ANGLIA POLYTECHNIC UNIVERSITY

ORGANISATIONAL CLIMATE AND PROJECT SUCCESS

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ANGLIA POLYTECHNIC UNIVERSITY
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ABSTRACT

DOCTOR OF PHILOSOPHY

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This research examines the concept of organisational climate from the perspective of the levels of threat experienced by project management professionals. Drawing from a number of disciplines, theoretical constructs are established concerning the attributes of an organisational climate which would be expected to be conducive to successful project outcomes.

Semi-structured interviews are conducted with 44 project managers working on a variety of types of project in 17 different commercial, industrial and administrative organisations. The outcomes of the projects, as reported by the project managers themselves, are qualitatively assessed using a multifactorial model and associations are made between project outcomes and various components of the organisational climate construct.

The findings of the research clearly indicate a negative association between the levels of threat experienced by the informants and successful project outcomes. This is contrary to the widely-held view that some level of threat is a necessary and justifiable inducement to performance. Other behavioural attributes, such as free expression, innovation, questioning, intrinsic satisfactions, and participation in goal definition, collectively designated *voluntarism*, are shown to be positively associated with project success. Organisational change and conflict are, however, found to be negatively associated with successful project outcomes.

The significance of the present research is that it focuses previous research, scholarly debate and practitioner experience from a wide variety of different areas onto the specific issue of threat in workplace relationships involving a specific professional group. It then goes on to validate the emergent propositions of this process by reference to the workplace experience of representative individuals drawn from that professional group. In doing so, it increases understanding of organisational climate and its relevance to organisational success and provides considerable support for earlier humanistic approaches to management, applied in a contemporary context.

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The production of a PhD thesis is a long and arduous process and it is inevitable that a great many people will become involved at various stages. I am grateful to all these people for their help and support, but the contributions of some individuals have been crucial and it is both a pleasure and a duty to mention them by name.

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Several senior managers in BT were kind enough to support the early stages of this research in highly practical ways. My thanks are due especially to Clive Richardson and to Hazel Herbert, who arranged BT sponsorship over a period of three years, without which progress would have been significantly slower.

I would also like to express my appreciation of the friendly and unfailingly helpful library staff at APU's Danbury campus.

Finally, although the promise of confidentiality prevents my naming them, I am most grateful to the forty-four informants who gave me their time and spoke frankly about their experiences, and to their senior managers for allowing me access to their organisations. Without them, of course, there would have been no data to analyse.

Chapter I

AIMS OF THE RESEARCH

This research aims to investigate the relationships between perceptions held by project management professionals that they are subject to threat, and their performance in the project environment.

Threat in this context may be defined as the anticipation of impending change to a state less favourable than the status quo. It may be environmental, arising either from natural causes or from macro-political causes which affect individuals incidentally, or it may be purposive, directed at individuals either to coerce their behaviour or from malice. Where, in the context of the workplace, threat is purposive, with behaviour-shaping intent, there is an implicit assumption that improved performance will result. Management behaviour based on this assumption has both practical and ethical implications.

The research will investigate firstly the kinds and levels of severity of threats perceived by project management professionals to affect them. Secondly it will explore the behavioural changes that project management professionals attribute to the threats so perceived. These behaviour patterns will be related, so far as is practical, to project performance.

This is a matter of some concern and considerable imprecision. Projects have a poor track record of delivering what they promise, and project success is in any case a concept which becomes increasingly hard to define as its complexities are identified and acknowledged. If organisational behaviours and contextual factors which influence the subjective feelings of the project management professionals participating in a specific project do indeed influence their contribution to its outcomes, then knowledge about the nature of and the interactions between these factors may potentially have a direct beneficial impact on project performance through the adoption of appropriate management behaviours. This research aims to extend this knowledge and thereby to enable inferences to be drawn concerning the management styles, behaviours and processes which are most likely to be conducive to improved project performance.

To the extent that projects are conducted in organisational settings, the subjective perceptions of threat experienced by project management professionals may have wider implications for their attitudes towards their organisations. The research will seek to identify those attitudes which are potentially harmful or beneficial to organisations and to attribute them, partially or wholly, to perceptions of threat.

Finally, the research will investigate the feelings of project management professionals about their personal well-being, insofar as it is related to their perceptions of threat in this context. This is an issue which has both ethical and legal implications.

Chapter II

STRUCTURE AND LAYOUT

In order to clarify the context of this research, a brief overview of the discipline of project management, and the role of the project management professional, is included in the current section of the thesis [*Section I: Background*]. Some further information concerning definitions is contained in *Appendix A*.

In examining the nature and the subjective experience of perceived workplace threat, and its relationship to performance, it is anticipated that a number of disparate factors will present themselves for consideration. It is also assumed that these factors may inter-relate in a variety of ways, reinforcing or restraining each other's effects in a complex pattern of interactions.

For the sake of clarity, several topics which seemed to have the potential to make a major contribution towards understanding in this area are dealt with individually in some depth, referring in each case to the relevant literature. These investigations are contained in *Section II: Literature*. Subsequently, those aspects of each topic which have the most direct bearing on the present research are brought together in summary form, and issues, propositions and questions are defined for rigorous exploration. This process forms the opening chapter of *Section III: Research Methodology*. The outcomes of these explorations are documented in *Section IV: Evidence and Findings*, and their implications are assessed in *Section V: Discussion and Conclusions*.

Soft Systems Methodology

One approach that facilitates the understanding of interactions between many factors has become known as *systems thinking*, which "makes use of the particular concept of wholeness captured in the word 'system', to order our thoughts" (Checkland, 1981). The examination of the elements of a complex topic - the technique known as decomposition or, in its broadest sense, as analysis - has great value as an aid to understanding, but risks overlooking those properties of the whole topic which only emerge and are only observable when the elements are conjoined.

> "Decomposition is a time honored way of dealing with complex problems, but it has big limitations in a world of tight couplings and nonlinear feedbacks. The defining characteristic of a system is that it *cannot* be understood as a function of its isolated components." (Kofman and Senge, 1993).
>
> "in spite of the fact that there are many definitions of the word system in the literature ... all take as given the notion of a set of elements mutually related such that the set constitutes a whole having properties as an entity." (Checkland and Scholes, 1990).

Checkland and his associates have been leading figures in the development of systems thinking and its application to management and organisation theory. He is especially concerned with understanding problem situations, which entails the recognition of

> "problems of two kinds - *structured* problems which can be explicitly stated in a language which implies that a theory concerning their solution is available [for example: how can we transport X from A to B at minimum cost?] and *unstructured* problems which are manifest in a feeling of unease but which cannot be explicitly stated without this appearing to oversimplify the situation [for example: What should we be doing about inner-city schools?]. ... It became clear that the present research was to be concerned not with problems as such but with *problem situations* in which there are felt to be *unstructured* problems, ones in which the designation of objectives is itself problematic." (Checkland, 1981).

Checkland further outlines some fundamentals of his "Soft Systems Methodology" in the following terms:

> "[Systems thinking] starts with an observer/describer of the world outside ourselves who for some reason of his own wishes to describe it 'holistically', that is to say in terms of whole entities linked in hierarchies with other wholes."
>
> "Systems thinking ... starts from noticing the unquestioned Cartesian assumption: namely, that a component part is the same when separated out as it is when part of a whole. ... Systems thinking is different because it is *about* the framework itself."
>
> "What distinguishes systems is that it is a subject which can talk *about* the other subjects. It is not a discipline to be put in the same set as the others, it is a meta-discipline whose subject matter can be applied within virtually any other discipline."
>
> (Checkland, 1981).

This approach allows consideration of complex situations whose very complexity is a salient feature of their demand for the attention of the researcher. It is especially applicable to human interactions - what Checkland characterises as "human activity systems" - when they are perceived to be problematical or difficult to manage. Jackson (1991) helps to put this in context:

> "The emphasis in soft systems thinking is on how to cope with ill-structured problems or messes. Rather than attempting to reduce the complexity of messes so they can be modelled mathematically or cybernetically, soft systems thinkers seek to explore them by working with the different perceptions of them that exist in people's minds. Systems are seen as the mental constructs of observers rather than as entities with a real, objective existence in the world. Multiple views of reality are admitted and their implications are examined. Values are included rather than excluded [in theory] from the methodological process."

Notwithstanding Jackson's remarks, the systems which are under discussion here are to be understood as *open* systems with a strong cybernetic aspect, in that they have import from and export to their environments, or "exchange of materials, energy and information [which involves] a set of processes in which there is *communication* of information for purposes of regulation or *control.*" They maintain a steady state, which is "thermodynamically unlikely, creating and/or maintaining a high degree of order." This is in contrast with closed systems, which have no interaction with the environment and have "no path to travel but that towards increasing disorder [high entropy]" (Checkland, 1981). The systems under consideration are also *natural* systems, in the sense that they occur as manifestations of the relationships between people within certain environments. Once again, the concept of systemic wholeness is important here:

> "In this systems typology I am claiming only that natural systems are the evolution-made, irreducible wholes which an observer can observe and describe as such,

> being made up of other entities having mutual relationships. They are 'irreducible' in the sense that meaningful statements can be made about them as wholes, and this remains true even if we can describe their components and the relationships between the components with some precision. Carbon dioxide is not reducible in this sense to carbon and oxygen, in that however much we know about interatomic distances and bond angles, carbon dioxide remains a higher level whole having properties of its own." (Checkland, 1981).

Checkland explains the use of the term “Soft Systems Methodology” in the following terms:

> "Within systems thinking there are two complementary traditions. The 'hard' tradition takes the world to be systemic; the 'soft' tradition creates a process of enquiry as a system.
>
> ... SSM is a systemic process of enquiry which also happens to make use of systems models. It thus subsumes the hard approach, which is a special case of it, one arising when there is local agreement on some system to be engineered." (Checkland, 1981).

The properties that emerge from or are observable in a system, but not in the elements of the system when separated; “emergent properties,” are fundamental to the soft systems approach.

> "The concept of emergent properties itself implies a view of reality as existing in layers in a hierarchy [there being no connotations of authoritarianism in this technical use of the word]. In the biological hierarchy, for example, from atoms to molecules to cells to organs to organism, an observer can describe the emergent properties at each layer. In fact it is the ability to name emergent properties which defines the existence of a layer in hierarchy theory.
>
> To complete the idea of 'a system' we need to add to emergence and hierarchy two further concepts which bring in the idea of *survival.* The hierarchically organized whole, having emergent properties, may in principle be able to survive in a changing environment if it has processes of *communication* and *control* which would enable it to adapt in response to shocks from the environment." (Checkland and Scholes, 1990).

The concept of hierarchy is further explained by Wilson (1984):

> "a human activity system can be described as an interacting set of subsystems or an interacting set of activities. A subsystem is no different to a system except in terms of level of detail and hence a subsystem can be redefined as a system and modelled as a set of activities. Thus the term 'system' and 'activity' can be used interchangeably."

The precise definition of what constitutes a specific system depends, according to the Checkland view, upon the perspective of the observer:

> "Even if there are no closely associated systems to emphasize the grouping of the activities, as in the example ... of 'the eating habits of the octogenarians of Basingstoke', it is difficult to deny the right of an observer to choose to view a set of activities as a system if he wishes to do so." (Checkland, 1981).

In fact, it is vital to the Checkland Soft Systems Methodology, as applied to the analysis of problem situations, that a variety of systems should be identified, each one from a different

perspective. Checkland has adopted the philosophical term *weltanschauung*, or world-view[†], to indicate the specific individual perspective being employed in each definition of a system which "may be likened to a filter in the head of an observer which has been formed and is continually moulded by experience, personality, politics, society, and the situation." (Wilson, 1984).

Checkland habitually abbreviates the word weltanschauung to a capital W. In the following extract the term *holon* is interchangeable with the term *system*; its specific meaning is, broadly, *a system or any element of a system which has in its own right the attributes of a system*.

> "the description of any purposeful holon must be from some declared perspective or worldview. This stems from the special ability of human beings to interpret what they perceive. Moreover, the interpretation may, in principle, be unique to a particular observer. This means that multiple perspectives are always available. [The letter from the tax collector may seem to be unequivocally a message concerning your financial affairs, but no one can stop you perceiving it as a bookmark!]." (Checkland and Scholes, 1990).
>
> "Judging from their behaviour, all beavers, all cuckoos, all bees, have the same W, whereas man has available a range of Ws. The Ws of an individual man will in fact change through time as a result of his experiences. And the Ws of a group of men perceiving *the same thing* will also be different. It is because of these two facts that there will be no single description of a 'real' human activity system, only a set of descriptions which embody different Ws. ... In 'soft' systems methodology we are forced to work at the level at which Ws are questioned and debated, 'soft' problems being concerned with different perceptions deriving from different Ws." (Checkland, 1981).

Checkland illustrates the power of "Ws" in human thinking and perception by discussing the nature of jokes. Having given a number of examples he goes on:

> "All these jokes are in fact the same joke, in the sense that they have the same structure. An image of the world is established, only to be shattered by a counter-image which turns the first upside down. ... In the language I am using, a W is established by implication and then suddenly is destroyed by a counter-W, the skill of the comedian lying in a careful pacing of the initial image-building, making it rich in association, so that the demolition, when it comes, comes as a sudden shock. Tension is released by the physical action of laughing, a remarkable response when we consider that it is triggered merely by the juxtaposition of two abstract images. It would seem that in-built Ws are very important to us."
>
> (Checkland, 1981).

[†] In his *Notes on the Translation* of Schweitzer's (1923) "Civilization and Ethics," C T Campion offers the following explanation of this term as used by Schweitzer:

"*Weltanschauung*. This means literally view of the world, and it has been translated as 'world-view'. But it should be borne in mind that the German word *Welt* has also the wider meaning of 'universe'. Dr Schweitzer himself defines *Weltanschauung* as the sum-total of the thoughts which the community or the individual thinks about the nature and the purpose of the universe and about the place and destiny of mankind within the world."

In his early publications (for example, Checkland, 1981), Checkland offers a fairly prescriptive model for the application of Soft Systems Methodology, as illustrated in Exhibit 1, below:

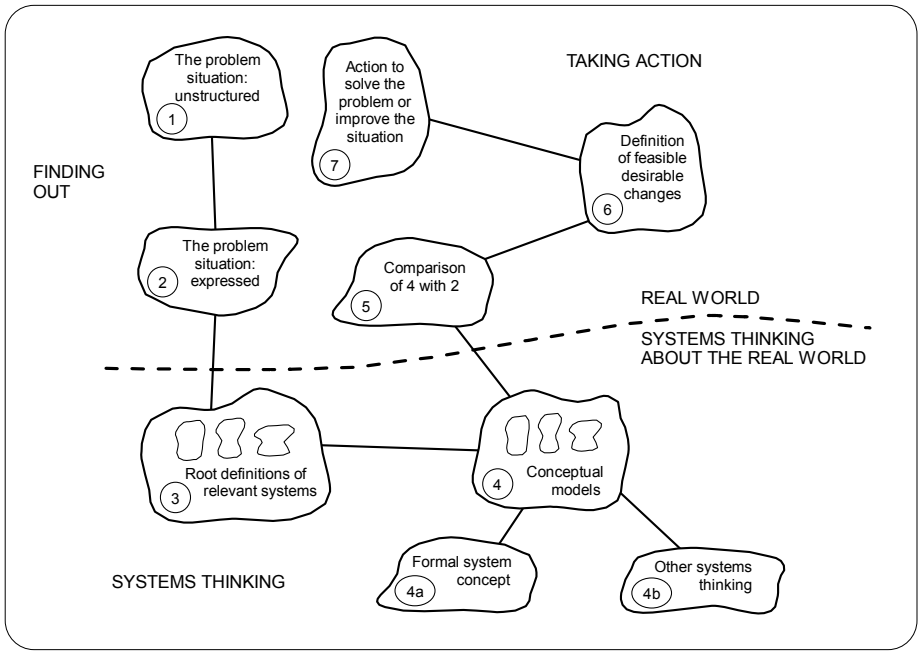


Exhibit 1 Checkland's Soft Systems Methodology adapted from Checkland (1981)

A root definition in this model is "a concise, tightly constructed description of a human activity system which states what the system is" (Checkland 1981). A conceptual model is defined as

> "a systemic account of a human activity system, built on the basis of that system's root definition, usually in the form of a structured set of verbs in the imperative mood. Such models should contain the minimum necessary activities for the system to be the one named in the root definition" (Checkland 1981).

Together with this model is offered an acronym: CATWOE, which can be used together with root definitions to check that essential elements are present in any system under consideration. The initials stand for:

Customer	"The beneficiary or victim of the system's activity"
Actor	"A person who carries out one or more of the activities in the system"
Transformation process	"The transformation of some input into some output"
Weltanschauung	"The [unquestioned] image or model of the world which makes this particular human activity system [with its particular transformation process] a meaningful one to consider"
Owner	"The person or persons who could modify or demolish the system"
Environment	"What lies outside the system boundary"

Source: Checkland (1981), Glossary

Checkland later expressed some concern that the seven-stage model “gives too much an impression that SSM is a seven-stage process to be followed in sequence” and advises that "The formal expression of SSM does not mean that it has to be used rigidly. It is there to help in the face of real-life's richness, not constrain." (Checkland and Scholes, 1990).

Systems thinking has had some impact on the project management community, although it cannot be said to dominate thinking in this field. Yeo, writing in the *International Journal Of Project Management*, advocates the use of soft systems methodology in project management and comments:

> "Systems thinking has, over the past three decades, emerged as one of the most important intellectual disciplines, and it has provided a powerful mental frame of reference in understanding problem situations and in guiding day-to-day decision making." (Yeo, 1993).

Milosevic (1989) also advocates the use of SSM, especially in strategic project management, and illustrates his argument with a conceptual model utilising nouns. This produces a systems map which resembles an influence diagram, demonstrating the interaction of subsystems. Davies and Saunders (1988, Saunders, 1992a) report the use of SSM in organising a small company for project management. They too suggest its wider use in project management, especially in unstructured problem situations, and again support their argument with a conceptual model which utilises nouns. Ramsay, Boardman and Cole (1996) develop the idea further, using models which they describe as “systemgrams.” They assert that "conceptual models of this type provide a valuable way of understanding and communicating the essence of the situation under observation."

Wilson - a close associate of Checkland in the mid-1980s - may be supposed to favour such developments of the methodology:

> "A model is the explicit interpretation of one's understanding of a situation, or merely of one's ideas about that situation. It can be expressed in mathematics, symbols or words, but it is essentially a description of entities, processes or attributes and the relationships between them. It may be prescriptive or illustrative, but above all, it must be useful." (Wilson, 1984).

If a noun-based system map is drawn to represent the principal topic areas examined in the present research, the resulting model appears as shown in Exhibit 2, below:

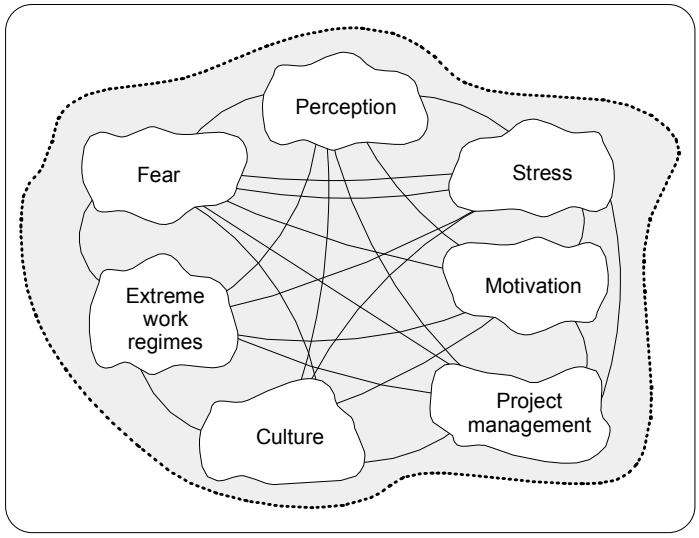


Exhibit 2 Noun-based system map

Each of the system elements in this model is defined at an unrealistically high level, and must be examined in its component detail to be understood.

> "The concept of resolution level is crucial to the development of systems models. This is best described through the notion of *systems hierarchy*. This means that the boundary of the system chosen places the system at a particular level within a series of levels.
>
> Thus a system is, at the same time, a subsystem of some wider system and is itself a wider system to its subsystems. What we define to be 'a system' is a choice of resolution level or the choice of level of detail at which we wish to describe the activities. It is a choice: there is no absolute definition of what is a system or what is a subsystem."
>
> (Wilson, 1984).

This examination of the component detail; the finer resolution level of the lower levels of the systems hierarchy in Wilson's terms, is the subject-matter of subsequent chapters.

Similarly, the interactions between system components are shown in the above model as simple lines of connectivity between the high-level elements identified for exploration. It is improbable that the interactions which the research will reveal will be as simplistic as this suggests. It is far more likely that multiple and complex interactions will be seen between subsystems. This makes the outcome of the interactions involved in even a small set of subsystems highly unpredictable, as recent developments in the field of complexity science, discussed below, help to explain.

It must also be understood that the high-level model illustrated above represents only one part of the system which might be entitled "The Performance of Project Managers" - in this instance the system element in focus is "The Impact of Perceptions of Threat [or, perhaps, Organisational Climate] Upon The Performance of Project Managers." Undoubtedly this system element will have interactions with other system elements not under consideration in the present research, such as, for example, "The Education and Training of Project Managers."

Complexity and chaos

> "Acclaimed by its followers as the major intellectual revolution of recent times, 'chaos theory' [also known rather less catchily as 'complexity science' or 'non-linear dynamics'] uses mathematical techniques boosted by computer power to explore aspects of nature which have hitherto proved resistant to analysis. ... Its approach is not only multi-disciplinary but cross-disciplinary: biologists might draw on insights from engineering and physics, for example, while the study of stock-market prices might be related to weather records and other such apparently random phenomena." (van de Vliet, 1994).

Much of the literature relating to chaos theory is produced within narrow scientific disciplines and is fairly opaque to the non-specialist reader. However, a scientific journalist, James Gleick, has produced a readable but comprehensive overview (Gleick, 1987) which is relied on by many other writers seeking to apply the principles of chaos theory to human activity systems and, in particular, organisational behaviour and management (for example, van de Vliet, 1994; Wheatley, 1994; and especially Stacey, 1991, 1992).

Stacey (1991) provides a summary of the concept of chaos:

> "In its scientific sense, chaos does not mean utter confusion or a complete lack of any form. It means that systems driven by certain types of perfectly orderly laws are capable of behaving in a manner which is random and therefore inherently unpredictable over the long term, at a specific level. But that behaviour also has a 'hidden' pattern at an overall level. We do not know what the weather will be like next month, in specific terms; but we do know that there will be familiar patterns of sunshine or rain. We do not know how the stock market will perform next month, but we do know that it will display characteristic patterns of rise and fall. Scientific chaos explains why we observe recognizable patterns of overall behaviour, or categories, within which no two individuals or events are ever exactly the same. No two fern leaves are exactly the same, but they are all nevertheless fern leaves. No two business organizations in the electronics market are ever exactly the same, but they are clearly electronics businesses. Chaos is creative individual variety within an overall pattern of similarity."

Gleick (1987) stresses that chaos is not the same as instability. A chaotic system can be unstable if "its particular brand of irregularity persist[s] in the face of small disturbances." He gives the example of a marble in a bowl - "locally unpredictable, globally stable." This precise application of a commonplace term has the potential to cause confusion and misunderstanding, which most writers seek to avoid by early explanations of meaning.

> "the use of the shorthand term 'chaos' to cover the whole science of complexity or non-linear dynamics is unfortunate: in scientific terms, 'chaos' refers not to the word's popular meaning of utter muddle and confusion, but to the behaviour of a system - like the weather, for example - which is governed by simple physical laws but is so unpredictable as to appear random. (van de Vliet, 1994).

Stacey (1992) is concerned to make it clear that chaos occurs when the equilibrium, or stability, of a system is very finely balanced, so that the potential for very small changes in one or more of its elements to cause major changes in the whole system is very great.

> "The first feature of scientific chaos is that simple feedback control loops produce amazingly complex patterns of behaviour, some of which are inherently random" (Stacey, 1992).

> "as the sensitivity of a nonlinear feedback system is increased it moves from stable equilibrium patterns of behaviour [which may be highly complex], through a phase of bounded instability, before it becomes explosively unstable. That phase of bounded instability has been named chaos. Chaotic behaviour is random and hence unpredictable at the specific or individual level. The particular behaviour that emerges is highly sensitive to small changes and hence depends to some extent upon chance. But this is not explosive instability because it is constrained. And because it is constrained it always displays a pattern of category features, a kind of qualitative family resemblance. In this state the system uses positive feedback, albeit in a constrained manner" (Stacey, 1992).
>
> "This unpredictability arises because of the system's extreme sensitivity to initial conditions: tiny variations are amplified with ultimately huge consequences. Whereas in a linear relationship, a given cause has one and only one effect, in non-linear relationships , a single action can have a host of different effects; and the interactions become so complex that the links between 'cause' and 'effect' disappear." (van de Vliet, 1994).
>
> "The second feature uncovered by scientists is this. It takes only tiny changes in the control parameter, tiny changes in the sensitivity of the feedback mechanisms, to move behaviour over time from perfectly predictable cycles to random patterns. The changes are so tiny, for example a difference to the thousandth decimal place, that we would have to be able to measure the parameter with absolute exactness if we are anywhere near the chaos area and wish to secure a particular pattern of behaviour." (Stacey, 1992).

Feedback, positive or negative, is key to an understanding of chaos. Negative feedback acts to suppress trends, as in the example of a control unit in a domestic heating system; as the ambient temperature rises the system reacts negatively, turning off the heating and thus halting the trend towards high temperature. When the ambient temperature drops the control again functions negatively, switching on the heating and thus halting the trend towards low temperature. Positive feedback acts with opposite effect; for example, in human interactions praise or reward for good work may act to reinforce behaviour patterns and so lead to even better performance. Positive feedback enhances and accelerates trends. Within an open system, feedback provided by or through system elements may be highly complex and contradictory, and may produce reactions which may be positive or negative in character and range in their impact from very weak to very strong.

This sensitivity of finely-balanced complex systems to small changes affecting, initially, only one or a few of their component elements is what makes prediction, and therefore planning and forecasting, so uncertain. Fortunately, however, chaos theory holds that the instability of systems is "bounded." Stacey (1991) explains:

> "The third feature of non-linear dynamic systems which scientists have uncovered is this: there is order within disorder. Because it takes time for small differences to escalate into major changes of behaviour, the specific short-term behaviour of a chaotic system is predictable. Although we can never predict long-term weather patterns, we can predict the weather to a reasonable degree of accuracy over the next few days."

Or, as van de Vliet (1994) puts it, "there are recognisable patterns or categories of behaviour; and within these there is endless individual variety." These patterns have been tested over time:

> "these patterns of behaviour are not confined to natural forms: the French mathematician Benoît Mandelbrot discovered, for example, when he fed cotton-price data covering 60 years into the computers that although each particular price change was random and unpredictable, the curves for daily and monthly price changes matched perfectly." (van de Vliet, 1994).

Van de Vliet argues that "there is, as yet, no homogeneous body of writing which could be labelled 'chaos economic and management theory' " but suggests that there is, however, "a pervasive spirit" which emphasises "adaptability, intuition, paradox and entrepreneurial creativity in the face of an unpredictable, indeed inherently unknowable, future." This is consistent with observations of managers' roles which suggest that managers typically work with incomplete information to make the best judgements they can whilst accepting that more or better information might lead to different decisions (eg, Mintzberg, 1973 or Karasek and Theorell, 1990). Simon's (1976) term for this is "bounded rationality."

Kauffman, originally a molecular biologist now exploring complexity in organisations with a consortium including Nortel, Unilever and the United States Marine Corps, argues that systems, including organisations, operate at their most robust and efficient level at the interface between stability and disorder; "the edge of chaos." He attributes this to the richness of interfaces and exchange of information which occurs across these interfaces (Kauffman, 1995). Mariotti (1996) also believes that organisations parallel the natural world and obey natural laws, describing these similarities as "adjacent possibilities." He supports Kauffman's arguments, claiming that an "optimal transition zone" exists between complexity and chaos where change and development occur at the maximum speed without being thrown into chaos by trivial events.

Stacey (1992) clarifies the criteria for recognising "bounded instability" in organisations:

> "It should be stressed, at this point, that we would describe the dynamics of a particular business as chaotic if we could point to behaviour on the part of its managers that has amplifying, self-reinforcing, unpredictable effects over the long term. We would not describe the dynamics as chaotic if we observe simply that there is no order at all; if we observe that managers are running from one short-term crisis to another, failing to deliver product on time to the right quality, at the right cost. We would not describe the dynamics as chaotic by simply observing that there is no clear hierarchy, no clear job definitions, everyone doing anything that came into their heads. That would be total confusion, a complete mess, which is not what we mean by chaos in its scientific sense."

Stacey points to certain assumptions frequently observed, or inferred by observers, to be held by managers.

> "[It is assumed that] clear cause and effect relationships exist. That is, business systems, and the market systems they operate in, are driven by laws in which a given cause always produces a given effect. But when the dynamic is chaotic, then it will often be impossible to ascribe an effect we observe to some clear set of causes. The effect may well be the result of many small, chance disturbances which have escalated. Looking back it will be almost impossible to say what caused what."
>
> "[It is assumed that] the environment is a given reality outside the business and independent of it. ... But when the dynamic is chaotic, the business itself will partly be creating its own environment through creative interactions with other organisations and people in that environment. We would have to know, in advance,

> the detail of what each business and its competitors, suppliers and customers would do before we could say what some future environment would look like."
>
> (Stacey, 1992).

These assumptions may be seen to correspond to Checkland's concept of weltanschauung, or W.

> "How we select events and build up explanations depends very heavily on our frame of reference, on what we are conditioned to look for in the first place, on very basic assumptions submerged below the level of awareness and therefore rarely questioned." (Stacey, 1991).

