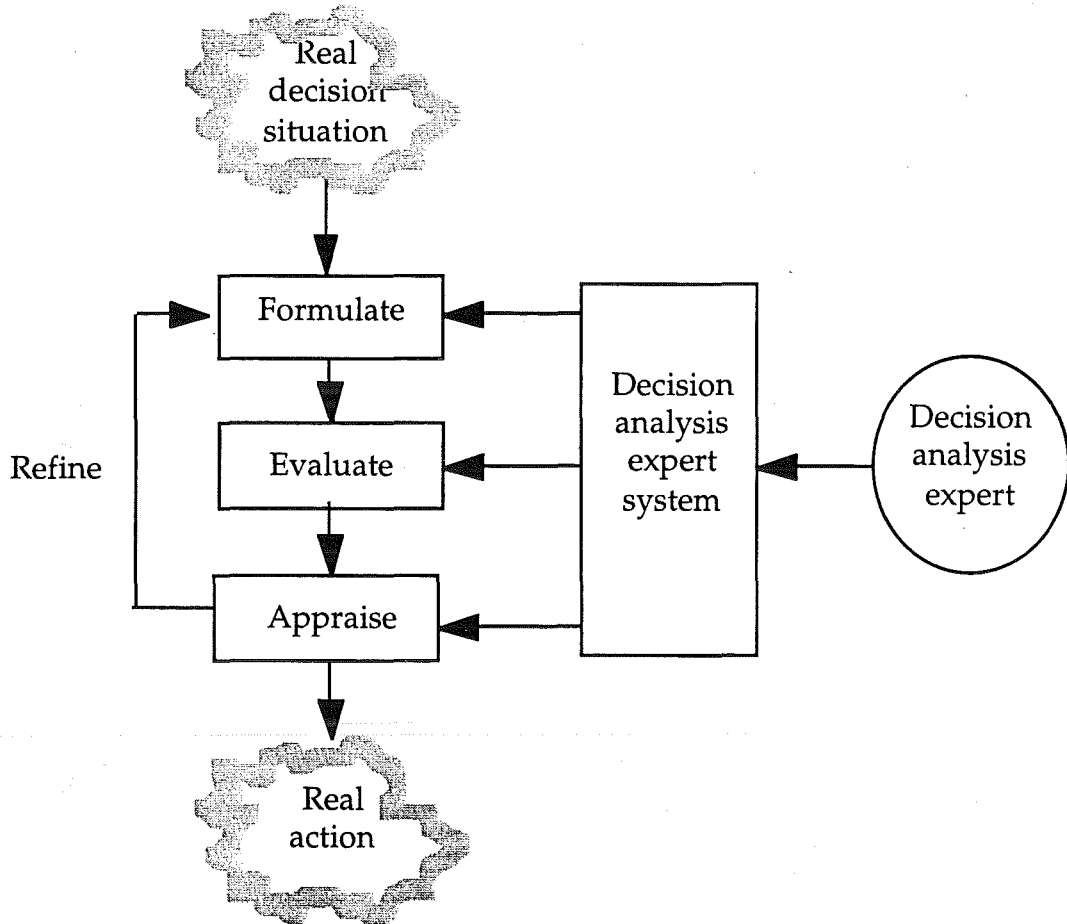
points and environments can end up behaving differently. Refining the statistical methods can not improve the predictive accuracy; some other technique is needed.

Figure 7.3
The decision analysis process
[Howard, 1988: Figure 1, p 680]



3. Simulation techniques will not mimic any specific actual system. If the core problem lies near the boundary between divergent and non-divergent domains of the system, predictive techniques are bound to fail and the only way to know how the actual phenomenon will behave is to watch it behave.
4. Statistical methodology will play a different role : e.g. providing 'good' data.
5. Qualitative methods will increase in importance – the 'verbal' column in Figure 6.1 above.
6. Social science must develop a definition of 'understanding' relevant to chaotic systems. Gregersen & Sailer, 1993: 793-798]

Figure 7.4
An intelligent decision system
[Howard, 1988: Figure 8, p 693]



This required definition of understanding will have much in common with the definition of rationality as 'reality testing' [Module 1, page 10]

Traditionally, economic theory has assumed that, in the long run, an economy will be in a stationary state [equilibrium], or balanced growth. Aperiodic motion was not considered, and the cause of divergence was seen to be random shocks. Economic data is clearly aperiodic. Non-linear dynamics [chaos theory] can provide a better explanation. [Kelsey, 1988: 2, 21] Simon's view of economic man as satisficing, rather than optimizing is more compatible with this reality.

Jennings & Wattam [1994: 174] suggest a relationship between linear behaviour and chaotic behaviour of the form

Order —> Complexity —> Chaos.

Recognition of the presence of chaos in social systems has important implications for the use of models as aids to decision making.

Conclusion

A model is a representation of our image of reality. As such it is abstraction and simplification. Because chaos is present in some domains comprising the decision makers environment, complex, dynamic models are required to present an accurate representation of this environment, the input variables, the processes, and outcomes of decisions. In these very complex, chaotic situations quantitative modelling may not be practical due to the very high cost. It may also be the case that intuition and judgement are superior decision techniques.

Module 4 Individual decision behaviour

Aims of this module:

- to be able to discuss the factors influencing individual decision making.

Chapter 8 Personality

Aims of this Chapter:

- to be aware of three definitions of personality and how they contribute to our understanding of the managerial decision maker;
- to understand how perception effects decision making;
- to understand the nature of barriers to perception.

Introduction

Our behaviour, including our individual decision making is influenced by philosophical and psychological forces. In Module 1 you were asked to consider the philosophy – the idea of ignorance as the basis of learning and knowledge, paradigms, and three alternative definitions of reality. The idea that every model presupposes other models was presented in Module 3.

Also, in Module 1 we examined various approaches to decision making from the fields of economics and sociology. These approaches all assume a causal relationship: if A, then B. They are also atomistic. That is both economics and sociology perceive their unit of study, be it the household, the firm, or the group, as a unitary decision maker. Psychology disputes this, and highlights the fact that individuals differ from each other, and these differences affect the decision

making process. [Figure 8.1] This was hinted at in Module 2, and we now examine the inside of the 'black box' more closely.

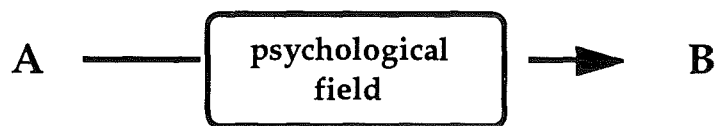
Figure 8.1
The place of psychology in the modeling of decisions

The common objective of all models and theories is to adduce cause and effect relationships of the form:

If A then B

As models or theories of decision making, economics, sociology, politics, etc all have this form.

Whatever the **A** ➔ **B** relationship there is an intervening field:



This intervening field is a **model of man** which will vary according to context. It includes:

personality	motivation
perceptions	aspirations
etc	

In this Module we explore some aspects of psychology which help us to achieve understanding of how decisions are made. Psychology is the science that deals with mental processes and behaviour. It is the branch of metaphysics that studies the soul, the mind, and the relationship of life and mind to the functions of the body. The topics to be discussed are personality, perception and memory, risk preference, and decision styles.

Nutt [1989] suggests that decision making represents a learned psychological process which is both shaped by the concept of reality and intertwined with personality. His view is that the influence of personality is an amalgam of childhood experiences and memories, a persistent inner direction, and the transformation of external reality.

Do you know who you are?

Our ordinary concept of consciousness seems to be anchored in two separable sets of considerations – the inner, or 'from the inside', and the outer, or 'from the outside'. From the inside, our own consciousness seems obvious and pervasive. Each of us knows what it is like to be 'me'. However, we can only know others from the outside, and we accept 'outside' indicators as symptoms of whatever is the 'me' of those others. [Hofstadter & Dennett, 1981: 8-10]

In 1962, the Argentinian writer Jorge Luis Borges wrote

"my life is a flight and I lose everything and everything belongs to oblivion, or to him.

I do not know which of us has written this page." [quoted in Hofstadter & Dennett, 1981: 20]

Borges seems to himself to be two people, the public personage and the private person. He is expressing uncertainty as to which personage is dominating his consciousness. [Hofstadter & Dennett, 1981: 20] Another similar viewpoint is that the mind is somehow separate from the rest of the person:

"do I navigate my way through life with the help of my mind, or does my mind navigate its way through life by the help of me? I am not sure who is in charge." [Schelling, 1988: 356]

Schelling describes the mind as a *consuming organ*. We consume by thinking. We consume past events from memory, we consume contemporary circumstances, and future events through imagination. Because the mind is distracted by its 'play' activities, it is inefficient in its information processing role. When it is time to make a decision, the individual's brain may both selectively illuminate his or her preference map and selectively recall information. [Schelling, 1988: 354-356]

Decision making is a learned psychological process which is both shaped by the concept of reality and intertwined with personality. As was suggested in Module 1, in discussing concepts such as 'decision', we impose our own subjective paradigm view of the reality under discussion. It is convenient to explain life, including organisational life, in terms of intention or goal, choice, and significant events. But, underlying these are a myriad of contending subprocesses, present in every cognitive act, which make present a version of reality. [Chia, 1994: 802]

A *decision* is an interactive series of gloriously coloured microcosmic operations and 'being there' which bring forth and insistently make present a version of

reality. [Chia, 1994; Langley, *et al*, 1995, Laroche, 1995] This 'being there' can be described in a number of ways depending on the personality of the participant, and of the observer.

Personality

Personality is

"a consistent pattern of attitudes and behavior or at least an 'orderly arrangement' in the behavior of those we know." [Liebert & Spiegler, 1987: 5]

The influence of personality on decision making can be described as an amalgam of childhood experiences and memories, a persistent inner direction, and the transformation of external reality. Understanding of personality can be achieved through theory, empirical research, and personality change. Personality change may be naturally occurring developmental changes over time or planned change when 'problems' arise. The latter is not of interest for this course.

There are many alternative definitions of personality. Three generic categories are: psychoanalytic [Freudian, Jungian], dispositional [trait theory, motivation theory], and phenomenological [holistic approach].

Psychoanalytic

Freud [1836-1939] initially organized personality according to level of awareness: unconscious, preconscious, and conscious. Later he divided personality into three basic functions:

- *Id* – the basic drives for pleasure and aggression. It derives power directly from bodily needs and processes.
- *Ego* – the rational part which tries to satisfy the desires of the id within the constraints of the real world. The ego develops out of the id.
- *Superego* – the social and moral arbitrator of the psychic system. It suppresses the impulses of the id and persuades the ego to attend to moral rather than realistic goals.

The three components are in constant conflict, and these conflicts are resolved in the preconscious or unconscious. Therefore indirect methods of assessing personality are necessary.

Freud saw early childhood experiences as critical in determining adult personality, and believed that identifiable character types result from libido being fixated at each stage of psychosexual development. [Liebert & Spiegler, 1987: 65]

Jung [1875-1961] targetted middle age as a critical period in a person's life. At this time people undergo a major transition from youthful impulsiveness and extroversion to thoughtfulness and introversion – they experience a *midlife crisis*.

Erickson [1902-] emphasized the influence of society and culture on personality development, and recognized three stages in adult life: young adulthood, adulthood, and maturity. He outlined eight stages of psychosocial development, essentially extending the Freudian stages through adolescence and adulthood. Erickson's description of the stages focuses on the way the person deals with the issue that is the central conflict of the stage. [Figure 8.2] Each of the conflicts is present at all stages. For example, 'industry v inferiority' is the dominant conflict during the latency period. It begins with school life. Children at this stage must begin to apply themselves to their learning, to begin to feel some sense of competence. 'Identity v role confusion' is the confidence that others see us as we see ourselves, and is related to choice of occupation. If identity is not formed, role confusion may occur. If the earlier conflicts are not suitably handled, despair may result in later life. To have a lasting sense of identity the person must develop each of the adaptive qualities of the other seven stages.

Dispositional

In reviewing the managerial and organisational cognition literature, one researcher concludes that

"dispositional attributes of key decision makers seem to matter in the conduct of firm performance in ways that economists and sociologists might not envision." [Walsh, 1995: 290]

Trait theory

Early dispositional views assumed that people could be divided into a relatively small number of types according to their personalities. Trait theory researchers fragment human personality into a number of isolated variables which are then organised into a small number of basic and independent factors for analysis. The individual is held apart from the environment. Personality is a unique set of traits which each individual possesses. Personalities are assumed to be relatively

stable and enduring within an individual, and also consistent and general to some extent.

Figure 8.2
The eight stages of psychosocial development
[Adapted from Liebert & Spiegler, 1987: Figure 8.1, page 80,
which is adapted from Erickson, 1963 and 1968]

Developmental period																								
Maturity								E v D																
Adulthood							Ge v S																	
Young adult						In v Is																		
Puberty & adolescence					Id v R																			
Latency				Ind v Inf																				
Locomotoe -genital			Init v G																					
Muscular -anal		A v Sh																						
Oral-sensory	Bt v M																							
	1	2	3	4	5	6	7	8																
Psychosocial stages																								
<table><tr><td>Bt v M</td><td>basic trust v mistrust</td><td>Id v R</td><td>identity v role confusion</td></tr><tr><td>A v Sh</td><td>autonomy v shame</td><td>In v Is</td><td>intimacy v isolation</td></tr><tr><td>Init v G</td><td>initiative v guilt</td><td>Ge v S</td><td>generativity v stagnation</td></tr><tr><td>Ind v Inf</td><td>industry v inferiority</td><td>E v D</td><td>ego integrity v despair</td></tr></table>									Bt v M	basic trust v mistrust	Id v R	identity v role confusion	A v Sh	autonomy v shame	In v Is	intimacy v isolation	Init v G	initiative v guilt	Ge v S	generativity v stagnation	Ind v Inf	industry v inferiority	E v D	ego integrity v despair
Bt v M	basic trust v mistrust	Id v R	identity v role confusion																					
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Init v G	initiative v guilt	Ge v S	generativity v stagnation																					
Ind v Inf	industry v inferiority	E v D	ego integrity v despair																					

A trait is a pattern of action and reaction, and may be common or unique, surface or deep. Some examples relevent to managerial decision making are:

- *drive* – willing to take initiative, possessing high energy, and desire for achievement:
- *integrity* – being truthful, and consistent in words and deeds;
- *self confidence* – decisive and assertive.

Dispositions [personalities] are theoretical constructs and can not be measured directly. Researchers devise and apply measures of behaviour that yield indicators of various underlying dispositions.

Allport [1897-1967] asserted that

- i traits exist within the person;
- ii traits are more generalized than habits;
- iii traits direct action and do not require energising from elsewhere;
- iv traits may be established empirically;
- v traits are interdependent;
- vi traits are not synonymous with moral or social judgement;
- vii traits may be examined within the individual personality, or across populations;
- viii Acts that are inconsistent with a trait are not proof of the non-existence of that trait. [Liebert & Spiegler, 1987: 175]

Using empirical analysis of several hundred people Cattell [1905–] identified 16 major factors which represent the major dimensions of differences in human personality. [Figure 8.3] These factors are distilled from many statements about the individuals, and are culturally biased – a researcher in a non-USA culture may have developed different sets of factors from a similar survey.

Eysnick [1916–] claims that to a considerable extent major dispositions are heritable.

Motivation

Motivation theorists claim that a person's behaviour is motivated by that person's needs. Individual needs vary in both kind and amount. The psychoanalytic model of personality emphasized the similarity of motivations of all people. Motivation theories identify and elaborate the differences between individuals in terms of the strength of their motives and how they are manifested. [Liebert & Spiegler, 1987: 230-231]

Murray [1893–] believes that the individual and environment must be considered together, but for analysis, the individual forces [needs] and environmental forces [pressures] must be separated.

Figure 8.3
Sixteen major factors in the analysis of personality
[Cattell, R. B. (1965). *The Scientific Analysis of Personality*.
Baltimore: Penguin; reproduced in Liebert & Spiegler, 1987: 197]

Low-score description [negative]		High-score description [positive]
		←————→
reserved	A	outgoing
less intelligent	B	more intelligent
emotional	C	stable
humble	D	assertive
sober	E	happy-go-lucky
expedient	F	conscientious
shy	G	venturesome
tough-minded	H	tender minded
trusting	I	suspicious
practical	J	imaginative
forthright	K	shrewed
placid	L	apprehensive
conservative	M	experimenting
group-tied	N	self-sufficient
casual	O	controlled
relaxed	Q	tense
		←————→

Needs are sometimes manifest and sometimes latent. The strength of a need must be measured in both forms. McClelland and his colleagues developed a process of measuring motives such as achievement, power, and affiliation. They focused on the need to achieve. Winter [1939–] has focused on the need for power.

McClelland has developed a formal course for developing achievement motivation in businesspeople. Winter claims that the goal of the power motive is the status of having power. Some people hope for power, others have a fear of power. People with a high need for power share certain characteristics:

- *Presentation of self* – control of people, possessions, situations expressed through force, prestige possessions, or the embellishment of one's products.