Stacey believes that these assumptions on the part of managers are dangerous because they lead to reliance on planning and strategy based on "visions of the future" which are, in fact, fallacies:

> "the evidence that visions of the future have anything to do with business success is anecdotal and conditioned by interpretive bias. What we find is a number of case studies and examples that recount particular business successes in terms of some originating vision. These case studies and examples go back in time to look for a vision that might be said to have started the whole venture off and the ensuing sequence of events is then described in terms of vision realisation. When we do this, we first of all ignore 'visions' that failed. Furthermore we ignore other 'visions' that may have existed at the same time, but that were simply dropped as time passed by."
>
> "The key point is this. When the system is chaotic the long-term consequences of actions past, present and future are open-ended, where that means that they are unknowable. They are not simply currently unknown: it is totally impossible to know what they will be ... If the future is simply unknown there is the possibility that we will be able to identify it, if we gather enough information, conduct enough research and perform enough analysis. If it is unknowable then these things are a waste of time and we need to focus on different ways of doing things."
>
> (Stacey, 1992).

The complexity of situations facing managers and requiring administrative decisions is the theme of several chapters by Simon, writing before chaos concepts were widely available to a general readership (Simon, 1976, and earlier editions). He comments:

> "Discussions ... often bog down on the question: 'who *really* makes the decisions?' Such a question is meaningless - a complex decision is like a great river, drawing from its many tributaries the innumerable component premises of which it is constituted. Many individuals and organization units contribute to every large decision, and the problem of centralization and decentralization is a problem of arranging this complex system into an effective scheme."
>
> "Decision-making in organizations does not go on in isolated human heads.. Instead, one member's outputs become the inputs of another. Because of this interrelatedness, supported by a rich network of partially formalized communications, decision-making is an organized system of relations, and organizing is a problem of system design."
>
> Simon (1976)

The possibility of coming to “rational” decisions in the organisational context is dismissed by Simon (1976) on the grounds of complexity, the inadequacy of available data and the impossibility for individual minds of processing such data even if it were available:

> "It has already been remarked that the subject, in order to perform with perfect rationality ... would have to have a complete description of the consequences following from each alternative strategy and would have to compare these consequences. He would have to know in every single respect how the world would be changed by his behaving in one way instead of another, and he would have to follow the consequences of behavior through unlimited stretches of time, unlimited reaches of space, and unlimited sets of values. Under such conditions even an approach to rationality in real behavior would be inconceivable.”

Decisions may be adequate for practical purposes, however, because

> Fortunately, the problem of choice is usually greatly simplified by the tendency of the empirical laws that describe the regularities of nature to arrange themselves in relatively isolated subsets. Two behavior alternatives, when compared, are often found to have consequences that differ in only a few respects and for the rest are identical. That is, the differential consequences of one behavior as against an alternative behavior may occur only within a brief span of time and within a limited area of description. If it were too often true that for want of a nail the kingdom was lost, the consequence chains encountered in practical life would be of such complexity that rational behavior would be virtually impossible."
>
> (Simon, 1976).

Simon describes the process by which decisions are actually made in organisations as a series of eliminating steps, in each of which the perceived broad alternatives are compared and the least attractive discarded. Those remaining are then refined to a lower level of detail, and the process repeated. “The planning procedure is a compromise, whereby only the most 'plausible' alternatives are worked out in detail." - At every step there is the possibility that the optimum choice will be "eliminated without complete analysis.”

Simon’s term for this pragmatic utilisation of such information as is available, or can be perceived, is “bounded rationality”

Implications for the present research

Clearly, the tenets of chaos theory depend on systems concepts to a considerable extent. These related concepts are taken to apply to the behaviour of people, and specifically in this instance to project managers, in the context of their working lives. Systems models provide a useful metaphorical framework within which distinct identifiable elements may be examined individually but without losing sight of their status as parts of a conceptual whole. Chaos theory suggests that the complexity of the interactions between these elements, which are themselves composed of lower-level elements, will make it impossible to predict outcomes mechanistically. However, the theory of bounded instability gives rise to optimism that patterns may be discernible in relationships between sources of perceived threat, individual personal responses, and work performance.

Chapter III

PROJECTS AND PROJECT MANAGEMENT

The term *project* may be taken to refer to *a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality.*‡

The designation *project manager* would logically apply to the individual charged with overall responsibility for a project, and is in fact frequently used in this way. However. the term *project* conveys no information about magnitude, and could apply to an undertaking of any scale which meets the above definition. It is common practice for projects to be sub-divided into logical components, using a modelling device known as a Work Breakdown Structure, or WBS.‡ (see, for example, Harrison, 1992; Lock; 1992 or Reiss, 1992). Project components may have all the characteristics of projects in their own right (Gray, 1997). Any person with executive responsibility for any project component may be described as a [but not *the*] project manager, and by extension the designation may legitimately be applied to anyone whose job or profession involves executive responsibility for projects or parts of projects, regardless of present assignment.‡ (Corrie, 1991; Young, 1994).

Cleland (1994) describes project management as "a philosophy and process for the management of change in organizations," but complains that current literature treats it as a "nearly separate entity in the management of contemporary organizations." Morris (1994) agrees that project management is "widely misperceived as a collection of planning and control techniques." Cleland (1994), however, claims an influence for project management over the development of management thinking and organisational change:

> "Project management has led the way in formalization of the erosion and crossing of organizational boundaries."

Cooke-Davies (1990) also believes that, as well as the direct benefits of using project management, project experience has a beneficial influence on general management performance.

There is general agreement that human factors are at the heart of project management; as Kerzner (1989) expresses it, "project management is more behavioural than quantitative." Baguley (1995) agrees that "projects are people-centred." The team is the normal unit of project organisation (Adams and Barndt, 1988; Briner, Geddes and Hastings, 1990; Morris, 1994; Baguley, 1995). The skills and personal qualities required for working in and with teams are therefore important to project managers as well as those of relating to the wider organisational setting. Several writers define lists of these skills (see, for example, Thamhaim and Wilemon, 1974; Owens, 1982; Harrison, 1992; Fabi and Pettersen, 1992; Anderson,

‡ See Appendix A for a rationale for this definition. Appendix A also provides a description of Work Breakdown Structure [WBS] and observations on project managers' responsibility levels.

1992; Lientz and Rea, 1995; or Meredith and Mantel, 1995). Although the lists are sometimes extensive and varied, the skills of leadership, communication, political adroitness, and conflict-handling recur frequently.

Because projects are “unique, finite undertakings,” they frequently exist outside or alongside the ongoing work of organisations. The alternative to this is for the project to be “divided up and assigned to relevant functional areas with coordination being carried out by functional and upper levels of management” (Cleland, 1994). Such an approach would barely qualify for the designation “project management.” Where a discernible project organisation, or project team, exists, the relationship between it and the rest of the organisation may be a source of conflict, and in any case requires a defined structure if it is to be successful. It is usual to describe the partial integration of project and functional organisations as “matrix” management, described by Larson and Gobeli (1987) as “a ‘mixed’ organisational form in which normal hierarchy is ‘overlayed’ by some form of lateral authority, influence, or communication.”

Three forms of matrix organisation are described in the literature (see, in particular, Larson and Gobeli, 1987; Harrison, 1992 and Cleland, 1994). In a *Project Matrix* personnel and resources are allocated to the project and are deployed under the authority of the project manager. In a *Functional Matrix* the role of the project manager is primarily to coordinate work being performed in the functional units. His or her authority over personnel and resources is very limited. In a *Balanced Matrix* authority is shared between functional and project managers. According to Harrison (1992):

> "The principle difference between these three forms of matrix organisation is the relative authority and power of the project manager vis-a-vis the functional manager. In the functional or weak matrix the project manager has very little formal authority, and the functional manager is all powerful. In the project matrix, these positions are reversed and the project manager has the greater authority. In the balanced matrix there is a position somewhere between these two extremes."

Assessments of the comparative advantages and disadvantages of using a matrix approach are compiled by Larson and Gobeli (1987) and by Lientz and Rea (1995). Summarised, the advantages are in focusing the attention and commitment of a dedicated team on the project objectives, whilst the disadvantages mainly concern inefficient use of resources, especially on smaller projects, and the potential for conflict between the project and functional organisations. Conflict may be particularly acute for individuals who find themselves subject to dual reporting lines, responsible to both a project manager and a line or functional manager (Harrison, 1992; Ford and McLaughlin, 1993; Lockyer and Gordon, 1996).

The fact that a project is, by definition, unique means that its goals and objectives must be determined and defined specifically and cannot be generalised. Traditionally, the objectives of any project have been represented in the form of a triangle, showing time [or schedule] objectives; cost [or budget] objectives; and quality [or technical specification] objectives (see, for example, Kerzner, 1989; Morris, 1994; or Wysocki, Beck and Crane, 1995). The illustrative and didactic power of this device is that it clearly shows how a change to any one of the factors

must impact the other two. Some writers, however, have argued that the triangle is too simple a figure to represent the interacting objectives of most projects. Briner, Geddes and Hastings (1990) set the Time-Cost-Quality triangle inside a circle of three segments: Organisational politics, Personal objectives, and External or Commercial pressures. Kliem and Ludin (1992) show a tetrahedron about the dimensions of Schedule, Cost, Quality and People, arguing, like Briner et al, that the personal objectives and feelings of the people involved are intrinsic to the definition of the total project.

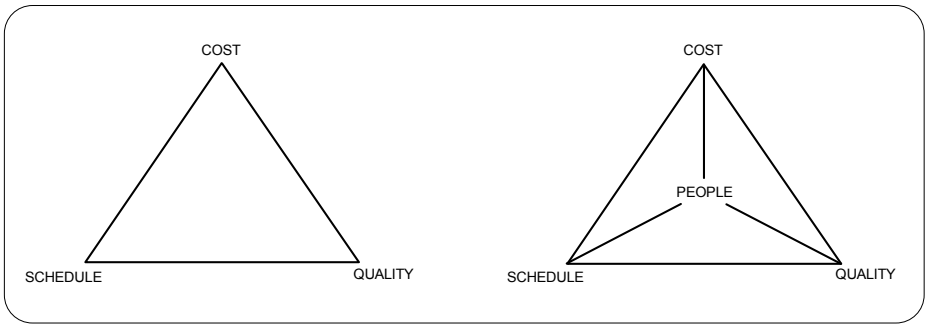


Exhibit 3 Kliem and Ludin's (1992) extra dimension

Different parties involved in the project - the project's stakeholders - will have their own priorities: some focus on project tasks and deliverables, "others are primarily concerned with the way in which they are managed, influenced and involved **during** the project," whilst a third group are "primarily concerned with *both* the outcomes of the project and how well they think that they have been managed during the project" (Obeng, 1994). The attitudes of members of these groups will be heavily influenced by the nature of their involvement. Goals other than those specified in the project definition may be as important as the overt project objectives to some stakeholders (Meredith and Mantel, 1995). It should not be assumed that the goals or objectives will remain stable throughout a project's duration. Priorities external to the project may change, impacting on support or resourcing, and the personal objectives of participants may also change, both for external and project-intrinsic reasons (Meredith and Mantel, 1995).

The establishment of clear objectives, or deliverables, is usually regarded as the first phase, or at least as an early phase in a project's life-cycle. Most writers are agreed that projects progress through a series of phases, although the number of phases identified and the nomenclature used vary widely (Ford and McLaughlin, 1993). Project control, at least in the immediate context, consists in the visibility of actual progress and outcomes compared with the planned progress and outcomes, and the possession and exercise of power to change what is happening. In matrix forms of organisation the project manager may lack direct authority to control events, and this is one of the continuing issues of project and matrix management. No simple answer is proposed in the literature, although negotiation, delegation, persuasion and other 'soft' skills recur as themes in the advice to practitioners (see for example, Kerzner, 1989; Kliem and Ludin, 1992; Robins, 1993; or Morris, 1994).

Just as the traditional 'Time-Cost-Quality' triangle has proved inadequate in defining project objectives, so these factors have been found unsatisfactory in assessing the success or failure of projects, a concept which "has remained ambiguously defined both in the project management literature and, indeed, often within the psyches of project managers" (Pinto and Slevin, 1986). Projects are "concerned with change and, therefore, carry with them considerable uncertainty, and with uncertainty comes risk" (Lockyer and Gordon, 1996) and these uncertainties have entered the public consciousness through some well-publicised, perhaps infamous, public-sector projects. Caulkin (1996) observes that, of twenty-three programmes examined by the National Audit Office - "almost all were late [the average slippage was 31 months]" and total overspend came to £700 million. Examples cited by Caulkin include: Eurofighter - 3 years late and £1.25 billion overspent [UK liability only]; the British library - "nearly three times dearer than it should have been, still unfinished and without a definite completion date"; the Stock Exchange Taurus project - "embarrassingly aborted"; the London Ambulance computer system, which collapsed disastrously when implemented; and the Channel tunnel, notoriously over-budget. Morris (1994) reports a similar pattern:

> "in the early 1980s ... I had data on 1449 projects - all that I could find in the public record; of these, incredibly, only 12 had out-turn costs below or on budget. [Later I repeated the exercise with over 3000 projects, with similar results.]"

Mechanistic approaches to post-performance project evaluation, which consider only whether the contracted criteria have been achieved, are considered insufficient, and 'softer' factors must be taken into account. Baker, Murphy and Fisher (1988) use "research conducted by the authors on over 650 projects" to argue that a project may be judged "successful" if

> "the project meets the technical performance specifications and/or mission to be performed, and if there is a high level of satisfaction concerning the project outcome among key people in the parent organization, key people in the client organization, key people in the project team, and key users or clientele of the project effort, the project is considered an overall success"

This view is broadly supported by many other writers, including Pinto and Slevin (1988), de Wit (1988), Corrie (1991), Cleland (1994), Obeng (1994), and Belassi and Tukel (1996). The ambiguity of 'success' is illustrated by the example of Concorde which, by budget or schedule factors, would be considered a project which clearly failed, but as a technical achievement, and as an enduring icon of national pride, has been highly successful; so much so that British Airways were overwhelmed with applications when they offered a strictly limited number of flights from London to New York for £10, in the spring of 1997.

Avots (1984) and Lientz and Rea (1995) draw attention to the changes that occur in stakeholders' perceptions of projects during and after project execution. Schedules, budgets and technical specifications may change during the project's life-cycle. If the project is being well managed these changes will be controlled, and will be visible to an observer. Success against these criteria will be relatively easy to measure, and forms the focus of evaluation whilst the project is in progress. After completion, Avots (1984) found that these criteria tend to

diminish in importance, and success is assessed by how well the project's deliverables meet the needs of their users.

There is a body of advice in the literature to guide project managers towards success. Adams and Barndt (1988) collected data from a group of fifty managers with "some project involvement" over two years. The subjects were asked to think of successful projects, put themselves in the project manager's position, and suggest things they might do to help the project succeed. Ten factors were identified, with clear goals and top management support heading the list. These priorities are broadly supported by Corrie (1991). Meredith and Mantel (1995) explored control problems in more detail as a principal reason for project failure, and found concensus in the views of organisational senior management and project leaders about the factors involved, although the prioritisation of the factors was different. Poor planning seems to be the most significant factor here. Baker, Murphy and Fisher (1988) studied "over 650 projects" and found that participation by the project team in setting schedules and budgets was significantly associated with project success, whilst a lack of such participation was associated with project failure. Other factors significantly associated with failure were: lack of team spirit; lack of sense of mission; job insecurity; and lack of influence on the project manager. Harrison (1992) claims "a large amount of consensus both in the UK and the USA as to the reasons for the success or failure of projects and of project management." The principal factors being organisational, planning, and human factors. Lists of 'ways to fail' are provided by Lientz and Rea (1995) and by Pinto and Kharbanda (1996).

A useful summary of project success factors has been collated from the literature by Belassi and Tukel (1996), and is represented in a graphical model, reproduced as Exhibit 4, below.

Key amongst these factors is "top management support" for the project, and commitment to the project's objectives by the project team. The importance of a motivated and committed project team is frequently stressed, notably by Tampoe and Thurlaway (1993), Morris (1994), Cleland (1994), and Meredith and Mantel (1995). The more technical project management factors contributing to success or failure seem to be of much less significance than the human factors. The need to set, and express in writing, clear goals or desired outcomes is mentioned by most authors (for example, Cooke-Davies, 1990; Corrie, 1991, Morris, 1994; or Lockyer and Gordon, 1996), followed by sound planning of the tasks or activities necessary to realise those goals (eg, APM, 1995; Wysocki, Beck and Crane, 1995; Lockyer and Gordon, 1996).

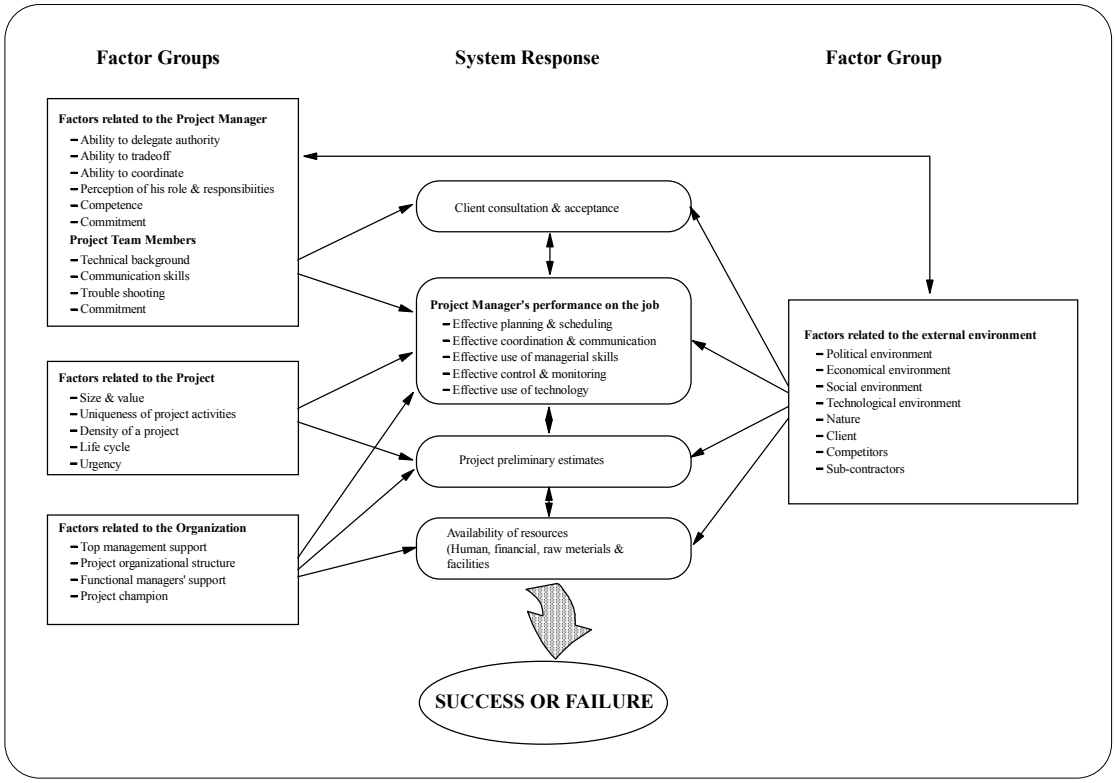


Exhibit 4

Factors in project success
Belassi and Tukel (1996)

Whilst human factors are found to be of vital importance in project success, the special nature of projects introduces particular sources of stress and conflict for the participants. The organisational positioning of projects means that tensions between project teams and line management are almost inevitable, which may have repercussions for project personnel after project completion (Meredith and Mantel, 1995; Lockyer and Gordon, 1996). Lack of direct authority places particular emphasis on skills of negotiating and persuasion (Kerzner and Cleland, 1985; Lock, 1996). The probability of dual reporting lines, which has already been mentioned, creates a “complex psychological situation” which is a “source of conflict [which] ... has the potential to harm both the success of the project and the individuals who participate in the project" (Ford and McLaughlin, 1993), “puts stress on all three people involved” (Harrison, 1992) and “inevitably leads to divided loyalties and problems as a result” (Lockyer and Gordon, 1996). However, Wysocki, Beck and Crane (1995) believe that problems can often be avoided if lines of authority are clearly defined at the outset.

Kerzner (1989) describes conflict as “the single most important characteristic of the project environment” and as “a way of life in a project structure.” Kerzner identifies conflicting objectives as the principle source of conflict. Thamhain and Wilemon (1974) identify some more specific sources of conflict: schedules, project priorities, manpower resources, technical conflicts, administrative procedures, cost objectives, and personality conflicts. The most intense conflicts were with functional departments supporting the project, then with personnel assigned to the project from functional departments. Least severe conflicts were between project

managers and their immediate subordinates. Kezsbom (1992) found the top three sources of conflict to be: goals/priority definitions, personality and interpersonal relations, and communications [ie, disagreements arising from poor information flow]. These findings may well be consistent with Kerzner's views.

Sommerville and Langford (1994) argue that the temporary or short-term nature of projects introduces additional tensions puts project staff repeatedly in the "position of new entrants," which is stressful, and Harrison (1992) draws attention to the effects of new and varied management styles on project personnel.

Against this background of conflict and endemic insecurity project managers are required to exercise their skills, without the benefit of the "usual superior-subordinate relationships" (Harrison, 1992), to achieve success which is likely to be assessed in subjective ways over which the project manager has little influence.

Summary

Projects are a particular form of activity, with characteristics that distinguish them from the continuing or "business as usual" work carried out in organisations. Some of these characteristics of projects may place particular strains on their participants. Prominent among these are: the temporary nature of projects, their contention for resources with the ongoing organisation structure, the often intense nature of their activity, the close working relationships that form in project teams, the ambiguity with which project outcomes may be assessed, and dual or multiple reporting lines.

Organisational support for the project, and commitment by participants, have been identified as crucial success factors. Managerial behaviour which fosters commitment may therefore be expected to have a beneficial effect on project outcomes.

Chapter IV

THREAT, PERCEPTION AND REALITY

Any exploration of the nature, origins and consequences of threat in the workplace must begin by setting boundaries to its definition of the term. The Oxford English Dictionary (1989) devotes several pages to definitions, sources and usage of the word *threat*, of which the following may be helpful:

, Painful pressure, oppression, compulsion, vexation, torment, affliction, distress, misery, danger, peril.

ƒ A denunciation to a person of ill to befall him, *esp* a declaration of hostile determination or of loss, pain, punishment or damage to be inflicted in retribution for or conditionally upon some course; a menace.

pressure applied to the will by declaration of some harm that will follow non-compliance.

„ Animal behaviour that keeps other animals at a distance or strengthens social dominance without physical conflict.

The OED definitions, for the most part, carry connotations of intent, implying intelligence and purpose in the source of the threat. There may, however, be categories of threat which arise from natural events, from societal forces which for practical purposes are undirected by any such intelligence or from policies determined so remotely from the affected individuals that they may be regarded, again for practical purposes, as being undirected.

Moreover the use of the term threat must be conditional upon the anticipated consequences of the occurrence of the prospective event being regarded as undesirable by its object. Threat conceptually depends for its existence upon agreement between its source [if sentient] and its object; it cannot exist unless those subjected to it perceive themselves to be threatened. It may, however, exist in the perceptions of individuals even though the events they anticipate will not in reality occur. Thus sufferers from paranoia, paranoid schizophrenia or delusional disorder may live under perpetual threat from sources which exist only in their own minds. The behaviours they adopt to counter or avert the threatened events, irrational though they may appear to an observer, may be sound and reasonable responses to the threat as they perceive it.

For example, Kahn and Unterberg (1993) describe the case of a middle-aged senior executive whose work was highly regarded by his superiors. Despite praise from his supervisors he became increasingly angry at what he saw as subtle but consistent rejection and began interpreting conversations and memos in a negative and peculiar manner. His conviction that his superiors were determined to do him down led him to spend increasing amounts of time talking to other employees about senior people. The potential for damage to an organisation when a senior executive devotes time and energy to denigrating his superiors to anyone who will listen is, of course considerable. In Kahn and Unterberg's account the story ends happily

after the executive became enraged over a miscalculated medical bill. The doctor concerned recognised symptoms of paranoia and persuaded the executive to undergo treatment.

Unterberg (1993) describes a further example of a shop steward who frequently became angry about management and would occasionally raise questions that imputed prejudiced motivations. He used his union position to make attacks which had no basis in reality, singling out for especially bitter attention managers who had previously offered him advice, helpful supervision or constructive criticism. Eventually his behaviour became extreme. He threatened to sue a senior executive, made obscene remarks in front of witnesses and appeared physically threatening. He agreed to undergo treatment and came to see that his highly adversarial view of authority had its origins in early-life experiences. Again, this kind of behaviour by someone with positional power [such as a union official] could have highly damaging consequences for an organisation. Such behaviour, though, in its early and less extreme presentations, may be indistinguishable from deliberate tactics adopted for political ends.

As a final example of delusional behaviour in the workplace, Gabel (1993) describes the case of a hospital laboratory technician who complained to her supervisor that a colleague was sabotaging her work. The supervisor referred her to the hospital's psychiatric clinic where it was discovered that she was having difficulties in adjusting to living in a new neighbourhood. The technician felt insulted by being referred to the psychiatrist and, firmly believing that the workplace problem was genuine, incorporated the psychiatrist into her delusional beliefs. She asked to be excused from continuing the interview because she believed her absence from the workplace was giving her colleague further opportunities to undermine her work. Gabel reports that the woman was later described as "fully functional" by her supervisor, although she often looked angry or withdrawn, but she had moved her workstation to the far side of the room; a reasonable response in defence against genuine interference but irrational if the perceived threat was delusional.

Actual psychosis is not a prerequisite for behaviour to be influenced by a perceived threat which objectively may be said to be non-existent, or which exists in a form or to a degree which is far less dangerous than is believed. Indeed, some definitions of psychosis suggest that it consists in the holding of perceptions which are out of step with those of the ambient culture. Thus, a belief that the eruption of a volcano was due to the anger of a local god and could only be averted by human sacrifice would not be evidence of psychosis if observed in primitive tribespeople, for whom the belief was a cultural norm. However, if such a belief were to be genuinely held by an English company director it would probably indicate some form of mental illness.[§]

Examples of culturally-consistent unfounded beliefs abound throughout history. Particularly illustrative examples might include the witch-hunts that occurred in Europe [and parts of north America] during the sixteenth and seventeenth centuries. Robbins (1959) suggests:

. [§] Robert Pirsig (1991) provides other illustrations of culturally-defined insanity and culture-based perceptual selectivity. An extract is reproduced in Appendix J

> "a minimum of 100,000 men women and children burned in Germany alone. One might double this figure for the whole of Europe."

Burnings were also common in Scotland, although in England the normal penalty upon conviction for witchcraft was hanging. Without doubt, unscrupulous local potentates were ready to exploit popular fears for their own purposes but such atrocities could not have occurred on such a vast scale without the climate of public fear and horror of the putative consequences of the activities of 'witches' in their communities which made the actions taken appear to be sound and reasonable responses to the perceived threat. Interestingly, Eric Ross of the Institute of Social Studies in The Hague, has suggested an epidemiological basis for this climate, attributing it in part to the introduction and spread of syphilis in Europe at this time. This disease causes infertility, stillbirths and deformed foetuses, all of which might readily be associated with the 'wise women' who commonly acted as midwives. It has an extended symptomless development period, separating cause from effect, and its victims frequently show symptoms of insanity, which Ross believes could explain some of the recorded 'confessions,' not all of which were extracted by torture. (Ross, 1995).

By the 1950s public burning of deviants had become unacceptable but comparable suspension of normal notions of justice and fairness occurred in the United States in response to the perception of dangers posed by communist activists in American society, a parallel acutely observed by Arthur Miller in his play *The Crucible*, written in 1953. Ordinary citizens felt constrained to support the actions taken [by Senator Joe MacCarthy and his supporters] to avert the perceived threat of a communist take-over; arguably a sound and reasonable response to their perception of the impending danger.

On a lesser scale, in 1938 thousands of Americans fled their homes in panic in the belief that Earth had been invaded by Martians. The source of this belief was a radio broadcast by Orson Welles of a dramatised version of H G Wells' novel *The War Of The Worlds*. It could be argued that rapid, if not panic-stricken, flight would constitute a sound and reasonable response in the event of a genuine invasion from Mars and since the individuals concerned perceived the threat to be real their behaviour might be defended as rational.

Reality is, in any case, an intangible concept, which has exercised philosophical debate from ancient times. Plato, in Book vii of *The Republic* (Drake, 1959) has Socrates in a dialogue with his pupil Glaucon. Socrates postulates a cave in which human beings are chained, facing the cave wall. Behind them is a kind of gangway, along which people pass back and forth carrying a variety of objects. Still further back and above the scene is a great fire. The chained prisoners can see nothing of the 'reality' of moving figures or the fire which lights the scene. What they can see is the shadows which are thrown upon the cave wall in front of them. They discuss these shapes amongst themselves, giving the various shapes names and attributing meaning to their forms and movements.

Socrates asks Glaucon what will happen if one of the prisoners should be released and, free to move about the cave, should be able to observe directly the various phenomena which

previously have only had existence in terms of the effects they produce upon the cave wall in front of him. Suddenly the world of meaning and order the prisoner had previously known is destroyed. In time he may come to understand the new reality and to see what a restricted world of illusion he had previously inhabited. But what then? His meaning, his reality, will no longer be the reality of his fellow prisoners, nor of the world which they inhabit. He will see everything differently. He will be unable to return to the world of the prisoners in the cave because his understanding, though more 'real,' will be unsuited to the world in which it is required to function.

Plato's allegory of the cave contains several observations endorsed by modern psychology, most notably that the perceptions of the external world formed by the brain are always incomplete and will be formed only partly through reception of data via the senses, that meaning will be sought and explanations constructed for what is perceived, and that perceptions which are outside the range considered normal by one's own society will be dysfunctional. (See, for example, relevant chapters in Dobson et al, 1981, Atkinson et al, 1993 or Hayes, 1994).

The processes of human perception, and to an even greater extent the interactions between them, are highly complex. They involve physical receptors categorised as the five senses of sight, hearing, touch, taste and smell; transmission mechanisms, principally the nervous system; and finally the storage and processing mechanisms of the brain itself.