- *Selection of friends* – gather a group of followers who are not popular or well known, and are generous and understanding to those people, while displaying a competitive stance to outsiders.
- *Relative indifference to time and risk.*
- *A high degree of emotional arousal* in situations that arouse power motivation but do not allow power to be exercised.
- *Sexual behaviour* – power motivated men have sex at an earlier age, or say they did, and prefer a partner who is dependent.
- *Alcoholism* – dependence on alcohol to satisfy the need for power distinguishes the alcoholic from the non-alcoholic. [Alcohol increases the feeling of power.] [Liebert & Spiegler, 1987: 252-256]

Phenomeno-logical

The individual's grasp of objects and events largely determines human behaviour: what is real to the individual is what is in the person's individual frame of reference. That is, perception is a subjective act; effective reality is *reality as it is perceived*. [Liebert & Spiegler, 1987: 271-273] A distinguishing characteristic of the phenomenological [holistic] approach is that humans are rational in their responses to the world as they perceive it. This implies that actions derive from conscious awareness.

There are two basic approaches: the self-actualisation approach of Rogers and Maslow, and the personal constructs approach of Kelly and Lewin.

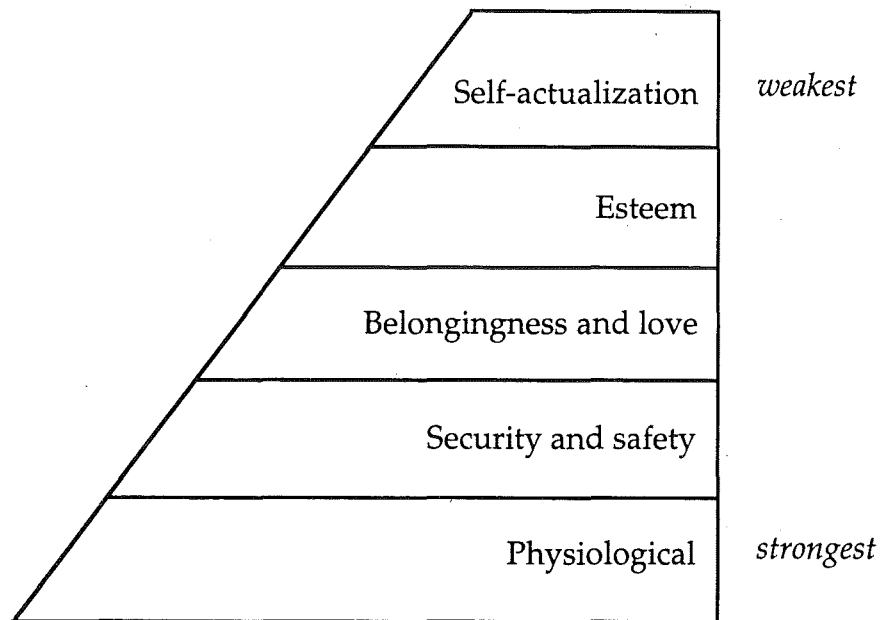
Hierarchy of needs

Maslow's [1908–1970] hierarchy of needs is based on Rogers [1902–] two major assumptions:

"(1) human behaviour is guided by each person's unique self-actualising tendency and (2) all humans need positive regard." [Liebert & Spiegler, 1987: 287]

Maslow conceptualizes motivation in terms that are common to us all. He postulates five levels of basic human needs which occur in order of decreasing strength. [Figure 8.4] The lower needs are relatively uniform for all people, but the nature of self-actualisation needs varies from person to person. Each person has a unique potential to develop, grow, and change. This is that person's personality.

Figure 8.4
Maslow's hierarchy of needs



Construct theory

Kelly [1905-1967] discovered that an individual could change abnormal behaviour if he or she was helped to change his or her interpretations so as to see themselves and the world differently. Kelly suggested that we see the world through transparent patterns or constructs. Each person has a unique set of constructs. While these constructs may seem the same for different people, this is due to weaknesses of language – we can not express the subtle nuances. Differences between people are due to differences in how they construe events. Individuals observe the behaviour [and personality] of others through their own constructs.

Each of these approaches– psychoanalytic, dispositional, and phenomenological – offers explanation of personality in action. They provide different approaches to explaining what happens inside the 'black box'.

Chapter 9 Cognition

Aims of this Chapter:

- to be aware of the importance of divergent thinking;
- to understand the role of memory in the decision making process;

How do managers impose meaning on the stimuli they encounter?

The American Heritage College Dictionary [1993] defines cognition as the mental process or faculty of knowing, including aspects such as awareness, perception, reasoning, and judgement. A person's personality will influence his or her cognition. Aspects of cognition, such as perception and memory, influence the processes and outcomes of reasoning and judgement. The next two sections focus on these.

Perception

"We do not first see, then define, we define first and then see." [Walter Lippmann]

"the problems managers face are, in reality clusters of information and observations from which meaning emerges a problem is what you make of it." [McCall & Kaplan, 1991: 14]

The information worlds faced by managers are extremely complex, ambiguous, and munificent. [Mason & Mitroff, 1981; Mintzberg, *et al*, 1976; Schwenk, 1984, cited in Walsh, 1995: 280] Managers, in fact all individuals, must find their way through a bewildering flow of information to make decisions. They do so by employing knowledge structures, or schema, to represent their information worlds, and thus facilitate information processing and decision making. Hogarth [1987: 135] suggests that the mind not only receives information, but actively seeks information to incorporate within existing notions and thought patterns. Thus our relationship with information is both passive and proactive. Recall the quote from Schelling [above] – is my mind using me in its journey, or am I in control?

Elements of perception

As Lippmann said so effectively, we see the world as probabalistic because we are unable to see and comprehend the myriad factors that cause events to occur: our perception is selective. McCall & Kaplan [1991: 2] draw attention to the flow and process elements of perception.

Flow is the way in which information gets sorted, filtered, and organized. It comprizes the organisation's formal management information system [MIS], corporate values, a manager's passive and proactive relationships with other people, and the manager's experience. The organisational aspects of the flow of information are determined by past and present managers to organise and simplify the huge volume of potentially available information, and affect the information available to the manager.

Process is the limited processing capability and bias, simplification through mental maps, emotional involvement, collaboration and negotiation practised by managers.

Perceptual barriers

Because of the limitations of the humn brain individuals must use simplification processes. However, we all, to greater or lesser extent, also apply perceptual barriers such as:

- using overly-restrictive problem barriers;
- inability to isolate the specific problem;
- ignoring familiar sensory input [saturation];
- failure to use all of the senses;
- stereotyping;
- functional myopia;
- difficulty in seeing remote relationships.

The first two of these barriers are essentially opposites, having to do with how we set parameters around the identification activity. The third relates to the dulling of our most used senses – especially sight and sound. In reading, in particular, we have a tendency to see what we expect to find. Also, we often use only one or two of the six senses when we should try to make use of all or most of them. The senses are : sight, sound, smell, taste, touch, and intuition. Researchers have found that smell has the most lasting impact in human memory. Individuals trained in the 'hard' sciences are taught that intuition is not analytical and should be ignored in decision making. However, it is a proven part of perception, and

researchers such as Mintzberg [1976] and Isenberg [1984] have shown the importance of intuition and creativity in the decision making of senior managers.

Stereotyping is the tendency to classify experiences into familiar categories. New information is seen to be the same as information previously categorized. Functional myopia is failure to perceive that articles have multiple possible uses. For example, paper clips may be used to hold papers together, to make into a chain, as missiles, to scratch a surface, etc. The difficulty in seeing remote relationships is similar, in that we fail to see a relationship between separate pieces of information.

Many researchers have listed cognitive heuristics and biases which may adversely affect decision making. Hogarth [1980] described twenty nine separate biases. Both Schwenk [1988: 44] and McCall & Kaplan [1991: 26] have presented selections of those most likely to affect decision making. [Figure 9.1] Only three items appear in both lists, suggesting something about the perceptual bias of these authors.

Figure 9.1
Heuristics and biases as perceptual barriers
in decision making

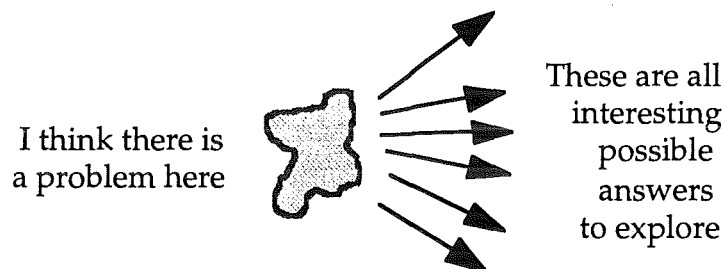
Bias / Source of bias [McCall & Kaplan,1990: 26]	Selected heuristics and biases [Schwenk, 1988: 44]
Availability*	Availability*
Selective perception*	Selective perception*
Concrete information	Illusory correlation
Data presentation	Conservatism
Inconsistency	Law of small numbers*
Law of small numbers*	Regression bias
Complexity	Wishful thinking
Gambler's fallacy	Illusion of control
	Logical reconstruction
	Hindsight bias

Divergent and convergent thinking

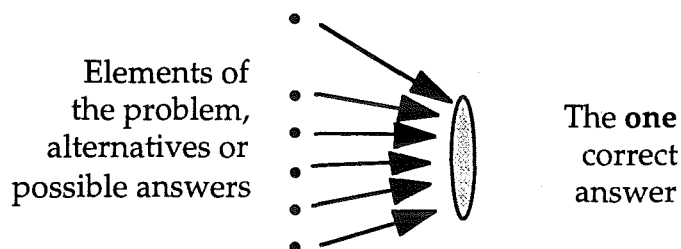
A number of researchers have suggested divergent thinking, or creativity techniques, as means for improving the processes of awareness and perception. [de Bono, 1982; Raudsepp, 1983; Smith & Ainsworth, 1989] Convergent thinking is the conventional functionalist approach to decision making – identify elements of the problem and alternative possible solutions, evaluate these alternatives and choose between them. Divergent thinking is essentially a reversal of this process. As is shown in Figure 9.2, divergent thinking commences with exploration for the 'real' problem, then exploration for possible answers. In decision making, divergent thinking should always precede convergent thinking.

Figure 9.2
The nature of divergent and convergent thinking
[Smith & Ainsworth, 1989: 25]

DIVERGENT THINKING



CONVERGENT THINKING



Some of the techniques we can consciously use to stimulate divergent thinking are:

- generate alternatives;
- challenge assumptions;
- suspend judgement;

- visual description;
- fractionation;
- reversal [from the problem stated, or solution given, seek for causes rather than alternatives;
- brainstorming;
- analogies and metaphores;
- choice of entry point;
- random simulation;
- polarization, or arguing the opposite view.

Memory

"Memory is the store that provides many if not most of the inputs to decision making. It is therefore important to understand how the store is organized and, in particular, the manner in which information can become distorted." [Hogarth, 1987: 133]

Memory affects reasoning and judgement through the selection of cues, the structuring of judgemental tasks, the choice of decision rules, and the interpretation and coding of outcomes. [Hogarth, 1987: 132] Memory can be classified as short-term and long-term. Short-term memory is our memory for information that has just been received and on which operations are still being performed. Short-term memory is the active part of our memory and has limited capacity.

Long-term memory is the repository of our knowledge. It can be accessed as needed to recall information received very recently, or over a long period into the past. Hogarth [1987: 134] reports that most theorists agree that long-term memory works by recalling fragments of information that allow the individual to reconstruct more complete representations of the information. These fragments of information are linked in a network of associations, and these associations trigger the recall and reconstruction. People construct their own 'codes' for remembering information of importance to them.

Thus memory may work in a way which enables accurate recall and reconstruction of the person's perception of past events and communications, or it may work to provide a distorted recollection. Given that the person's perception is subject to various heuristics and biases, the information stored may

itself be accurate or distorted. Thus the information recalled may be accurate, or of varied degrees of inaccuracy.

Further, memory can shape perception. Memory provides a person with anticipated patterns of expectations about incoming information [or the information for which to search], and this can interfere with what is perceived.

ACTIVITY:

List all of the metaphors for memory you can think of. Which do you think is most appropriate?

Some examples are:

- photographs taken with a camera and kept in a photo album;
- a filing cabinet;
- the random access memory [RAM] of a computer;
- periodic dripping of hot oil onto a jelly so that patterns of varying shapes and depth form;
- a hologram.

The hologram is possibly the best model of memory. But a hologram is more perfect than any person's memory. The hologram provides a three dimensional image which can be seen from different perspectives. If a hologram is shattered, each piece will contain an image of the whole picture, but from limited perspectives. The more pieces reassembled, the more complete becomes the image. Similarly with human memory: the images we store are shaped by the senses used in perceiving them, and the way in which incoming information is framed.

Memory is also affected by recency and repetition, anticipation and hindsight. The recency effect is something like use of a computer with back up files. We tend to keep the most recent information in files on the hard disc of the computer, transferring older files to backup disks and other storage systems. Recall then also requires triggering a memory of the filing system as well as the information. Repetition has the ability to ingrain messages more deeply. If hot oil is dripped onto the same spot of a jelly on numerous occasions, the resultant pattern is deeper.

Prior to and during events we anticipate what the event may be like, based on similar previous experience, or on what others may have told us. When recalling the event from memory we may also recall the anticipations, so that we remember the anticipated event rather than the actual event. Information received after the event can also shape the memory of that event. In part, this post-event information may be encoded in questions causing the recall from memory. Hogarth [1987: 142] compares challenging questions – 'did you see *the* broken headlight' with neutral questions – 'did yo see *a* broken headlight'. The former suggests that there was a broken headlight and asks the witness to remember seeing it. The latter leaves doubt about the existence of a broken headlight, and is less likely to influence the witnesses memory.

Chapter 10 Risk Preference

Aims of this module:

- to understand 'risk' and the effect of 'framing' on attitude to risk;
- to appreciate the importance of business ethics;
- to be aware of the major conceptions of ethical principles;

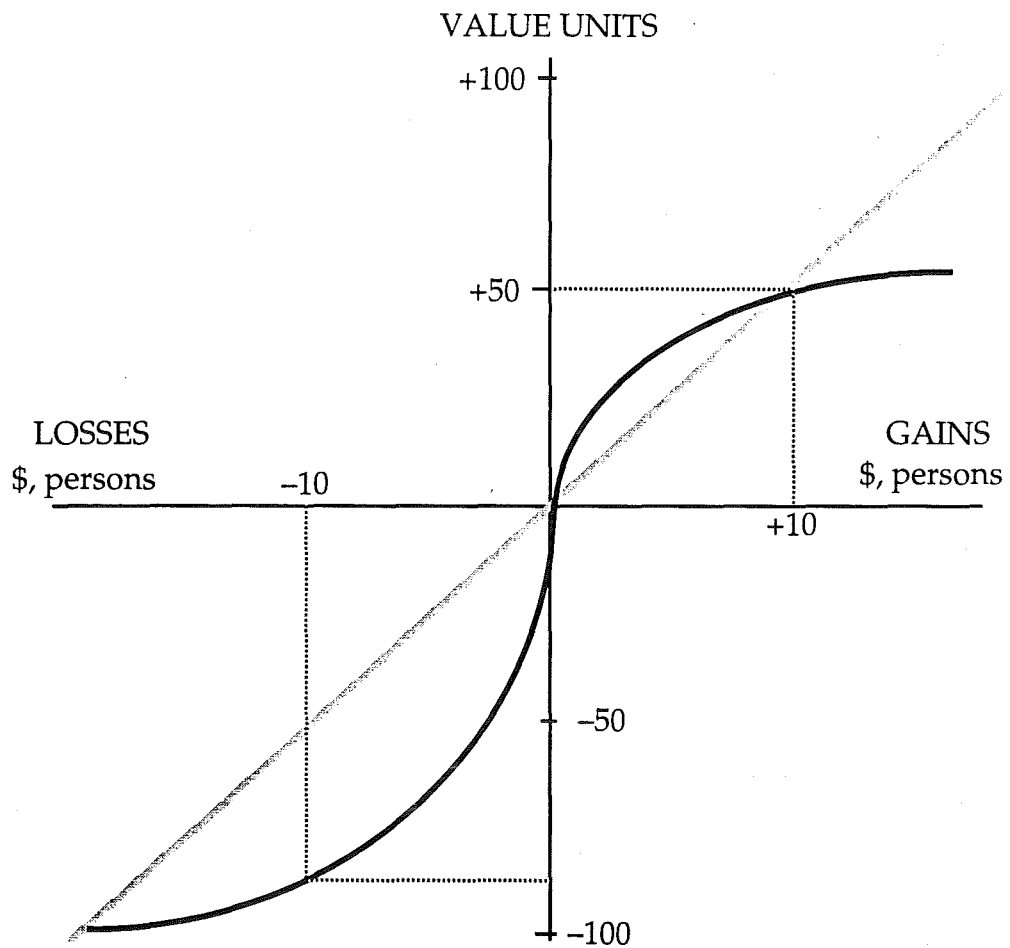
Decision makers are frequently forced to grasp for certainty in an uncertain world. Our uncertainty can be about the state of the world, the response, the effect of that response, or any combination of the three. Whatever the cause of uncertainty, there will be risk associated with the choice between alternative responses – a decision. An individual's attitude to risk, or risk preference, will influence the decision made.

"Risky choices, such as whether or not to take an umbrella and whether or not to go to war, are made without advance knowledge of their consequences." [Kahneman & Tversky, 1984: 341]

Some people place value judgements on risk-seeking behaviour: 'to succeed you must take risks', or 'you are foolish to take so many risks'.

Attitude to risk was considered to be a consistent personality trait until Kahneman and Tversky provided statistically significant evidence that individuals can be risk averse, or risk taking depending on the circumstances. Economic analysis [utility theory] has been based on the assumption of risk aversion, building on the work of Daniel Bernoulli published in 1738. Bernoulli showed that people are generally averse to risk, and that risk aversion decreases with increasing wealth. [Kahneman & Tversky, 1984: 342] The flaw in this work appears to be that it examines risk preference only with regard to ultimate states of wealth. In fact, people normally think of outcomes in terms of gains, losses, and neutral outcomes, without regard for the size of the final outcome. Kahneman & Tversky [1984: 342] suggested that "subjective value is a concave function of the size of a gain" and convex for losses. The function is significantly steeper for losses than for gains. [Figure 10.1] Individuals are risk averse in the domain of gains, and risk seeking in the the domain of losses. Kahneman & Tversky [1984: 342] cite their own research and that of others published in 1979 and the early 1980s as evidence for this argument.

Figure 10.1
A hypothetical value function



Prospect theory

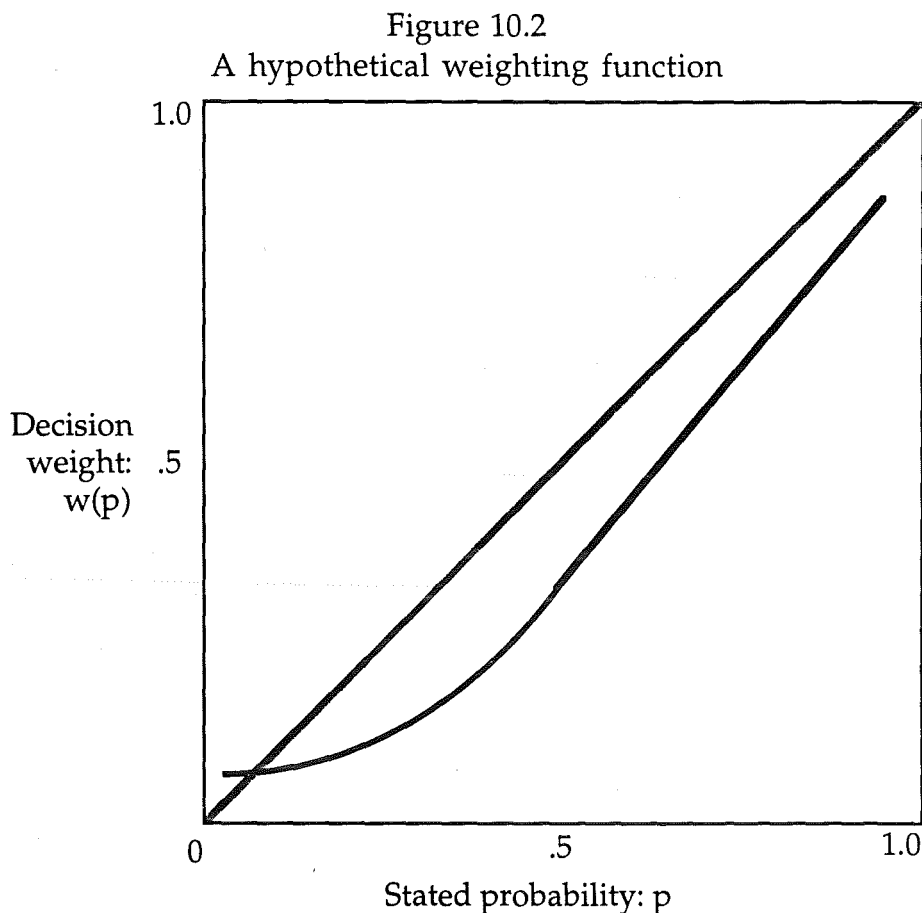
The hypothetical person in Figure 10.1 is shown as attaching subjective value of +50 for a gain of 10 [dollars, jobs, lives, quality, etc], and subjective value of -88 for an equal loss. The attractiveness of the possible gain is not nearly enough to offset the aversiveness of the possible loss.

This relationship between subjective values is the basis of *prospect theory*:

"the way in which the problem is 'framed', or presented, can dramatically change the perceived neutral point of the question." [Bazerman, 1994: 57]

Economic decision theory – expected-value theory – incorporates two basic principles:

- *dominance* – if prospect A is at least as good as prospect B in all respects and better in one, then A will be preferred to B. [And if B is preferred to C, A will be preferred to C.]
- *invariance* – the preference order between prospects does not depend on the way in which they are described. [If A is preferred to B, $-(-A)$ is preferred to $-(-B)$.]



Risky prospects can be characterised by their possible outcomes and by the probability of these outcomes. Decision theory applies probabilities directly. That is, a 50% chance of winning is exactly that: a 50% chance of winning [Plous, 1993: 98], a 10% chance is a 10% chance. Prospect theory asserts that decision weights overweight low probabilities and underweight medium and high probabilities. [Plous, 1993: 98] [Figure 10.2] Plous [1993: 99] refers to an example of Russian roulette: the difference between 0 and 1 bullets is valued more highly than the difference between 3 and 4 bullets. Kahneman & Tversky [1984:344-346] demonstrated that reducing the probability of a loss from whatever it is [say .6] to half that [.3] is less valuable than reducing it from that [.3] to zero. The reduction in probability is exactly equal, and decision theory would apply the changes

directly. Prospect theory clarifies our understanding of why the reduction from .6 to .3 has less subjective value than the reduction from .3 to 0.

Framing effects

The same option can be framed in different ways, leading to failure of the invariance principle. [Kahneman & Tversky, 1984: 343] For example, a survey to decide whether or not to upgrade the quality of the campus cafeteria could include questions framed positively, negatively or neutrally:

- *positive* – Do you think the cafeteria is always clean;
- *negative* – Is the cafeteria usually untidy and dirty;
- *neutral* – How clean is the cafeteria.

Levin, *et al* [1985] found also that decision makers treat missing information subjectively, depending on how the problem is framed.

Chapter 11 Schemata

Aims of this Chapter:

- to understand the nature and role of schema.

"... problem definition is relative, there being no basis for preferring one definition over another." [Smith, 1989: 966]

"... schemata are simplified models of the relationships between variables relevant to a strategic problem." [Schwenk, 1988: 49]

Any problem may be defined in various ways. This is more than just the framing effect affecting an individual's risk preference. In fact, if problem identification is not done with care, a decision maker may solve the wrong problem. [Smith, 1989: 966] Both Smith and Schwenk draw attention to the important role of individual cognitive processes in problem identification.

Smith [1989: 968-971] identifies four dimensions of problem definition:

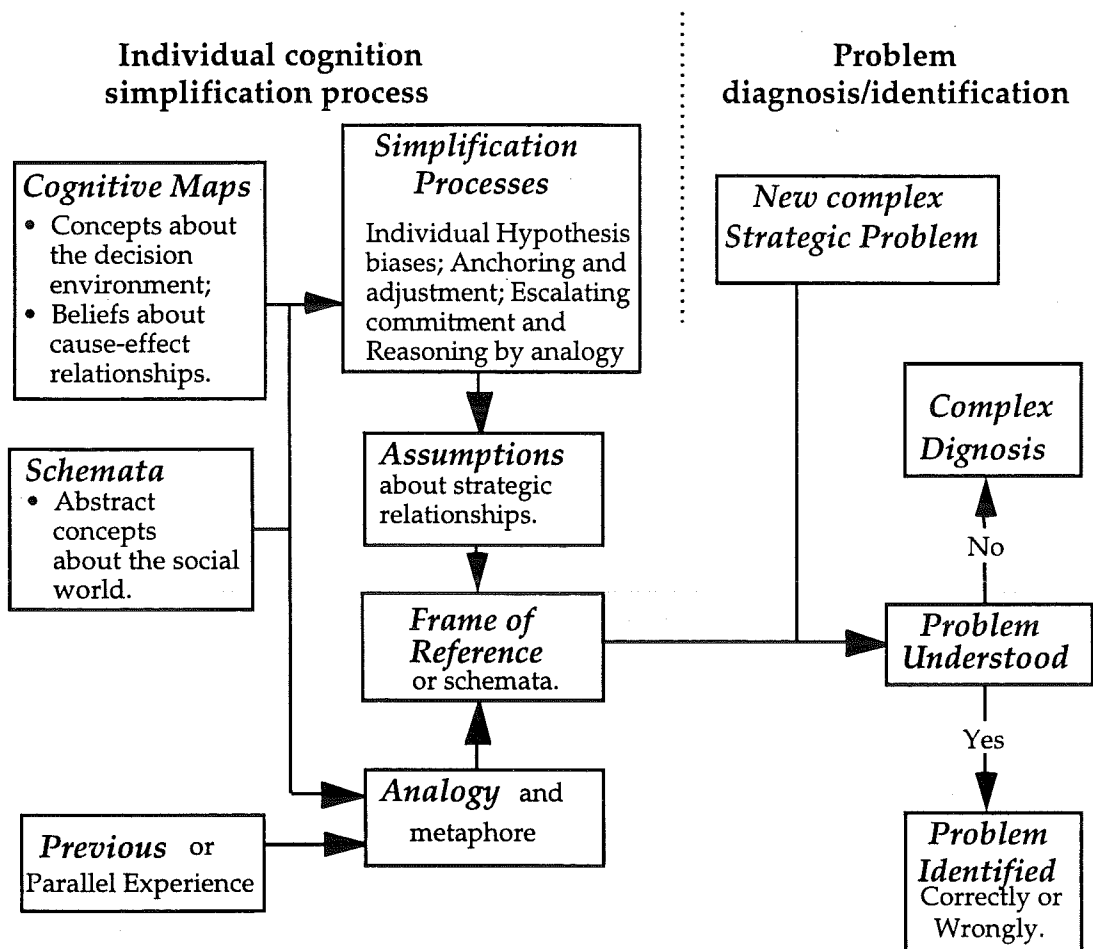
- conceptualization of what definition involves – perspective, knowledge specification, gap specification, etc;
- substantive alternatives within a conceptualization;
- scope of the problem construct – the amount of complexity that can appropriately be incorporated in a problem, and the various levels at which it can be defined;
- linguistic variations on a substantive alternative – the choice of words used to describe the problem content.

He suggests a four stage framework comprising recognition, development, exploration, and redefinition. These are all cognitive processes and may be done differently by individuals.

Schwenk [1988] goes further, claiming problem identification is also preceded by some special mechanisms: assumptions, frames of reference or schemata, cognitive maps, simplification processes, and analogies from other problems. Attempts by strategists to understand complex problems may be based on biases in

their strategic assumptions (Schwenk, 1988). Strategic assumptions then, form the basis for frames of reference or schemata through which decision

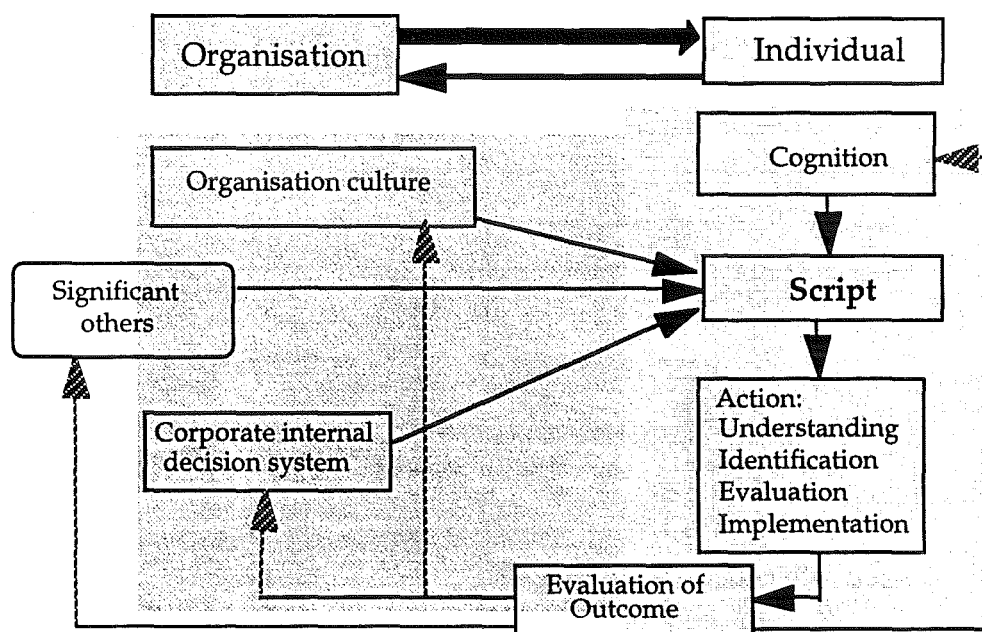
Figure 11.1
The process of problem identification
[Based on Schwenk, 1988]



makers represent complex strategic problems. Further, analogy and metaphor may be the means by which cognitive maps and schemata from other problem domains are applied to new strategic problems. Figure 11.1 illustrates how problem identification is preceded by this complex set of determinants. As a problem can only be identified if it is understood, the role of cognitive simplification processes (which influence assumptions and schemata), analogy and metaphor, cognitive maps, and schemata are all critical.

Schemata is organised knowledge derived from personality, experience and vicarious learning. In making decisions, managers apply scripts drawn from the frame of reference, or schemata. A script is a highly specialised type of schemata that retains knowledge of actions appropriate for specific situations and context. It is obvious that the manager's script plays an important part in determining how he or she arrives at a decision. The manager's script development can also be strongly influenced by his immediate environment. When there is a strong organisational ideology, or culture [Schein, 1985], a strong corporate internal decision system [French, 1979], and powerful significant others within the organisation, then these factors also shape the development of scripts used by a manager [Figure 11.2]. This influence may occur through the analogies and metaphors developed from past and parallel experience, or operate directly on the development of scripts within

Figure 11.2
Script development



the frame of reference or schemata. Figure 11.2 shows that the influence from the organisation to the individual is stronger than that of the individual on the organisation. It also shows the feedback loops to individual cognition, to the organisation, and to significant others both within and outside the organisation.

Scripts provide a framework for understanding information and events, and serve as a guide to appropriate behaviour to deal with certain situations and as linkages between cognition and action. [Figure 12.1] The shaded area in Figure

12.1 represents the individual cognitive simplification process shown in Figure 11.1. The effect of the organisation on individual script formation is also depicted. The rest of the diagram shows how scripts operate through intervening variables on the various stages of the decision process. Comparison between Figure 12.1 and Figure 5.1 [Module 2 above] will show how individual cognition feeds into the total decision process. This comparison offers some insight into the 'black box' of Figure 8.1. It is important to realize that this black box is unique for every individual.

Chapter 12 Decision Styles

Aims of this Chapter:

- to be aware that there are many decision styles;
- to understand your own decision style, and be able to compare it with others.

Differences exist between the ways in which individuals make decisions, and the ways individuals make decisions at different times, and under different circumstances. Several researchers have offered typologies of style. Two are presented here, one relatively simple classification, and a second offering sixteen decision styles.

Rowe and Mason [1987] apply a questionnaire to establish individual characteristics on two vectors. The individual may have a right brain orientation or left brain orientation, and may have an action or ideas orientation. An individual can have both a left brain and a right brain orientation, and both an ideas and an action orientation. The results provide four cells in a matrix labelled analytical, conceptual, directive, and behavioural [Figure 12.2] The subject is scored for these four decision styles, and for each of the orientations. Rowe and Mason [1987: 51] then aggregate scores to derive 256 possible patterns of combined scores. Mean scores for three decision styles: senior executive, staff, and middle management are shown in Figure 12.2. Each individual can be described as fitting each type according to how their scores compare with the means shown in Figure 12.2.

Nutt [1989: 106-132] offers an alternative typology based on Jungian psychology. As we noted earlier Jung believed that, in middle age, people undergo a major transition from youthful impulsiveness and extroversion to thoughtfulness and introversion. Nutt claims that each person has

- a preferred mode of gathering information;
- a preferred mode of processing information;
- a preferred type of action;
- a dominant focus when taking action.

These preferences and focus join together to provide a preferred decision style.