Incoming data is interpreted, filtered according to preselected criteria (Triesman, 1969) and augmented from stored material to produce a complex construction which becomes the brain's version of reality for that specific time and situation. Gregory (1977) has described perception as "a dynamic searching for the best interpretation of available data." Thus the perception of events, situations and phenomena, and of their meaning will always be subjective and therefore imperfect because of the physical and psychological mechanisms by which the human brain operates.

A totally objective and undistorted perception is impossible. The extent of the distortion will be a function of the collective impacts of internal and external stimuli over the entire lifetime [including pre-birth life] of the perceiver and may range from a functionally accurate image of reality through to an image which has almost no basis at all in external phenomena. Exhibit 5, below, illustrates this continuum.

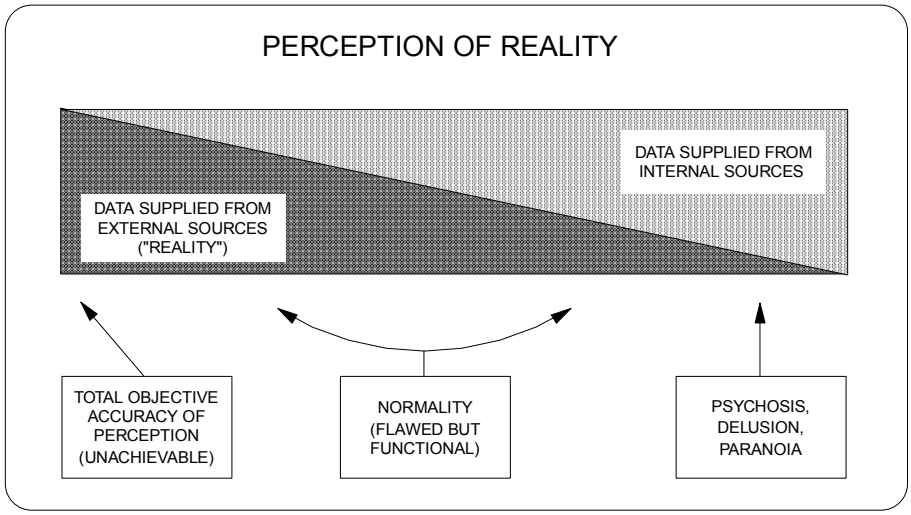


Exhibit 5 Perception of Reality

As Morgan (1988) has observed:

> "If one thinks about it, the idea that the brain can make representations of its environment presumes some external point of reference from which it is possible to judge the degree of correspondence between the representation and the reality. This implicitly presumes that the brain must have a capacity to see and understand its world from a point of reference outside itself. Clearly this cannot be so, thus the idea that the brain represents reality is open to serious question."

Nor is the reception of data subjective only through the effects of variable mixing of the 'real' with internally-generated constructions. Reality itself includes phenomena which exist only as attributes or products of other phenomena. Bohm (1980) holds that the physical universe is a product of a continual universal movement, or holoflux. It is unnecessary, however, to accept Bohm's proposition before making use of his powerful metaphor of the whirlpool. A whirlpool has a physical existence, it can be seen, heard, felt, measured, photographed and subjected to any kind of scientific analysis or study appropriate to its general form. The whirlpool, though, only exists as a characteristic of water, and of water in a certain state of movement. It is an example of "process structures - things that maintain form over time yet have no rigidity of structure" (Wheatley, 1994)

How is the human brain to perceive such phenomena and what meaning can it attach to them? If the whirlpool is felt to constitute a threat, as it very well might under certain circumstances, will an understanding of the nature of water facilitate a functional means of dealing with the perceived threat or will a specific understanding of whirlpools be required?

Having once formed a perception, however flawed, the brain will seek for meanings; explanations for the perceived phenomenon which will transform it from mere data into useful information. Here too imperfections in the basic mechanisms of the human psyche cause interpretations to be based upon factors supplied internally rather than upon any rigorously objective evaluation. As part of their contribution to research on attribution theory, Jones and Davis (1965) have provided an inference model showing how the observation of actions, their effects and certain visible influences such as situational demands and apparent social

pressures, leads to inferences about the intentions, knowledge and abilities of the perpetrator of the action, and thence to further inferences about basic disposition and character traits (see Exhibit 6). Ross (1977) has labelled this bias towards making dispositional rather than situational attributions Fundamental Attribution Error.

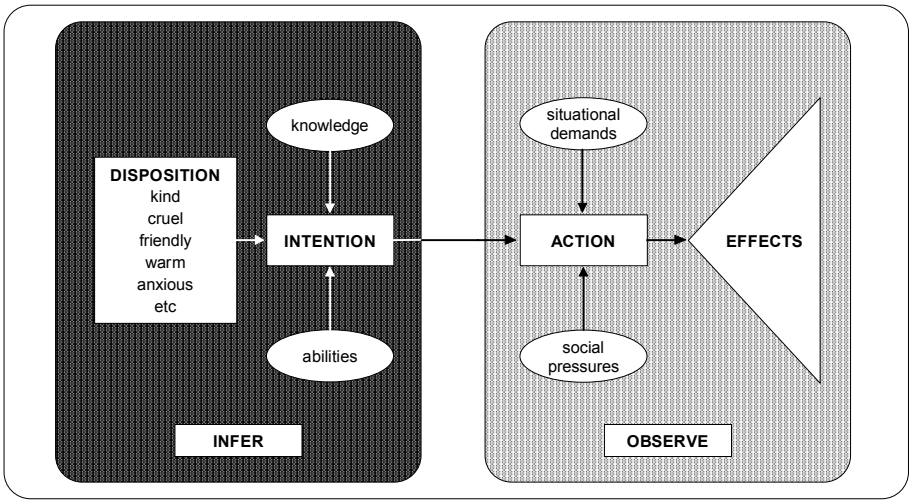


Exhibit 6 Fundamental Attribution Error
Adapted from Jones and Davis (1965)

Perception is therefore seen to be a highly individual construct. The proportion of its constituents which are internally supplied means that virtually identical sets of stimuli may produce very different perceptions within the minds of different people. The perception of threat, no less than of any other stimulus will vary enormously between individuals. The following case study (Gray 1994) illustrates this variance in practice:

> A major British high-technology company announced a redundancy programme affecting managers in some of its divisions. The terms of the scheme were generous, offering added years on the contributory pension scheme and payment of the enhanced pension from age 50. In addition managers would receive six months' salary plus a choice from several help packages as redundancy payments on leaving. The scheme was to be voluntary, although it was made clear that certain staff would be ‘targeted’ and invited to go.
>
> Manager A was forty-five, without a partner, and had two children in secondary school and hoping to go on to university. She had a moderate mortgage. She had been with the company for six years and had become highly skilled at her job but previous experience of low-skilled work and occasional unemployment made her aware that her specialism was specific to her present employer and she felt that she had little to offer on the job market.
>
> Manager B was forty-eight. He had been with the company all his working life. His children had all left home and his mortgage had only three more years to run. For some time he had been planning to start his own business but lacking capital he could see no way to do so without incurring a heavy debt, which he was reluctant

to do. He was bored at work and felt that from now on he was just serving out his time.

For the two managers the announcement of the redundancy scheme came as a surprise. Manager A felt severely threatened. For her the loss of her job, even on the terms described, would be little short of disastrous. Her pension entitlement, even with the enhancement, would be small and with a drastically reduced income she could not see how she would possibly cope. She felt that at all costs she must hang on to her job and she desperately hoped that any redundancies would be genuinely voluntary so that she would not have to go. However, previous experience had taught her that employers were not to be trusted; they would discard staff like items of surplus office equipment when it suited them.

Manager B received the announcement as a dream come true. His long service meant that he would retire on half pay and the redundancy payment would provide all the capital he needed to start up his business. At his age he would normally have expected to work another twelve years, but now he could change careers with a safety net of financial security whilst still relatively young. The only threat he perceived was that, for some reason, he might find himself excluded from the scheme. However, long experience had taught him that the company usually helped people to do what they really wanted. Once, they had asked him to move to another part of the country but when he had said he preferred to stay where he was they had not enforced the mobility clause in his contract, as they would have been entitled to do. He was confident that he would soon be free to fulfil his ambition of self-employment.

In the event redundancy was kept voluntary. Manager A was moved to another post and manager B was allowed to leave on the terms described.

This simple illustration shows the clear difference that individual circumstances and personal history can have upon the perception of a given situation. In later chapters the behavioural consequences of these perceptions will be explored in greater detail.

One further aspect of perception must be considered. Jean-Paul Sartre, in *Being and Nothingness* (1943) describes a situation in which he expects to meet a friend in a café. In the event the friend is not there. Sartre explains that a real relation between his friend and the café exists solely because of Sartre's expectation. His friend is also absent [presumably] from every other café in the world, but because there was no expectation of finding him in any other café no real relationship exists.

This dependency upon expectation, even in a wholly negative connotation, has implications for any discussion of perception when applied to workplace situations. In the case of the two redundant managers expectations, good or bad, were raised by the announcement of a redundancy scheme. There are many firms in which no such scheme is announced but

attitudes towards the possibility of such an occurrence will depend upon expectations. If an announcement is anticipated, but none is made, then a relation of a kind is created between the 'missing' announcement and the employees. If no announcement was expected then no such relation exists.

Summary

An individual may feel himself threatened as a result of the deliberate intent of another person, by natural events, by forces in society, by the consequences of policies which take no account of the individual. The threat may be entirely real or entirely imaginary, or some combination of the two on an infinitely-variable scale. Reality itself may be open to a range of definitions. In practice there can be no such thing as totally undistorted perception. For threat to exist it must be perceived as threat by its object. It is the perception of threat, whether founded in objective reality or not, which is important in the study of individual and social behaviour. Such perceptions, being based partly in the psychic processes of the individual, will be different for each person.

The perception of threat may be categorised as *the anticipation of impending change to a state less favourable than the status quo*.

Chapter V

FEAR, WORK AND OPPRESSION

Clinical effects of fear and other emotions

When one of the higher mammals, including man, perceives itself to be threatened it undergoes a complex process of physical and psychological arousal, triggered by activity in various parts of the brain, notably in the hypothalamus. Typically, the physiological activities under the control of the two divisions of the autonomic nervous system are either speeded up or slowed down in preparation for "fight or flight" (Cannon, 1929). Neurones of the sympathetic division cause the pulmonary bronchioles to dilate, increasing the capacity for the exchange of gases. Sugars are released into the bloodstream from the liver, increasing the energy supply to the muscles, the chemical adrenaline is released from the adrenal glands, stimulating the activity of the sympathetic neurones in a positive reinforcement cycle and the natural pain-killing and mood-enhancing chemicals, endorphins, enter the bloodstream. Blood flow to brain and limbs increases as a result of accelerated heart beat to provide a greater supply of oxygen and nutrients and the pupils of the eyes dilate to maximise visual acuity. Neurones of the parasympathetic division act to suppress physiological activities which are not prominently required to deal with emergencies, such as the digestive processes, thus conserving energy. (Dobson et al, 1981). Experience in practice of these and other responses, in an acute form, was reported by Shaffer (presented in Atkinson et al, 1993) following interviews with American combat pilots of the second world war.

Accompanying these physiological changes are emotional experiences which human beings may identify in various ways, depending on the circumstances and the feature of the situation which seems most prominent. Simplistically, it might be said that in response to a perceived threat the two dominant emotions are likely to be anger and fear. Which is uppermost may depend upon the assessment the threatened individual makes of his/her ability to deal with the threat; in extremis, whether fight or flight offers the best hope of survival.

Symptoms of Fear in Combat Flying
(Shaffer, 1947)

DURING COMBAT MISSIONS DID YOU FEEL ...?	SOMETIMES	OFTEN	TOTAL
A pounding heart and rapid pulse	56%	30%	86%
That your muscles were very tense	53%	30%	83%
Easily irritated or angry	58%	22%	80%
Dryness of the mouth or throat	50%	30%	80%
Nervous perspiration or cold sweat	53%	26%	79%
Butterflies in the stomach	53%	23%	76%
A sense of unreality - that this could not be happening to you	49%	20%	69%
A need to urinate very frequently	40%	25%	65%
Trembling	53%	11%	64%
Confused or rattled	50%	3%	53%
Weak or faint	37%	4%	41%
That right after a mission you were unable to remember the details of what had happened	34%	5%	39%
Sick to the stomach	33%	5%	38%
Unable to concentrate	32%	3%	35%
That you had wet or soiled your pants	4%	1%	5%

Exhibit 7 Symptoms of fear
From Atkinson et al (1993)

This in turn leads to involuntary behavioural responses such as changing facial expression in humans and many higher animals (Osgood, 1966). It is possible to distinguish physiologically between anger and fear under experimental conditions. Fear responses have been found to be comparable to the effects of injecting adrenaline, whilst anger responses resemble the effects of injecting both adrenaline and noradrenaline (see for example Ax, 1953 or Funkenstein, 1955). However, Ax (1953) showed that these physiological differences could be induced purely by supplying different explanations to the subject for identical phenomena [specifically, mild electric shocks to the finger-tips], thus demonstrating that cognitive factors were determining which of the two emotions would be experienced.

Gray (1991) cites a variety of experimental work with animals in support of an hypothesis that fear and frustration are essentially the same emotion. Frustration in this context can mean the non-materialisation of anticipated outcomes.

Gray points out that alcohol has a significant effect in reducing fear, claiming to have

> "reviewed some hundreds of experiments in which [benzodiazepines, barbiturates and alcohol] have been given to animals under a wide variety of behavioural conditions."

Gray goes on to say that there are "few if any systematic differences between the effects of the three different classes of drugs" in performance of a range of tasks and that the experiments made use of many different species "from goldfish to chimpanzees" without important systematic differences in the results.

Given the essential identicallity of fear and anger it is unsurprising that alcohol consumption, which reduces fear, is found to be linked to increased aggression (Gray, 1991). In a perceived threat situation the predominance of fear predisposes towards flight whilst the predominance of anger predisposes towards fight. It is thus possible to postulate a chain of causation beginning with either frustration or fear, which leads to alcohol consumption as a coping response, which, by reducing fear, increases the predisposition to anger and thus leads to conflict, possibly in the form of physical violence.

It can be seen, therefore, that emotion has both physiological and cognitive components. The emotion experienced will be determined by the interpretations placed upon the perceived stimulus, which in turn will be heavily influenced by experience and reason. The different levels of influence exerted by physiological and cognitive factors has been the subject of debate for a century. An early view, held for example by James and Lange (James, 1890) was that emotion was entirely the product of physiological changes. By the 1960s this opinion had been found to be too simplistic. Schachter and Singer (1962) demonstrated experimentally that identical chemically-induced physiological states were interpreted as different emotions by subjects who had been given varying information and exposed to different behaviours by 'stooges.' Marshall and Zimbardo (1979) were unable to replicate Schachter's results exactly. Their experiments tended to suggest that arousal resulting from adrenaline injections tended to be negative (eg anger, apprehension) rather than neutral, as Schachter had found. Nevertheless, the

physiological influence on emotional experience is still significant. For example, patients who had suffered spinal damage which restricted the supply of physiological information to the brain have reported that they felt emotions less intensely than before their injuries (Hohmann, 1962).

The emotion which English-speakers describe as fear is usually, though not exclusively, associated with an acute form of threat. The complex amalgam of physiological and psychological responses is most appropriate for dealing with acute forms of threat, rather than chronic ones [ie, continuing over a protracted period of time], and the responses are adequately terminated, that is, the chemical balances of the body are returned to their normal states, known as homeostasis, through intense physical activity: Cannon's “fight or flight.” When fear persists over protracted periods of time or without physical activity to utilise the body's preparations, damage is likely to be sustained. According to Selye (1952) an initial “alarm reaction” is followed by a “stage of resistance” in which ability to cope with the original source of threat continues to increase but ability to deal with second or subsequent problems is lowered. If the cause of alarm persists then eventually the stage of resistance gives way to a “stage of exhaustion” which results in a potentially catastrophic collapse of ability to cope with *any* source of alarm. This will be discussed in the context of the workplace in more detail under the classification of stress (Chapter vi).

Extreme work regimes

The psychological and behavioural responses of people living under threat of a most extreme nature were recorded by Bruno Bettelheim (1988). Bettelheim, a psychologist and psychoanalyst of the Freudian school, was confined in Dachau and Buchenwald concentration camps in 1938-39. Whilst imprisoned he set himself the task of observing his own and his fellow prisoners’ behaviour, both from scientific interest and as a form of therapeutic defence. His observations necessarily had to be committed to memory, since no papers of any kind could be kept in the camps or conveyed to the outside. After his release and emigration to the United States Bettelheim wrote a remarkably objective, though often harrowing, account of his experiences. Of particular interest is the need Bettelheim identifies to achieve a balance between the imperative demands of the situation [on which physical survival depended] and the maintenance of an inner core of values and personality.

> “Most important of all was to arrive at a clear conception of what could be given to the environment without compromising the inner self. Some prisoners tried to give the environment all; most of them were either quickly destroyed or became successful inmates, ‘old prisoners.’ Others tried to maintain their old selves unchanged; but while they had a lot better chance to survive as persons their solution was not flexible. Most of them were not up to living in an extreme situation and if not freed soon, they did not survive” (Bettelheim, 1988).

“Old prisoners” were those who acclimatised to the camp regime. Their personalities adjusted to the demands of their captors. Bettelheim observes that for most successful prisoners adjustment meant abandoning moral codes and normal feelings of compassion [he suggests that to inculcate compassionless control methods in the SS was one of the original purposes of

the camps, at least before the extermination programmes began in earnest in 1941].

> "It was not unusual, when prisoners were in charge of others, to find old prisoners [and not only former criminals] behaving worse than the SS. Sometimes they were trying to find favour with the guards, but more often it was because they considered it the best way to treat prisoners in the camp" (Bettelheim, 1988).

A degree of bonding between victim and oppressor has been observed particularly in hostage situations, where the interaction is perhaps especially intense. In such cases the effect has come to be known as the Stockholm effect or Stockholm syndrome, after a bank raid in Sweden which developed into a hostage situation. One female victim fell in love with and eventually married one of the perpetrators. Murray Miron, a professor of psycholinguistics and experienced hostage negotiator and trainer of negotiators, comments (Miron and Goldstein, 1979):

> "As time progresses the victim and perpetrator begin to develop a rapport in which each begins to change his attitude towards the other. From the standpoint of the victim, this change of feelings has high survival value."

Perhaps the best-known illustration of this effect is the Patti Hearst kidnap incident, in which Hearst was held hostage by the 'Symbionese Liberation Army' in California. Over several months Hearst came to adopt the values and beliefs of her captors and eventually refused release, preferring to join the SLA in a series of violent escapades culminating in a shoot-out with police in which six SLA members died. Hearst was eventually captured unharmed, tried and jailed. (See accounts in Miron and Goldstein, 1979 or MacWillson, 1992)

The Stockholm syndrome can be explained in terms of identification with the aggressor, or of introjection or of transference. The term *identification* is used in various contexts in psychology, particularly with regard to child development, but here is best understood in the sense used by Kelman (1958) as a level of social influence in which people change their attitudes and beliefs in order to be more like someone they respect or admire. *Introjection* is described by Gross (1992) as a process:

> "whereby we come to incorporate into our own personalities the perceptions, attitudes and reactions to ourselves of our parents, and it is through the reactions of others that the child learns its conditions of worth, ie, which behaviours will produce positive regard and which will not."

Transference is the projection or displacement of repressed feelings onto another person (Gross, 1992). Referring to the phenomenon as it occurs between a patient in therapy and the therapist, Gross observes that it

> "can be positive, manifesting as childlike dependence, a passionate, erotic attachment and overestimation of the therapist's qualities ... or negative [anger, hostility and so on]."

Since the oppressor inevitably assumes a high significance in the victim's life during the incidents under discussion it is quite credible that such dependence or attachment might develop in such circumstances.

MacWillson (1992) observes that "the characteristics of the syndrome have been observed by psychologists in many sieges and hijacks over through [*sic*] the 1970s and 1980s" but also comments:

> "Not all observers agree that the syndrome is significant however. Some feel that it is just the tendency of frightened or confused people not to annoy their jailers."

Whether or not something related to the Stockholm syndrome occurs between prisoners who are allowed to exercise authority and those who grant them that authority is not an issue to be explored here. The severity of such people towards their fellow inmates impressed Bettelheim and recurs in other accounts which are cited below.

At the other extreme of reaction Bettelheim (1988) describes the so-called "Musselmänner" ["moslems"]; a name given to prisoners who gradually lost contact with the environment and gave up all attempts to control or influence any aspect of their lives. Their emotions became dulled and eventually atrophied completely. When this happened the prisoner soon died.

Bettelheim observes that strong religious beliefs could help individuals and groups to maintain their moral codes and yet survive in the harsh environment, giving as an example the Jehovah's Witnesses, whose 'crime' was to refuse to bear arms. As a Freudian Bettelheim must have been aware of Freud's view that:

> "Devout believers are safeguarded in a high degree against the risk of neurotic illnesses; their acceptance of the universal neurosis spares them the task of constructing a personal one" (Freud, 1927).

The theme of Bettelheim's observations is that, in the extreme conditions of the concentration camps, where brutal slave labour, starvation, torture, murder, exposure and degradation were the normal currency of daily life, the retention of some inner core of personality, however secret it might have to be kept, gave a strength which might make the difference between survival and death. Key to retaining this core was to have control over some aspect of life, however trivial, which let the prisoner know that there were still some decisions over which he had a degree of control; that he still functioned as a human being. This view is endorsed by Benner, Roskies and Lazarus (1980) who assert that:

> "The most severe trauma of the concentration camps ... lay in the fact that the suffering experienced there could not readily be given life-supporting meaning, either in terms of individual sins of omission or commission, or in terms of the grand design of the universe."
>
> "Even though the camps were designed to remove any vestige of meaning, worth, autonomy and control, almost all survivors report that finding some purpose to one's existence seemed to aid survival."

As for the effectiveness of the work performed by the camp inmates, Bettelheim is dismissive. He recounts an incident (after his own release) in which on Himmler's orders a railway was to be constructed between Buchenwald and Weimar. A deadline of three months was set, which the first SS officer charged with the job said was impossible. He was replaced and the new officer set the prisoners to work under a regime of constant beatings and a total disregard for safety which led to many serious accidents. The deadline was met but when heavy locomotives

were run over the track it subsided.

> "Part repairs proved insufficient and virtually the whole track had to be rebuilt, which took six months. So much for the efficiency of slave labour" (Bettelheim, 1988).

Bettelheim points to the physical and psychological exhaustion of the prisoners whose work was

> "purposeless, extraneously enforced, without reward, repetitious and utterly boring - the more so because its results could never be enjoyed or provide recognition" (Bettelheim, 1988)

Bettelheim's experiences and observations in Nazi concentration camps are very closely paralleled by those of Alexander Solzhenitsyn in Soviet ones (Solzhenitsyn, 1974). Like Bettelheim, Solzhenitsyn records the systematic degradation in the early stages of imprisonment, the [literally] vital importance of getting allocated to "survivable" labour duties, the tyranny exercised by prisoners given some degree of authority over their fellow prisoners, and the passivity with which the condemned went to their deaths.

The concentration and labour camps of the mid-twentieth century totalitarian regimes provide a benchmark for some of the most extreme conditions under which men and women may be set to work. However, Bettelheim and Solzhenitsyn are agreed that the initial purpose of the concentration camps was one of social control; that is, control of the 'free' civilian population. Bettelheim describes in some detail the publicity given in Germany to the camps and the attitudes of the general population to their existence. Naturally, use was made of the captive labour force to undertake various kinds of work, but production was not normally the primary objective.

The institution of slavery, in contrast, has always been principally directed towards economic ends. Slavery in a variety of forms collectively known as unfree labour, has existed throughout recorded history and still persists today. The strength of fifth century BC Athens, arguably the fountainhead of western civilisation, rested to a great extent upon the wealth produced by slaves working in atrocious conditions in the Laurium silver mines (see, for example, Boardman et al, 1988).

Curtin (1990) discusses forms of labour which may be defined as slavery, pointing out the different characteristics of the closely-supervised gang work seen in the Americas, the use of slaves in the Muslim world as domestic servants and in harems and their employment as semi-autonomous agricultural workers in parts of Europe. Where exactly the line should be drawn which differentiates slavery from other kinds of subservient labour may be open to some debate. Curtin (1990) outlines the difficulty in defining the basic terminology:

> "But the term 'slave' creates problems. In common use, it usually means a person over whom another person holds rights, which are, in turn, transferable to a third party in return for payment. But this simple matter of saleability is not always the most important characteristic of human institutions of social subordination. Serfs on medieval manors in northern Europe were social subordinates, but normally they could only be transferred along with the land they worked. Wives in many societies had no more rights than slaves, but they were frequently hard to transfer."

Ste Croix (1988) also addresses this difficulty but accepts as “a brilliant piece of drafting” the wording of the definition of slavery produced by the 1926 League of Nations Slavery Convention: “[the] status or condition of a person over whom any or all of the powers attaching to the right of ownership are exercised.” - a definition which can be applied regardless of the legality or otherwise of the de facto power being exercised and taking-in a wide range of forms of servitude.

Adam Smith commented in *The Wealth Of Nations* (1776) on the continued practice of serfdom in eastern Europe:

> “This species of slavery still subsists in Russia, Poland, Hungary, Bohemia, Moravia and other parts of Germany”

Serfdom lingered on in Russia until 1861, but most of the image of slavery held by modern westerners is derived from the use of African slaves in the new world. Patterson’s (1967) detailed study of negro slavery in Jamaica presents a grim picture of ruthless exploitation supported by a variety of threats including routine floggings, starvation, exhausting seasonal labour and barbaric punishments for disobedience. Serious crimes such as rebellion could result in death by burning, or mutilation. Walvin (1983) confirms that similar measures were employed in other West Indian slave societies and in the southern USA to control what were proportionally large slave populations.

It was usual for slaves to be appointed to oversee the work of other slaves and these foremen, or “drivers,” were often feared by their subordinates. Patterson (1967), quoting a contemporary (1824) source, comments that “it was not unusual for the greatest villain to occupy this post,” and cites various abuses ranging from sadism and sexual exploitation through to the use of other slaves to work the driver’s “provision ground” [land assigned to a slave to grow his own food].

Family bonds were discouraged in Jamaica [the island’s white society was itself notably deficient in this respect according to Patterson] but in the USA such ties were often encouraged. This made the slaves vulnerable to the threat of separation from loved ones, a threat which frequently became reality as expansion of the plantation system in the southern states increased the demand for able-bodied male slaves and hence raised their cash value to their owners in the more established estates further north (Curtin, 1990).

Subjected to the cruelties of slavery many slaves simply gave up. Walvin (1983) refers to the high incidence of suicide both aboard the slave ships and on the plantations, and Patterson (1967) confirms this with examples from contemporary sources (1760 to 1790). Other forms of resistance were possible for slaves, however. Walvin (1983) comments:

> “Among Roman slaves [and later among Afro-American slaves] the most common form of slave resistance took the form of guile, lying and indolence. ... personal or communal foot-dragging which hindered their owners’ economic aims ... gave slaves a decisive role in their own lives.”

In Jamaica a dialect word. *quashee,* emerged for a characteristic pattern of behaviours

attributed to the negro slave. Amongst the traits of quashee were: “deceit, low cunning, contempt for truth, theft and lying” (Patterson, 1967). Patterson quotes a contemporary source to comment upon the effectiveness of the slave labour force:

> “A negro, without much violence of metaphor, may be compared to a bad pump, the working of which exhausts your strength before you can produce a drop of water.”

Freedom, on the rare occasions when it was offered to new world African slaves, could be a mixed blessing. Patterson (1967) comments that

> “The Jamaican slave was, rightly, cynical about the whole idea of manumission. It was easy for him to see that the free negroes about him possessed little more that a beggar’s freedom.”

This was largely because freedom was normally only available to slaves who had prospered through some talent or fortunate circumstance, or had a kindly and generous master. In these cases slavery could be a relatively mild condition compared to which the rigours of making a living as a freed negro in a hostile society could be very unattractive. Another class of slave who might be freed was the old or disabled, whom the slave-owner no longer wanted to support. For these unfortunates ‘freedom’ often meant starvation and death. Patterson goes on to quote a contemporary (1827) source:

> “Freedom, joined with poverty and labour, is a thing they even ridicule; and I have more than once witnessed how much an independent, wealthy slave may look down on a poor freeman of his own colour.”

The comparison between the functional situations of the slave and the ‘free’ but totally dependent, poverty-stricken worker is illustrated by a reported observation by United States Consul Farman during the construction of the Suez canal in 1862:

> “The average pay for agricultural labour in Egypt is 10 cents per day, the labourer finding and preparing his own food. He has a mud hut but no clothes. Slaves are not profitable here, therefore, as they cannot be fed for a less sum” (Reiss, 1995).

This underlines Walvin’s (1983) remarks that:

> “By the late eighteenth century it was obvious to many commentators that slavery ... was at best open to economic criticism, at worst a patently unprofitable and inadequate system.”

This realisation has not necessarily worked entirely to benefit oppressed workers. Forms of labour which have much in common with actual slavery, for which the generic term ‘unfree labour’ is often used, are still common today.

> “The Anti-Slavery Society** believes that there are some 200 million people in the world today living and working in conditions that can be described as slavery, many more than when most countries abolished it in the second half of the nineteenth century. Only some are the traditional form of chattel slave, bought and sold like cattle on the open market, but the continued existence of such inhumanity at the end of the twentieth century comes as a surprise to many people. In Mauretania, the Arab people of the north purchase the Haratin people of the south to tend their

** This charity is now known as Anti-Slavery International

> fields for them. In the Sudan, famine and civil war have combined to drive the Dinka tribes from their land in the south, leading to many being sold into slavery. So cheap and plentiful is human life here that the price of a slave has dropped. In 1987, a girl was released for £45; in April 1988 a boy was reportedly sold for just £10, one sixth of the price of a rifle in the Sudan" (Lee-Wright, 1990)

Examples of current concern include child labour (see, for example, ASI, 1988, 1991; Challis and Ellman, 1979), debt bondage (Lee-Wright, 1990), enforced prostitution, including child prostitution and pornography (ASI, 1994a) servile and enforced marriage (ASI, 1994b) and oppressive domestic service (Anderson, 1993; ASI, 1994c). Lee-Wright (1990) draws attention to the plight of sugar plantation workers in Brazil and the Philippines who, he says

> "have never escaped the plantations where their ancestors were slaves, still living in the same rudimentary housing conditions and doing the same back-breaking work as a hundred years ago."

Lee-Wright suggests that in some ways the condition of these workers is worse than it was under slavery, because:

> "then the children were not units of production but were still fed. Today, people are only paid when they work, and do not work [or eat] when they are not needed."

World sugar prices slumped during the 1980s, which " increased the reliance on every member of the family working so that they all might eat."

These are not isolated instances, but are representative of a pattern of oppressive labour which is widespread and not apparently decreasing.

Fear as an element of work

Many occupations involve physical dangers of a very tangible kind; for example, the military, fire and police services, mining and construction work, oil and gas extraction, work with hazardous substances, railway and road maintenance, jobs involving the handling of cash such as bank, building society, post office, gambling establishment and petrol station work, and many other examples. The Health and Safety Executive [HSE] recorded 212 fatal accidents at work during the year 1993-4, and 13,674 "non-fatal major" injuries (HSE, 1995).

Road accidents are not included in the HSE figures, although occupations which involve driving necessarily carry increased risks of this type of accident (RoSPA, 1996). Criminal injuries are also excluded from the HSE figures. The Home Office 1992 British Crime Survey (Mayhew et al, 1993) suggests nearly 370,000 incidents of workplace violence during 1991, of which about a quarter involved workmates and most of the remainder involved members of the public who came into contact with workers during the course of their job. The survey suffers from some methodological difficulties but the authors believe that the figures are likely to be undercounted, especially where victim and offender are known to each other. The seriousness of incidents is not defined. A telephone survey carried out by the Institute Of Personnel And Development of 406 UK workers, split equally between men and women, found that 11% questioned had observed incidents of workplace violence, one third of which were physical, between employees

during the preceding year. 49% of respondents believed that increased work pressures had led to more violence at work. (IPD, 1995).

Police officers might be expected to be at particular risk of criminal injury in their working lives and several studies suggest that they themselves perceive this to be the case. For example, a survey carried out by Ernst and Young (1993, cited in Tuohy and Mitchell, 1995) indicated that the majority of police officers believed the risk of being assaulted on duty had increased over the preceding five years, and the annual report for 1992 of the Chief Constable of Strathclyde (cited in Tuohy and Mitchell, 1995) positively states that officers have "increasingly come under attack." The Ernst and Young survey reported that 60% of constables on patrol duties and 30% of all constables [in England and Wales] had been assaulted over a one-year period. However, Tuohy and Mitchell (1995) point out that police officers have special levels of protection under the law and the use of the term 'assault' need not imply that much actual harm was incurred. "Spitting at an officer or pushing him or her around are assaults." Also, any assault on a police officer is highly likely to be reported:

> "comparisons with the incidence of assault for members of the general public ... should be treated as highly approximate, since many minor assaults on the general public [eg, pushing, punching. or behaving in an otherwise threatening manner] are not recorded" (Tuohy and Mitchell, 1995).

The seriousness of a typical assault is indicated by Tuohy and Mitchell's analysis of Her Majesty's Inspector of Constabulary [HMIC] statistics since 1989:

> "in England and Wales, around 13% of the total police strength of approximately 125,000 officers are assaulted in the course of any one year. Only 17% of these reported incidents result in sick leave [and only 1% were considered serious], hence accounting for only 3% of all sickness absence" (Tuohy and Mitchell, 1995).

Tuohy and Mitchell's conclusion is that there is little evidence for the belief that assaults on police officers are on the increase, but that the perception that this is so is widely held by police officers and in the case of Strathclyde police (Tuohy and Mitchell, 1995), is instilled in them during their training. Thus it may be concluded that the perception of the threat of physical violence is an endemic part of a police officer's job.

The psychotherapist and counsellor Dorothy Rowe (1987) postulates that all fear, whatever form it takes, is based on one archetypal fear; the fear of personal annihilation. By this she means the extinction of the personality rather than simply death, since many people hold religious beliefs which tell them that death does not mean annihilation. Whilst this may be rather a philosophical statement than a scientific thesis [although Rowe might disagree], it nevertheless provides an allegory by which understanding of the various kinds of fear experienced in the workplace may be enhanced.

Dangers to the personality may arise from common threats in almost any workplace, including job-loss, which may have serious effects where occupation is closely associated with self-image and the esteem of others. Kates, Greiff and Hagen, (1993) argue that the "economic meaning" of a job, including both immediate remuneration and longer term financial provision, is only one

factor to be considered in relation to job loss. The “social meaning,” covering “opportunities for friendship, support and social contact ... escape from dissatisfying family or personal life ... a sense of belonging and acceptance ... a clearly defined identity that extends beyond the workplace” is also critical:

> “Work serves another function: it breaks up the hours of the day. If leisure is defined as the time spent not working, then without work there can be no leisure. And to a large extent, work and work behavior form the basis of societal organization.
>
> Thus the loss of a job can eliminate social contacts, friendships and support from the workplace, as well as the daily structure that working brings. These losses cause feelings of sadness, anger or guilt that in turn create a sense of isolation or alienation.”

A job also has “psychological meaning,” including opportunities for creativity, developing competence and mastery, and achieving responsibility, recognition and respect. Working and workplace behaviours “are internalised and become an integral part of a self-image.”

Where an individual relies on his or her job to a significant extent for any or all of these “meanings,” the loss of that job can seriously damage self-esteem and personality.

Summary

Responses which are physiologically very similar are modified by cognitive factors and experienced as different emotions, notably fear, anger and frustration.

Under conditions of oppression, such as slavery or punitive labour regimes, individuals may succeed in maintaining an inner core of personality by retaining some degree of control over their own lives, through their belief systems or through forms of covert resistance. Some individuals may adopt the norms of their oppressors, for example by ill-treating other victims over whom they have some form of power. Oppressive work regimes and “unfree labour” are commonplace in the present era.

Physical threat exists in many occupations, arising either because the nature of the work entails risks of accidental injury or because of exposure to potential violence. Non-physical, or personality-threatening risks are associated with the loss of the financial, social and psychological benefits which accrue from normal working life.

Chapter VI

STRESS AND THREAT

> "[Stress is] a reality like love or electricity - unmistakable in experience but hard to define" (Teasdale and McKeown, 1994).

The nature of stress

The term 'threat' is used rather freely in the stress literature (eg in Cooper, 1978; French et al, 1982; Cox 1993; or Williams, 1994), often as no more than a synonym for 'stressor'. Given the broad definition of threat postulated earlier: *the anticipation of impending change to a state less favourable than the status quo*, it is apparent that a liberal use of the term is not unjustified, although there are circumstances in which the status quo is itself stressful. The following pages will attempt to develop an understanding of the concept of occupational stress and its implications for individuals and organisations without rigorously distinguishing between threat and non-threat stressors.

Occupational stress "has been designated one of the top ten industrial diseases in the US" (British Psychological Society, 1988). Willcox (1994), comments that "previous research supports the view that at least 25% of the working population is psychologically stressed at any one time." If this is true it has serious implications for the health of society as a whole, a point acknowledged in the government document *The Health of The Nation* (HMSO, 1992) when it identifies mental health as one of the key areas needing to be addressed to enhance the nation's health.

The study of stress begins with a difficulty of definition. Williams (1994) describes 'stress' as "one of the most inaccurate words in the scientific literature" because it is used to describe "both the sources and the effects of the stress process." MacLean (1985) remarks that "the word is sometimes used to denote stressful events, sometimes to denote the effect of these events on work performance, and sometimes to denote an individual's reaction in terms of disordered health." This confusion permeates much of the literature. Not only is there "disagreement about the meaning of the term," there is "disagreement about how it should be measured" and there is a "lack of understanding about quite how aspects of the environment might actually make a person ill" (Marmot and Madge, 1987). These issues about the fundamental nature of stress preoccupied many researchers during the seventies and eighties as they tried to determine whether stress was a "characteristic of the environment, an experience felt by the person, or a transactional phenomenon created by the process of the person interacting with the environment" (Schuler and Jackson, 1986).

Lazarus (1971) had earlier observed that stress referred to such a broad class of problems:

> "any demands which tax the system, whatever it is, a physiological system, a social system or a psychological system, and the response of that system."

This was clearly a wide field for enquiry, to the extent that many researchers in the field "concluded that the concept of stress is no longer useful as a scientific construct" (Schuler and Jackson, 1986). Ten years later the term is still very much in use and there is greater consensus about its meaning.

If there has been difficulty in determining what stress is, then how to measure it has been even more problematical. According to Kasl (1987):

> It has been impossible to identify and agree upon a criterion, or more appropriately a set of criteria, for identifying the presence of a state of stress and then calibrating its intensity and duration."

Cox (1993) draws attention to the importance for general health of a state of balance between needs and demands, citing the World Health Organisation's definition of well-being:

> "a dynamic state of mind characterized by reasonable harmony between a person's abilities, needs and expectations, and environmental demands and opportunities" (WHO, 1986).

Assessing this "dynamic state of mind" however, presents great methodological difficulties, leading Cox (1993) to comment that "sadly, much of what is currently published on occupational stress and health is weak methodologically," the available evidence being based to some extent on cross-sectional studies where key variables are measured and linked only in terms of self-report (Kasl, 1992). Levi (1992), however, is adamant that "the individual's subjective assessment is the only valid measure of well-being available." Similarly, Lazarus and Folkman (1984) argue that " given the centrality of internal events and processes ... we are in favour of this method despite its scientific defects." Cox and Griffiths (1995) appear to apply this belief specifically to stress research when they argue that "the measurement of the stress state should be based primarily on self-report measures which focus on the appraisal process and on the emotional experience of stress." Instruments for collecting such self-report data in a systematic and rigorous way have been developed. One such widely-used and validated instrument (Robertson, Cooper and Williams, 1990; Cooper and Williams, 1991; Rees and Cooper, 1991) is Cooper's Occupational Stress Indicator [OSI], developed in the late 1980s. The OSI asks a total of 167 questions dealing with sources of stress, general behaviour, life events, control/influence, coping behaviour and job satisfaction. Computer software is used to analyse the answers to produce a coefficient index (see Willcox, 1994).

The study of occupational stress

Hans Selye is regarded by many as the father of stress research. His book *The Stress Of Life* (1956) did much to bring the concept into the public domain and his General Adaptation Syndrome [GAS] is one of the seminal concepts in the field. Selye (1974) described stress as "a state, manifested by a specific syndrome of biological events." He argued that it was *not* "nervous tension," nor the "discharge of hormones from the adrenal glands," nor "simply the influence of some negative occurrence." He also maintained that it was "not an entirely bad event." What stress *is*, according to Selye, is the nonspecific response of the body to any

demand on it for readjustment or adaptation. “Any kind of normal activity ... can produce considerable stress without causing any harmful effects” (Selye, 1974), later clarified as “the nonspecific [that is, common] result of any demands upon the body, be the effect mental or somatic” (Selye, 1982).

Selye’s neutral application of the term is not adopted by French, Caplan and van Harrison (1982), the authors of a major enquiry into the mechanisms of stress in the workplace. They use ‘stress’ only in negative contexts, to refer to

> “any of the following technical concepts: [1] objective misfit; [2] subjective misfit; [3] a variable in the objective environment which is presumed to pose a threat to the person; and [4] a variable in the subjective environment which the person perceives as threatening.”

Schuler and Jackson (1986) argue that stress is a function of uncertainty, a “perceived dynamic state involving uncertainty about something important.” They go on to define stress as:

> “the uncertainty that occurs at the organizational, unit, group, and individual levels. Uncertainty exists to the extent that knowledge about an event or condition requiring action or resolution is experienced as inadequate.”

This definition would not satisfy Edwards (1988) whose view of stress is as

> “a negative discrepancy between an individual’s perceived state and desired state, provided that the presence of this discrepancy is considered important by the individual.”

Uncertainty is not a factor here, but the perception of discrepancy between actual and desired states can be traced through all the post-Selye definitions quoted above. This theme is continued by Taylor (1992) who maintains that stress consists of

> “demands made upon us [internally or externally] which we perceive as exceeding our adaptive resources. If we try to cope and that is ineffective this gives rise to stress. If this stress is prolonged then lasting psychological and physical damage may occur.”

The demands that are being considered here are those that arise from the world of work, and in a more limited context, the work of a project manager. However, acknowledgement must be made at an early stage that work does not exist in some entirely separate dimension from other aspects of life. Cox (1993) warns against the “erroneous belief that work and non-work activities are unrelated in their psychological, physiological and health effects,” a misconception which Kanter (1977) calls “the myth of separate worlds.” Amongst the full range of potential stressors, though, work-related sources figure prominently (Dohrenwend and Dohrenwend, 1974; Link and Dohrenwend, 1980; Dohrenwend et al, 1988, or Cox, Watts and Barnett, 1981).

Much of the work leading Dohrenwend and his colleagues, and other researchers of the time, to their conclusions about the relative importance of various stressors was based on an assumption that “discrete, time limited ‘life events’ requiring change or adaptation are associated with the experience of stress” (Cox, 1993). Prominent amongst the proponents of this view, which is consistent with Selye’s early work, were Holmes and Rahe who produced in 1967 a “Schedule of Recent Life Events” ranked and scored in order of potential stressfulness.

The majority of the specific items in the Holmes-Rahe schedule are non work-related, the top item being “Death of spouse” [rated 100], followed by “Divorce” [rated 73]. Not all are negative; “Marriage”, for example, is placed seventh with a score of 50. The first specifically work-related item comes eighth: “Fired from work” [rated 47], which, interestingly, is only marginally more stressful than “Marital reconciliation” [ninth, rated 45]. Other work-related items are: “Retirement” [tenth, rated 45], “Business readjustment” [fifteenth, rated 39], “Change to a different line of work” [eighteenth, rated 36], “Change in work responsibilities” [twenty-second, rated 29], “Trouble with boss” [thirtieth, rated 23] and “Change in work hours/conditions” [thirty-first, rated 20]. (Holmes and Rahe, 1967).

Maclean (1985) believes these “life change units” to be “useful predictors of susceptibility to subsequent illness,” arguing that “the approach has held up remarkably well in a wide range of samples of people from several countries and cultures.” Cox (1993), however, dismisses life event scales as indicators of the importance of work stressors on two grounds. Firstly, because “it is now widely thought that the primary stressors facing most employees in the course of their working lives are chronic rather than acute.” In other words, single events are far less significant than ongoing conditions and situations. Secondly, “rankings of life events are context dependent” and are therefore meaningful only if all circumstances are known and their relative influences assessable. Lazarus and Folkman (1984) argue that

> “Life events have little practical significance in the prediction of health outcomes, even though such prediction is the primary reason for using life events indexes”

and go on to maintain that their research has demonstrated, “in a regression-based comparison of life events and daily hassles, that hassles are far superior to life events in predicting psychological and somatic outcomes.”

The interlinking of work and non-work factors in their effects upon an individual has already been noted and is reinforced by one finding of a survey of 109 British companies by the mental health charity MIND (MIND, 1992) in which 63% of the companies surveyed said they believed that problems at work caused equal or more stress than personal problems. This prompts another definition, of *occupational* stress. Weiman (1977) suggests:

> “Occupational stress is the sum total of factors experienced in relation to work which affect the psychosocial and physiological homeostasis of the worker. The individual factor is termed a stressor and stress is the individual worker’s reaction to stressors.”

French, Caplan and van Harrison (1982) enhance this definition by pointing out that the term ‘occupation’ is “really a surrogate for a variety of characteristics of the job and of the person,” reinforcing the concept that stress is a multivariate phenomenon as well as being a term which is applied in a variety of different ways.

To introduce some order to the terminology some writers have distinguished between ‘stress’, which they reserve mainly for inputs, and ‘strain’, which they apply to outcomes. Thus Cummings and Cooper (1979) defined stress as:

> "any force that puts a psychological or physical factor beyond its range of stability producing a strain within the individual. Knowledge that a stress is likely to occur constitutes a threat to the individual. A threat can cause a strain because of what it signifies to the individual."

Similarly, Beehr and O'Hara (1987) suggest using 'stressor' rather than 'stress' to refer to causal factors because "few people misinterpret stressor to mean the person's reaction." They reserve the word 'strain' to mean specifically the "adverse reactions of the individuals to the ... stressor." Fletcher (1988) picks up this distinction and uses 'strain' to mean "the state of being stressed as evidenced by physiological, psychological or medical indices," whilst Karasek and Theorell (1990) define strain as "an overload condition experienced by an organism's control system when it attempts to maintain integrated functioning in the face of too many environmental challenges."

Cox's (1993) broader use of the term 'stress' might be replaced with the more precise term 'strain' in his summary:

> "Stress arises when individuals perceive that they cannot adequately cope with the demands being made on them or with threats to their well-being (Lazarus, 1966, 1976; Cox, 1990), when coping is important to them (Cox, 1978) and when they are anxious or depressed about it" (Cox and Ferguson, 1991).

Cox and Griffiths (1995) propose a "unifying concept of the stress process" which would allow these factors to be understood in their context, both temporally and as they inter-relate systemically, "beginning with ... antecedent factors and ... the cognitive perceptual process which gives rise to the emotional experience of stress" and then considering "the correlates of that experience." The following pages will explore the components of that process in more detail.

Foundations of stress research

According to Karasek and Theorell (1990) two "classic theories on stimulation and performance ... still form the basis of much contemporary stress theory." These two theories are Selye's General Adaptation Syndrome (Selye, 1952, 1956, 1974, 1976 and 1982) and the 'Inverted-U Hypothesis', otherwise known as the Yerkes-Dodson Law (Yerkes and Dodson, 1908, cited in Hockey and Hamilton, 1983 and in Lazarus and Folkman, 1984).

The General Adaptation Syndrome [GAS] states that, in response to a stressor, an initial 'alarm reaction' is followed by a 'stage of resistance' in which resistance to the original stressor builds up but ability to resist new stressors is lowered. Eventually a 'stage of exhaustion' sets in which ends in catastrophic inability to cope with *any* form of stress (Selye, 1952). Gray (1991) models the General Adaptation Syndrome diagramatically:

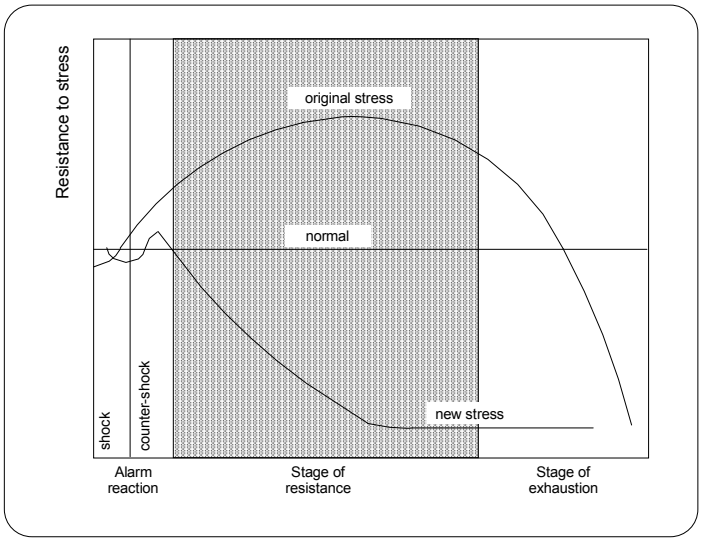


Exhibit 8 Selyes's General Adaptation Syndrome
Source: Gray (1991)

Selye clarifies the complete model thus:

> "It is not necessary for all three stages to develop before we can speak of a GAS; only the most severe stress leads rapidly to the stage of exhaustion ... Most of the physical or mental exertions, infections, and other stressors that act upon us during a limited period produce changes corresponding only to the first and second stages. At first the stressors may upset and alarm us, but then we adapt to them" (Selye, 1982).

Selye's model has been the inspiration for later researchers, and has contributed to the development of understanding. It has, however, the fundamental weakness of being essentially a static model. It assumes that the stressors acting upon an organism must be endured; that the changes which eventually occur, either towards adaptation or towards collapse, occur within the subject organism. When applied to man [and presumably to many of the higher animals] there are alternative and additional possibilities for change. Williams (1994) remarks:

> "The General Adaptation Syndrome assumes that each individual will react to a stressful situation in a certain way. It fails to take into account the individual's ability to interpret a threat as a source of pressure and act to change his situation."

This ability is referred to as *coping*, and will be discussed in more detail below.

The second of the two "classic theories" cited by Karasek and Theorell (1990) is the Inverted-U hypothesis, or Yerkes-Dodson law. This states that there is an optimum level of arousal for any task, which will be lower as the difficulty of the task increases (Hockey and Hamilton, 1983). This is consistent with Selye's GAS in that the need to perform a task, which need may here be considered to be a stressor, causes an arousal which builds up towards a maximum and then declines. This is accompanied by an increasing ability to deal with the task, again up to a maximum level, after which performance declines. Hockey and Hamilton (1983) offer an explanation of this:

> "The general form of the Inverted-U function is said to result from an increasing reduction in the processing of environmental information as arousal level

> increases, starting with peripheral or secondary sources, then restricting the use of even primary task information."

This increasingly narrow focus on the task in hand, producing more effective performance, is again consistent with Selye, and the decline in performance as the focus becomes dysfunctionally narrowed until the ability to process any information eventually ceases is consistent with the decline into the exhaustion stage postulated by Selye. The observation that the more difficult the task the lower the optimal arousal level may simply reflect the fact that more difficult tasks commonly require the processing of more information and/or information of greater complexity.

Again, this model is now held to be rather too simple, but is respected as the inspiration of later theorising and research. Hockey and Hamilton (1983) remark that "it is now apparent that stressors affect performance in ways which cannot be fitted comfortably into the simple arousal generalization." Eysenck (1983) argues for the influence of anxiety as one such performance moderator:

> "Contemporary wisdom now holds that anxiety affects performance by producing changes in the selectivity and/or intensity of attention; within such an approach, anxiety can affect both the learning or acquisition of information and its subsequent retrieval."

Cox (1993) summarises three approaches to the study of stress. Firstly, an "engineering" model which sees stress as a characteristic of the work environment or "some aversive [threatening] or noxious element of that environment," that is, as a cause of strain (Cox and Griffiths, 1995). Secondly a physiological model which views stress as a set of responses to threat or aversive/noxious stimuli, or as a "generalised and non-specific physiological response syndrome and as a dependent variable" (Cox and Griffiths, 1995). This is the approach that logically arises from Selye's work. Cox (1993) argues that the engineering and physiological approaches are outdated because they do not adequately account for the available data. He observes that they "rely on simple stimulus-response paradigms" and ignore perceptual and cognitive processes.

The third approach to the study of stress identified by Cox (1993) is a psychological, cognitively-based model. Cox and Griffiths (1995) describe two main variants of this model which they say "dominate contemporary stress theory." These are transactional and interactional paradigms. The interactional paradigm "focuses on the structural features of individuals' interactions with their work environment" whilst the transactional model is "more concerned with the psychological processes underpinning those interactions" and is "primarily concerned with cognitive appraisal and coping." These two models are not, of course, mutually exclusive, but represent different priorities in the researchers' attention. Schönpflug (1983) comments:

> "Transactional models of stress have treated external stressors like work load, time pressure, or painful life changes as task demands ... External demands, however, cannot operate on an individual unless they have been identified by him and internalised to become part of his set of internal demands."

These internal and external elements are summarised by Cox (1993) in a five-stage transactional model[††] representing, in stage 1, sources of demand [part of the environment] faced by the individual, in stage 2, the individual's perceptions of those demands in relation to his/her ability to cope, in stage 3, the psychological and physiological changes associated with recognition of stress arising from stage 2, including perceived ability to cope, in stage 4, the consequences of coping, and in stage 5, the general feedback [and feed forward] that occurs in relation to all other stages of the model. .

Williams (1994) represents this as a dynamic model:

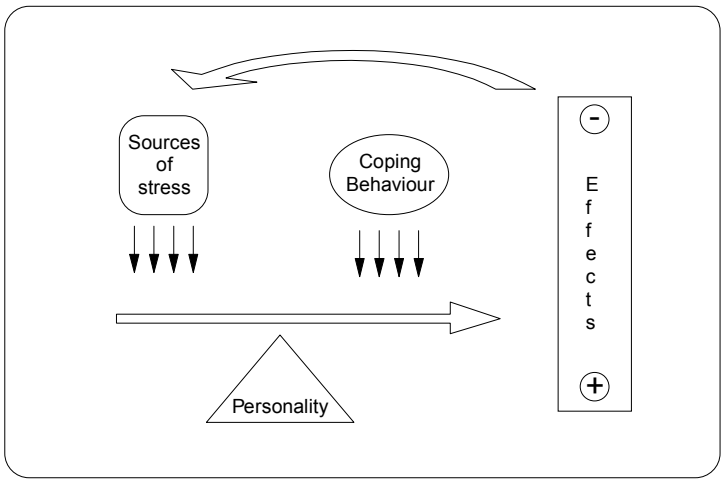


Exhibit 9 Stress Processes

Source: Williams (1994)

In this model an indicator rests on the fulcrum of personality. Sources of pressure and coping behaviours both exert downward pressure on the indicator on either side of the fulcrum and the positive or negative effects of this contest feed back to add weight either to the sources of stress or to the coping mechanisms. Clearly the position of the fulcrum; the individual's personality attributes, has a very significant influence on the potentiality both of the sources of stress and of the coping behaviours.

Cox (1993) emphasises the importance of the feedback loop in models of this kind:

> "if individuals [a] realise that they are failing to cope with the demands of a task, and [b] experience concern about that failure because it is important, then this is a 'stress' scenario. The effects of such stress might then cause a further impairment of performance over and above that caused by lack of ability."

This has particular significance in considering threat as a source of stress because a fear of specific consequences of failure may be a strong reason to experience concern.

Prominent among interactional theories of stress are those which concentrate on the degree of match or mismatch between the individual and his or her environment. A major contribution to this research was made by French, Caplan and van Harrison (1982) who defined the key elements in the person-environment 'system' as [a] the extent to which an employee's abilities

[††]Cox's model is reproduced diagramatically in Appendix D

and attitudes meet the demands of the job, and [b] the extent to which the working environment meets the employee's needs, especially in respect of the encouragement the worker is given to make use of his or her knowledge and skills. French et al conclude that stress is likely to occur when there is a poor 'fit' in one or both dimensions. It should be noted that stress arises when the employee *perceives* there to be a mismatch. There may, of course, be discrepancies between objective or externally-observed reality and subjective perceptions.

It can be seen that stress is a field of study which to which a variety of research paths have contributed knowledge and understanding. These various approaches focus in turn upon different contributory factors in the experience of stress but these factors must be brought together and their inter-relationships assessed before cases of specific individuals and organisations can be properly understood. Kahn and Byosiere (1991) model a "theoretical framework for the study of stress in organizations" which traces a causal path beginning with organisational antecedents to stress, through the physical and psychosocial stressors which exist in organisational life, the perceptions and cognitions of the individual, and the physiological, psychological and behavioural responses of the individual to the "ramifying consequences" of stress in terms of health and organisational effectiveness. This "pathway" is subject to mediators, such as personal properties/characteristics and situational factors, at several points. Kahn and Byosiere's point is that the visible outcomes of stress are the product of a complex multivariate influence system which must be studied methodically if a specific situation is to be understood.

Stressors, threats and occupation

> "The work environment includes a constellation of psychological factors which are likely to interact in different ways in different jobs for different people. Epidemiological methods cannot reveal such interactions: that is a limitation of the discipline, not of the methodologies." (Fletcher, 1988).
>
> "a variety of dissimilar situations - emotional arousal, effort, fatigue, pain, fear, concentration, humiliation, loss of blood, and even great and unexpected success - are capable of producing stress; hence, no single factor can, in itself, be pinpointed as the cause of the reaction as such." (Selye, 1982).

Because there is such a wide range of factors which contribute to the experience of stress, many researchers have sought to categorise them (eg Cooper and Marshall, 1976, 1978 [5 categories]; Quick and Quick, 1984 [4 categories]; Burke, 1988 [6 categories]; Sutherland and Cooper, 1988 [6 categories]; Kasl, 1992 [10 categories]). There is considerable overlap between these taxonomies but Sutherland and Cooper's (1988) may serve to summarise:

Factors intrinsic to the job	eg	physical demands [noise, vibration, temperature variation, humidity, ventilation, lighting, hygiene, climate].
Task factors	eg	shift/night work, workload, long hours, new technology, repetitiveness, monotony and boredom and experience of risk and hazards.

Role of the individual in the organisation	eg	role conflict, role ambiguity, responsibility [for people and/or things].
Relationships and interpersonal demands	eg	with supervisors, colleagues and/or subordinates.
		[Sutherland and Cooper do not mention non-work social factors such as support from family and friends. Logically these might be included as an extension of this category].
Career	eg	job insecurity, status incongruity [under/over promotion].
Organisational structure and climate	eg	participation in decision-making.

Each of these categories of stressor is examined in more detail below, although they are found to be inter-related to a considerable extent and continuity is helped if they are dealt with in a different order to Sutherland and Cooper's list.