Figure 12.1
Relationship between cognitive simplification processes,
script development, and the decision making process
[Based on Schwenk 1984 and 1988]

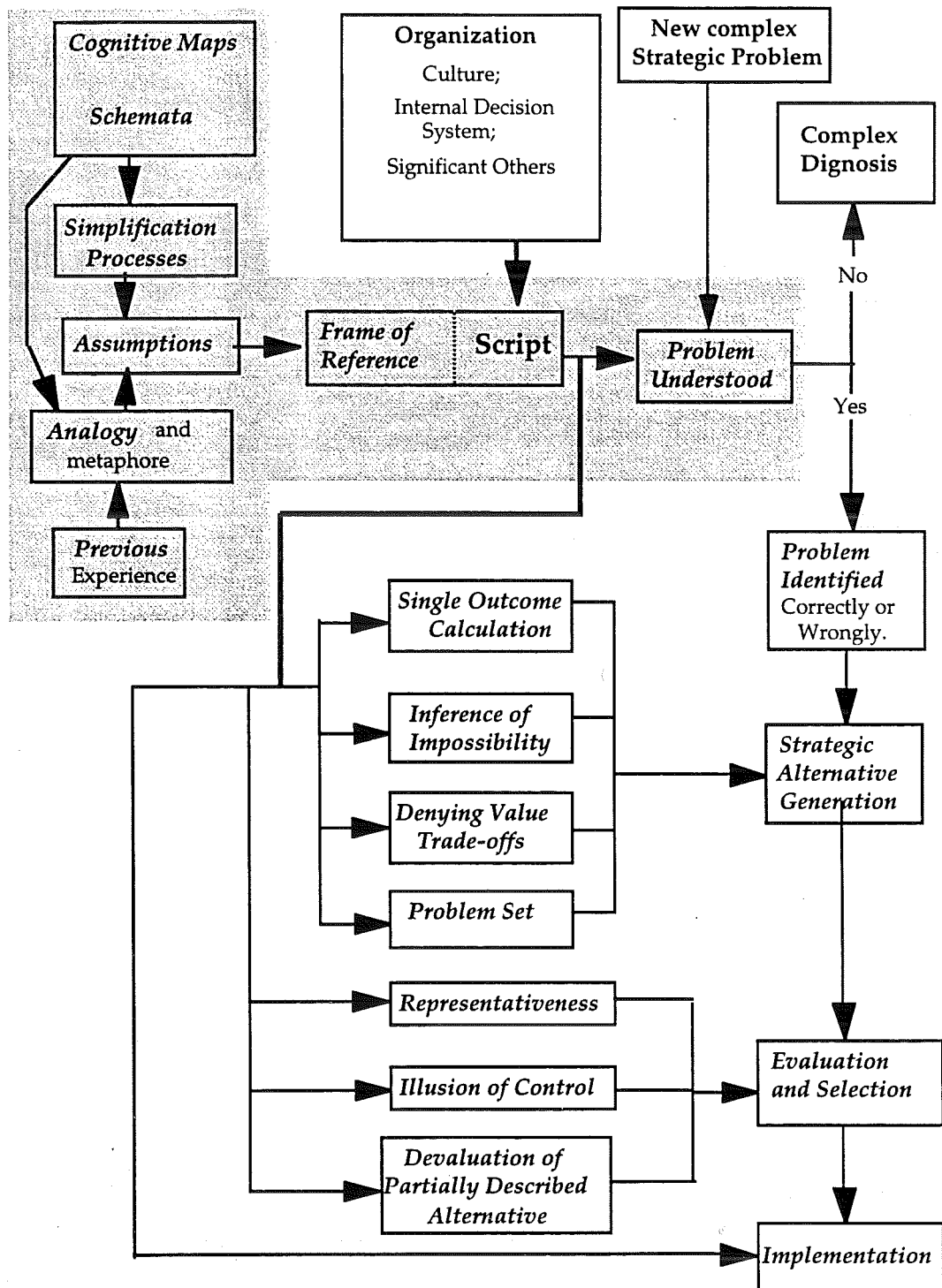


Figure 12.2
A decision styles matrix
[Rowe & Mason, 1987: 44]

Analytical	Conceptual	<i>ideas</i>
Directive	Behavioural	<i>action</i>
<i>left brain</i>	<i>right brain</i>	

Pattern of scores

Orientation	mean	Decision style	mean	Combined score	mean
left brain	165	analytical	90	executive [c+d]	155
right brain	135	directive	75	staff [a+b]	145
idea orientation	170	conceptual	80	middle management	
action orientation	130	behavioural	55	[a+b+d]	220

Choice styles

According to Jungian theory [Nutt, 1989: 111] people are born with preferences for sensation or intuition [S or N], and for thinking or feeling [T or F]. [Figure 12.3] These preferences influence education, work and other experiences.

Sensing and intuition represent quite different approaches to gathering information. The operational rule for a sensate is that possibilities must be backed-up by facts. For intuitives, facts without context can be misleading. Sensing uses a coding device to search for deviations from accepted standards, and enable extraction of significant details from copious information. Intuition seeks patterns in a comprehensive picture or situation.

Thinkers stress generalisations and believe that decisions should be amoral and impersonal. Feelers tend to be heuristic and can reach a flash of insight.

Figure 12.3
Choice Styles
[Nutt, 1989: Figure 6.1, page 113]

		Preferred mode of gathering information	
		Sensation [S]	Intuition [N]
Preferred mode of processing information	Thinking [T]	<i>Systematic [ST]</i> Information: quantitative measures Warrant: statistical significance or axiomatic logic Decision aids: cost-benefit analysis and evaluation research	<i>Speculative [NT]</i> Information: future possibilities Warrant: assumptional flux and stochastic parameters Decision aids: decision trees with sensitivity analysis
	Feeling [F]	<i>Judicial [SF]</i> Information: current situation of circumstances Warrant: acceptance and compromise by interested parties Decision aids: decision groups	<i>Heuristic [NF]</i> Information: current possibilities Warrant: experience and judgement Decision aids: mutual adjustment

Implementation styles

Nutt's preferred action types are based in Jungian psychology and are shaped by the way individual's prefer to deal with the world. An individual's dominant action focus is cognitive, not behavioural. Internals [I] focus on concepts and ideas; externals [E] prefer to deal with people and things. [Figure 12.4] Judges [J] are action oriented, and find it difficult to search for hidden clues. They are good at summing up the evidence. Perceivers [P] are passive and insightful. They prefer to set up experiences, rather than 'tell how'.

Individual implementation styles can be observed by others, and provoke reactions in those observers. [Figure 12.5] For example a persuader observing another persuader in action will critique his or her quality of argument; while a broker would say he or she acts without means. An influencer would describe a persuader as naive, and a persuader would say an influencer is devious.

Sixteen decision making styles can be identified by combining the choice and implementation styles. Nutt [1989: Appendix C, pages 569-574] provides a 32 question survey form for self-analysis, and in Chapter 7 explains the characteristics of each style. The different styles may have positive, neutral or negative relationships when exposed to each other in group situations. Nutt also suggests that some styles also have 'shadow styles' which may be adopted if necessary.

Figure 12.4
Implementation styles
[Nutt, 1989: Figure 6.2, page 125]

		Preferred type of action	
		Judging [J]	Perceiving [P]
Dominant focus when taking action	Internal [I]	<i>Influencers [IJ]</i> Data: ability to maneuver Warrant: end justifies means Techniques: incentives and rewards, behavioural modification	<i>Tuners [IP]</i> Data: hidden meanings Warrant: mutual understanding Techniques: game scenario
	External [E]	<i>Persuaders [EJ]</i> Data: merits of a case Warrant: understanding imperatives to act Techniques: persuasion and personal power	<i>Brokers [EP]</i> Data: organisational pressure points Warrant: evoke sanctioning mechanism Techniques: negotiation and bargaining, cooptation

As noted above, there are other methods for analysing decision styles. Nutt's model is attractive because it is soundly based in psychoanalytic theory, and provides clearly defined categories. It also helps us to understand why it is that some people dominate group decision outcomes: their natural styles are more forceful than others. Some individuals do not have strong preferences for appreciation of information, or for action. [Nutt, 1989: 151-152] These people are able to use *auxiliary* styles, and may exhibit flexibility in decision making. People with strong preferences are likely to use only their dominant styles, and will have *shadow* styles among the remaining 15 styles. Individuals who have a strong internal orientation, and prefer perception to judgement must adopt another style

to make their wishes known and to achieve equal influence. Their behaviour is misleading and their preferred decision style remains hidden. [Nutt, 1989: 152-153]

Figure 12.5
Reactions to implementation styles
[Nutt, 1989: Table 6.1, page]

Acting style	Reactions provoked in:			
	IJ	EJ	EP	IP
Influencer [IJ]	Lost opportunities to manage the situation	Devious	Violates rules of conduct	Takes unnecessary risks
Persuader [EJ]	Naive	Critique quality of argument	Acts without means	Insensitive to necessity of compromise
Broker [EP]	Limited by focus on means	Act s without rationale	Exploits bargaining leverage	Unable to learn
Tuner [IP]	Limited by what others want	Prone to inaction	Reflects when means must be cultured	Values and feelings revealed

Similarities and differences in decision styles can contribute to understanding the probability of cooperation and conflict occurring between people in work situations. [Nutt, 189: 153-159] Coalitions of 'like-minded' people may occur because of compatible decision styles, with conflict occurring because of incompatible styles. However other factors may hide the influence of decision style. The potential for agreement in approaches to decision making is summarized in Nutt [1989: Figure 7.1, page 155]

Chapter 13 Morality in Decision Making

Aims of this Chapter:

- to understand 'risk' and the effect of 'framing' on attitude to risk;
- to appreciate the importance of business ethics;
- to be aware of the major conceptions of ethical principles.

"Untill about ten years ago we knew so little about the topic of organizational ethics that a book like this probably couldn't have been written. But, in recent years, researchers have begun to rigorously study business ethics. Although there's much left to learn, we're beginning to understand the factors that influence ethical decisions in organizations."
[Trevino & Nelson, 1995: 4]

Morality in organisational decision making is an issue for both individual managers, and for, and of, the organisation as a whole. The ethics of business management has a distinctly different set of conceptual problems from those of other professions.

The essential problem with business ethics is that management as a profession has no normative purpose. A manager's morality is mediated by the complex set of interactions within the organisation in which he or she works. Other professions have a clear path of applied ethics. This path begins with the general values and norms of society, moves to the normative purpose of the profession, then to the values of the practitioner, and is ultimately expressed in professional practices. Because managers work in a vast array of organisations, each having institution-specific values to carry out its own responsibility, the context for each manager's values can vary from organisation to organisation. The path to a manager's ethics may lead to different standards for ethical practice depending on the type of, and specific organisation in which a manager is employed. [Powers & Vogel, 1980] Later in this Module we refer to this as the corporate internal decision system [CID].

Ethics is essentially about human behaviour. [Trevino & Nelson, 1995: 13] But an individual's behaviour is strongly influenced by the norms and standards set by the structural and cultural standards of the context in which he or she operates. The behaviour, including moral behaviour, of a manager in a business organisation is strongly shaped by the norms and practices of that organisation.

Moral reasoning

The moral behaviour of an individual is influenced by the contextual situation, and is also determined by the person's psychological development – there are individual differences in ethical standards and moral behaviour. It seems important, therefore, that in judging the moral behaviour of others we should attempt to understand the principles underlying that behaviour. Reaching a conclusion is a logical process of establishing and evaluating premises. In matters ethical, the process requires understanding of ethical principles or standards and evaluation of the facts to derive an ethical judgement:

Moral standards + Factual information = Moral judgement

Stages of moral development

Judging the behavior of others requires understanding of their moral standards as well as our own. The best explanation of the individual aspects of moral behaviour is Kohlberg's model of the stages of moral development. [Trevino & Nelson, 1995: 88] At a superficial level this model has basic similarities with Maslow's hierarchy of needs. Both have their origins in phenomenological psychology.

Kohlberg [1969, 1983] advanced a view of human beings making decisions at six stages, within three levels of human moral development. Most adults and most businesses appear to operate or, in the case of businesses, be operated] within the second level. However, there are examples of business decision making at all levels of cognitive moral development (CMD). The four components of Kohlberg's model are:

- moral judgement has a cognitive base;
- moral stages represent qualitative differences in modes of thinking;
- individuals develop through an invariant sequences of stages [the solid arrows in Figure 13.1];

- individuals prefer problem solution at the highest stage available to them. [Trevino, 1992]

The stages of Kohlberg's model are summarised in Figure 13.1. There are two stages within each of three levels, with the second stage being a more advanced and organised form of the level's general perspective. The stages are considered to be structured wholes in the sense that an individual's moral reasoning is expected to form a coherent system that can best be described by one stage or by a combination of at most two adjacent stages. The stages are hierarchical integrations in that people comprehend reasoning at all stages below their own [the shaded lines in Figure 13.1].

The basic structural element in moral development is social perspective - the view one has of his or her relationship to society and its moral rules and expectations.

Preconventional level

At the preconventional level individuals adopt reward-seeking, punishment-avoiding behaviour. Rules are viewed as being imposed and external. At stage 1.2 there may be reciprocity with others where this is instrumental to self-interest.

Conventional level

At the conventional level the individual has internalised the shared moral norms of society, or some segment of it such as a peer group. Conformity to the prevailing social order, and living up to what is expected by relevant others are characteristic of this level. At stage 2.1 interpersonal trust and social approval are important. At stage 2.2 fulfilling agreed duties is important.

Postconventional level

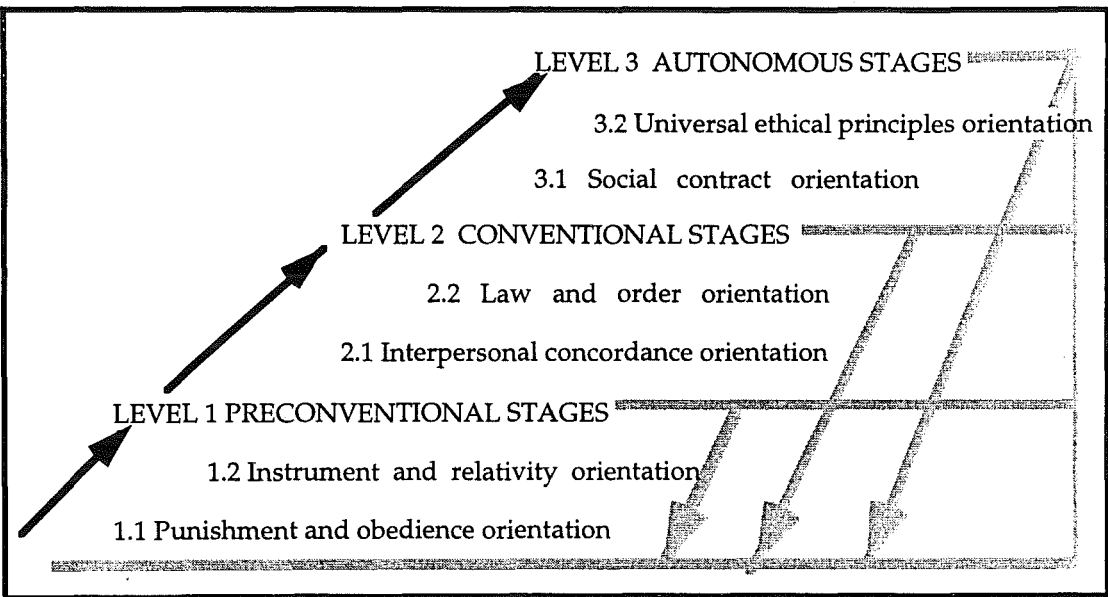
At the postconventional, or autonomous level, the individual has moved beyond identification with others' expectations, and laws. At stage 3.1 the individual accepts moral principles, not because society says they are right, but because he or she knows what it means to say they are right and understands what makes them right. Very few people, if any, reach stage 3.2 where the individual believes right action is defined in universal principles, and is able to both act in accordance with these principles (even when they conflict with law) and to defend them.

Kohlberg's model provides a starting point for furthering our understanding of managers' moral development (MacLagan, 1992). It offers a definition of moral development in which the focus is on moral autonomy, versus conformity, and this is consistent with contemporary organization and management development thinking. There is explicit recognition that action based on moral principles requires emotional commitment to the values as well as cognitive development or understanding (MacLagan, 1992).

Organisational morality

Corporations can be recognised as moral persons [Douglass, 1986; French, 1979], and their organizational cultures include moral reasoning as embodied in Kohlberg's model. Whilst there are many examples of corporations setting a floor for the moral behaviour of individual managers [moral codes, culture], there is also evidence, as in the CSR case [McKenna, 1995] and the Pinto case [Gioia, 1995], that the corporation places a ceiling on the moral development of individual managers. That is, both the corporate internal decision system [CID] and the culture of an organization operate to limit the cognitive development of employees. For most companies this limit is probably at one or other of the two stages in Kohlberg's Level 2 [Figure 13.1].

Figure 13.1
Stages of cognitive moral development



Jackall suggests that

"Bureaucracy transforms all moral issues into immediate practical concerns. A moral judgement based on a professional ethic makes little sense in a world where the etiquette of authority relationships and the necessity for protecting and covering for one's boss, one's network, and oneself supersede all other considerations and where non accountability for action is the norm. As a matter of survival, corporate managers . . . simply do not see most issues that confront them as moral concerns even when problems might be posed in moral terms by others." [Jackall 1988: 111]

Where the bureaucracy is well established and internal promotion is the norm, the ceiling [or floor] placed on the moral development of managers becomes a ceiling [or floor] for the organization itself.

Corporate internal decision systems

According to French (1979), for a corporation to be treated as a responsible agent requires that some events are describable in a way that makes certain sentences true, sentences that say some of the things a corporation does were intended by the corporation itself. That is not accomplished if attributing intentions to corporations is only a shorthand for attributing intentions to the biological persons who comprise, for example, its board of directors. If that were the case then, on metaphysical if not logical grounds, there would be no way to distinguish between corporations and mobs. A corporation's internal decision (CID) structure is the requisite redescription device that licenses the predication of corporate intentionality. The two elements of interest in a CID structure are

- an organizational or responsibility flow chart that delineates stations and levels within the corporate structure, and
- corporate decision recognition rules embedded in corporate policy.

The primary function of a CID structure is to draw experience from various levels of the corporation in a decision making and ratification process. When operative and properly activated the CID structure accomplishes a subordination and synthesis of the intentions and acts of various biological persons into a corporate decision. The melding of disparate interests and purposes gives rise to a corporate long-range perspective that is distinct from the interests and purposes of the aggregate of individuals who either inaugurated the corporation, or subsequently comprise its board of directors and various levels of management. The actions and behaviour of an individual manager are evaluated by the CID structure and organizational culture, as well as by the individual and his/her significant others.

Douglas [1986, p 67] says that even the simple acts of classifying and remembering are institutionalised.