MacLean (1985) argues that the relative importance of three factors must be considered in any study of occupational stress: stressors, the individual's vulnerability, and the context in which the stressor-vulnerability interaction is taking place. These three factors will change over time, and it is the combination of factors which leads to a stress response, or strain. Thus, an individual may at a particular time be vulnerable to suffer from stress for some reason, and the context in which the individual is placed *at that time* may be conducive to stress/strain, but without a stressor *at that time*, no symptoms will be present. Similarly, the context may be conducive to stress/strain at a given time, but if the individual is not *at that time* vulnerable, then again no symptoms will be present. Only when all three factors are present together will a symptomatic response occur. MacLean represents this interaction as a three-circle model:

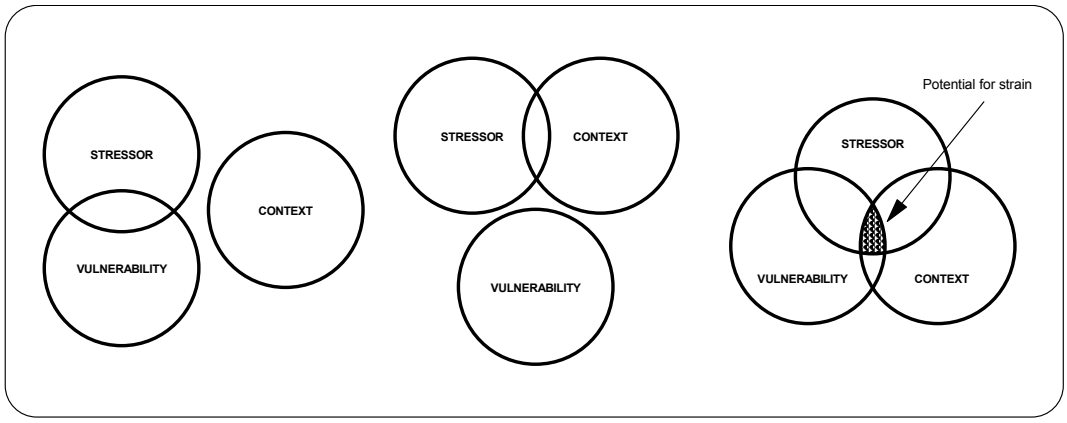


Exhibit 10 Interaction of Stress Factors after MacLean (1985)

Lazarus and Folkman (1984) concur that "to produce stress-linked disease other conditions must also be present such as vulnerable tissues or coping processes that inadequately manage the stress." They draw attention to the "individual and group differences" in the kinds and degrees of reaction to stress that are observed, even though "certain environmental demands and pressures produce stress in substantial numbers of people." The Sutherland and Cooper (1988) taxonomy is deficient to the extent that vulnerability is not explicitly addressed. Vulnerability may be affected by context, or life events, in the sense that someone who is already experiencing strain either at work or in private life may be more vulnerable to the effects of a new stressor. Sauter, Murphy and Hurrell (1992) argue that "situational and personal variables moderate the effects of stressors," citing as examples of such moderators life events, family problems and financial difficulties. It may also be affected to a great extent by personality characteristics or traits. These will added to the taxonomy for the purpose of this review.

Personal characteristics

Sutherland and Cooper (1988) maintain that " the impact of a stressor is not invariant" and list some modifiers, including personality [extroversion/neuroticism, anxiety, self-esteem], behavioural style [locus of control, Type A], needs and values, ability and experience, ethnicity, age, and physical condition. Payne (1988) groups these "individual difference" variables into genetic characteristics [physique, constitution, reactivity, sex, intelligence, introversion], acquired characteristics [social class, education, age], and dispositional characteristics [trait anxiety/neuroticism, Type A, self-esteem/self-image, locus of control, flexibility, coping style, extroversion]. Williams (1994) finds three areas of individual difference: Type A/B personality, locus of control and hardy personality. The influence of these concepts on the understanding of occupational stress has been considerable.

The Type A Behaviour Pattern

In 1974 Friedman and Rosenman published the results of a major longitudinal study of the relationships between personality variables and coronary heart disease [CHD]. They found a strong correlation between a group of observable behavioural characteristics, which they called

the Type A behaviour pattern [TABP] and the development of CHD. They summarised the TABP as an "action-emotion complex" observable in any person who is "aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against the opposing efforts of other things or other persons." (Friedman and Rosenman, 1974). An ability to do several things at once ["polyphasic activity"] is also identified as very typical Type A behaviour. Powell (1987) summarises characteristic overt Type A behaviours to include:

> "drivenness, extremes of competitiveness, aggression, easily aroused irritabilities, work orientation, preoccupation with deadlines, and a chronic sense of time urgency. Type A individuals appear to be guarded, alert, and intense, with rapid and jerky body movements, tense facial and body musculature, and explosive speech."

Cox (1993) summarises Type A characteristics as:

> "1. A strong commitment to work and much involvement in their job.
>
> 1. A well-developed sense of time urgency [always aware of time pressures and working against deadlines]
> 2. A strong sense of competition and a marked tendency to be aggressive"

and comments: "such behaviour is probably learnt, and is often valued by and maintained through particular organisational cultures."

Williams (1994) observes that TABP is:

> "highly regarded in the western world ... Recruitment and promotion systems tend to reward Type A behaviour, and interviewers see some of these traits as positive indicators of success."

On the other hand, Williams (1994) claims that people who do not show the TABP "seem more able to cope with pressure than Type As" and do not perform any worse. He reports a study of 355 life insurance agents which found similar performance levels in Type As and others, with Type As reporting more health complaints.

Powell (1987) remarks that too little is known about the environments which promote the TABP. It is assumed that they must present a challenge, but what individuals find challenging varies. Powell also regrets that little is known about the "psychological underpinnings" of Type A individuals. He speculates that a need for control may be involved, or "enduring hostile attitudes" such as paranoia or cynicism, and concludes that the answers are likely to be complex.

Friedman and Rosenman (1974) defined the opposite of Type A, someone who is "completely free of all the habits and exhibiting none of the traits of the Type A personality," as Type B. Powell (1987) finds this unsatisfactory:

> "In contrast to the complex conceptualization, the Type A operationalization is a simple dichotomy - either the individual has it [is Type A] or does not have it [is Type B]. Varying degrees of Type A behaviour are collapsed within category. This rough categorical conceptualization emerged from early attempts to measure the

> TABP. It does not necessarily represent the best or most accurate way to evaluate individuals."

Powell regrets the difficulty in finding precise measures, which are available for other CHD risk factors, pointing out that "in general, the self-report measures of TABP assess competitive, hard-driving, and impatient components of Type A, but not anger and hostility." The latter attributes have, according to Powell, in any case been "conceptualized by some to be distinct."

> "Anger refers to an emotional state consisting of feelings varying in intensity from irritation to rage, and hostility refers to an attitudinal set, perhaps even a personality trait, which stems from an absence of trust in the basic goodness of others and centres around the belief that others are generally mean, selfish and undependable." (Powell, 1987).

Payne (1988) shares Powell's reservations about the measurement of TABP and argues that "difficulties of developing good measures of Type A may partly account for the fact that the relationships between Type A and reports of psychological strain may vary," whilst accepting that

> "the weight of the evidence is that for Type A persons the relationship between reported stress and strain is stronger, and is so for both psychological strains and some physical strains. For Type Bs the relationships are either much weaker in size, or come close to zero."

Ivancevich and Matteson (1988) also question the "assumption underlying the conceptual and empirical work surrounding TABP ... that perhaps Type A behaviour can be reduced to a single unifying trait" which, they say, "does not appear to fit the data."

> "Instead the evidence available appears to suggest that TABP is a multidimensional phenomenon, including an array of overt behaviours, cognitive styles, behaviours in response to environmental demands and physiological concomitants" (Ivancevich and Matteson, 1988).

Williams (1994) follows Powell in suggesting that there are two contrasting sub-components of Type A behaviour which should be considered separately: the "achievement-striving pattern" and the "impatient-irritability pattern." The former is positive and leads to successful performance outcomes, the latter is negative and may lead to adverse health outcomes.

The value of TABP assessment as a predictor of somatic outcomes is disputed, mainly because links between TABP and "hard CHD endpoints" (Powell, 1987) such as death or myocardial infarction [ie, actual damage to the heart] are observed in only half of all studies (Payne, 1988).

Locus of control

The concept of locus of control (Rotter, 1966) is rather simpler to describe. Williams (1994) defines it succinctly:

> "Internal control is when you feel that you make things happen. External control is when things happen to you. It's the difference between managing your life and having it managed for you."

The concept of locus of control is based on social learning theory (Bandura, 1977a; Sutherland and Cooper, 1988). An individual learns from his or her environment through "modelling" and past experience. Reinforcement of certain behaviours affects expectancy and expectancy leads to behaviour. Williams (1994) argues that the understanding of locus of control and its relationship to stress

> "has been refined by introducing the concept that it is the difference between the amount of control individuals think they should have and the amount of control they actually have that causes the stress reaction"

Phares (1976) found that "in contrast to externals, internals exert greater efforts to control their environment." That is to say, people who believe they can exercise control over their situations make greater attempts to do so. They also:

> "exhibit better learning, seek new information more actively when the information has personal relevance, use information better, and seem more concerned with information rather than with social demands or situations" (Phares 1976).

Phares believes that, as a consequence, people with internal locus of control perceive less stress in their environments than externals. Karasek and Theorell (1990) argue that challenge, or mental arousal, is a prerequisite for effective learning and identify control as a moderating variable determining whether effective learning or psychological strain will follow environmental demands. They go on to say:

> "demands and challenges associated with lack of control are not associated with increased learning; they are thus not positive challenges. For example, uncertainty over market changes that might lead to job loss would be considered a stressor by many people. Following our criterion, however, these are not the type of challenges that one can easily learn from, because they are unpredictable and beyond one's control."

Krause (1986) found in a study of 351 "older adults" that internals reported fewer negative life events than externals. He suggests that this was because they tended to initiate actions to avoid such events. That is, they tended to exercise the control they believed themselves to have. Krause did find, however, that people with extreme leanings towards either external or internal locus of control showed more depressive symptoms than "moderates." Krause comments that being "high internal" is something of a mixed blessing in that whilst it promotes stress avoidance it can also lead to self-blame when things do go wrong.

Kasl (1987), dealing principally with health care issues, regards the simple internal/external dichotomy as originally proposed by Rotter (1966) and measures associated with it as "too broad and unworkable for understanding health-relevant behaviours" and advocates more specific scales for different types of behaviour. He suggests as examples a locus of control scale for compliance with medication, one for acquiring and maintaining health habits and one for participation in health screening, and so on.

Hardiness

Kobasa (1979) defined the attribute of "hardiness" as a "stronger commitment to self, an attitude of vigorousness towards the environment, a sense of meaningfulness, and an internal locus of control." She later expanded this description in the following terms:

> "Persons high in hardiness easily commit themselves to what they are doing [rather than feeling alienated], generally believe that they can at least partially control events [rather than feeling powerless], and regard change to be a normal challenge or impetus to development [rather than a threat]. In the perception and evaluation of stressful life events, hardy persons find opportunities for the exercise of decision making, the confirmation of life's priorities, the setting of new goals, and other complex activities that they appreciate as important human capabilities. Further, they are capable of evaluating any given event in the context of an overall life plan. Their basic sense of purpose and involvement in life mitigates the potential disruptiveness of any single occurrence." (Kobasa and Puccetti, 1982).

In a study of 161 "middle and upper level executives" Kobasa (1979) found that high stress was associated with a low incidence of illness in executives showing higher levels of hardiness, and with high illness rates in executives showing lower levels of hardiness. In further studies (Kobasa, 1985) she identified three key characteristics of hardy personalities: commitment, control and challenge. She defined commitment as "the ability to believe in the truth, importance and interest of what one is and what one is doing and thereby the tendency to involve oneself fully in the many situations of life, including work, family, interpersonal relationships and social institutions." Control is "the tendency to believe and act as if one can influence the course of events" and challenge is "the belief that change, rather than stability, is the normative mode of life." As a result of extended research she concluded that

> "among people facing significant stressors, those high in hardiness will be significantly less likely to fall ill, either mentally or physically than those who lack hardiness or who display alienation, powerlessness and threat in the face of change." (Kobasa, 1985).

Other personality attributes

Several personality attributes have been found to influence the ability to resist illness and have therefore been included in studies of stress as possible moderators of the deleterious effects of strain.

Payne (1988) cites various studies of optimism/pessimism, which appear to indicate a negative correlation between optimism and physical symptoms reported up to two years later. Cox (1993) refers to several studies from the early 1980s associating "hostility, repressed hostility or potential for hostility" with cardiovascular symptoms. A review by Costa and McCrae (1985), however, of several studies of CHD patients found neuroticism to be a good predictor of chest pain, but not of death from CHD or of myocardial infarction, suggesting that such symptoms need to be carefully evaluated before conclusions are drawn. Pratt (1976), in studies of primary school teachers, found significant correlations between reported stress and both neuroticism and extroversion. However, Humphrey (1977) found that neuroticism scores [using the Eysenck Personality Inventory] tended to increase when an individual was experiencing stress, so

although the correlation is established, causation is not. Payne (1988) found that higher neuroticism and higher trait anxiety correlated to external locus of control. Following studies of unemployed men, he regards neuroticism as a confounding factor in relating locus of control to psychological strain, again because of the difficulty in establishing causation:

> "three concepts [negative affectivity, Type A and locus of control] all relate to each other, so any conclusions drawn for any of them are ... open to the attack that a third variable might be the real cause. If a case were to be made for any of these three as the fundamental underlying variable then negative affectivity would appear to be the strongest candidate" (Payne, 1988).

Organisational structure and climate

Kanter (1983), discussing the impact of change on [American] managers, argues that they see change as a threat:

> "They feel at the mercy of change or the threat of change in a world marked by turbulence, uncertainty and instability, because their comfort, let alone their success is dependent on many decisions of many players they can barely, if at all, influence."

Cox (1993) comments that it is not clear from the literature whether change per se is stressful or hazardous to health and well-being, or whether "its possibly stressful nature is due to the uncertainty and lack of control which it often represents." Winkfield (1995) surveyed 1231 people about their attitudes to change at work. 57% agreed that they could cope with changes "if they knew what was going on." 35% agreed that they were under more stress now because of changes, although 45% agreed that changes at work meant new opportunities. Similarly, researchers for a BBC television programme (BBC2, 1995) found that bank employees regretted the loss of personal contact with customers brought about by changes in working practices, and the reductions in their personal decision-making powers which they had experienced, as well as increasing pressure due to the more competitive nature of their industry.

Schuler and Jackson (1986) attributed a range of stress symptoms to uncertainty, noting that "the event about which uncertainty exists may be associated with potentially important positive or negative outcomes." Cox (1993) believes that uncertainty "may partly underpin the effects of other hazardous job characteristics; for example uncertainty about desirable behaviours [role ambiguity] and uncertainty about the future [job insecurity]."

Uncertainty arises, at least in part, from non-involvement in the decision-making process and the information flows upon which such processes are based. Sauter, Murphy and Hurrell (1992) refer to earlier research [principally that of Margolis, Kroes and Quinn (1974) and Spector (1986)] to support the contention that "emotional distress, lowered self-esteem and job dissatisfaction result from non-participation [in decision-making] of workers."

French, Caplan and van Harrison (1982) concluded from their major investigation of job stress that:

> "The findings suggest that participation may be an important organizational mechanism for allowing employees to improve their adjustment to the demands of the job by having a say in the decisions which determine those demands."

Jackson and Schuler (1985) conducted a meta-analysis of 96 papers on role ambiguity and role conflict. They remark that much of the research in these areas hypothesises that "higher levels of participation in decision-making should lead to lowered role strain." Their meta-analysis supported this hypothesis.

Robert Karasek has been a leading figure in research on participation since the 1970s. In a major study of 1600 Swedish working men in 1968 he found that 20% of workers "who described their work as both psychologically demanding and low on a scale measuring latitude to make decisions" reported heart disease symptoms (Karasek and Theorell, 1990). In a later study of 1461 employed men (Karasek et al, 1981) he found that low decision latitude "expressed as low intellectual discretion and low personal freedom" was associated with increased risk of cardiovascular disease, as was "a hectic and psychologically demanding job." [Both factors were adjusted for other known CHD risks such as smoking and obesity]. Similarly, Ivancevich (1979) found in a study of 154 project engineers with "management-level responsibilities" that participation in decision-making correlated negatively with physical symptoms, job tension, role conflict, role ambiguity and fatigue. Other studies (eg Gardell, 1975; Remondet and Hansson, 1991; Lind and Otte, 1994 or Nelson, Cooper and Jackson, 1995) have reported broadly comparable results. A study of management morale for the Institute of Management by Coe (1993). indicates that control may compensate for some otherwise adverse factors:

> "Those in self employment work longer hours on average yet they are less likely to be stressed and more likely to say they feel fully in control of their job ... One of the main causes of stress is an increase in responsibility without an accompanying increase in authority."

Participation in decision-making does not necessarily imply control, only some degree of input, although the two factors are often considered together. Actual control represents power to make decisions for oneself and its effects are observable. Murphy (1988) distinguishes between "perceived control [belief] and instrumentality [one can do something to influence the aversiveness of the event]. Controllable events 'hurt less' than uncontrollable events." Karasek and Theorell (1990) argue that high levels of skill give a worker control over which specific skills to apply ["skill discretion"] and maintain that "skill utilization and decision authority are so closely related in empirical studies ... that they are often combined for analytic purposes in the job design research." These "mutually reinforcing aspects of work" are together called "decision latitude - often loosely labelled control" (Karasek and Theorell, 1990). Cox (1993) observes that "the issue of control is a pervasive one throughout the stress literature" and Sauter, Murphy and Hurrell (1992) claim that:

> "Evidence is growing that control is the decisive factor in determining the health consequences of work demand, so that adverse effects occur when control is not commensurate with demands."

Murphy (1988) lists a "host of physiological changes" which may occur when an individual is faced with uncontrollable events or situations [or ones perceived as uncontrollable], including increased heart rate, increased hormone production and decreased immunological activity, comparing these responses to the 'fight or flight response' [see above]. McLean (1985) cites experiments by N Miller who subjected two groups of rats to electric shocks. One group, which had no control over the delivery of the shocks, suffered five times as many stomach lesions as the other group, which was able to exercise limited control. McLean concludes that a level of control over even highly aversive situations is beneficial. Murphy (1988) extends this principle by citing work with monkeys [by Stroebel (1969) and by Hanson and colleagues (1976)] which indicates that "losing control [relative to never having had control] has been associated with frustration and prolonged depression ... Evidently it is less stressful never to have had control than to have had it and lost it." Murphy goes on to relate this to organisations which "experiment with worker control or participation without a long-term commitment to the process."

The association between participation in decision making, control and physiological or psychological outcomes is not simple. The work of Karasek and colleagues throughout the 1970s and 1980s conveys the clear message that participation in decision making moderates the stressor effects of job demands and leads to reduced strain. Landy (1992), however, remarks that

> "it is not clear whether this reduced strain was the result of an enhanced feeling of control [as suggested by the authors] or of reduced uncertainty that resulted from being continuously involved in the deliberations"

Cox (1993) questions the evidence for a synergistic interaction between job demands and participation in decision making to reduce strain, that is, do these two factors combine to produce an effect, as argued by Karasek? Cox suggests that an additive model, where one factor moderates the effects of the other, adequately accounts for the data. In terms of pragmatic application of the knowledge in this area it seems to be established that participation in decision making is likely to be beneficial, even if the exact mechanism which produces the benefits is still not clear. In a meta-analysis of 88 studies Spector (1986) found several positive outcomes associated with high levels of perceived control, including job satisfaction, commitment, involvement, performance and motivation, and correspondingly low levels of negative outcomes such as physical symptoms, emotional distress, role stress, absenteeism, intention to leave a job, and actual staff turnover. These findings have not been subsequently challenged. Cox (1993), however, warns that "demands implied by the choices involved in controlling situations can themselves be a source of stress."

Career factors

According to Burke (1988) "one of the most dramatic changes in organizations during the past few years has been the change of traditionally secure managerial and professional jobs into insecure ones," a topic which has preoccupied other writers on organisations in recent years

(eg, Handy, 1990, 1994). Sauter, Murphy and Hurrell (1992) cite a variety of earlier research [eg by Margolis et al (1974), Kasl and Cobb (1982) and Sutherland and Cooper (1988)] to support their contention that a number of adverse psychological and physical effects are associated with job insecurity and negative career development. Cox (1993) remarks that "the lack of expected career development may be a source of stress." Burke identifies "four sources of work stressors" which affect career aspirations: "mergers and acquisitions, retrenchment and budget cutbacks, job future ambiguity and insecurity, and occupational locking-in" (Burke, 1988).

The charity MIND in its survey of 109 British companies (MIND, 1992) found that 88% of its respondents cited recession, fear of redundancy and pressure to perform as the main causes of stress. Coe (1993) in a survey of 2500 members of the Institute of Management [with a 40% response rate] found that 71% were either "very anxious" or "anxious" about the possibility of redundancy, 76% either "very anxious" or "anxious" about lack of job security and 75% either "very anxious" or "anxious" about lack of career opportunities. Winkfield (1995) surveyed 1231 people in full or part-time work and found that 41% were "very or fairly concerned" about being redundant or unemployed in the next twelve months, whilst 24% felt "less or much less secure" in their jobs than they had one year before.

Clearly economic recession and changing employment patterns have brought with them feelings of insecurity, even where jobs have not yet been lost. Burke (1988) draws attention to "the small amount of data that exists" which "indicates that the effects of job insecurity appear to be similar to job loss itself." Kasl and colleagues have made extensive studies (Kasl and Cobb, 1971, 1982; Kasl, Gore and Cobb, 1972, 1975) of unemployed people and have found consistently that the anticipation of unemployment is associated with adverse health effects to at least as great an extent as actual unemployment. Depolo and Sarchieli (1987) made comparisons between people who had lost their jobs and those who had been retained by the same organisation. They found no difference between the "emotional well-being" of members of the two groups. These observations may have important implications for the success of enterprises because of the effects on those who are left behind. Burke comments:

> "managers and professionals who are currently employed but see that it is increasingly harder to get and hold managerial and professional jobs will become increasingly insecure about their own jobs" (Burke, 1988).

The associations between change and stress have already been discussed in relation to control and participation. Two studies from the early 1980s may serve to focus these associations on the specific areas of budget cuts and retrenchment. Rosselini (1981) found that the numbers of US government employees seeking treatment for stress-related symptoms almost tripled after a round of budget cuts. In this case Rosselini was able to link these outcomes specifically to fear of staff reductions. Jick (1983) reviewed research findings concerning budget cuts and was able to show several correlations, as follows:

The experience of stress correlated positively with:	the size of the budget cut
	the extent to which the budget cut changed goals or programmes
	the frequency of budget cuts
	the duration of the budget cut
The experience of stress correlated negatively with:	the amount of organisational slack or possibility of finding alternative sources of funding
	management assurances about job security or departmental survival
	selective rather than uniform cuts
	the amount of forewarning of budget cuts
	the clarity of information about impending budget cuts
	the response time available between the instruction to cut a budget and actual implementation of the cut

Mirvis and colleagues (Sales and Mirvis, 1984; Marks and Mirvis, 1985) have studied the effects of mergers and acquisitions on employees. They identify a "merger syndrome" involving "defensiveness, fear-the-worst, rumours of job loss, loss of benefits, pay freezes, etc." intensified by increased centralisation and lack of communication. This leads to lowered productivity and increased staff turnover. They also cite a Wall Street Journal survey which indicated that 50% of executives try to leave their jobs in the first year after a merger. Cartwright and Cooper (1993) also noted problems of demotivation, lowered morale, employee anxiety, increased sickness and absenteeism, and high labour turnover following mergers.

A harsh economic climate, in which alternative jobs are hard to find may lead to employees continuing in jobs which are no longer satisfactory to them. This has been described as 'locking-in' or more colourfully as 'golden handcuffs.' Quinn (1975) identified three components of locking-in: [1] low probability of getting another job as good as or better than the present one, [2] little opportunity to modify a presently disliked employment situation by securing a change in job assignments, [3] low likelihood that a worker who was dissatisfied with his job could take psychological refuge in the performance of other roles not linked to his job.

Herriot and Pemberton (1995) suggest that the "psychological contract" between managers and their employers[‡‡] has been unilaterally breached by companies which "have appeared to renege on their side of the old deal" leaving many managers feeling "angry and deceived." They quote one interviewee's comments as typical:

> "I gave them loyalty, compliance and functional expertise, and they gave me security, regular promotions, salary increases and care in times of trouble."

The nature of the 'deal' in question is substantially the same as it was when Marshall (1977) surveyed "middle and senior staff of one major British company" and reported that:

[‡‡] An extended discussion of the psychological contract is contained in Appendix B

> "managers on the whole realised that they were trading their freedom for the high pay, security and wide range of job and career opportunities that the company offered."

Herriot and Pemberton's contention is that organisations are no longer offering the benefits of security and progression that they once did, but are demanding more commitment, effort, flexibility and loyalty than ever before. This results in increasing stress levels.

Role in the organisation

Cox (1993) cites a variety of research to argue that employees regard organisations as environments for [a] performing tasks, [b] solving problems and [c] development. If perceived as deficient in any one of these areas, employees are likely to suffer increased stress levels. Cox identifies two prominent sources of stress arising from an individual's role within an organisation; role ambiguity and role conflict. He defines role ambiguity as occurring when "a worker has inadequate information about his or her work role." French, Caplan and van Harrison (1982) use the definition "job too rigidly or too loosely defined." Role conflict occurs "when individuals are required to play a role which conflicts with their values, or when the various roles that they play are incompatible with one another" (Cox, 1993). Jackson and Schuler (1985) argue from the results of their meta-analysis of 96 papers on role ambiguity and role conflict that these are separate constructs, with different impacts on organisations and should be investigated separately, not together "as is usually done." This said, the two constructs appear to have much in common, and their effects are usually described in terms of lower job satisfaction (Parkington and Schneider, 1979; Jackson and Schuler, 1985; Sauter, Murphy and Hurrell, 1992). Burke (1988) takes the view that "research on role conflict and ambiguity is extremely homogenous" and does not separate the two constructs in describing the variables which correlate with them:

Role conflict and ambiguity correlated positively with:	tension and fatigue
	absenteeism
	leaving the job
	psychological and physiological general strain
Role conflict and ambiguity correlated negatively with:	job satisfaction
	physical withdrawal
	supervisory satisfaction
	performance
	job involvement
	decision making
	organisational commitment
	tolerance for conflict and group cohesion
	reported influence

Cooper and Marshall (1976) had accepted that correlations between ambiguity/conflict and a broadly similar list of outcomes were significant, although "rather weak" and they point out that

"many measures of ill-health are based on self-report." Jackson and Schuler (1985) observe that

> "The results of the meta-analysis indicate that the average correlations between many organizational context variables and role ambiguity and role conflict are substantial and are significantly increased when corrected for unreliability. In contrast, individual characteristics are generally not strongly related to role conflict and role ambiguity."

Jackson and Schuler's (1985) meta-analysis found no correlation between role ambiguity/ conflict and organisational level [ie, seniority], but Miles and Perreault (1976) and Miles (1980) found that "boundary roles" exposed incumbents to both. This may be of particular significance to the project manager function.

Observing that high role ambiguity/conflict scores are positively correlated with external locus of control, Jackson and Schuler (1985) offer a possible explanation: "prolonged exposure to ambiguous and/or conflicting role expectations may cause employees to lose any sense of being in control of outcomes."

The overall implications of the work on role ambiguity and role conflict are that uncertainty about what one should do or how one should behave is stressful, as is a discrepancy between what one believes is correct and a requirement to behave otherwise, either because of pressure from other people [eg colleagues or superiors] or because of different requirements arising from roles performed concurrently.

Relationships and interpersonal factors

Sauter, Murphy and Hurrell (1992) summarise research on workplace relationships thus: "Poor relations with colleagues, supervisors and subordinates at work have been identified as important risk factors" for stress-related problems. Cox and Griffiths (1995) identify the characteristics of situations experienced as stressful, one of which is "individuals are relatively isolated and receive little support from colleagues, supervisors, friends or family."

Ganster, Fusilier and Mayes (1986) studied 326 employees of a contracting firm and measured six stressors [role conflict, role ambiguity, overload, lack of variability, skill underutilisation and responsibility for others]. They found a strong correlation between a lack of social support, especially from a supervisor, and dissatisfaction with work. There was also a weak correlation between this and non-workplace strains. Social support did not, however, appear to moderate the effects of other stressors significantly. This is consistent with the findings of Payne and Hartley (1987) in their study of unemployed men. They found, contrary to their expectations, no evidence that "support and opportunities were important in moderating the impact of the problems faced by the unemployed."

It appears that social support operates as a 'hygiene factor' in relation to stress, in which its absence is a stressor but its presence has little effect on other factors (cf Herzberg, 1959), a view which is supported by Marshall's (1977) survey of "middle and senior staff of one major British company." Marshall noted:

> "a tendency for work-related factors to be reported as pressures and interpersonal factors to be reported as satisfactions. In view of this distinction we cannot assume that pressures and satisfactions will cancel each other out."

Lazarus and Folkman (1984) refer to a "growing body of evidence" that "other things being equal, people will have better morale and health, and function better, if they receive or believe they will receive social support when needed," but comment that "little is known about what constitutes productive or counter-productive support." If the experience of support is linked in any way to confidence in the source of support then Winkfield's (1995) survey of 1231 people in full or part-time work has a salient comment to make: 64% of Winkfield's respondents did not agree that "in general the people in charge know best."

Task factors

> "The nature of the task performed has critical implications for psychological well-being. In particular, narrow, fragmented, invariant and short-cycle tasks that provide little stimulation, allow little use of skills or expressions of creativity and have little intrinsic meaning for workers have been associated with job dissatisfaction and poor mental health." (Sauter, Murphy and Hurrell, 1992).

French, Caplan and van Harrison's (1982) research on over 2000 men found that certain job or task characteristics correlated with a variety of stress symptoms. These characteristics included too much or too little complexity, too much or too little responsibility, too much or too little work[load], excess time [ie, long hours], greater service [ie, experience] than is really needed to do the job, and greater education than is really needed to do the job. These characteristics clearly emerge as discrepancies of 'fit' between the person and the job, rather than absolutes. French et al acknowledge this: "The findings ... emphasise that job stress must be understood in the light of the relationship between the job and the individual." The characteristics may also interact with each other to moderate their relative influences: "men who had excessive job complexity were more strained as a result of too much workload than were men with a good fit on complexity" (French, Caplan and van Harrison, 1982). The issue of control also reappears in this context. Karasek (1979) asserts that psychological strain results from a combination of workload [psychological job demands] and the degree of control the worker has [decision latitude], and Fletcher (1988) maintains:

> "Jobs which are high in demand may also carry excess risk, but not if they are 'active' jobs which are also characterized by high levels of job discretion or decision latitude. Executive and managerial jobs may be very demanding [even overloading] but they are also associated with high levels of control or support which effectively nullifies the demandingness and reduces coronary risk."