Value congruence

There may be congruence or contention between the moral values of an organisation's culture, and those of individual decision makers acting for that organization [Leidtka, 1989]. The culture of an organization is the

"basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic "taken-for-granted" fashion an organisation's view of itself and its environment." [Schein, 1985: 6]

Scott & Hart [1979: 62] draw attention to the *organizational imperative*, which requires individual obedience to the organization, and such obedience is a value in and of itself, supplanting the presumed ascendancy of the individual. According to Douglas [1986: 112] an organization provides the categories of thought, sets the terms of self-knowledge, and fixes identities for its members. Corporations have reasons because they have interest in doing those things that are likely to result in realisation of their established corporate goals regardless of the transient self-interest of directors, managers, etc. Corporate goals and desires are probably more stable than those of human beings, and not very wide ranging [French, 1979].

Leidtka [1989] suggests that both individual and organizational values may be consonant or contending, and that there may or may not be congruence between individual and organizational values. The model is predictive of how a manager may behave in five typical situations. [Figure 13.2] In Quadrants I and III, the position of the organization is clear and unambiguous in the eyes of the manager. The manager in Quadrant I perceives internal role conflict between [eg.] caring for others, and the need to minimise costs. In Quadrant III, the manager has no internal conflict, but may find that his/her values [A] coincide with the organisation's, or [B] conflict with them. In Quadrants II and IV, the manager perceives mixed messages emanating from the organizational culture. If the manager has internal value conflict he or she will be swayed by his or her peers. If he or she has consonant values, the individual will fight for his or her ideals, and in this situation political behaviour is nurtured.

Figure 13.2
Individual and organisational value congruence and conflict
[Adapted from Leidtka, 1989: Fig. 1]

Individual values	Organizational values	
	Consonant	Contending
Contending	QUADRANT I COMPLIANCE WITH ORGANIZATIONAL VALUES Individual disequilibrium: Organizational position perceived as clear and unambiguous.	QUADRANT II GROUPTHINK Individual disequilibrium: Organizational value conflict.
	QUADRANT III Individual equilibrium: A. INDIVIDUAL : ORGANIZATIONAL CONSONANCE. Organizational values are internalized, there is no conflict. <hr style="border-top: 1px dashed black;"/> B. INDIVIDUAL : ORGANIZATIONAL CONFLICT. Exit and voice mechanism operates.	QUADRANT IV POLITICAL BEHAVIOUR IS NURTURED. Individual equilibrium: Organizational value conflict.
Consonant		

Combining the Kohlberg cognitive moral development model with Leidtka's value congruence model increases the predictive power of the latter. Individuals at lower CMD levels will have a tendency to internal value conflict; those at the autonomous level, stage 5, are more likely to have value congruence. The values of an individual manager can differ from those of other managers, and from the values of the organizational culture. Where there is a strong culture, individual managers will receive consistent signals regarding acceptable behaviour. These signals form a significant part of the behavioural evaluation, and affect the feedback through the modifiers shown in Figure 13.3, and are embodied in the CID structure.

There is nothing in the Leidtka model which suggests that the organizational culture will be of a higher or lower moral standard than the values of the individual. Thus conflict may arise when the individual manager's behaviour is judged to be immoral in terms of the organizational culture , or when the organizational culture sets a lower moral standard than that of the individual manager, or when the values emphasised by the organization differ from those held by a manager. In all cases there are further sources of conflict in how the

manager's behaviour is judged in terms of the values and norms of society, including the individual's significant others.

As we noted in the section on Schema above, individuals operating within an organization will develop schema to minimise the cognitive effort required in decision making. A *schema* is derived from prior experience and vicarious learning that results in the formation of "organised" knowledge - knowledge that, once formed, precludes the necessity for further active cognition. A *script* is a specialised type of schema that retains knowledge of actions appropriate for specific situations and contexts.

Both CID systems and congruence in organizational culture provide fertile ground for the development of managers' scripts and schema. Where the organizational imperative is a significant value in the organizational culture and the CID system is well defined, particular

Figure 13.3
An integrated model of ethical decision making
by an individual in an organisation

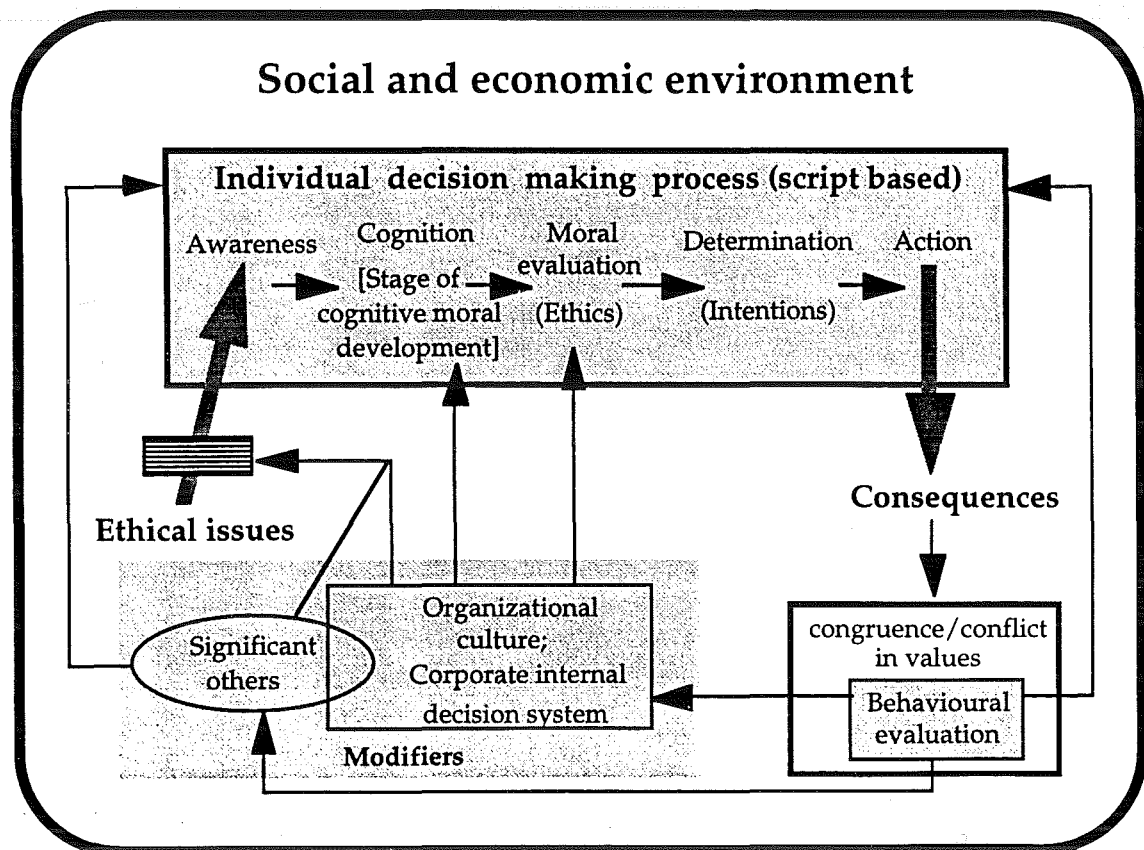
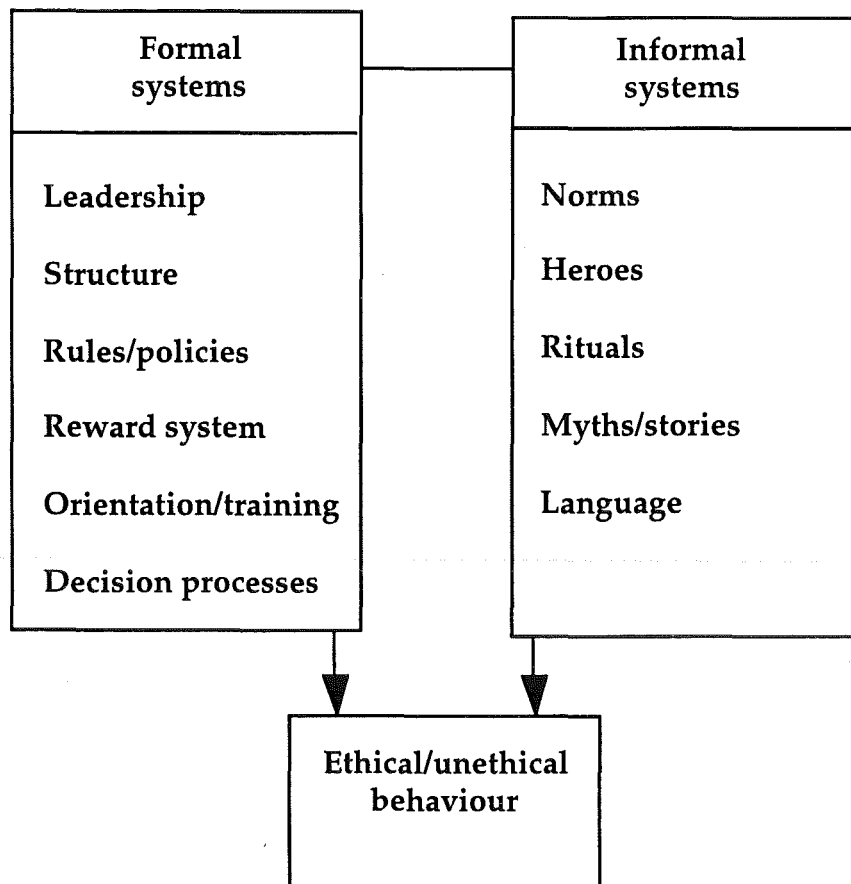


Figure 13.4
A multisystem cultural framework for developing
and changing organisational ethics
[Trevino & Nelson, 1995: Figure 1, page 218]



scripts will be imposed on individuals. Behavioural evaluation feedback through the various modifiers [Figure 13.3] will reinforce these scripts. This may be a desirable characteristic in an "excellent" company in which moral development has reached Kohlberg's Level 3, but in others it can both contribute to continuation of behaviour which is immoral, and prevent managers from including new ethically relevant data in decision making.

If the corporate culture and CID structure are based in traditional economic and management theories these scripts will exclude ethical considerations: decision makers will be amoral. Improved ethical behaviour of business organizations requires both script development and script revision for individual decision

makers, and more complex changes in the organizational culture and CID system. Trevino & Nelson [1995: 214-219] offer an approach to changing organisational ethics. It requires change in organisational culture and will take a long time – they suggest six to fifteen years. Their approach would fit the radical humanism cell in the Burrell & Morgan matrix. [Figure 1.5 above]

Human beings are essentially good and open to change, and prefer association with a just and caring organisation that supports ethical behaviour and punishes unethical behaviour. In this type of environment most individuals will choose moral behaviour.

Unethical behaviour should be punished, and should be a trigger to review the values of the organisation as expressed in both the formal and informal systems. This review would include an audit of the components of both systems. [Figure 13.4] The data gathered should be discussed with all employees, enlisting them into the change process.

Consider the paradox:

Is it ethical to manage organisational ethics?

Whose values are to prevail? how do we know if they are worth emulating?
[Trevino & Nelson, 1995: 219]

Module 5 Group decision making

Chapter 14 Power and Politics

Aims of this Chapter:

- to understand the concept of power;
- to understand the concept of politics;
- to be able to discuss the political process;
- to be aware of the types of political games played in organisations.

Introduction

Allison [1971], Schwenk [1984, 1989] and others have identified three generic perspectives, or explanatory models, of strategic changes in organisations [decisions]. Allison defines these decisions as

- the product of conscious choice [Unitary Rational Actor],
- the product of organisational processes [Organizational Processes], and
- the product of political bargaining and compromise [Bureaucratic Politics]. [Schwenk, 1989: 178]

We have not addressed these approaches directly in this Study Guide, but the first two are implicitly covered in Modules 1 and 2. The sociologists' paradigms [Module 1] and the psychology paradigms [Module 4] provide a basis for understanding the third – political- approach. Whenever groups are involved in decision making there is scope for political behaviour. Politics will occur whenever one or more of the individuals has access to power and the skill and will to use it.

Three concepts are vitally important in understanding decision making by groups: power, politics, and groupthink. Their importance increases as the number of people increases.

"[T]he more people there are who work on a problem, are affected by it, and know about it, the more complex and lengthy the decision process is likely to be." [McCall & Kaplan, 1990: 64]

McCall & Kaplan qualify this generalisation: it depends on where the power resides. If power to decide and to implement is held by one individual, then the decision can be made and implemented without much overt opposition. [McCall & Kaplan, 1990: 65] The Bradford Studies process model [Module 2] draws attention to the significance of power/politics in the decision making process by highlighting the effect of political cleavage.

Power

"Power is not happiness." [William Godwin]

"The world is governed by very different personages from what is imagined by those who are not behind the scenes." [Benjamin Disraeli]

"But organizations, particularly large ones, are like governments in that they are fundamentally political entities." [Jeffrey Pfeffer, 1992]

"Power is an aphrodisiac – one that works on men, women, and ourselves. Our intellects and our hearts shut down, cease functioning, when we are drunk on power. We think of ourselves as invincible. Power and wisdom are mutually exclusive. One cancels the other out completely." [Jonathon Lazear]

"What is of interest in the study of power is who gets it, when, how, and why, not what it is." [Henry Mintzberg, 1983]

Most current management texts [eg Bartol, *et al*, 1995: 448-450] introduce discussion of leadership with a preliminary discussion of the sources and use of power by managers in their leadership role. They define power as the capacity to affect other's behaviour, and recognize six types of power:

- *Legitimate power* relates to the status of a position rather than to a person. Subordinates accept directions from the person because of the position held.

- *Reward power* relates to a manager's ability to exercise control over an array of rewards which may be distributed to others.
- *Coercive power* depends on the ability to punish others. Forms of punishment include criticism, negative performance appraisal, demotion, and termination.
- *Expert power* derives from knowledge, technical skills and experience.
- *Information power* derives from a manager's greater access to important information, and the discretion over how it is disseminated.
- *Referent power* derives from the admiration, friendship and loyalty of others.

Subordinates can react with commitment, compliance, or resistance:

- Expert and referent power tend to cause commitment;
- legitimate, information and reward power tend to lead to compliance;
- coercive power has a strong tendency to provoke resistance.

This view of the place of power in leadership is based on assumptions of people's powerlessness, lack of vision, and inability to master the forces of change. The view may be appropriate in societies and organisations where most people have little or no education, limited access to modern media communications, and, in the case of coercive power, low ambition based on acceptance of a class structure. The view of leadership developed in learning organisation theory is different. In a learning organisation, leaders are designer, stewards, and teachers – they are responsible for learning within their organisations. [Senge, 1990/1992: 340] This learning is tantamount to the sharing and creation of increased power.

Authority versus politics

Compatible with learning organisation theory is the view that the best way to increase power is to share it. [Kanter, 1979: 359-361] Kanter argues that power derives from the organisation and the individual. The 'organisational' sources of power lie in the access to

- *lines of supply* – influence outward, over the environment, enables managers to bring in the things that their own domain needs: resources to distribute as rewards, and prestige;
- *lines of information* – knowledge from both formal and informal sources;

- *lines of support* – job parameters that allow for discretion and judgement, and the backing of other important figures in the organisation.

Individual power sources are systemic, deriving from

- *job activities* – the use of the discretion, recognition and relevance built into job parameters;
- *political alliances* with sponsors, peer networks, and subordinates.

According to Pfeffer [1981: 311-315] power is a structural phenomenon, created by organisational departmentalisation. It may be either formal or informal. Formal power – *authority*, is that which is vested in an office of the formal organisation. It is legitimate. Informal power – *politics*, is illegitimate and is sanctioned neither by formal authority, accepted ideology, nor certified expertise. It may exploit all of these. Informal power may be positive or negative in its impact on the organisation, and through time may be legitimized as authority. Increased sharing of formal power reduces the need to resort to illegitimate power or politics.

Powerlessness

The problem facing organisations today is powerlessness [the lack of productive power], not that too many people exercise too much power. [Bennis & Nanus, 1985, cited in Pfeffer, 1992: 32] Powerlessness is expressed through the use of oppressive power: holding others back and punishing them in whatever ways are available.

Each individual's power can be increased by sharing what power he or she has with subordinates. Opening up the lines of supply, information and support enables those subordinates to accomplish more, increasing the performance of the organisation as a whole and increasing the supply of organisational power sources. [Kanter, 1979: 361]

It has been suggested that managers choose between decision criteria on the basis of two underlying logics of justification – strategic and tactical. [Bacharach, *et al*, 1995: 483] This choice is partially governed by their power within the organisation. Strategic criteria – to do with the long term goals of the organisation – are more likely to be adopted by powerful managers. Tactical criteria – to do with one's own survival in the organisation in the short term – are most likely to be adopted by powerless managers.

The power held by an individual decision maker, or by that person's organisational unit, is a factor in individual decision making. It also contributes to the individuals decisional behaviour in group situations.

Politics

"Organisational politics involves those activities taken within organisations to acquire, develop, and use power and other resources to obtain one's preferred outcomes in a situation in which there is uncertainty or dissensus about choices." [Pfeffer, 1981: 313]

"[P]ower is what matters." [Mintzberg, 1983: 22]

In fairness to Mintzberg, we must add that he does recognize that much more is involved, but this is the perspective of the 1983 book.

The power of an individual in or over an organisation rests in a gap in its own power system – some dependency or uncertainty over which the individual is able to exercise influence. Mintzberg [1983: 24] identifies five bases of power:

- control of a resource;
- control of a technical skill;
- control of a body of knowledge;
- a legal prerogative, or exclusive rights or privilege to impose choices;
- access to those who can rely on the above.

It is clear that these power bases may be internal or external to the organisation, and this effects the nature of organisational politics.

Eisenhardt & Bourgeois [1988: 742] argue that despite popular belief conflict is not the source of politics. Nor is the decentralisation of power. From a study of eight firms they formulated seven propositions linking the origins, organisation and effects of politics. [Figure 14.1] Their propositions are:

1. The greater the centralization of power in a chief executive, the greater the use of politics within a top management team.
2. Conflict is not a sufficient condition for the use of politics. Rather conflict leads to politics only when power is centralized.

3. The greater the use of politics in a top management team, the greater the likelihood of stable alliance patterns.
4. When the use of politics is high, the basis of alliance is likely to be similarity of demographic attributes.
5. Demographic similarity is not a sufficient condition for stable coalition formation. Rather, demographic similarity leads to stable alliance patterns only when power is centralized and the use of politics is high.
6. The formation of stable alliance patterns lags changes in the use of politics.
7. The greater the use of politics within the top management team, the poorer the performance of a team. [Eisenhardt & Bourgeois, 1988: 742-764]

In addition to these propositions, the model shows that the level of politics has a direct positive influence on both information restriction and time consumption. Both detract from performance. Politically active firms exhibit slow growth and low profitability. Finally, there are negative feedbacks to power centralisation and conflict.

The model supports Pfeffer's claim that "once politics are introduced into a situation, it is very difficult to restore rationality." [Pfeffer, 1981: 333]

"[T]he Law of Political Entropy: given the opportunity, an organization will seek and maintain a political character." [Pfeffer, 1981: 331]

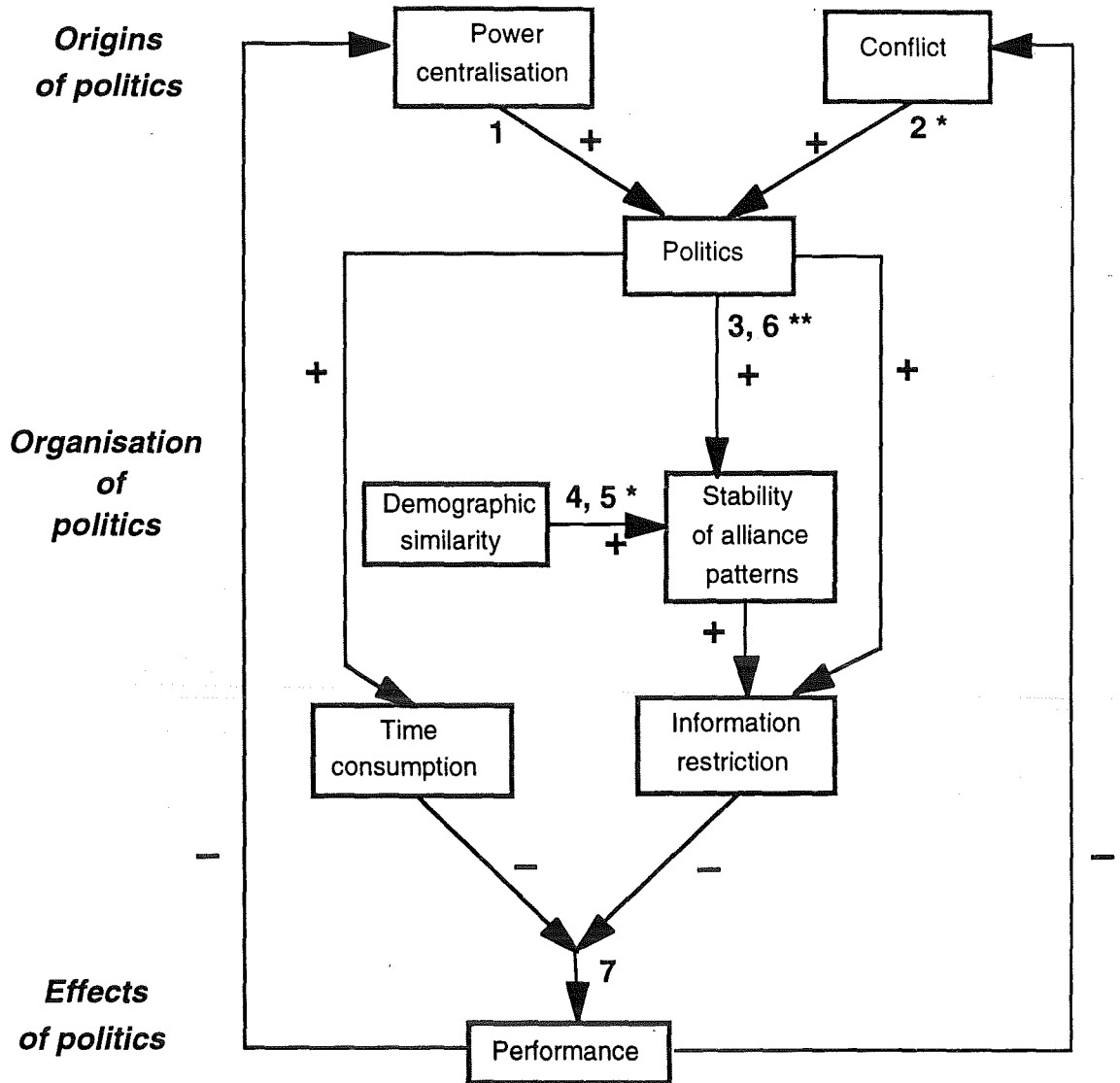
Mintzberg [1989: 214] says that political activity can be found in every human system. However, its exercise requires skill and will as well as a power base. [Mintzberg, 1983: 25] The skill is in knowing how and when to use one's resources, information and technical skills, and being able to influence others with sensitivity and to organise the necessary alliances. Influencers on organisational decisions exercise their influence through *means* and *systems of influence*. There are both internal and external influencers – actors, or a cast of players. [Mintzberg, 1983: 26] The eleven groups of players are:

The external coalition

Owners Some may have conceived the idea of founding the organisation and served as brokers to bring the initial influencers together.

Associates The suppliers of inputs, the clients, and trading partners and competitors. Only those who engage in non-economic contacts are included.

Figure 14.2
The politics of strategic decision making
[Eisenhardt & Bourgeois, 1988: Figure 1, 766]



Note: Numbers correspond to the propositions.

* Refers to necessary, but not sufficient, conditions.

** Refers to propositions involving a time lag.

Employee associations While they represent people internal to the organisation they are external influencers. They exist because of the impotence of individual employees as internal influencers.

Publics Groups representing special or general interest groups: families, opinion leaders, conservation movements, local interest groups, government in all its forms.

Directors The representatives of groups within the external coalition, but also including internal influencers. It is at the interface of the external and internal coalitions, but as it meets intermittently is treated as part of the external coalition.

The internal coalition

Chief executive officer

Operators The workers who produce the products and services, or who provide direct support.

Line managers

Analysts of the technostructure Those staff specialists concerned with the design and operation of the systems for planning and formal control.

Support staff The staff specialists who provide indirect support to the operators and line managers.

Ideology The set of beliefs shared by the internal influencers that distinguishes the organisation from others.

Mintzberg [1983] recognises three basic types of external coalition: dominated, divided and passive, depending on the number of external influencers. [Figure 14.2] He also identifies five internal coalition types: bureaucratic, personalized, ideological, professional and politicized. There are fifteen possible combinations between the

external and internal coalitions. Six of these are described as natural relationships. The other nine are less common and less stable. [Figures 5.3 and 5.4] A dominated external coalition will lead to a bureaucratic internal coalition. Five of the internal coalition types tend to move the external coalition towards a divided coalition. The divided and politicized coalition are mutually supportive. [Figure 14.3]

The six power configurations can be described in terms of the *stars*, the *play*, and the *venue*. [Figure 14.5] Mintzberg uses the theatre as a metaphore describing the plays as:

Figure 14.2
Three basic types of external coalition
[Mintzberg, 1983: Figure 7.1]

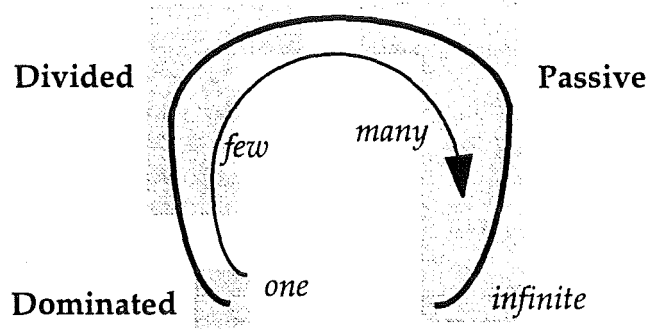
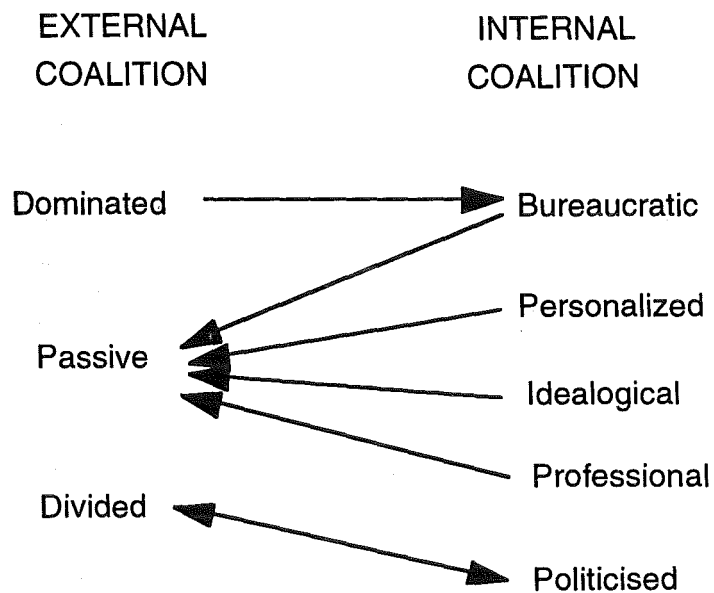


Figure 14.3
Natural relationships between the types of
external and internal coalitions
[Mintzberg, 1983: Figure 17.1]



The Instrument	A command performance in two acts;
The Closed System	A private showing in one act
The Autocracy	A solo performance;
The Missionary	A passion play;
The Meritocracy	A talent show in many acts;
The Political Arena	A circus with many rings

Figure 14.4
The configurations of organisational politics
[Mintzberg, 1983]

EXTERNAL COALITION	INTERNAL COALITION	POWER CONFIGURATION
Dominated	Bureaucratic	The Instrument
Passive	Bureaucratic	The Closed System
Passive	Personalized	The Autocracy
Passive	Ideological	The Missionary
Passive	Professional	The Meritocracy
Divided	Politicized	The Political Arena
Dominated	Personalized	Probably less common and less stable, likely to be Political Arena [sometimes in form of functional hybrid or way-station in transition].
Dominated	Ideological	
Dominated	Professional	
Dominated	Politicized	
Passive	Politicized	
Divided	Bureaucratic	
Divided	Personalized	
Divided	Ideological	
Divided	Professional	

Figure 14.5
The theatres of organisational politics
[Mintzberg 1983: Chapters 18-23]

Configuration	Stars	Play	Venue
Instrument	One, or a group of dominant external influencers.	The external influencer imposes its will on the internal coalition through formal constraints and direct controls. A bureaucracy emerges and puts its surpluses at the disposal of the dominant external influencer(s).	Stable environments, with simple, mass output technologies; typically subsidiaries of other organisations, public sector departments.
Closed System	The system itself.	Power resides in the internal coalition; the insiders are motivated by utilitarian rather than ideological values; the organisation seeks increasing control of its environment; bureaucratic control emerges, and power flows to those with formal authority.	Stable environments; large, mature organisations with dispersed external influencers; typically widely held companies, volunteer organisations, unions, some public service bureaucracies, large government itself.
Autocracy	The chief executive officer.	The CEO is the only centre of power; the ideology reflects his or her beliefs, external influencers are passive, expertise is discouraged.	Small organisations in simple, dynamic niches.
Missionary	The organisation's ideology.	The ideology preempts the systems of authority, expertise and politics; a high degree of participation with a simple [bureaucratic] structure; avoidance of external influencers.	Social activist groups, charitable organisations determined to change some aspect of society.
Meritocracy	The experts of the operating core and support staff.	Internal coalition dominated by experts who gain power on the basis of skill and knowledge; authority is weak; organisational ideology is weak, but professional ideology is strong; a good deal of politics; formal goals displaced by personal goals.	Complex environments or technical systems force organisation to rely on expertise; professional bureaucracies – hospitals, universities, accounting firms; adhocracies – project teams.
Political Arena	All the influencers.	The organisation is an arena dominated by politics; conflict may arise in the external coalition [divided] or internal[divided]; unable to pursue any goal with consistency.	Anywhere where the existing order is challenged because of a change in the fundamental condition. <i>Confrontation</i> – intense, brief and confined conflict; <i>complete Political Arena</i> – intense, brief and pervasive conflict; <i>shaky alliance</i> – continuing, confined conflict; <i>politicised organisation</i> – pervades all power relationships. All forms can be functional if they bring about desirable change.

Political Games

An organisation functions on the basis of a number of systems of influence: authority, ideology, expertise, or politics. [Mintzberg, 1989: 216] The first three are regarded as legitimate. Politics is technically illegitimate, or *alegitimate*– it is not formally authorised, widely accepted, or officially certified. Political activity can be described as games. The games are intricate and subtle, overlapping, and governed by rules. [Mintzberg, 1989: 216] Mintzberg identifies thirteen games.

Insurgency Usually to resist authority, or even to effect change. Usually played by lower participants.

Counterinsurgency Played by those with legitimate power who fight back with political means.

Sponsorship Using superiors to build a power base, professing loyalty in return for power.

Alliance-building Played among peers who negotiate implicit contracts of support for each other to advance themselves.

Empire-building Played by line managers individually with subordinates.

Budgeting Played overtly with defined rules to build a power base.

Expertise Nonsanctioned use of expertise by flaunting it or feigning it.

Lording Using legitimate power in illegitimate ways.

Line versus staff Each side tends to exploit legitimate power in illegitimate ways.

Rival camps Played when alliance or empire-building games result in two major power blocks, giving rise to a two-person, zero-sum game.

Strategic candidates Individuals or groups seek to promote their own favoured changes of a strategic nature by playing political games.

Whistle-blowing Privileged information used by an insider to 'blow the whistle' to an influential outsider on some questionable or illegal behaviour.

Young turks A small group of 'young Turks', close to but not at the centre of power tries to throw legitimate power into question, to reorient the basic strategy, displace its expertise or ideology.

Chapter 15 Group Decisions

Aims of this Chapter:

- to appreciate the effects of groups on the decision process in organisational settings;
- to understand the social-psychology of group decision making;
- to be able to identify groupthink;
- to know how to structure group decision processes to minimize the groupthink factor.

In Module 1 [Figure 2.4] we examined the sociologists definition of behaviour in work groups as an open system in which there is interdependence between activities, interactions and sentiments. The material covered in Module 4, and the early part of this module makes clear that the behaviour of decision making groups in particular, is far more complex. As well as self interest and motives, the individual brings a 'world view', prior experience, and political skill and will into the arena. Figure 15.1 offers a more complete view of the influences on any group decision. Each individual is seen as bridging the boundary between the organisation and its environment, with four aspects to that bridge – the economic, the social, the political, and the individual persona. Thus each individual brings a plurality of influences from both the organisational system and its broader environment into the decision group. This group is also directly influenced by the organisation.

"Deep within Western culture lies a wish to see human behaviour – individual as well as collective – as something controlled by a consistent goal-oriented rationality." [Abaek, 1995: 86]

Regrettably [?], the reality is very different. Individual differences in personality, interests, experience and values, and, especially, political behaviour enter into the scripts which comprise the decision making equation. Recall the Burrell & Morgan paradigms model and the definitions of rationality offered in Module 1. These help us to understand how each person can describe and explain a decision situation in very different terms.