Cox (1993) agrees that "managerial work ... is ... associated with work overload, role related problems and uncertainty." Coe's (1993) survey of 2500 members of the Institute of Management found 41% of managers working more than fifty hours per week and 13% working more than sixty hours. 75% said their workload had increased over the previous year with 35% saying their workload had increased by one third or more. 70% believed their overall health was affected by job-related anxiety. Similarly, a survey of 1408 personal contractors [senior management grades] in BT by the Society of Telecom Executives [STE] found a clear

correlation between hours worked and reported stress symptoms (STE, 1994). A subsequent survey (STE, 1995) reported a positive correlation between hours worked and annual appraisal ratings, which BT's then Group Managing Director said in a television interview he found "unsurprising" (Hepher, 1995). The STE took this as an indication that the company favoured long working hours for its managers.

Taylor (1992) reported an earlier survey of twenty companies by the healthcare group BUPA which found that "too much work and pressure to perform were the major stressors experienced," with 64% of respondents complaining of too much work. Labour Research (1995) reports similar instances of increasing hours of work amongst managers and professionals [eg, lecturers] and suggests a link between excess hours and accidents, whilst Mulgan and Wilkinson (1995), collating a variety of surveys and opinion poll results, report 40% of managers working more than fifty hours per week, with one in eight working more than sixty hours. 44% of the workforce [all kinds of workers] reported coming home from work exhausted. One in four managers took work home "several times a week." Full-time British employees worked longer each week than any other European Union nationals, and the average British 'lunch hour' was now down to thirty minutes.

Working long hours has been associated in a number of studies with negative health outcomes. Some of this evidence is mentioned under the heading *Outcomes and consequences of workplace stress*, below. It is not clear, however, that long hours as an isolated factor are damaging (Karasek and Theorell, 1990). Work overload and scheduling [shiftwork, nightwork, etc.] may be more significant. Levi (1974) reported significant blood composition changes, indicating anxiety, among a group of military officers who were required to alternate three-hour shifts on the firing range with similar shifts of staff work, without sleep or relaxation. Sauter, Murphy and Hurrell (1992) report "substantial evidence" that

> "the temporal scheduling of work can have a significant impact on psychological, behavioural, social and physical well-being. Rotating shifts, and permanent night-work in particular, have been linked to a variety of such disturbances."

Sauter et al attribute these deleterious effects to disruption of circadian rhythms, rather than to simple accumulation of working hours. Landy (1992) reports that the introduction of flexitime, whilst leading to only minor changes in actual behaviour, has a positive effect on well-being. He suggests that the perceived increase in control over schedules is enough to improve health, even if the control is not actually exercised.

Overload, that is, having more work to do than one can comfortably handle, appears to have a more direct connection with strain. Margolis, Kroes and Quinn (1974), in a study of 1496 workers found that overload correlated positively with several indicators of stress reactions, including low motivation, low self-esteem and absenteeism. Levi (1967) studied twelve invoicing clerks, alternating days when payment was at fixed rates with days of piece-work payments [ie, payment for quantity of work output], controlling for other factors such as working conditions and general well-being. On piece-work days production rose 113% on average. Accuracy did not suffer, but reported feelings of strain increased significantly. A fatigue index

nearly doubled and there were complaints of aches and pains and of physical and mental exhaustion. Analysis of adrenaline and noradrenaline content in urine samples showed significant increases in both, providing objective confirmation of the self-report data. In this case the overload could be argued to have been self-induced.

The concept of 'appropriate fit' of demands and person is also thought to apply to workload issues. Fletcher remarks that "under-demand or under-utilization is one of the better predictors of work strain" and Cox (1993) agrees that "it has long been clear that both work overload and work underload can be problematic" or that "within reasonable limits, stress can arise through either overload [demand greater than abilities] or through underload [demand less than abilities], or through some combination of the two" (Cox and Griffiths, 1995).

French, Caplan and van Harrison (1982) summarise the importance of comfortable fit between all the elements of the job and the person who has to perform it:

> "This interaction between the job and the person emphasizes the importance of the personnel section when hiring and transferring employees and the equal importance of allowing individualization of the job to fit the needs and values of each worker."

Factors intrinsic to the job

A variety of physical and environmental factors can have an effect on the stress experienced by a person in the workplace. The London Hazards Centre (1994) list noise, vibration, chemicals, dust, lighting, ventilation, badly designed machinery and equipment, and badly designed premises as prime examples. Burke (1988) reports the "most frequently mentioned environmental stressors" as including density and crowding, lack of privacy, high noise levels, vibrations and/or soundwaves, temperature extremes, air movement and background colour and illumination. Although, as Burke points out:

> "Management and executive level organisational operations are largely conducted in an office environment which is not subjected to the same types of hazardous and noxious agents which put lower-level employees at risk. In addition, management level employees are assumed to have a great deal of personal control over their physical environment, thereby possessing the ability to significantly reduce or remove immediate environmental stressors" Burke (1988).

Nevertheless, some environmental conditions may affect even managers at some time. Noise and crowding/lack of privacy seem especially relevant to workers in open-plan office designs. Schönpflug (1983) reports an experiment in which four groups of subjects were asked to write an account of an incident at the 1972 Olympic games whilst subjected to noise levels varying between 45-105 dB. As the noise level increased more words were written, but in shorter sentences. Schönpflug interprets this as an increase in quantity of output but a decrease in quality. Crowding and lack of privacy, at least in this context, seems less clearly stressful. Szilagyi and Holland (1980) studied the reactions of 96 oil industry "professionals" who were relocated to more crowded premises. They found that role conflict and role ambiguity reduced after the move, and concluded that the higher density had aided workplace interactions. Sutton and Rafaeli (1987) studied 109 clerical workers to ascertain whether "workstation

characteristics" were stressors. They found that workstation design had little effect on stress levels once other known stressors, such as overload, were taken into account.

Outcomes and consequences of workplace stress

> "Stress itself is not an illness, rather it is a state. However it is a very powerful cause of illness. Long-term excessive stress is known to lead to serious health problems" (Teasdale and McKeown, 1994).

The relationship between stress/strain and a variety of adverse physical and psychological health conditions is well-established. Cox (1993) reviews a number of studies in the field of psychoimmunology which strongly suggest a connection between the experience of stress and changes in the operation of the immune system, which Cox considers as a possible mechanism by which stress may lead to ill-health. Cox accepts that "the evidence is that the experience of stress does not necessarily have pathological sequelæ" but asserts:

> "Stress may affect health. At the same time, however, a state of ill health can act as a significant source of stress, and may also sensitise individuals to other sources of stress by reducing their ability to cope. Within these limits, the common assumption of a relationship between the experience of stress and poor health appears justified."

There is a body of evidence to support this assumption. Russek and Zohman (1958) compared young [25-40] CHD patients with a healthy control group and found that whilst only 20% of the control group reported prolonged stress related to work, 91% of the CHD patients did so. The patients also reported heavy workloads, with 46% working more than 60 hours per week and 20% doing two jobs. 20% reported frustration, discontent, insecurity or inadequacies in relation to their jobs. Breslau and Buell (1960) also found a correlation between long working hours and CHD. In a study of younger [under 45] workers in light industry those working more than 48 hours per week had double the risk of death from CHD than similar workers working less than 40 hours per week.

Weiman (1977) reports a study [carried out in 1974] of 1540 officers of a "large financial institution" who were subjects of periodic health checks, including a questionnaire on occupational stress. Weiman found that:

> "There is a significantly higher incidence of disease when particular stressors are operating. It is also evident that disease/risk occurs more frequently when workers are either under-stimulated or over-stimulated, as hypothesized by Selye."

Alfredsson, Karasek and Theorell (1982) studied 334 men under 65 with myocardial infarction [including deaths], with 882 matched controls. They report an increased risk of myocardial infarction from a combination of "hectic work pace" and low decision latitude and/or few "possibilities for growth."

In a review of the research on the associations between occupational stress and CHD, Landsbergis (1993) found that twelve out of fourteen studies reviewed showed a clear link. He estimated that 23% of CHD deaths in the US were potentially preventable if the stress levels in the "worst" jobs were reduced to average levels.

Correlations between occupational stress/strain and serious illness are thus shown in a wide variety of studies over generations of researchers. As with other aspects of human health, though, the association is one of probability, not of certainty. Fletcher (1988) describes the issue:

> "It is difficult to estimate the size of any problem when the outcome variables have multifactorial 'causes' and one is particularly interested in one aspect of aetiology [ie work stress]. This is not an issue peculiar to the psychological investigation of disease. It should be borne in mind that the standard physiological and medical risk factors for coronary heart disease or lung cancer are not good predictors of the degree or incidence of the clinical manifestations of the disease. For example, Eysenck has pointed out that only 10% of smokers die of lung cancer and 10% of people who die of lung cancer are non-smokers. In addition, the 10-year incidence of CHD will be made up of 40% who have no evidence of significant risk factors, and only 10% of those with such risks will have developed CHD."

Whilst heart disease is one of the more dramatic effects of stress/strain, Cooper (1994) points out that:

> "it must be remembered that heart disease is only one of the physical manifestations of an unhealthy organisation, research shows that there are many more possible diseases and negative healthy outcomes [eg gastro-intestinal disorders, immune system failures, neurological problems, etc.]."

An investigation by the Post Office occupational health service (IRS, 1994) found that "psychological problems" were the second most common reason for early retirement on health grounds [after orthopaedic injury]. The pressure group The London Hazards Centre (LHC, 1994) list an array of outcomes of working excessive hours, including physical and psychological fatigue, increased risk of heart disease, sleep difficulties, sexual disorders, gastric disturbances, headaches, backaches, dizziness, weight loss, apathy, depression, disorganisation, feelings of incapability, irritability, intolerance, boredom and cynicism. The "most extreme consequence" is sudden death. Cranwell-Ward (1995) reports that death from overwork [*karoshi* in Japanese] has been officially registered as a fatal illness in Japan since 1989, and goes on "in 1990 the labour ministry received 777 applications for compensation because of karoshi."

A more common outcome of stress/strain is an increase in accident rates at work (LHC, 1994). Carter and Corlett (1981), in a review of the literature on mental health and involvement in accidents, reported that " the mental state of the operator, whether he is fatigued or over-aroused, alert or distracted, has been the most frequently suggested reason for accident-causation during shiftwork." Cartwright et al (1993) studied accidents involving company car drivers from three subsidiaries of a major company, and related them to stress levels. They found the highest rates in the subsidiary which also returned higher levels of occupational stress, poorer physical health, poorer mental health and lower job satisfaction. They concluded that "the significantly higher levels of occupational stress within [the subsidiary with the highest accident rate] indicate that stress is playing a major role in predicting accident rates."

Prolonged exposure to stress can result in the phenomenon of 'burnout', defined as "exhaustion, underachievement, and the inability to handle personal relationships" (LHC, 1994),

or as:

> "An individual's negative emotional experience leading to a chronic process ... experienced as exhaustion on a physical, emotional and cognitive level. Most definitions include withdrawal and decreasing involvement in the job, especially by persons who have been highly involved in their work." (Sonnentag et al, 1994).

Sonnentag et al associate burnout with workplace stressors and argue that "this relationship has been found to be true for various ... professional groups," although they qualify this by observing that "tasks with a high motivation potential are negatively associated with burnout."

The implications for employers of operating stressful workplaces may be economic as well as humane. Karasek and Theorell (1990) argue that

> "Although their illnesses may not lead to an economically measurable health care cost, exhausted or depressed employees are not energetic, accurate, or innovative at work. The losses that result loom larger than health care as preventable costs."

Cox (1993) identifies from the literature several effects of stress which he believes may be of "direct concern to organisations." Some of these, such as "reduced availability for work involving high turnover, absenteeism and poor time keeping" he classifies as "essentially 'escape' strategies." Others involve what is described as 'presenteeism' - people continue to report for work but their performance and involvement is poor. Cox suggests that this may result in impaired work performance and productivity, with consequent increases in client complaints. Fingret (1994) also emphasises the damage caused to organisations by presenteeism, claiming that "occupational health practitioners and psychologists are well aware of significant levels of stress and psychological maladjustment which have not resulted in significant sickness absence." Fingret argues that this may be even more damaging to business efficiency that the absences which "though carrying physical illness labels, are in fact related to lack of mental well-being." Cooper (1994) refers to the "huge costs ... of people turning up to work who are so distressed by their jobs or some aspect of the organizational climate that they contribute little, if anything, to their work."

Where employees are required to exercise creativity and initiative these effects may be even more pronounced. Talbot, Cooper and Barrow (1992) studied 202 managers [a sub-set of a wider study involving 1083 respondents, all from one organisation]. They found significant negative correlations between stress and the potential for creativity, although they were unable to ascribe a causal relationship between stress and creativity because "both may be an outcome of something else." Karasek and Theorell (1990) hypothesise that "accumulated level of unresolved strain [or anxiety level] appears to restrict a person's ability to learn solutions to new problems. ... The literature on burnout has also demonstrated that prolonged job stress is associated with decline in initiatives at work."

Task performance is also found to be impaired when stress exceeds an individual's tolerance level. Selye (1982) maintains that "under stress people often perform at higher levels, but if the stress continues exhaustion sets in and leads to a range of problems ['diseases of adaptation']." Eysenck (1983) listed nine effects of anxiety on task performance, based on experimental work:

1. Anxiety leads to increased task-irrelevant cognitive activities [eg worry].
2. Anxiety leads to increased effort during task performance most of the time.
3. Anxiety reduces digit-span performance [working memory capacity].
4. Anxiety interacts with task difficulty, with adverse effects of anxiety growing as task difficulty increases.
5. Adverse effects of anxiety are more apparent on subsidiary or incidental tasks than on main or primary tasks.
6. Anxiety interacts with type of feedback [neutral versus failure] with high-anxiety subjects being more detrimentally affected than low-anxiety. subjects by failure feedback.
7. High-anxiety subjects are not more detrimentally affected than low-anxiety subjects by threat of electric shock; if anything, it is low-anxiety subjects who are more affected by shock.
8. Anxiety induced by failure impairs the retrieval process
9. There is a closer relationship between state anxiety and performance than there is between trait anxiety and performance.

The latter point suggests that situationally-induced anxiety, eg a threat, has greater potential to affect performance adversely than individual personality factors. Cox, using Eysenck's work and also research by Idzikowski and Baddely (1983) and Andersson (1976), suggests that "while low levels of anxiety and fear may have a motivating effect, higher levels can impair task performance" (Cox, 1993). This is consistent with Selye's GAS and with the inverted-U function. 'Anxiety and fear' are, of course, rather specific examples of stressors or stress symptoms. Other work has suggested that strain correlates negatively with performance. Jones et al (1988) for example found a positive correlation between levels of strain in health care staff and the number of medication errors made. Sommerville and Langford (1994) surveyed 54 site-based managers of construction projects and found evidence that workplace stressors contributed to conflict. They suggested that attention to reducing stressors would have a beneficial effect in reducing the incidence of conflict. Workplace stress may also have a deleterious effect on personal and family relationships (eg in Gutek, Repetti and Silver, 1988).

Costs arising from employers' responsibilities for the well-being of their employees may also become significant. Cox (1993) believes that the UK courts will be increasingly willing to hold employers liable for stress-related health problems. Aiken (1995) argues that an employer has a duty to provide a safe system of work, which may include taking account of stress issues where they are known to exist.[§§]

[§§] Such circumstances applied to the case of Walker versus Northumberland County Council, where Walker, who had had a nervous breakdown, returned to work. The employer continued to place heavy demands on him, and withdrew an assistant, contrary to an earlier promise. Walker suffered a second breakdown. The court held that the employer was responsible for Walker's ill health and awarded damages. This was a very specific situation and does not necessarily mean that employers will be held liable in future cases (Aiken, 1995) but does indicate that stress-related health problems are recognised in English law.

If the personal and organisational costs of stress/strain can be high, the burden on the wider economy is also believed to be significant. Cranwell-Ward (1995) quotes DSS statistics for 1991-92 showing almost 140 million days' benefit paid out to men and 55.4 million to women for absence from work attributed to mental and stress-related causes. Cooper (1994, and Highley and Cooper, 1994) uses CBI and HSE figures to assert that 180 million working days, costing £4 billion, are lost to UK organisations through causes related to workplace stress. Coe (1993) claims that "in the UK, job stress has been estimated to cost up to 10% of NP and to account for the loss of 80 million working days annually," a figure originating from the HSE and also quoted by Banham (1992) and by Fingret (1994). Banham (1992) asserts that "thirty days are lost to stress for every single day lost to industrial disputes." Banham also makes the point that certified absence due to stress is likely to be seriously under-estimated due to mis-certification, because "few people want a certificate referring to their mental health" and because short absences [less than seven days] are normally subject to self-certification. Kearns (1986) asserts that 60% of absence from work is caused by stress-related disorders and that in the UK 100 million working days are lost each year because "people cannot face going to work."

Sommerville and Langford (1994) quote British Heart Foundation figures which suggest that "coronary heart disease, often attributable to stress, costs of the order of £200 per employee per year in the UK."

Cooper (1994) puts these figures in context:

> In a company with 10,000 employees, in any one year:
>
> - £2.1 million productive value for men, and £340 k for women, will be lost due to heart disease
> - 35 men and 7 women will die from CHD
> - 59,000 working days for men and 14,200 days for women will be lost through problems associated with CHD.
>
> [figures from British Heart Foundation]

All these figures are, of course, estimates. Murphy (1988) cautions against too ready acceptance of such estimates in the following terms:

> "It is not unusual to encounter rather striking estimates of the total costs of stress that reach into billions of dollars annually. While such estimates seem impressive, one experiences great difficulty trying to track down the precise components of the estimation formulas."

Karasek and Theorell (1990) also refer to the difficulty of developing "reliable monetary estimates of stress-related losses." They point out that :

> "Three levels of error-prone estimates must be made: first, the job stress-related component of total health costs, second, the preventable component of these health costs; and third, the preventable costs of poor design that are reflected in productivity losses. But one fact is beyond dispute: the costs are very large."

If it is indeed “beyond dispute” that the costs are very large, and if it is accepted that the costs are increasing, as the British Psychological Society (1988) and Cartwright and Cooper (1994) assert, then workplace stress is an issue which demands corrective action as a matter of urgency.

Coping with stress

Coping has been defined as the

> "cognitions and behaviours adopted by the individual following the recognition of a stressful encounter, that are in some way designed to deal with that encounter or its consequences" (Dewe, Cox and Ferguson, 1993).

The use of the terms "recognition" and "designed to deal" imply both cognitive appraisal and decision-making at some level. Edwards (1988) presents a theoretical approach to coping, resting on a central assumption that stress produces negative impacts on well being and a motivation to reduce these impacts. Edwards argues that initially, coping effort is directed towards changing situations or people which are causing stress. If these attempts prove effective then stress is reduced and well-being improved. There is an important secondary effect in that successful coping helps to move the locus of control towards the internal, and thereby increases the confidence with which future coping attempts will be made (eg Phares, 1976; Jackson and Schuler, 1985; Williams, 1994).

Cummings and Cooper (1979) treat coping as behaviour aimed at maintaining a "steady state" of interaction between the individual and the environment within a "range of stability" in which he/she feels comfortable. A stressor is a stimulus which disrupts some aspect of this steady state and the individual is motivated to act to restore comfort. Lazarus and Folkman (1984) emphasise the "effortful" nature of coping, distinguishing it from "automatized responses." Lazarus and Folkman also argue that for coping to be effective there must be a good "match or fit between coping efforts and other agendas" such as values, goals, commitments and beliefs." Commitments in this context are "expressions of what is important to people" and they affect the choices people make, guiding them "into or away from situations that threaten, harm or benefit them by shaping cue-sensitivity." The depth with which a commitment is held determines the amount of effort a person is willing to exert to ward off threats to that commitment. They also increase vulnerability to psychological stress in the area of the commitment, and the more public a commitment is the more threatening it is to have it challenged (Janis and Mann, 1977).

Similarly, beliefs are defined by Lazarus and Folkman (1984) as "personally formed or culturally shared cognitive configurations," which determine "what is fact, that is 'how things are' in the environment." They concern "what one thinks is true, whether or not one likes or approves of it. Whereas commitments reflect values, that is what one prefers or considers desirable."

Cohen (1987) defines coping as:

> "efforts, both action-oriented and intrapsychic, to manage [that is, master, tolerate, reduce, minimize] environmental and internal demands, and conflicts among them, which tax or exceed a person's resources."

and identifies five modes of coping:

1. Information-seeking
2. Direct action

3. Inhibition of action
4. Intrapsychic processes
5. turning to others for support

These modes may be classified as representing two broad strategies on the part of the individual: [1] action to change the situation and thereby remove the stressor stimulus or reduce its impact, and [2] alteration of the individual's perception of the stimulus so that it is no longer perceived to be a stressor, or its severity is perceived as milder than before. Cox and Griffiths (1995, also Lazarus, 1966) comment: "coping usually represents either an adjustment to the situation or an adjustment of the situation." Cohen (1987) maintains that "most people use both types of strategies simultaneously."

Moos and Billings (1982) and Edwards (1988) add an extra dimension to the above "problem-focused" and "appraisal-focused" strategies, distinguishing an alternative "emotion-focused" coping method, "where attempts are made to regulate the emotional responses to a stressful situation" (Edwards, 1988). Dewe (1987) found in a study of ministers of religion that about one-third of the coping strategies employed were task-focused and two-thirds emotion-focused.

Lazarus (1976, Lazarus and Folkman, 1984) argues that an individual's stress reaction depends on how he or she "interprets or appraises" [consciously or unconsciously] the significance of a threatening or challenging event. This cognitive appraisal involves assessment of the demands being made upon the individual, the constraints under which he/she has to cope, the support he/she receives from others, and personal characteristics and resources (Cox and Griffiths, 1995). Coping resources include such things as knowledge, behavioural and cognitive skills, attitudes and beliefs.

> "The extent to which a person feels threatened is in part a function of his or her evaluation of coping resources ... in a particular situation. Level of threat, in turn, influences the extent to which available resources can be used for coping. ... The greater the threat, the primitive, desperate or regressive emotion-focused forms of coping tend to be and the more limited the range of problem-focused forms of coping" (Lazarus and Folkman, 1984).

Lazarus and Folkman (1984) identify three kinds of primary appraisal: irrelevant, benign-positive and stressful, the latter of which include harm and loss, threat ["harms/losses which have not yet taken place but are anticipated"] and challenges, which are similar to threats but focus on the potential of the situation for gain or growth, and are "more likely to occur when the person has a sense of control over the troubled person-environment relationship." Threats and challenges can occur simultaneously.

Secondary appraisal is the process of assessing "what might and can be done," and is influenced by "outcome expectancy" ["evaluation that a given behaviour will lead to certain outcomes"] and "efficacy expectation" ["a person's conviction that he/she can successfully execute the behaviour required to produce the outcome"] (Lazarus and Folkman, 1984; Bandura, 1977b, 1982).

There may also be "defensive reappraisal," which Lazarus and Folkman (1984) define as "any effort to reinterpret the past more positively, or to deal with present harms and threats by viewing them in less damaging and/or threatening ways."

Lazarus and Folkman (1984) argue that appraisal is influenced by certain characteristics of the situation, such as its novelty:

> "If a situation is completely novel and no aspect of it has previously been connected psychologically with harm, it will not result in an appraisal of threat. Similarly, if no aspect of the situation has previously been connected with mastery or gain, it will not result in appraisal of challenge."
>
> "Most situations are not completely novel, certain facets will be familiar, or there will be a general resemblance between the situation and some other class of events."

Temporal factors also influence appraisal, such as the imminence of an event [defined by Lazarus and Folkman as the interval during which the event is anticipated], the duration of the event, which is linked to habituation [getting used to a condition, especially if a stimulus is repeated and nothing much seems to happen as a result] and temporal uncertainty [not knowing when an event will occur]. The predictability, or "signalling" of events appears to enhance coping abilities, possibly because this "allows for the possibility of anticipatory coping" or possibly because it allows for relaxation during the periods of "safety." These concepts are associated with control and feedback, and also with probability.

When there is insufficient information required for appraisal, or the meaning of the available information is unclear, then ambiguity or uncertainty affect the coping process. Lazarus and Folkman (1984) assert that ambiguity is itself a source of threat. Faced with ambiguity "person factors shape the understanding of the situation," so that, for example, people with low trait anxiety report a significantly greater expectancy of avoiding shocks than those with high trait anxiety (Lazarus and Folkman, 1984). There also appears to be a difference between subjective and objective estimates of probability associated with uncertainty, for example, in experiments where there was an objective probability of 50% of receiving an electric shock, subjects showed 95% subjective probability by "assuming they would get one."

Adjustment *of* the situation

At one level, strategies which aim to change factors in the environment are readily comprehensible and represent traditional approaches to "problems" of all kinds. Fishbein and Ajzen (1975) defined a "theory of reasoned action" which maintains that behaviour is controlled by thoughtful analysis, decisions to do or not do something follow careful consideration of the implications and behaviour is under volitional control and is a function of a person's intentions. Intentions are influenced by attitudes and subjective norms, which are in turn influenced by beliefs:

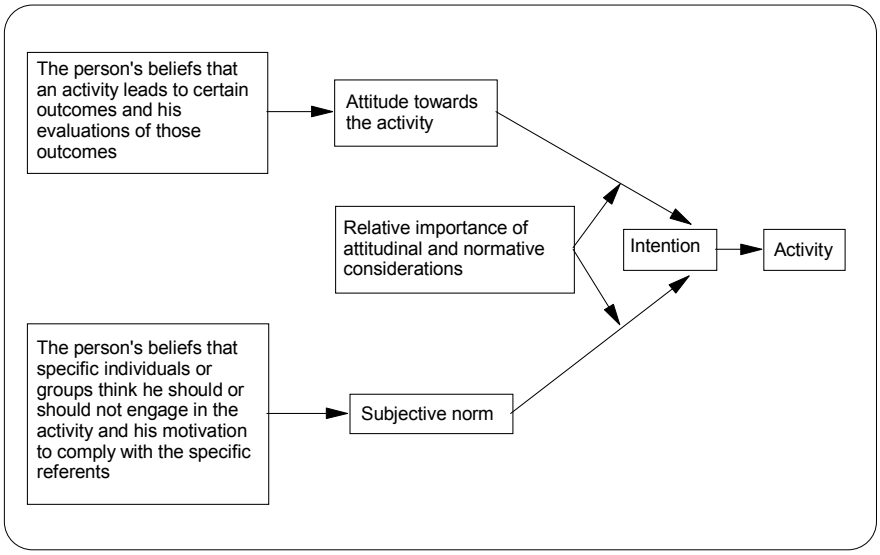


Exhibit 11 Model of Reasoned Action
from Ivancevich and Matteson (1988), [adapted from Ajzen and Fishbein (1975)]

Models of decision-making, or problem-solving, which implicitly follow Ajzen and Fishbein's are frequently taught to managers (eg, Collard, 1989; Hicks, 1991). However, Edwards (1988) argues that research on decision-making shows that people "systematically violate the principles of rational decision-making" and do not appear to:

> "consciously generate a comprehensive set of coping alternatives, evaluate the potential consequences of each alternative, and select the strategy which minimizes stress and maximizes well-being"

This may represent a failure in effective implementation rather than any intrinsic inappropriateness of the strategy.

Adjustment *to* the situation

> "Regardless of their particular characteristics, coping strategies which focus on the alteration of perceptions reduce stress by making perceptions more consistent with desires or by removing perceptions from awareness altogether" (Edwards, 1988).

Changes in perceptions may be made either by seeking information (Cohen, 1987; Edwards, 1988) or by "cognitively reconstructing reality. In other words, the individual may deny a stressful situation" (Edwards, 1988). This phenomenon has been identified by Festinger as cognitive dissonance (Festinger, 1957; Festinger and Carlsmith, 1959). Cognitive dissonance theory states that when there is conflict between two related cognitions [such as attitudes], tension [dissonance] will result. This tension will be dealt with either by changing one of the cognitions or by adding another to 'explain' the discrepancy. Festinger described how a cult leader prophesied the destruction of a major city and gathered her followers on a hill-top to await the event. When the catastrophe failed to occur the cult members concluded that their prayers had saved the city, thus re-balancing the dissonance between their belief in their leader and the reality that her prophesy had not come true. Festinger and Carlsmith (1959) paid students to perform an extremely tedious task [turning a large number of wooden pegs through quarter-

turns for half an hour]. The students then had to tell waiting participants that the task was really interesting. Students who had been paid $20 did as they were asked but afterwards maintained their view that the task had been excruciatingly boring. Students who had been paid only $1, however, appeared to believe that the task had not been so bad after all. Festinger explained this difference by attributing the $1 group's attitude to a need to justify to themselves their seemingly irrational action in lying about the task for such a trivial sum, whilst for the $20 group the payment was sufficient justification without any need to adjust their cognitions.

Whilst Dobson et al (1982) comment that Festinger's theory is hard to prove or disprove, a number of studies have broadly confirmed its predictive ability (eg Aaronson and Carlsmith, 1963; Freedman, 1965; Cooper and Worchel, 1970; Collins and Hoyt, 1972). Cognitive dissonance theory provides an explanation of why individuals faced with a stressful situation might find their perceptions altered so that the situation seems less stressful. Edwards (1988) suggests that "an individual may reduce a discrepancy between perceptions and desires by adjusting desires, leaving perceptions intact" or by "changing the amount of importance associated with a discrepancy between perceptions and desires." In other words, an individual might cope with the failure of the real world to fulfil his hopes by reducing his aim a little.

The achievement of consonance may be attempted through the process of denial: "when there is nothing constructive that people can do, denial may alleviate distress without altering functioning" (Lazarus and Folkman, 1984). However, there may be circumstances where denial is wholly or partially dysfunctional. For example, denial that one has an illness may be dangerous if it leads to failure to take appropriate problem-focused action, although denial of the implications of having the illness may support coping.