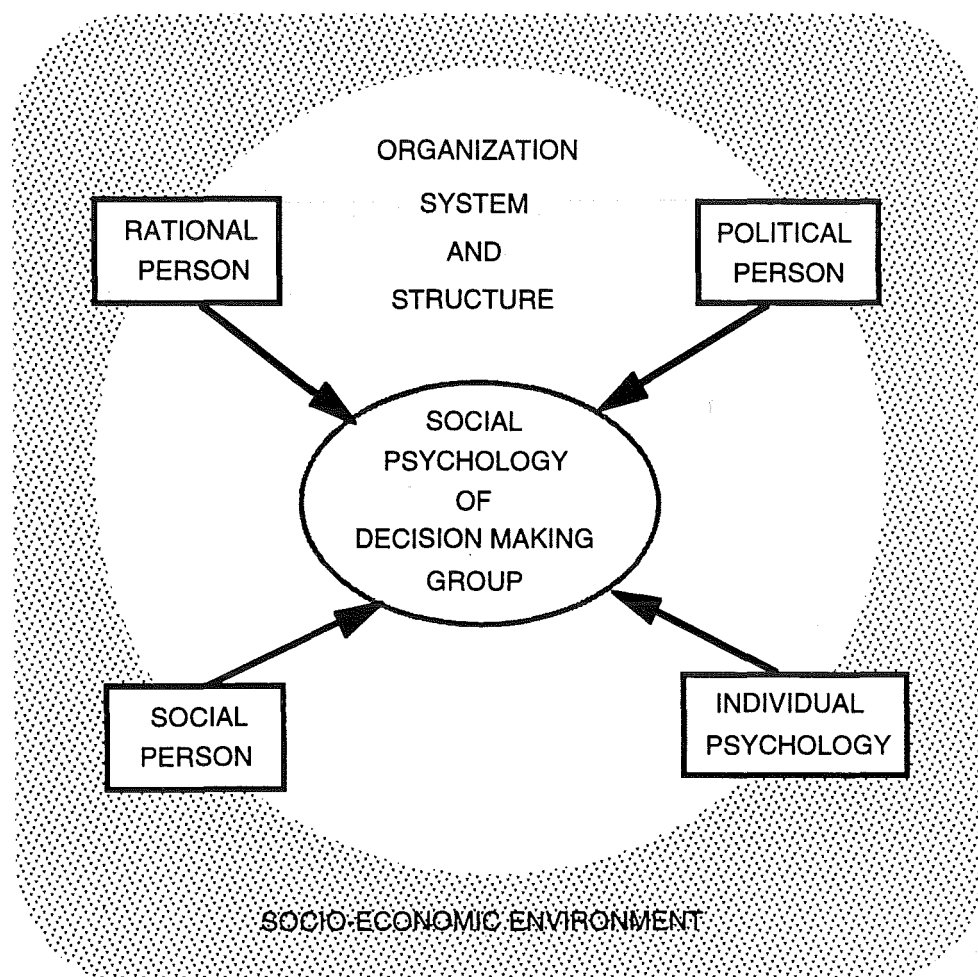
The reality is that the profile of a group has direct bearing on its effectiveness in making a decision. Important aspects of the profile and the implications are summarised in Figure 15.2. These can be related to the decision making process

discussed in Module 2. The first two have most effect in the recognition, diagnosis, search/screen, and design phases of Figure 14.1. The others are most influential in the later stages.

Theory laden data

In group situations the problem of *attaching meaning* [Module 2] is at least as significant as it is for the individual decision maker. Mitroff & Emshoff [1979] identified the importance of theory-laden data and the role of committed proponents. They argue that the data which decision makers apply to strategic, or wicked, decisions is value laden. That is, it is structured as a script based on the individual's frame of reference. [Schwenk, 1988; see Figures 4.8 to 4.11 above]

Figure 15.1
Social psychology of group decision making



In group decision situations this leads to polarised viewpoints and ego investments. [Figure 15.3] If an alternative [theory-laden] viewpoint is not developed, action will be based on the viewpoint of the committed proponent. Sometimes, opponents of this viewpoint will develop a strategy based on their theory-laden interpretation of the original data and additional [theory-laden] data. This sub-group will present 'hit-or-miss' counter arguments in which they also have significant ego investment. Synthesis of the competing strategies [theories] is impossible, and a stalemate will exist until either crisis forces action by the stronger party, or attention is refocussed onto other issues.

Figure 15.2
Influence of the group profile on decision making

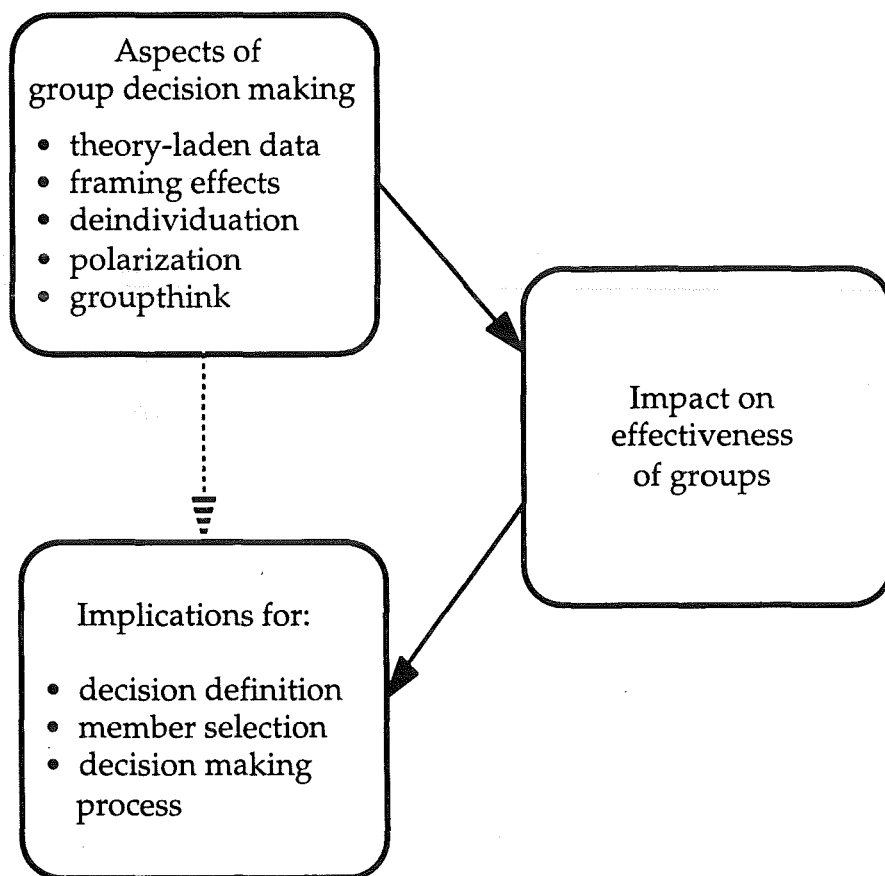
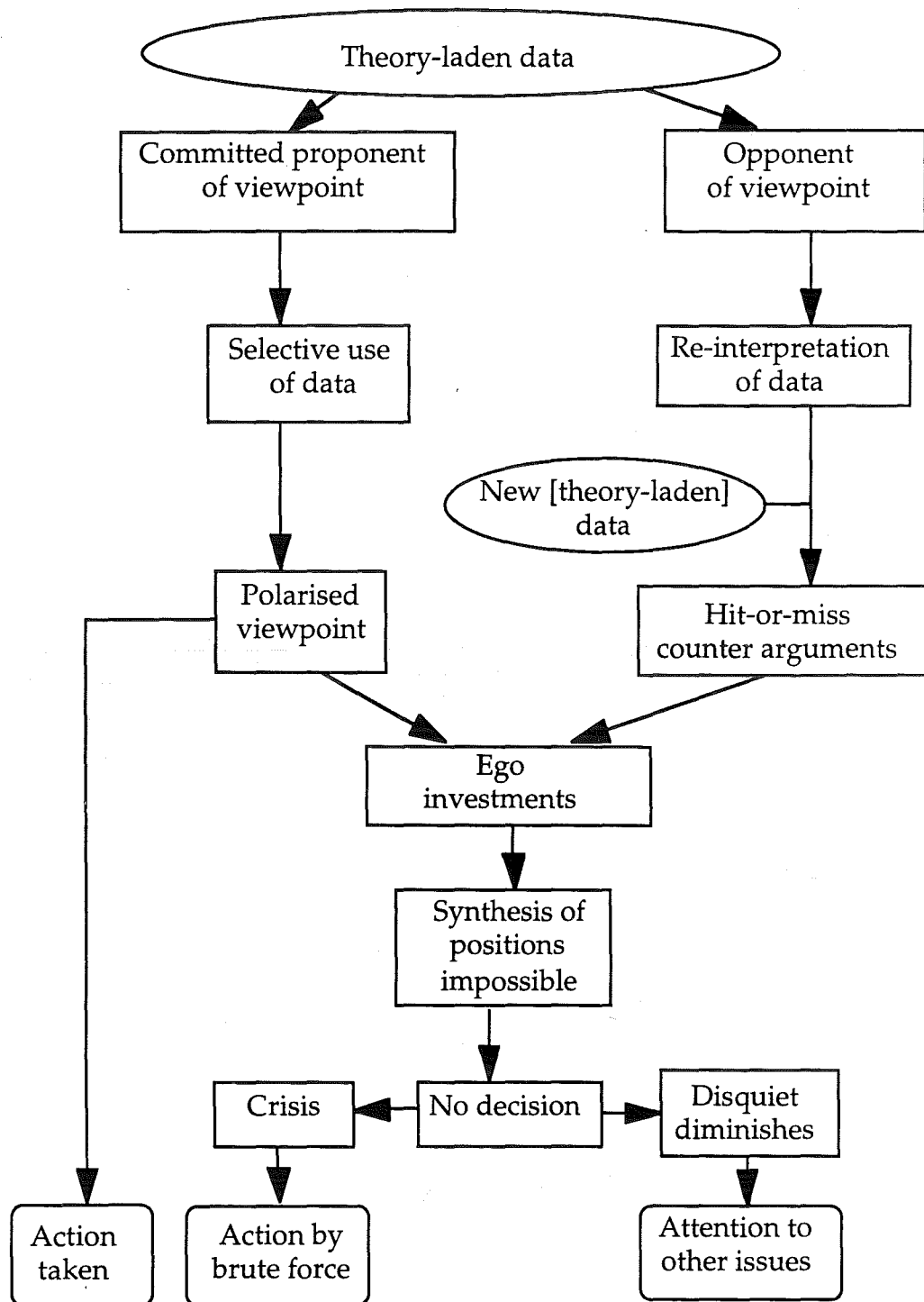
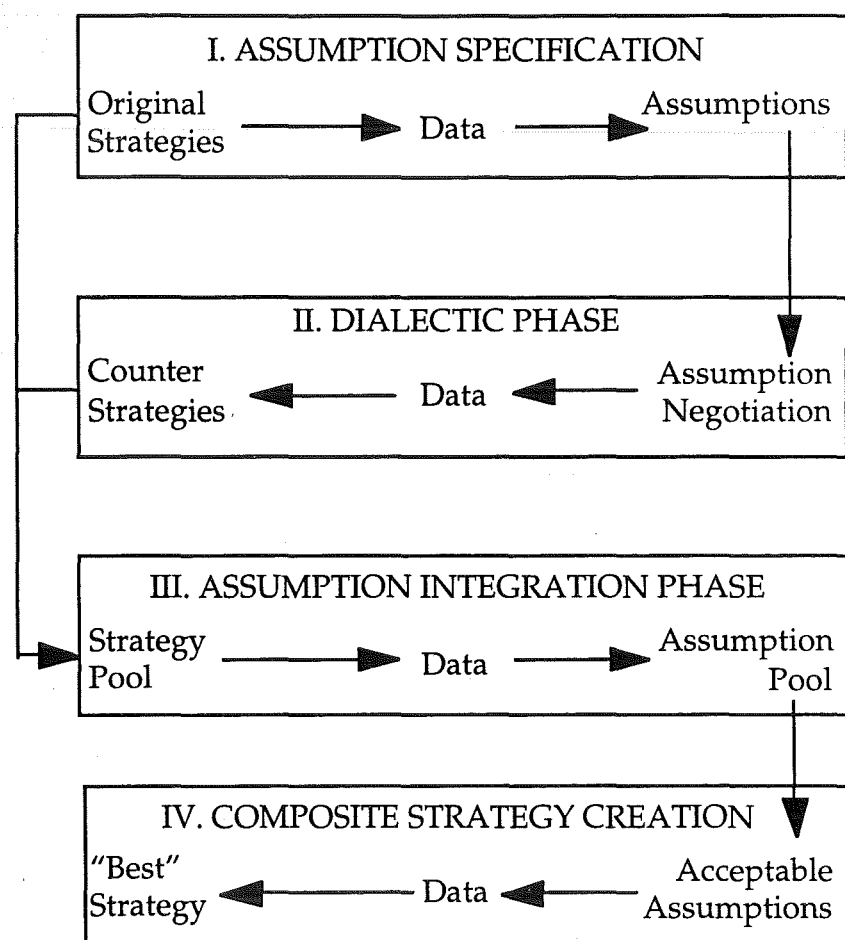


Figure 15.3
The role of theory-laden data in decision making
[Based on Mitroff & Emshoff, 1979]



Mitroff & Emshoff [1979] argue that the problem of theory-laden data and ego-investment could be overcome through a structured approach by the decision making group to assumption specification and strategy creation. [Figure 15.4] This would require, as a first phase in the decision making, a clarification of the assumptions underlying the data on which original strategies are based. The second, dialectic phase, involves assumption negotiation, re-selection of data, and formulation of counter strategies. From this strategy pool it is then possible to review all of the data and underlying assumptions to develop a set of acceptable assumptions. This set of assumptions would then be applied to the appropriate data to define a "best" strategy. Clearly, this process must include both making transparent the various schemata of the individuals involved, and overt [rather than covert] politics.

Figure 15.4
Four basic steps of methodology
Mitroff & Emshoff, 1979: Figure 1]



Framing effects

As we saw in Module 4, strategic options can be framed in different ways. When groups are involved in decision making this framing can bring about the polarised viewpoints, ego investments and unsatisfactory outcomes we have just discussed. In other circumstances framing effects can be a central feature of the groupthink phenomenon which will be discussed later in this module.

Deindividuation

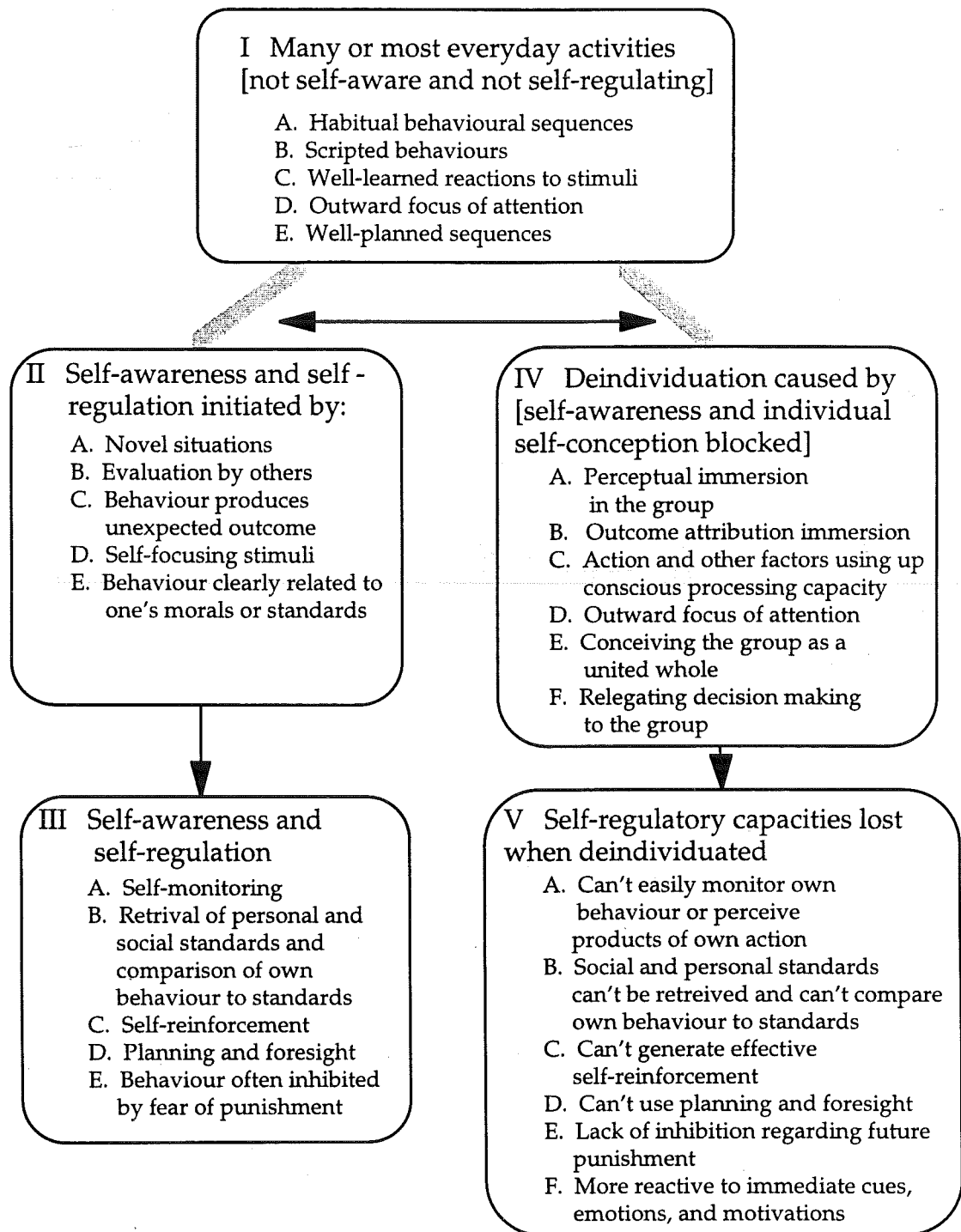
The phenomenon of deindividuation was probably first identified by LeBon [1879]. [Diener, 1989: 209]. LeBon was interested in why individuals in crowds act in ways that are uncharacteristic of them. Fromm [1941] was concerned with the motives that lead some persons to submerge their individuality in groups. [Diener, 1989: 209] Subsequent theory has built on these bases. Diener [1989: 210] defines a deindividuated person as

"prevented by situational factors present in a group from becoming self-aware. Deindividuated persons are blocked from awareness of themselves as separate individuals and from monitoring their own behaviour." [Diener, 1979: 210]

Diener sees deindividuation as one end of a continuum with complete self awareness at the other end. Several factors occur together within groups to bring about deindividuation: physical activity, an outward focus of attention, and the conception of the group as a whole. When there is a lull in activity, the deindividuated person is likely to attend to the group rather than focus attention back on the self. The larger the group, and the more culturally and physically similar its members, in which one is immersed, the less-self aware one becomes. In Diener's [1979: 228] theory, self-awareness is absent from many everyday behaviours. However, the individual normally switches to self-awareness and self-regulation when confronted by the initiating conditions. The person's self-regulatory behaviours can be blocked when he or she is immersed in deindividuating circumstances. [Figure 15.5]

Deindividuated individuals contribute to poor decision making by groups in a way parallel to that explained by group polarization theory. However, the two theories offer fundamentally different explanations.

Figure 15.5
Self-awareness and self-regulation versus deindividuation
[Diener, 1980: Figure 7.1, 227]



Group polarization

"The average postgroup response will tend to be more extreme in the same direction as the average of the pregroup responses." [Myers & Lamm, 1976: 603]

Whyte [1989: 45] defines group polarization as the tendency for discussion to enhance the point of view originally dominant within the group.

Conventional wisdom suggests that group decisions are moderate or prudent in character : an average of individual viewpoints. The group polarization research refutes this. Two causes are identified [Isenberg, 1986; Myers & Lamm, 1976; Whyte, 1989]:

- *social motivation* – group members alter their views in a manner calculated to maintain an image of social desirability [see Module 1];
- *informational influence* – the preponderance of arguments and facts adduced during discussion tend to be supportive of the dominant position and will therefore reinforce it [see Theory-laden data above].

Chapter 16 Groupthink

Aims of this Chapter:

- to be able to identify groupthink;
- to know how to structure group decision processes to minimize the groupthink factor.

Irving Janis [1972: 9] coined the term *groupthink* to apply to

"a mode of thinking that people engage in when they are involved in a cohesive in-group, when the members' striving for unanimity override their motivation to realistically appraise alternative courses of action . . . a deterioration of mental efficiency, reality testing and moral judgement that results from in-group pressures." [cited in Neck & Moorhead, 1995: 537]

"If, as part of your job you meet regularly in groups, then you are potentially affected by *groupthink* on an ongoing basis. . . *groupthink*, not unlike heart disease, is a silent disease, doing its devastation in quiet, subdued day-to-day routine." [Timmons, 1991: 2]

The original groupthink model has been subjected to considerable partial analysis, and modified several times to include additional explanatory variables. [Neck & Moorhead, 1995] Janis suggested that a set of antecedent conditions leads to a concurrence-seeking tendency within the group. The shared cohesiveness is expressed in eight symptoms of groupthink, and the effect can be seen in seven symptoms of defective decision making. [Janis, 1972] Subsequent research has both placed some doubt on the validity of the research – some groups making both effective and defective decisions, and introduced new variables which increase the explanatory power of the model.

The most recent expanded model [Neck & Moorhead, 1995] is shown in Figure 16.1.

The original antecedent conditions were cohesiveness, insulation, lack of methodological procedures for search and appraisal, directive leadership, and

high stress. Neck & Moorhead have redefined some of these, added to and categorized them, and introduced two sets of moderating variables [factors which may change the relationship between the antecedent conditions and the symptoms]. They also identify three subsets of symptoms. [Figure 16.1] The symptoms and moderators are:

Symptoms of groupthink

Type 1 *Overestimation of group*

- 1 Illusion of invulnerability;
- 2 Belief in inherent morality of the group – allows the group to disregard any objections to its behaviour.

Type 2 *Closed-mindedness*

- 1 Collective rationalizations – through a pooling of group resources and downplaying of drawbacks of a chosen course;
- 2 Stereotypes of out-groups – the enemy, and a strong *we* versus them feeling toward an adversary group;

Type 3 *Pressures towards uniformity*

- 1 Self-censorship under the guise of group loyalty or team spirit;
- 2 Illusion of unanimity;
- 3 Direct pressure on dissenters;
- 4 Self-appointed mindguards – preventing data, facts, and opinions from reaching the group.

Moderating conditions

Closed leadership style behaviours

The leader does not encourage member participation, does not state his or her opinions at the beginning of the meeting, does not encourage divergent opinions from all group members, and does not emphasize the importance of reaching a wise decision.

Methodical decision making procedures

- 1 Parliamentary procedures;
- 2 Alternative examination procedures;
- 3 Information search procedure.

Janis' original model did not specify which antecedent conditions led to which symptoms of groupthink. Neck & Moorhead [1995: 548] argue that

- Type A antecedent conditions may lead to Type 3 symptoms;
- Type B1 antecedent conditions lead to Type 3 symptoms;

- Type B2 antecedent conditions may lead to Type 1 and Type 2 symptoms;
- Type B2 antecedent conditions may lead to Type 3 symptoms.

However, the moderating variables will have effect on the causal relationships. Neck & Moorhead's [1995: 553-554] propositions are:

1. Groups that evidence high degrees of Type A, Type B1, and Type B2 antecedent conditions will *not* exhibit Type 3 symptoms of groupthink in the presence of an open-style leader and/or when the group utilizes methodical decision making procedures. They will exhibit Type 3 symptoms in the presence of a closed leadership style and/or when the group does not use methodical decision making procedures.
2. Groups that evidence Type B2 antecedent conditions will not exhibit Type 1 and Type 2 symptoms of groupthink in the presence of an open-style leader and/or when the group utilizes methodical decision making procedures.
3. Groups that evidence Type B2 antecedent conditions will exhibit Type 1 and Type 2 symptoms of groupthink in the presence of a closed leadership style and/or when the group does not use methodical decision making procedures.

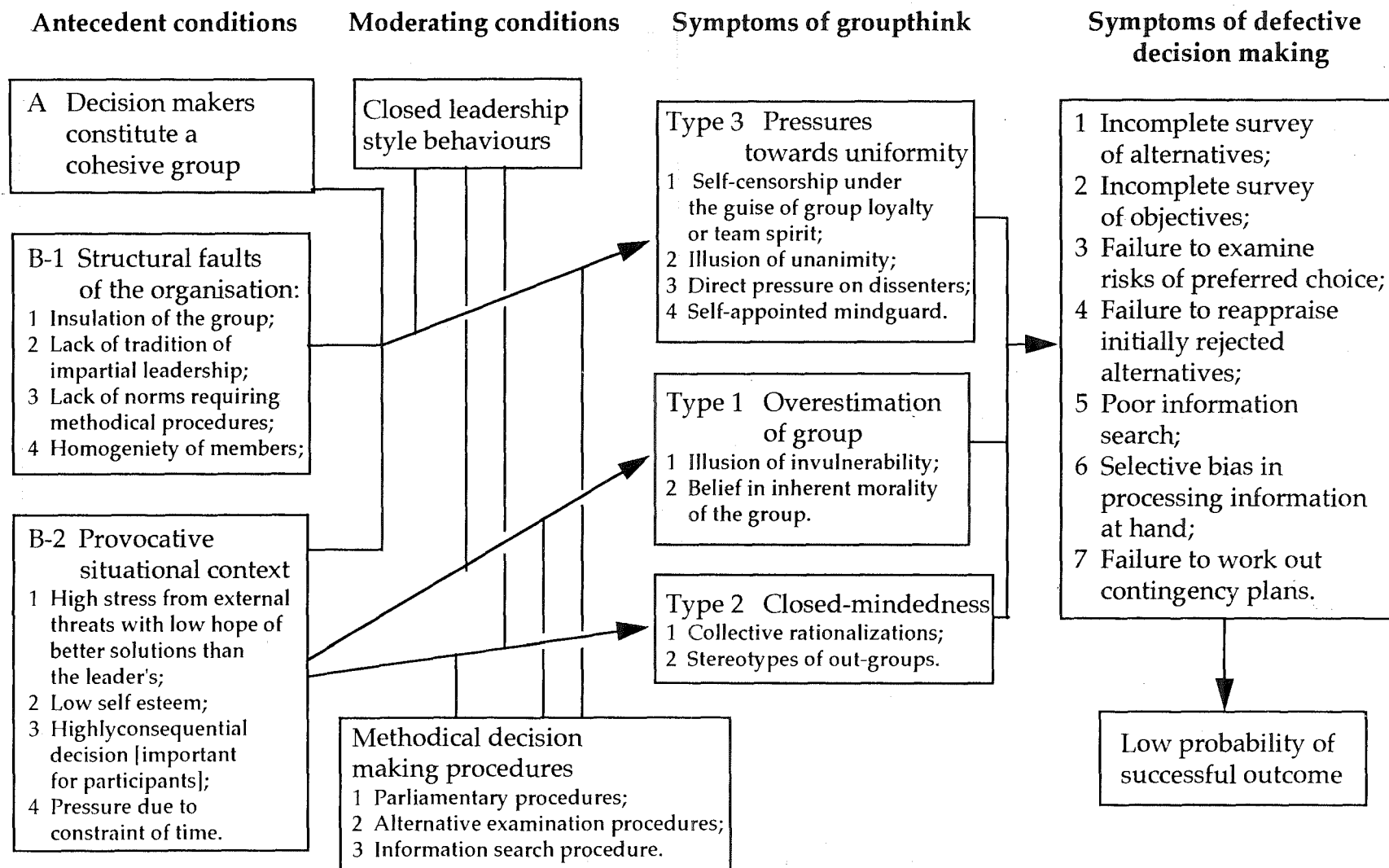
Avoiding Groupthink

In earlier parts of this Study Guide we have consistently noted that each person can describe and explain a decision situation in very different terms. An intuitive view, therefore, is that involving a group of people in decision making would lead to a more rational, balanced decision. In Module 1 you were asked to study a number of decision debacles [Nutt, 1989] which showed how easy it is for groups to make wrong decisions. In fact, many decision fiascos have followed group decision making.

Whilst Janis [1972] was concerned only with a set of antecedent conditions and a concurrence-seeking tendency of groups, others have contributed supporting theories which can be included in an augmented concept of groupthink. In the preceding section we noted the Neck & Moorhead [1995] reformulation of the Janis model. Earlier, we also discussed other contributions:

- Mitroff & Emshoff [1979] identified the importance of theory-laden data and the role of committed proponents.

Figure 16.1
Extended Groupthink Model
 [Neck & Moorhead, 1995: Fig 1, 546]



- Kahneman & Tversky [1984] showed that strategic options can be framed in different ways. When groups are involved in decision making this framing can bring about polarised viewpoints, ego investments and unsatisfactory outcomes.
- Myers & Lamm [1976] and Whyte [1989] identified group polarization as the tendency for discussion to enhance the point of view originally dominant within the group.
- Finally, deindividuated individuals are blocked from awareness of themselves as separate individuals and from monitoring their own behaviour. [Diener, 1979]

How can poor decisions resulting from the groupthink phenomenon be avoided? Neck & Moorhead [1995: 555] suggest groupthink prevention training including

- 1 suggestions for when the leader should change his or her style, and
- 2 establishment of methodical decision making procedures such as parliamentary procedures.

Mitroff & Emshoff [1979] suggest a structured approach to assumption specification and strategy creation. [Figure 15.4] Cosier & Schwenk [1990] advocate programmed conflict:

- *the devil's advocate* – a formalised critique of the initial proposed course of action by an individual or sub-group;
- *the dialectic method* – programming conflict into decisions by structuring a debate between conflicting views.

Whyte [1989: 53] cites

- measures designed to counter defensive avoidance [Janis & Mann, 1977],
- reducing group insularity [Janis, 1982],
- reducing directive leadership practices [Janis, 1982],
- framing a decision problem in a variety of ways in order to investigate the stability of the preferences,
- training of decision makers to evaluate decision problems in terms of final states or assets, not as gains or losses [Kahneman & Tversky, 1984]

Timmons [1991: 5] adds that the leader should encourage free discussion, non-judgemental attitudes, and acceptance of divergent thinking as opposed to a

closed leadership style characterized by tightly-controlled discussion, highly defensive posturing, and convergent thinking. Building on Mitroff & Emshoff [1979] we can also suggest assigning members the role of *critical evaluator* to force the group to re-evaluate their assumptions and rationalisations.

Module 6 Is that all there is ? ? ?

Chapter 17 Summing Up

"An optimistic, but naive, view of this book would expect that its readers would immediately improve their decision making. I say naive because it is premature to expect the change process intended by this book to be fully integrated at this point." [Bazerman, 1994: 206]

"After 21 chapters of mind-bending problems and counterintuitive results, it is time to take a step back and ask what it all means." [Plous, 1993: 253]

"The process by which decision-making practice changes is basically the same process as that which is being changed. Organizations take action on this front in fundamentally the same way they take action on any other front – by doing whatever it takes." [McCall & Kaplan, 1990: 123]

Aims of this Chapter:

- to review the main thrusts of this course;
- to encourage you to consciously work towards better decision making.

Introduction

In setting the framework for this course we paraphrased McCall & Kaplan [1990: 108]: "decision making in organizations is complex, often amorphous, and seldom amenable to simple prescriptions."

The first three modules took a general approach. Module 1 reviewed the significance of decision making for all organisations, and continued with some

models of man and the major economic and sociological *theories of the firm*, and concluded with Granovetter's theory of *embeddedness*.

You were also asked to think about the concepts of ignorance and rationality, and the paradigms with which we view the world. Several definitions were offered – *are you now confident that you understand what decision making is?*

In Module 2 we discussed two approaches to analysis of the organisational decision making environment, the difficulty of identifying the issue, and the process of decision making.

Module 3 looked at aspects of the use of models as aids to decision making. An important conclusion in this Module is that *models developed within any particular science are embedded in the concepts of rationality of all other sciences*. "We cannot hope to find solutions to our problems if we persist in our old ways of thinking." [Mitroff & Linstone, 1993: 171] Some useful, simple models were included in this Module; and the process of modelling was described. You were also asked to read about Chaos and decision making. [Jennings & Wattam, 1994]

In Module 4 we looked at the most important aspects of the inside of the 'black box' which is the individual in the decision process. We started with some contentious ideas about the nature of the human mind: **are you in charge, or is your mind?** We then reviewed the major theories of personality, each of which offers an approach to what happens inside the 'black box'. A review of the theories of perception, cognition, memory and risk preference followed to provide a basis for the decision theories of *schemata* [Schwenk, 1984, 1988; Smith, 1989] and *decision styles* [Rowe & Mason, 1987; Nutt, 1989]. Module 4 closed with discussion of *morality in decision making*, and you were asked **"is it ethical to manage organisational ethics?"**

The focus of Module 5 was on *group decision making*. The major issues here are power and politics, and the groupthink phenomenon with associated theories. Mintzberg rightly states that what power is is not of interest; who gets it, when, how and why are the interesting questions. [Mintzberg, 1983] Power bases may be internal or external to an organisation and this affects the politics. Once politics enters the situation it is very difficult to restore rationality. [Pfeffer, 1981: 333] Mintzberg [1983] uses the theatre as a metaphor for the political play in different contexts. He also defines thirteen political games. [Mintzberg, 1989]

The profile of a group has direct bearing on its effectiveness in making a decision. Politics is significant, but other theories also contribute to understanding of group decision making. Among these are *theory-laden data* [Mitroff & Emshoff, 1979], *polarisation* [Myers & Lamm, 1976; Whyte, 1989], *deindividuation* [Diener, 1989], and *groupthink*. [Janis, 1972, 1982; Neck & Moorhead, 1995]

Consequences, Implications

McCall & Kaplan [1990] provides the best available discussion of this aspect of decision making.

"In managerial life, then, there is no rest for the weary.

... ..

Given this complexity, it is no surprise that the consequences of managerial action are not always clear victories or defeats." [McCall & Kaplan, 1990: 91]

Research on decision making suffers from a problem of its own which should have become clear during your reading of this book

"Judgement and decision research is conducted by human beings who are prone to many of the same biases and errors as their subjects." [Plous, 1993: 259]

Researchers who want and expect to see a phenomenon are likely to overestimate its frequency. [Fischhoff, 1991, cited in Plous, 1993: 260] These observations are much the same as Hogarth's [1980] findings on information processing biases referred to in Module 4. They represent a word of warning for both the student and the manager: *our obserations of the decision making of others [and ourselves] may be inaccurate.*

This does not mean we are confronted by an impossible task. Better understanding of this complex and difficult field, and of the available models does give you the tools for better decision making, and better ability to interpret the decision styles of and decisions made by others. In group situations you may be able to

- apply your political understanding to achieve better decisions than would occur if the political games of others were allowed to run their course;
- take actions such as assumptions surfacing, reframing, devils advocacy, dialectics, reducing insularity, and encouraging open leadership to avoid groupthink.

". . . and something else they didn't teach you in business school . . . decision making is a turbulent stream, flowing from a murky past to a murkier future." [McCall & Kaplan, 1990: xvii]

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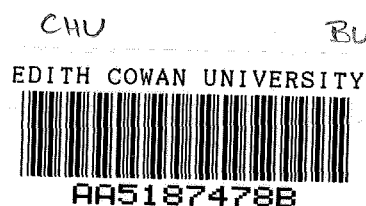
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