The concept of control has recurred throughout this chapter. Murphy (1988) remarks that

> "Cognitive appraisal is thought to be a function of the amount of control the person believes he/she has in the situation. Perceived control is an essential ingredient of coping and a psychological resource that people draw upon during stressful events"

Taking or attempting to take control of the situation appears to have more beneficial effect on managing stress than 'strategies' [conscious or unconscious] that try to avoid addressing the stressor. A longitudinal study of mental health workers by Koeske, Kirk and Koeske (1993) showed that "control-oriented coping strategies clearly acted as work-stress buffers" whilst avoidance strategies "reported higher general levels of negative consequences three months later."

Moderators of the coping process

Cox and Griffiths (1995) define coping resources as “energy, knowledge, attitudes, behavioural style [or personality] and skills [including social and cognitive skills].” The balance of these resources will affect the overall ability of an individual to cope with specific stressors at specific times. Edwards (1988) argues that “personal characteristics [eg skills, abilities and personality traits] influence the impact of the implementation of a coping strategy on the determinants of stress” and that “personality traits may also influence the effects of coping, particularly where the situation is ambiguous.”

Moos and Billings (1982) describe coping resources as “a complex set of personality, attitudinal and cognitive factors that provide the psychological context for coping.” They go on to argue that these are “relatively stable dispositional characteristics that affect the coping process and are themselves affected by the cumulative outcome of that process.” Moos and Billings believe that self-concept is highly significant in determining the effectiveness of coping. Self concept includes specific elements such as locus of control and “sense of mastery” which seems to be a very similar attribute to locus of control; “competent self,” a set of favourable self-attitudes; and “self-efficacy.” People with high levels of self-efficacy “may be more active and persistent in their efforts to handle threatening situations” whilst people with lower levels may be more inclined to favour avoidance strategies (Moos and Billings, 1982).

Kobasa and colleagues also believe that the “strong self-belief” of hardy personalities helps them to cope with stressors. “Coping for them consists of turning stressful events into possibilities and opportunities for their personal development and that of others around them” (Kobasa and Puccetti, 1982) and they “perceive change as an opportunity and a challenge rather than as a threat” (Kobasa, Hilker and Maddi, 1980).

Edwards (1988) is dismissive of “characterising coping in terms of a personal trait or style” which he says leads researchers to “fail to predict actual coping behaviours, rarely measure these behaviours and ignore the multidimensional and dynamic nature of actual coping responses.” For Edwards it is oversimplistic to regard coping as stable. Coping processes are multidimensional and vary over time and across situations. Any correspondence between traits or styles and subsequent coping behaviours is shown by “relevant studies” to be “often weak at best” and “not supported by much unequivocal evidence.” Cohen and Edwards (1988) reviewed the literature on hardy personality and found no instances of the coping behaviours of hardy and non-hardy individuals actually being measured.

Edwards (1988) suggests that factors in the physical and social environment act to influence the effects of coping strategies. Physical factors include distance, weather and physical barriers. Social factors include support or increased pressure from co-workers. Kobasa and Puccetti (1982), however, in a study of 170 executives found no correlation between health outcomes and the amount of social support received, except support from the boss. They found that hardy personalities received more support from the boss than less hardy personalities. Kobasa and Puccetti suggest that the majority of stressful events for executives take place at work, so

support from family and other sources may not help to deal with the problem and might even tend to deter executives from trying to deal with it. Ganster, Fusilier and Mayes (1986) reported that "the literature is unclear about the generality of a buffering effect of social support on stress" and that "the evidence of moderating effects is equivocal, suggesting that their existence may depend on the source of support, the recipients and the stressors ... being examined."

Stress management in organisations

Cranwell-Ward (1995) found that only 12% of UK companies had a programme to deal with stress, although 90% "considered that the mental health of their employees was vital to their competitive position." Murphy (1988) identifies three levels of stress prevention activity in organisations. Primary level activity is aimed at the reduction of stressors, the secondary level aims to manage stress when it occurs, and the tertiary level aims to deal with the consequences of stress through employee assistance programmes [EAPs], counselling and welfare.

Karasek and Theorell (1990) are adamant that the reduction of stressors is the most satisfactory option from all points of view. They are scathing about "the work environment where stressors are routinely planned, years in advance, by some people for other people" and believe that "person-oriented intervention strategies" lead to "victim-blaming" and are costly for industry and society, and unlikely to be successful in the long term. Their approach is to "link causes in based in the environment and causes based in the individual, but with environmental causes as the starting point because:

> "in our research findings it is not the demands of work itself but the organizational structure of work that plays the most consistent role in the development of stress-related disease."

Cox (1993) agrees that:

> "most stress management interventions are individually focused ... and concerned with changing the worker as opposed to work or the work environment."

and Thompson and McHugh (1990) are also concerned that

> "the role of the organisation in producing unhealthy systems and conditions of work is being ignored. In its place we get systems reinforcing the self-attribution of stress and anxiety as personal problems to be coped with rather than structural issues to be addressed."

The specific actions which management might take to reduce workplace stressors are implicitly documented above in descriptions of the causes and sources of stress. Griffiths, Cox and Stokes (1995) provide a succinct general summarisation in the following terms:

> "Much of what needs to be done in this respect is simply 'good' management practice. Indeed, the final thought to leave with employers is that good management ***is*** stress management."

Summary of stress and threat in the workplace

Occupational stress presents difficulties of definition and of measurement. In the literature, the single term *stress* is used to refer both to stressors [causal factors] and to strain [the adverse reaction experienced by an individual]. Strain is likely to result when individuals perceive that they cannot adequately cope with the demands being made on them or with threats to their well-being, when coping is important to them and when they are anxious or depressed about it. Stress is strongly associated with uncertainty, that is, the perception that knowledge about an event or condition requiring action or resolution is inadequate. The measurement of stress and of resulting strain is largely based on self-report and subjective. This is recognised as a weakness but is considered to be appropriate by some prominent researchers. Strain is linked to a number of measurable health outcomes, including serious and life-threatening conditions. The exact nature of the correlations, though, remains unclear. It is believed that adverse somatic outcomes may have multifactorial causations, involving stressors, the individual's vulnerability, and the context in which the stressor-vulnerability interaction is taking place. A reduction of the effectiveness of the immune system has been suggested as the mechanism by which strain may lead to negative health outcomes.

Stress research has produced a number of paradigms. Selye's General Adaptation Syndrome and the Yerkes-Dodson inverted-U provide models of arousal and resistance which have significantly contributed to later developments. Work on life events [major incidents affecting individuals] is less highly regarded now and the primary stressors facing most employees in the course of their working lives are believed to be chronic rather than acute. Current stress paradigms are psychological and cognitively-based. Of these, transactional models focus on perception, cognitive appraisal and coping mechanisms, whilst interactional models focus on the degree of match or mismatch between the individual and his or her environment. Key elements in this interaction are the extent to which an employee's attitudes and abilities meet the demands of the job, and the extent to which the employee's needs are met by characteristics of the job and the environment. Stress is likely to occur when the individual perceives there to be a poor 'fit' in one or both of these dimensions.

The stressors which are likely to arise in the work environment include too much or too little work, work which is too difficult or too easy, uncongenial work patterns such as shift or night work, excessive working hours conflicts or dilemmas over incompatible requirements, or demands which offend against personal values, insecurity, failure of expected rewards or developments, and lack of opportunity to participate in decisions affecting the individuals or their work. Aspects of the physical environment, for example, overcrowding, lack of privacy, high noise levels, temperature extremes, air movement and lighting may also be stressors under certain circumstances. Some, but not all, of the identified sources of stress may legitimately be classified as threats. These include job insecurity, changes which affect individuals, withdrawal of expected career development and budget cuts. The issue of threat may also be relevant when considering why individuals tolerate conditions which they find stressful. This question is not directly addressed in the literature

A number of moderators are known to affect an individual's personal experience of stress. These include personality characteristics such as extroversion, neuroticism, trait anxiety, and self-esteem; behavioural style, such as locus of control, Type A behaviour pattern and 'hardiness'; needs and values; abilities and experience.

Control has been identified as the decisive factor in determining the health consequences of work demand, and the issue of control is a pervasive one throughout the stress literature. There is a considerable body of evidence that having some degree of control over events enables individuals to withstand otherwise damaging levels of stress, whilst being unable to exercise any control may result in strain and somatic outcomes from modest levels of stress.

Participation in decision making is not identical to control, but has been observed to moderate the effects of stressors in a similar way. Involvement in decisions which affect the individual at work has been shown to improve job satisfaction and to reduce conflict and tension. Negative correlations between participation in decision-making at work and physical and psychological ill health have been widely recorded.

Social support has been less positively associated with the moderation of strain. There is evidence that an employees social relationship with his or her immediate boss may reduce or increase the experience of stress, but the effects of other kinds of social support are less clear. It may be that social support acts as a kind of 'hygiene factor' - its absence may be a stressor but its presence may have little positive effect.

The experience of stress brings with it a motivation to reduce its negative impacts and restore stability or comfort. Actions taken by an individual to ameliorate the effects of stress are termed coping, and take the form of attempts at adjustment of the situation or adjustment to the situation, or commonly of both simultaneously. Initial appraisal of a potentially stressful situation or event involves assessment of the demands being made upon the individual, the constraints under which he/she has to cope, the support he/she receives from others, and personal characteristics and resources. Where action to change the situation is impracticable or unsuccessful the resultant strain may be reduced by changes to the way the situation is perceived, This may take the form of 'cognitively reconstructing reality,' so that the individual perceives the situation or its implications to be less damaging than they really are, or it may take the less extreme form of looking on the bright side or downwardly adjusting hopes and expectations.

Although defensible estimates of the costs of occupational stress are difficult to formulate, there is a general view in the literature that those costs are very high. Correlations between stress/strain and ill health are very widely recorded. Physical and mental ill health can be associated directly with economic costs in terms of absenteeism, and healthcare expenses. Their indirect costs in terms of productivity through reduced motivation, enthusiasm, creativity, learning capability and task performance may be much higher. Stress has also been associated with increased accident rates and with workplace conflict.

Research shows that factors in the organisational structure of work are more significant to health than the demands of work itself, and situationally-induced anxiety [eg, threat] has a greater negative effect on performance than personality factors. Approaches to stress management which focus on the individual have been criticised as ‘victim blaming’ strategies which divert effort away from more productive actions. Approaches which concentrate on making jobs and working environments less stressful are believed to be far more effective. There may also be an increasing legal responsibility for employers within the general requirement to provide safe working environments.

In general, the overwhelming weight of evidence suggests that employees who are experiencing stress/strain will perform less well in a variety of ways than those who are not, and it might reasonably be supposed that projects managed by persons under conditions known to be conducive to the experience of stress/strain, as documented above, will be less successful, on average, than projects where the organisational structure and climate are less stressful.

Chapter VII

MOTIVATION

Motivation concerns "those psychological processes that cause the arousal, direction and persistence of behaviour" (Ilgen and Klein, 1988). Whilst there is general agreement in the literature about these three components of motivation (for example, Korman 1974, or Kanfer, 1990), the nature and place of motivation in a work-related context has been the subject of a long and developing study. Theories have been propounded, tested and superseded at a pace which has left organisational practice often several steps behind the researchers. In the context of the present research, an understanding of the mechanisms by which behaviour is motivated is an essential element in assessing the probable effects of threat on individual behaviour and subsequently upon project performance. The following pages will attempt to document the main themes and the most widely-recognised theories.

The word *motivate* is frequently used in the context of management as a transitive verb: motivation is by implication something done *by* one person or group *to* another. A further implication of this usage is that the *motivated* parties need to be induced to perform some action or expend a degree of effort which they would not otherwise wish to do. That this is an issue of vital importance to the prosperity of commercial organisations is emphasised by Lawler (1973): "Those individual behaviors that are crucial in determining the effectiveness of organizations are, almost without exception, voluntary motivated behaviors." Other factors also have a bearing:

> "Consideration of questions such as; why do people go to work, why do people work hard? clearly shows that effort and performance at work are determined by ability, temperament and motivation. Despite the often complex interactions between these factors it is possible to develop theories and practical guidelines that focus specifically on motivation without losing sight of the influence of other factors." (Robertson, Smith and Cooper, 1992).

Kanfer (1994) takes this somewhat further by listing a number of inter-related factors which she believes to lead to behaviour:

> "On the broadest level, an individual's motivation for a specific task or job is determined by environment, heredity, and their interactions [such as learning]. These factors influence individual characteristics such as personality, motives, affect, attitudes, beliefs, knowledge, skills, and abilities. In turn, the intensity and character of effort, and the endurance of goal-directed behaviour over time."

However, according to Kanfer, most motivational theories are "not intended to predict performance but rather to predict decision processes and volitional behavior," which implies that managers and organisational theorists will not find easy answers to their practical needs in motivation theory. Campbell and Pritchard (1976) argue that "motivation does have a meaning if we take it merely as a summary label that identifies a class of independent variable/dependent variable relationships."

Theoretical perspectives

The development of theory on motivation, and more specifically on motivated workplace behaviour, has been broadly a movement from the simplistic to the complex. The hedonist perspective expressed by 19th century English philosophers, such as Jeremy Bentham, James Mill, and John Stuart Mill (Lawler, 1973) attributes all behaviour to a desire to achieve the greatest pleasure. This is unhelpful in a practical sense, since what will achieve pleasure for one individual under given conditions can only be surmised by another person. Scientifically, the proposition is in any case untestable (Vroom, 1964; Lawler, 1973).

Early psychologists such as James (1890); McDougal (1914); Tolman (1923) and Freud (in Korman, 1974) explored the concept of *instincts*, or innate behaviour patterns, as explanations of behaviour. Whilst such concepts can undoubtedly describe certain observable unlearned [at least by the observed individual] behaviours, they do little to explain them.

A concept closely allied to that of instinct is *drive*, postulated by, for example, Freud (in Bolles, 1975); Lewin (1926); Murray (1938) and Hull (1943). Drive theories are based on the proposition of an ideal homeostatic state within the individual. Any disruption of or imbalance in this state provokes a response aimed at restoring homeostasis. Such imbalances may be physiological, such as hunger, thirst, cold or unsatisfied sexuality, or psychological, such as perceptions of danger. Drive theories fail to explain complex behaviour adequately, or to deal with learned drives or with observations of behaviours that are not connected with the restoration of homeostasis (Lawler, 1973; Jung, 1978). They have also been found to have poor predictive capabilities (Bolles, 1975).

Needs theories postulate underlying human needs which human beings strive to satisfy, resulting in specific behaviours. They differ from theories of instincts to the extent that they assume that needs are acquired through learning (Campbell and Pritchard, 1976). Several needs theories are well-known to students of organisational management and are still taught on many management courses.

Abraham Maslow (1943) proposed a hierarchy of, initially, five needs: *Physiological needs*; such as hunger, thirst or sex; *Safety needs;* for protection against danger, deprivation or threat; *Love needs;* to belong, to be accepted, to give and receive friendship and love; *Esteem needs*; in two groups, [i] for self-esteem, self-confidence, achievement and independence, and [ii] for esteem from others, status, recognition and [deserved] respect; and finally *Self-actualisation needs*; to realise one's full potential, for continuous self-development, to be whatever one is capable of being. To these five needs Maslow added the needs to *know* and to *understand*, which "found no place in the ... hierarchical order, and he felt it necessary to recognize them while making it clear that at present psychologists had little to say about them" (Adair, 1990).

Maslow argued that needs at each level in the hierarchy must be "substantially satisfied" before the next level assumes the major role in determining behaviour - the principle of prepotency.

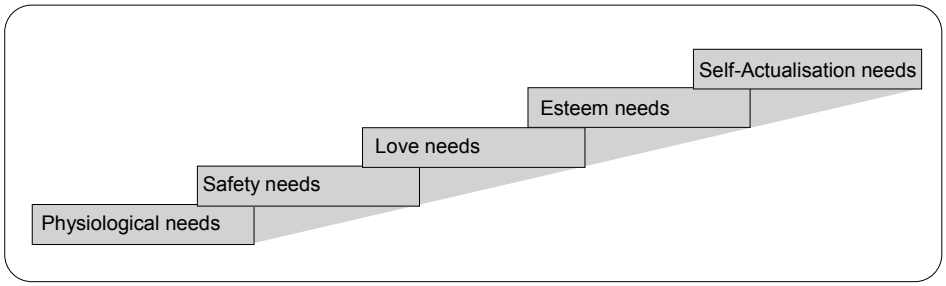


Exhibit 12 The Hierarchy of Needs (from Maslow, 1943)

Maslow's theory has "instinctive" appeal, and remains popular despite the fact that attempts to test it empirically have met with very little success (Korman, 1974; Campbell and Pritchard, 1976), and that it pays scant attention to environmental influences (Robertson, Smith and Cooper, 1992).

Alderfer (1969) developed a "threefold conceptualization of human needs," usually referred to as *ERG Theory*. The three "core needs that [a human being] strives to meet ... include obtaining his material *existence* needs, maintaining his interpersonal *relatedness* with significant other people, and seeking opportunities for his unique personal development and *growth*." Unlike Maslow's model, these needs coexist, but vary in strength in that "lack of satisfaction at one level leads to stronger need at the level below" and "satisfaction at one level leads to stronger need at the level above." Campbell and Pritchard (1976) provide a useful summary of Alderfer's propositions, together with their own commentary. Firstly, "the less a need is satisfied the more it is desired" the rationale for which "is older than psychology." Secondly, "the less a 'higher order' need is satisfied, the more lower order needs are desired." The term higher order here is not used in Maslow's sense but refers to the level of concreteness in the need objects. "Existence needs simply have more concrete referents than relatedness needs and relatedness need objects are less ambiguous than growth need objects." The rationale for this is that "if one type of need desire is frustrated the individual will seek to satisfy desires with more concrete referents." Thirdly, "the more a need is satisfied the more higher order needs are desired." This is based on the argument that "satisfaction of existence or relatedness desires frees the individual from the effort required to satisfy it and he or she can then turn to relatedness or growth."

Alderfer tested his theory to a limited extent and claimed that it accounted for data rather better than Maslow's theory, although he doubted whether he had "adequately operationalized" Maslow's constructs.

Herzberg's "*two factor theory*" " (Herzberg, Mausner and Snyderman, 1959) was developed following an extensive review of the literature which led Herzberg to observe that

> "there was a difference in the primacy of factors, depending on whether the investigator was looking for things the worker liked about his job or things he disliked" (Herzberg et al, 1957).

After two pilot studies, Herzberg and colleagues conducted an extensive study from which they eventually assembled lists of “Motivators,” which contributed to job satisfaction, and “Hygiene factors” which “contributed to employees’ dissatisfaction with their work.” Motivators were: achievement; recognition for achievement; the work itself; responsibility; and growth or advancement.” Hygiene factors were: company policy and administration; supervision; interpersonal relationships; working conditions; salary; status; and security (Herzberg, 1968).

The two groups of factors serve different purposes.

> “One group revolves around the need to develop in one's occupation as a source of personal growth. The second group operates as an essential base to the first and is associated with fair treatment in compensation, supervision, working conditions, and administrative practices" (Herzberg et al, 1959).

Herzberg developed and popularised his ideas, arguing that improved performance could never be achieved and sustained by adding to hygiene factors, but only by increasing the intrinsic satisfaction an employee could obtain from work. This led to concepts of job enrichment which are still advocated by many management writers.

Herzberg’s work has been criticised on the grounds of inadequate methodology (Robertson et al, 1992) and because of the implied identification of job satisfaction with motivation (Vroom, 1966; House and Wigdor, 1967; ACAS, 1992). Subsequent attempts to replicate Herzberg’s research have provided little support for his finding of duality (Burke, 1966; House and Wigdor, 1967; Wood and LeBold, 1970; Wilde, 1970), and his theory is now widely regarded as, at best, over-simplistic (Adair, 1990).

Douglas McGregor (1960) is concerned with the application of Maslow’s ideas in an organisational context. Observing that “for many wage earners *work is perceived as a form of punishment* which is the price to be paid for various kinds of satisfaction away from the job” he comments that “we would hardly expect them to undergo more of this punishment than is necessary.” Echoing Maslow, McGregor suggests that thwarted needs, whether the basic physiological and safety needs, or the higher needs, are the equivalent of physical illness:

> "The man whose needs for safety, association, independence, or status are thwarted is sick, just as surely as is he who has rickets. And his sickness will have behavioral consequences.”

He argues that work must provide opportunities to satisfy the higher needs, and turns to an observation of American management practices of his time. McGregor maintains that the attitudes of managers towards their workers are inevitably based on theory; if not formal theory, then informal assemblies of assumptions about people and behaviour, which are used to guide and determine action. From his observations he is able to infer two broad underlying theories, which he designates *Theory X and Theory Y*.

The assumptions of Theory X are as follows:

1. “The average human being has an inherent dislike of work and will avoid it if he can.”
2. “Because of this human characteristic of dislike of work, most people must be

coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives."

3 "The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all."

(McGregor, 1960)

McGregor claims that

> "the principles of organization which comprise the bulk of the literature of management *could only have been derived from assumptions such as those of Theory X*. Other beliefs about human nature would have led inevitably to quite different organizational principles."

If managers hold such views about their employees, certain patterns of managerial behaviour follow almost inevitably, and these provoke responses which turn Theory X assumptions into self-fulfilling prophesies. It is this self-fulfilling nature of the Theory X orientation which has enabled it to dominate management thinking for so long.

The assumptions of Theory Y are almost diametrically opposed to those of Theory X.

1 *"The expenditure of physical and mental effort in work is as natural as play or rest*. The average human being does not inherently dislike work. Depending upon controllable conditions, work may be a source of satisfaction [and will be voluntarily performed] or a source of punishment [and will be avoided if possible]."

2 *"External control and the threat of punishment are not the only means of bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed."*

3 *"Commitment to objectives is a function of the rewards associated with their achievement*. The most significant of such rewards, eg, the satisfaction of ego and self-actualization needs, can be direct products of effort directed toward organizational objectives."

4 *"The average human being learns, under proper conditions, not only to accept but to seek responsibility*. Avoidance of responsibility, lack of ambition, and emphasis on security are generally consequences of experience, not inherent human characteristics."

5 *"The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population."*

6 *"Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilized."*

(McGregor, 1960)

Managers who hold these assumptions will naturally behave very differently in their interactions with employees, creating a climate of "integration," in which members of an organisation can "achieve their own goals *best* by directing their efforts toward the success of the enterprise" (McGregor, 1960).

McGregor acknowledged that "the assumptions of Theory Y are not finally validated" but maintained that "they are far more consistent with existing knowledge in the social sciences than are the assumptions of Theory X." The implementation of Theory Y as a management style is almost untestable, depending as it does upon a system of attitudes and assumptions on

the part of the managers involved which would be practically impossible to operationalise. However, McGregor's ideas have undoubtedly been influential:

> "this book, more than any other book on management, changed an entire concept of organizational man and replaced it with a new paradigm that stressed human potentials, emphasized human growth, and elevated the human role in industrial society" (Bennis, 1985).

Expectancy theory combines the principles of hedonism with the human capability of predictive intelligence. It holds that behaviour is purposefully associated with the outcomes that an individual believes will ensue. Three interacting factors govern the probability that an individual will engage in a certain behaviour: Valence, Instrumentality, and Expectancy, leading to the common alternative designation of this group of theories as *VIE theories*. Valence is the attractiveness, or "psychological value" (Deci, 1992) of a particular outcome to the individual concerned (Graen, 1969; Campbell and Pritchard, 1976; Pinder, 1984). Instrumentality is a "probability belief" (Vroom, 1964) about the effectiveness of a given behaviour in bringing about a particular outcome, and Expectancy refers to the strength of belief that the desired [or feared] outcome will, in fact, occur. A fourth concept, Force, refers to "the strength of a person's intention to act in a certain way" (Pinder, 1984) and is distinct from valence, which is "passive; it is an abstract value that is merely correlated with action" (Bolles, 1975). Vroom (1964) uses algebraic formulae to describe the interactions of these factors.

"Vroom's model is one of extrinsic motivation" (Shapira, 1976). In it, behaviour is caused by its association with outcomes, either in a simple relationship where the outcome is itself desirable for hedonistic reasons, or in an indirect relationship where an intermediate outcome is desirable because it is believed to have the potential to lead to a self-valent outcome [ie, is instrumental). This is because the expenditure of effort is basically abhorrent; there must be some 'reward' to justify activity. Beyond a brief acknowledgement that "some writers ... propose that the expenditure of effort is basically satisfying rather than dissatisfying," Vroom (1964) gives little attention to the idea that activity may be intrinsically rewarding, and engaged in without regard for outcomes. His model, however, would not actually preclude the inclusion of intrinsic hedonistic influences.

As far as performance is concerned, expectancy theory, which deals only with effort, is a poor predictor (Porter and Lawler, 1968). Many other factors have an influence, such as ability, training, role and goal clarity, and availability of resources. Whilst there have been a large number of attempts to verify Vroom's and other variants of expectancy theory, results have been mixed (Korman, 1974; Shapira, 1976; Kanfer, 1994). The complexity of the interactions between factors which may impel or restrain behaviour means that a mathematical model such as Vroom's could only provide reliable predictions of behaviour if *all* the factors were known, if their *precise strengths* of impulse or restraint were known, and if *all* their *interactions* could be precisely mapped. There would appear to be no practical way in which such a situation could be even remotely approached.

The influence of reward, and especially financial reward, as a motivating outcome is, of course, a topic of interest to management writers. Herzberg et al (1959) and McGregor (1960) give the subject considerable attention and Vroom (1964) clearly assumes that expectancy outcomes will include monetary rewards. The effectiveness of financial incentives appears to be rather doubtful. Deci (1972) found that extrinsic types of reinforcement [eg money] for performing a task were negatively correlated with intrinsic motivation to perform that task. Verbal reinforcements, on the other hand, were positively correlated with intrinsic motivations. McGraw (1978) found that “rewards facilitate performance of overlearned [algorithmic] tasks but impair performance of heuristic tasks, such as problem solving” and Kohn (1993) cites a number of studies to conclude: “research suggests that, by and large, rewards succeed at securing one thing only: temporary compliance.”

The work of McClelland and Atkinson (McClelland, 1955; Atkinson, 1964; McClelland et al, 1976) on *achievement motivation* turned the focus of expectancy theory towards intrinsic factors (Korman, 1974; Shapira, 1976). Central to their ideas is the view that “there are basically two types of people in a theoretical sense” (Korman, 1974). For some people, pleasure results from achievement; for others, pleasure results from the avoidance of failure. Atkinson holds that, for “high achievement” people, a high expectation of success reduces the valence of the outcome, since there is little sense of achievement in successfully completing something that was fairly certain to be accomplished. Equally, where the expectation of success is low, the “reward” in terms of a sense of achievement which accrues from a successful outcome is high, and the motivation to perform the action is increased. Conversely, for “high failure-avoidance” people, the “misery and disgrace of failure” in not accomplishing something where there was a high expectation of success would be considerable, and the motivation to take that risk would be low, whereas failure to accomplish something which was in any case unlikely to be achieved does not cause too much distress. “The incentive value of success on a task is an inverse linear function of its expectancy” (Shapira, 1976). Thus as well as being essentially an intrinsic model of motivation, Atkinson’s model also incorporates personality differences.

McClelland takes the view that pleasure, and therefore motivation, is essentially a product of limited variations from some norm. Therefore people will be motivated to achieve end states which show relatively small discrepancies, or differences, from the previous state to which they were accustomed or adapted. Small variations are pleasurable and will be actively sought, whilst large variations produce discomfort and will be avoided if possible (McClelland, Atkinson, Clark, and Lowell, 1976).

Some studies have tended to support the propositions of achievement theory. For example, work by Smith and colleagues found that high achievement motivation in executives was related to “better results,” more noticeably in “entrepreneurial organisations that bureaucratic ones” (Robertson, Smith and Cooper, 1992). There are, however, a number of related studies which fail to support the theory. "While these studies vary in quality and relevance, the large number of negative findings leaves room for pause and considerable doubt" (Korman, 1974).

To the extent that “goals provide the individual with a cognitive representation of desired outcomes” (Kanfer, 1994), *goal theory* may be considered as a sub-theory of the expectancy approaches. Locke (Locke 1968, Locke and Latham, 1984) contends that “persons assigned [and adopting] difficult and specific goals outperform persons provided ‘do your best’ [vague and non-specific] goal assignments.” Kanfer (1994) cites a variety of research evidence, and meta-analyses, in support of this contention, but cautions that “difficult and specific goal assignments facilitate task performance in many, but not all, situations.” The fact that “research has shown that as a goal difficulty increases so does performance” (Locke et al, 1981) is in apparent contradiction to expectancy theory, which would suggest that, to the extent that expectation of success correlates negatively with goal difficulty, the opposite effect might be anticipated, but seems consistent with achievement theory, which would suggest that the more difficult the goal the greater the achievement involved in its attainment. Wright (1994) claims that “more than 30 years of research [including more than 400 studies in 1990] demonstrate the efficacy of goal setting as a motivational tool.”

The key to the success of goal-setting approaches in stimulating performance improvements lies in Locke’s parentheses: “persons assigned [*and adopting*] difficult and specific goals” - “Difficult goals lead to higher performance only when an individual is committed to them” (Locke and Latham, 1990). Adoption of goals is often facilitated by participation in defining them, although Latham et al (1988) maintain that this is not always essential.

Kanfer (1994) argues that goal setting usually leads to improved task performance through its influence on the way that resources are allocated. Goals in this paradigm are intentions to which resources have been allocated. Kanfer found that performance of “novel and complex tasks” was impeded by “the provision of difficult goal assignments.” She explains this by surmising that critical resources are in this case being diverted away from task processing and into a dysfunctional focus on outcomes. This is consistent with Wright’s (1994) finding that goal-setting led to increased quantity but reduced quality. He also mentions some negative consequences of over-emphasis on goals in organisational settings, such as the "goal only effect" - blinkered behaviour which ignores other needs -, the "end justifies the means effect" and the “easy goal effect.”

Several writers have suggested that the valence of an outcome may be, at least in part, a function of its perceived fairness or ‘rightness’ in relation to the effort expended to attain it, benchmarked against various external factors. The most prominent exponent of such an ‘*equity theory*’ is J S Adams (1963), who presents a "theory of inequity, which is based upon Festinger's (1957) theory of cognitive dissonance and is, therefore, a special case of it.” Essentially, equity theory deals with “the employee-employer social exchange relationship” (Kanfer, 1994) and suggests that “people will be most satisfied and work most effectively when they believe that their rewards or outcomes are in balance with their inputs" (Deci, 1992).

Equity theories predict dissatisfaction from over- as well as under-reward. Adams (1963) argues that a worker has a drive to equate production with the perceived fairness of reward. Thus, a

worker who believes himself to be overpaid will strive to produce more, in order to redress the inequity, and a worker who believes himself underpaid will produce less. The evidence for the overpayment effect is rather mixed. Adams' own experiments showed that hourly paid systems did produce the predicted results. However, piece-rate systems did not produce greater quantity for overpayment, but did produce better quality. This was interpreted as a means of redressing the inequity by giving better value. Subsequent studies of "overpayment inequity ... provide mixed support for Adams' theory" (Kanfer, 1990). Where the theory is supported Jung (1978) suggests that this might be due to methodological factors:

> "overpaid workers may have felt insecure, because the method of inducing feelings of overcompensation involved telling workers they were unqualified. As a consequence they may have concentrated on producing higher quality work, at the expense of quantity, as a means of proving themselves adequate and qualified."

However, the effects of underpayment have been "found to be broadly consistent with Adams' model" (Kanfer, 1990), that is, people who feel they are underpaid by comparison with certain others typically decrease the quality or quantity of their output.

Stimulus-Response theories have their origins in Thorndike's (1911) Law of Effect, which states that "actions which are rewarded tend to be repeated." This principle has been explored extensively and is not disputed by any of the main strands of thought in psychology (see, for example, Dobson et al, 1982; Gross, 1992; Atkinson et al, 1993; or Hayes, 1994). Watson (1913) developed the proposition that responses could be learned, and Pavlov's (1927) well-known experiments in which dogs were taught to respond in controlled ways to certain artificial stimuli established the concept of conditioning in public perception. This was further developed by Skinner (1938), who showed that behaviour could be shaped by selectively rewarding [reinforcing] initially random actions.

Social learning theory uses reinforcement history, not as the direct determinant of behaviour, but as input to a cognitive process:

> "Reinterpretation of antecedent determinants as predictive cues, rather than as controlling stimuli, has shifted the locus of the regulation of behavior from the stimulus to the individual" (Bandura, 1977a).

Within this concept, observation of the success or failure of certain behaviours when performed by others may be cognitively processed and used as a predictor of the desirability, or efficacy, of that behaviour for the observer in his or her own, possibly new, situation.

Organisational Implications

The range of theories discussed above, and the limited empirical research available to support any of them with great confidence, may detract a little from the value of the theoretical work for organisational practice. However, much of the theoretical disputation may be seen as taking place below the threshold of practical application. Whether basic behaviours are driven by physiological, instinctual, or homeostatically-regulated mechanisms, or are drawn by hedonistic, conditioned, or learned associations, or are due to some combination of all these factors, it is

beyond dispute that basic behaviours are essential to the continuation of life. Organisms that fail to eat and drink, to seek shelter from extremes of climate, or to find refuge from predators, will die and their species will become extinct. Similarly, organisms which do not seek mates, or make provision for the survival and development of their offspring, will not survive as species. That a variety of mechanisms may lead to appropriate behaviour for these ends is not especially remarkable.

Organisations are not normally concerned with issues of physical survival. They are concerned with commercial survival, which normally means they must satisfy the needs of customers, in a variety of guises, who have the ultimate power to starve the organisation of income. Customer satisfaction involves both quality and cost elements (Kottler, 1986), which means that organisations must achieve required standards of quality at a cost which enables financial survival whilst keeping prices to a level which customers are willing to pay. In order to do this they must normally enlist the help of their employees. The motivation issue here is 'what forms of organisational behaviour are most conducive to maximum customer satisfaction at acceptable cost?' The issue can be further limited in context by considering that the focus of the present research is on a class of employee which exercises executive responsibility, involving decision-making, discretion, and planning.[***]

Motivation theory can offer some guidance in an organisational context. According to Kanfer (1994) "two broad themes categorize recent motive-based research":

> "[1] identification of the organizational conditions that activate particular motives; and [2] investigation of the influence of motives on specific components of the motivation system, such as job commitment, task interest, and motivational orientation."

Korman (1974) concurs that "for many psychologists, the study of motivation involves studying the characteristics of people and the characteristics of the environment where the behavior takes place." Management writers, such as Adair (1990), have applied this dual influence model to frame recommendations for organisational design. Adair concentrates on leadership: "fifty per cent of motivation comes from within a person and fifty per cent from his or her environment, especially from the leadership encountered there," and criticises Herzberg for using the term "supervision" rather than "leadership." Adair suggests that this choice of words is highly significant. 'Supervision' indicates a negative, passive approach on the part of management, whereas 'leadership' is dynamic, positive and more empathetic with the needs and desires of subordinates. Likert (1961) found significant correlations between high production and supervisors who helped their subordinates to "do the job well for their own satisfaction as much as for the attainment of departmental goals" (Adair, 1990). Vroom (1964) also found that:

> "it appears that measures of the amount of consideration shown by a supervisor for his subordinates are frequently positively related to the effectiveness of his work unit"

[***] See Chapter iii and Appendix A for discussions of the role of project managers.

although he noted “some inconsistencies in findings from study to study which may reflect the fact that different situations require different supervisory methods.” It should be noted that, whereas Likert is clearly arguing for a particular causal direction, Vroom is noting, with the above reservation, only a correlation between two variables. In Vroom’s observations, it is possible that supervisors were seen to be more considerate towards their subordinates when productivity was high; a reactive rather than a proactive stance.

Deming (eg, Deming 1982) is in no doubt about the need for trust between managers and employees. He insists that managers must work to “drive out fear” because “no one can put in his best performance unless he feels secure,” reinforcing the point made by McGregor (1960) that “when [someone] feels threatened or dependent, his greatest need is for protection, for security.” These observations may be linked with the findings of reinforcement researchers (eg Skinner, 1938; Korman, 1974) that punishment is an ineffective means of shaping behaviour, and the studies of arousal (eg. McClelland et al, 1976; Bandura 1977a), which indicate that optimum performance, especially of high-discretion tasks, is seen when arousal levels are moderate. The implication is that a secure environment which stimulates but does not over-tax the worker should be most conducive to high performance.

Within such a general environment, factors which will persuade individual workers to put optimum effort into specific tasks or responsibilities become much more difficult to define. Expectancy theory is not very helpful at this level because of the virtual impossibility, outlined above, of identifying and quantifying all the interacting factors which would enable an assessment to be made of the “forces” operating to determine observable performance. Goal theory does, however, offer some useful insight into performance in a project setting, since project management revolves around specifying a variety of clearly-defined goals. The requirement for goals to be accepted (Locke, 1968) should be noted here, as should the dangers of a “blinkered” dependence on specified goals to the exclusion of other [especially unanticipated] demands (Wright, 1994).

The strong message of ambiguity concerning the effects of reward and financial incentives is particularly relevant in the present context. The findings of McGraw (1978) and Kohn (1993) suggest that performance-linked rewards would not be helpful in improving the performance of project managers. However, it is not clear whether the units of rewarded performance, for example, task-based, time-based, or total project outcome-based assessments, would make a difference here. There is also the issue of whether linking rewards to specific achievements might be detrimental to the employing organisation in a similar way to the dangers associated with goal-setting identified by Wright. For example, rewards based on project completion measures might lead to continuation of projects which should properly be terminated.

Implications for the present research

There is a strong theme throughout much of the literature that high performance is associated with interest in and commitment to the content of the work, as distinct from anticipated outcomes. In this context personal recognition for contribution may be viewed as an intrinsic

factor, where it occurs during the course of the work, as well as being a potential post-activity outcome. Membership of a project team may offer opportunities for such recognition as well as the satisfactions to be derived from mutual support and belonging. Opportunities for role-modelling, suggested by Robertson et al (1992) as a factor in determining goals, may also be greater in a project team than in other kinds of work setting.

However, other aspects of project work may have ambiguous effects on the processes of individual motivation. The conflicts which, according to Kerzner (1989) are “a way of life in a project structure” and the temporary nature of most project work, which implies insecurity, may be supposed to cause discomforts which would normally promote avoidance behaviours, but the intense activity often associated with project work may be intrinsically rewarding and therefore lead to greater commitment and involvement. Individual differences and preferences make any single approach unlikely to be satisfactory in all cases, but the broad view is that positive reinforcements [ie, rewards] are more motivating and certainly more enduring than negative reinforcements [ie punishments]. Of the available reinforcements, those that are intrinsic, ie, arising from the activity itself, are more effective than those that are extrinsic, for which the effort involved in the activity is no more than instrumental and therefore to be expended as economically as possible.

Overall, it appears that an emphasis on the creation of a favourable work environment for project managers is likely to be a more fruitful organisational approach than concentrating on the manipulation of individual personal motivation.

Chapter VIII

ORGANISATIONAL CULTURE

The term “culture,” as applied to human societies or groups, has its origins in the discipline of anthropology (Smircich, 1983; Sackman, 1991; Hofstede, 1991), and “the notion of an *organizational* culture appeared with force in the management literature some two decades ago, the beneficiary of this anthropological endowment” (Despres, 1995). Hofstede (1991) uses the synonym *corporate* culture which, he says, “gained popularity after a book carrying this title, by Terrence Deal and Allan Kennedy, appeared in the USA in 1982.” The precise meaning of the term is open to dispute (Schein, 1985; Baron and Walters, 1994) and may not transfer well from one discipline to another (Meek, 1988). There is, however, a core of agreement amongst writers which survives differing emphases and priorities (Sackman, 1991). A recurring phrase is “the way we do things around here” (Kilman et al, 1985; Sackman, 1991; Schneider, 1994; Baron and Walters, 1994; Guest et al, 1996), with the implication that ‘the way we do things’ is somehow different from the way someone else might do them. This notion of distinctiveness is fundamental to most concepts of culture (Harrison, 1972; Cleland, 1994).

‘The way we do things’ focuses attention on observable characteristics of behaviour in organisations, and emphasises the collective pronoun, with its suggestion of sharing as a salient feature of the phenomenon. It does, though, rather beg the question ‘why do we do things this way?’ This leads to a major unresolved but fundamental difference of orientation towards culture discernible in the literature; of whether culture is something an organisation *has*, or if it describes what an organisation *is* (see, for example, Hofstede, 1991 or Baron and Walters, 1994).

Despite the emphasis on “rites and rituals” of popular writers such as Deal and Kennedy (1982), Schein (1985) advises caution in the interpretation of “behavioural regularities” as indicators of underlying culture because environmental, rather than cultural, factors may be the underlying cause: “when we observe behavior regularities, we do not know whether we are dealing with a cultural artefact or not.” Morgan (1986), too, is uncomfortable with a view of culture as “a set of distinct variables,” arguing that “from the inside, culture seems more holographic than mechanistic.” For Schein (1985) common definitions of culture such as

> “observed behavioral regularities ... the norms that evolve in working groups ... the dominant values espoused by an organization ... the philosophy that guides an organization’s policy toward employees and/or customers ... the rules of the game for getting on in an organization ... the feeling or climate, ... [all] *reflect* the organization's culture, but none of them *is* the essence of culture.”

He believes that the term should be reserved for the deeper level of “*basic assumptions and beliefs* that are shared by members of an organization, which are *learned* responses to a group's problems of *survival* in its external environment and its problems of *internal integration*.”

There are in any case, as Schneider (1994) points out, risks in generalising conclusions drawn from observation of organisational practices, although Trice and Beyer (1985) point out that

such practices are very public and would probably not survive in an organisation if they did not reflect the “ideologies and values of top management.” Morgan (1986) warns that the observers’ attention may be drawn to unusual or noticeable aspects of the organisation, whilst significant underlying factors may be missed.

Hofstede (1991) provides an especially vivid analogy, describing culture [in this case not specifically, but including, organisational culture] as “software of the mind.” He goes on to define organizational culture as “*the collective programming of the mind which distinguishes the members of one organization from another*." The importance of shared “philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit a community together” (Kilman et al, 1985) is stressed by many writers (for example, Meek, 1988; Dennison, 1990; Payne, 1991; Cleland, 1994; Baron and Walters, 1994). The strength of this sharing depends, according to Payne, on three things:

> “First, the pervasiveness of the norms and behaviours in the explicit culture, and the pervasiveness of the values and beliefs in the implicit culture - *ie* the proportion of the members of the social group that firmly hold to the norms and beliefs. Secondly, cultural strength depends on the pervasiveness of the beliefs and behaviours themselves - *ie* the range of behaviours and the range of beliefs and values which the culture sets out to control. ... the third feature of a strong culture [is] consonance between the explicit and the implicit culture"
>
> (Payne, 1991).

Sathe (1985) believes that these characteristics are observable, and that the strength of a culture under study can therefore be inferred.

Morgan (1986) describes organisations as “the enactment of a shared reality” and argues that “we must root our understanding of organization in the processes that produce systems of shared meaning.” This view is endorsed by Schein (1985) who similarly maintains that “an examination of cultural issues at the organizational level is absolutely essential to a basic understanding of what goes on in organizations, how to run them, and how to improve them.” If this is indeed the case, then the paucity of “empirically based knowledge about culture in organizational settings” (Sackman, 1991) complained about by several writers (including Thompson and McHugh, 1990; Hollway, 1991; Hofstede, 1991; Willmott, 1993) has serious implications for managers.

Various writers have sought to categorise types and “levels” of culture. Meyerson and Martin (1987) draw attention to the influence that the perspectives of the researchers may have in the construction of their models. They describe three paradigms which emphasise different aspects of the subject. Paradigm 1 is “an integrating mechanism” which stresses the sharing aspects of culture. Paradigm 2 views cultures as complex amalgams of influences “some of which may be contradictory. For example, espoused values may be inconsistent with actual practices.” Paradigm 3 accepts ambiguity: ”individuals share some viewpoints, disagree about some, and are ignorant of or indifferent to others.”

Sackman (1991) also discerns “three broad perspectives of culture ... in the managerial literature.” The first is “a holistic perspective” within which "culture is defined as patterned ways

of thinking, feeling, and reacting." Sackman points out that it is difficult to research from this perspective - it requires long-term study with multiple data sources. The second perspective is "a variable perspective" which "focuses on expressions of culture. These expressions may take the form of verbal and physical behaviors or practices, of artefacts, and of their underlying meanings." From this perspective "the process of 'deciphering' cultural manifestations is ... difficult and involves some guesswork." Researchers' own cultural biases affect judgement. The third perspective is a cognitive one which "focuses on ideas, concepts, blueprints, beliefs, values, or norms that are seen as the core of the complex and multifaceted phenomenon called 'culture'."

Baron and Walters (1994) have produced a model of four underlying components of culture [represented in Exhibit 13, right], and the interactions between them, based on fifteen case studies

Within an environment which includes markets and customers, culture influences and is influenced by the four components, which in turn interact with each other.

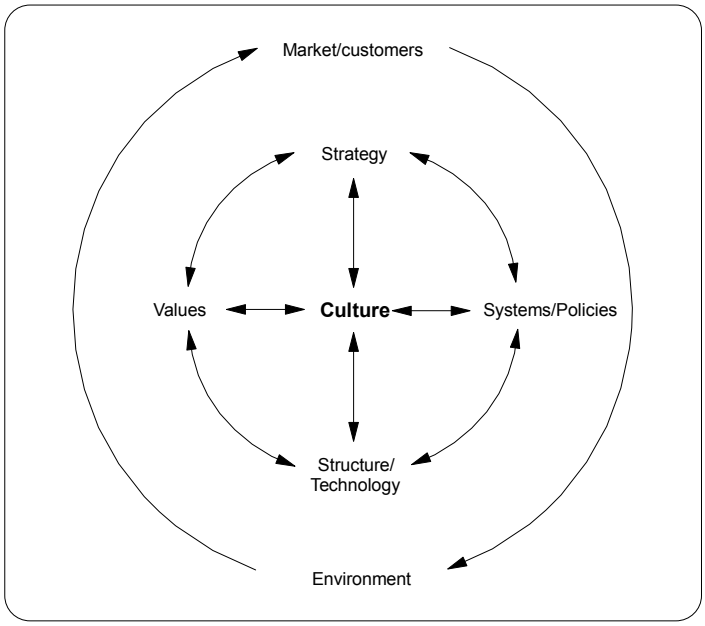


Exhibit 13 Components of culture (Baron and Walters, 1994)

Baron and Walters argue that :

> "The kind of systems and policies which the organisation chooses to develop and use may be influenced by the culture, or, rather, by the shared beliefs about how an organisation should be managed. The systems and policies may, therefore, form part of a cycle of reinforcement, a product of the culture that they seek to perpetuate. Alternatively, the culture may inhibit the success of systems and policies designed to deliver the strategy if the organisation is unaware of the nature of the culture" (Baron and Walters, 1994).

The methodological categorisations described above lead almost seamlessly into descriptions of culture types and characteristics. Other writers concentrate on descriptive models on the premise that recognition of a 'pure' [or 'ideal' in the Platonic sense] form of a culture type will aid understanding of real-world cases, whilst accepting that "this division of the world of business into ... categories is, of course, simplistic. No company ... precisely fits into any of these categories" (Deal and Kennedy, 1982).

Harrison (1972), Deal and Kennedy (1982), Handy (1985), Trompenaars (1993) and Schneider (1994) all identify four basic culture types. These differ in their emphasis and in the terminology used by the authors, however, Schneider (1994) claims that the taxonomies of the other writers

can be mapped onto his own. He uses the terms Collaboration Culture, Cultivation Culture, Control Culture, and Competence Culture to define his four basic culture types.

> "Briefly, a control culture has to do with power, a collaboration culture is all about teams and teamwork, a competence culture focuses on achievement, and the cultivation culture is concerned with growth and potential" (Schneider, 1994).

Schneider goes into great detail about the characteristics, strengths and weaknesses of the four culture types. For example, control cultures are characterised by hierarchy, centralised goal-definition, emphasis on reward and punishment, and formal systems. “The individual motivation base for the control culture lies in people’s need for power.” Control cultures tend to be stable and secure, but can be arrogant and individual flair and innovation can be stifled. Competence cultures are “based on the achievement motive.” They emphasise personal and organisational excellence, and can be sources of technological advance. They may, however, foster technical excellence at the expense of pragmatism, and people in them may feel insecure.

> "Of all the four core cultures, the competence culture has generated the greatest number of developmental works on the study and improvement of organizations. This is to be expected considering that most writers themselves belong to competence cultures such as universities and consulting firms" (Schneider, 1994).

The collaboration culture emphasises teamwork, partnership and cooperation. It is “a natural at building and using diversity, an increasingly prevalent issue in the 1990s” (Schneider, 1994). It tends to be versatile and adaptive, individual talent is fostered, although it may not be recognised, and “employees feel ownership and pride.” Collaboration cultures “may be disadvantaged against a ruthless adversary” by slow decision-making, “short-termism” and vulnerability to “groupthink.” The cultivation culture is characterised by free-flowing, flexible relationships, “built on trust and commitment.” "A feeling of freedom permeates the organization. People behave as if they have few things to worry about."

> "The collaboration culture's way to success is to put a collection of people together, to build these people into a team, to engender their positive affective relationships with one another, and to charge them with fully utilizing one another as resources" (Schneider, 1994).

The cultivation culture values its people’s aspirations and hopes. It “taps and utilises individual talent” and is “amenable to change and adaptation.” People feel “fulfilled, inspired, enlivened” but it may lack direction and focus. It can be “weak at completing/finishing, ... blind to ‘hard’ data [and] poor at decision making if too many options” are available.

Schneider’s four culture types are placed in the quadrants of a matrix with axes Personal <> Impersonal and Actuality <> Possibility:

> "At the most fundamental level, every organization focuses either on what is actual or what is possible. Actuality has to do with what is; possibility has to do with what might be" (Schneider, 1994).

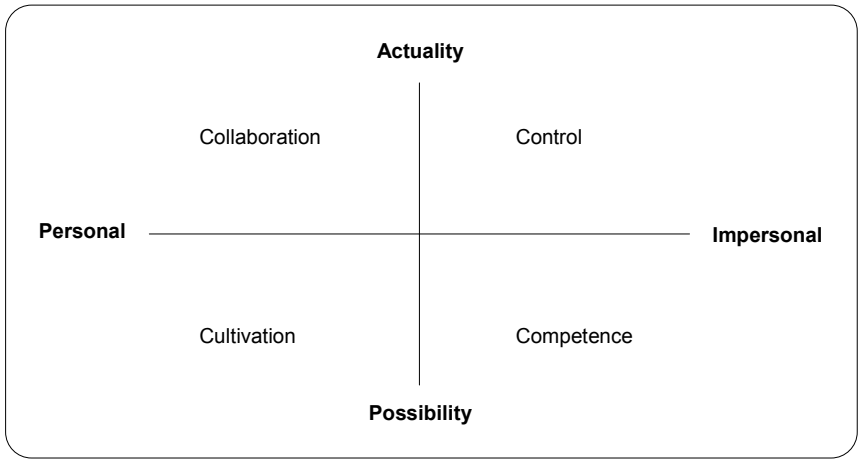


Exhibit 14 Four culture types (Schneider, 1994)

As well as distinct types of culture, several writers have described varying levels of culture, or of the observable manifestations of culture (Denison, 1990; Hofstede, 1991; Kotter and Heskett, 1992). Schein (1980, 1985, 1990) discerns three levels. The deepest is the set of "basic assumptions" about the nature of being, reality and the environment. Above this lie the values; "the sense of what 'ought' to be, as distinct from what is," and on the surface, visible to the observer, are the "artefacts and creations" - the culture's "constructed physical environment." Schein (1985) suggests that "since the insiders of the culture are not necessarily aware of their own artefacts, one cannot always ask about them, but one can always observe them for oneself."

Schein provides some expansion of the "basic assumptions" which form the deepest layer of his model.

> "1. *Humanity's Relationship to Nature*. At the organizational level, do the key members view the relationship of the organization to its environment as one of dominance, submission, harmonizing, finding an appropriate niche, or what?
>
> 1. *The Nature of Reality and Truth*. The linguistic and behavioral rules that define what is real and what is not, what is a 'fact', how truth is ultimately to be determined, and whether truth is 'revealed' or 'discovered'; basic concepts of time and space.
> 2. *The Nature of Human Nature*. What does it mean to be 'human' and what attributes are considered intrinsic or ultimate? Is human nature good, evil, or neutral? Are human beings perfectible or not?
> 3. *The Nature of Human Activity*. What is the 'right' thing for human beings to do, on the basis of the above assumptions about reality, the environment, and human nature: to be active, passive, self-developmental, fatalistic, or what? What is work and what is play?
> 4. *The Nature of Human Relationships*. What is considered to be the 'right' way for people to relate to each other, to distribute power and love? Is life cooperative or competitive; individualistic, group collaborative, or communal; based on traditional lineal authority, law, charisma, or what?"
>
> (Schein, 1985).

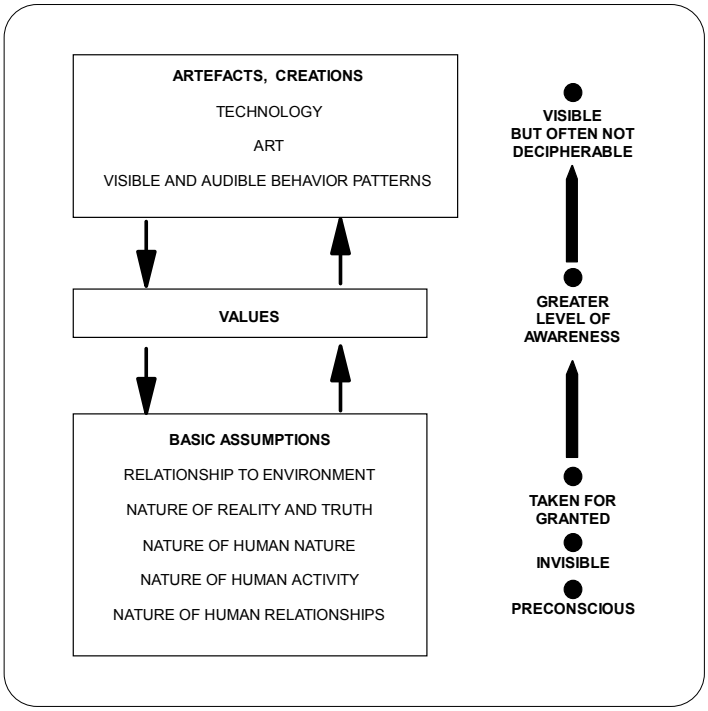


Exhibit 15 Levels of culture (Schein, 1985, 1990)

"Values ... are the basic concepts and beliefs of an organization" (Deal and Kennedy, 1982). The term *value* is defined by Rokeach (1973) as: "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence." Schwartz and Sagiv's (1995) definition of values is:

> "transsituational goals [terminal or instrumental] that express interests [individual, collective, or both] concerned with a motivational type and that are evaluated according to their importance as guiding principles in a person's life."

In both these definitions the essence of a value as an "enduring," "transsituational" "guiding principle" is clear. Values in this sense are pre-existing reference-points which influence choices between alternative possible behaviours. They are likely to be difficult to change (Hayes, 1994). "Value-driven organisations manage by developing a set of values which they expect everyone involved with the organisation to subscribe to" (Baron, 1994). Values form "the bedrock of any corporate culture ... [and] provide a sense of common direction for all employees and guidelines for their day-to-day behavior" (Deal and Kennedy, 1982).

Defining and establishing such a value set is an imprecise activity:

> "when someone does try to set them down in a formal statement of corporate philosophy, the product often bears an uncomfortable resemblance to the Biblical beatitudes - good and true and broadly constructive, but not all that relevant to Monday morning" (Deal and Kennedy, 1982).

Research by Humble, Jackson and Thompson (1994), however, found that 80% of the organisations surveyed did have written value statements and over 70% claimed that their

values influenced decisions. Values may not be truly “shared,” though, below senior management level (O’Reilly, 1989; Kotter and Heskett, 1992) and may not survive commercial crises (Jowell and Topf, 1988, cited in Coopey, 1994; Humble et al, 1994).

These discrepancies underline the fact that "Organizations are not one homogenous culture, but are 'multi-cultural', and culture can be a source of conflict” (Meek, 1988). This is to be expected, given that, as Hofstede (1991) points out, “almost everyone belongs to a number of different groups and categories of people at the same time” such as national; regional; ethnic; religious; linguistic; gender; generation; social class and, for employed people, organizational or corporate levels. Morgan (1986) points out that "foremost among all organizational countercultures, of course, are those fostered by trade unions" although Guest et al (1996) found that "only 20% of union members feel a lot of loyalty to their union while 38% feel a lot of loyalty to their employer and 73% feel a lot of loyalty to their fellow workers.” Smircich (1983) complains that this complexity is given insufficient attention in the literature. Pay (1994) believes that values are associated with function:

> "Most people would for example feel uneasy about an accountant who was flamboyant in style, who ignored rules and who wanted to take large risks. They would feel equally uncomfortable about a marketer who was introverted, highly conformist and risk averse. " (Pay, 1994).

Migliore and Martin (1994) use the term *assumptions* to define a particular kind of values: “ultimate, non-debatable, taken-for-granted values.” These are “very powerful, ingrained characteristics.” Schein (1985) explains that "what I am calling basic assumptions are congruent with what Argyris has identified as 'theories-in-use', the implicit assumptions that actually guide behavior.” These "tell group members how to perceive, think about, and feel about things.” For Schein, "basic assumptions ... tend to be nonconfrontable and nondebatable" and are therefore difficult to "resurrect, reexamine [or] change.” The tone of these definitions is that assumptions are a special case of *belief*, which Morgan and King (1971) define as “the acceptance of some proposition.” This may be value- or attitude-free: “for example, you may believe that Edinburgh is in Scotland without having any particular attitude about this belief” (Dobson et al, 1981). Assumptions are a special case because they may be below the level of conscious awareness.

Attitudes, according to Allport (1935), are

> “mental or neural state[s] of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related”

and, according to Rokeach (1968)

> “learned orientation[s] or disposition[s], toward an object or situation which provide... a tendency to respond favourably or unfavourably to the object or situation”

The term *attitudes* may therefore be summed up as *values in action*. Schein (1985) advises caution in observing and analysing values: “one must discriminate carefully between those that

are congruent with underlying assumptions and those that are, in effect, either rationalizations or aspirations for the future."

Norms, meaning standards of behaviour or performance which are expected within a culture, may be seen to arise from the underlying values, assumptions and beliefs prevailing in that culture. O'Reilly (1989) points out that "norms can vary on two dimensions: the intensity or amount of approval/disapproval attached to an expectation; and the crystallization or degree of consensus or consistency with which the norm is shared."

The interactions of observable behavioural patterns which differentiate organisations from one another but are shared to varying degrees within organisations, has led many writers to compare corporate culture with individual personality (for example, Kilman et al, 1985; Hampden-Turner, 1990; Hope and Hendry, 1994, Schneider, 1994; or Egan, 1994). The common use of anthropomorphic language and metaphor in the discussion of culture is discussed in some detail by Meek (1988), who draws attention to the frequent use of terms such as "life cycle," "healthy or unhealthy," "character" and "needs" in the literature. By this language "the organization is transformed into a 'superindividual' ... [which] leads to metaphysical explanations for something that cannot be observed."

It is clear that, to the extent that culture is a collective equivalent to individual personality, that personality must influence the form that culture takes and its effects on corporate or collective behaviour. In particular, Kilman et al (1985), Hampden-Turner (1990), Stacey (1992) and Schneider (1994) all point out that culture affects organisational behaviour by influencing "the kinds of issues a given group will deal with, and what they will try to avoid" and "the manner in which they deal with the issues they do attend to" (Stacey, 1992).

Deal and Kennedy's early (1982) and succinct summary of the practical function of culture - "A strong culture is a system of informal rules that spells out how people are to behave most of the time" - is not disputed in the later literature. Burnes (1992) argues that culture "legitimises certain forms of action and proscribes other forms" and impacts on everyone in an organisation: "from the most senior manager to the humblest clerk. Their actions are judged by themselves and others in relation to expected modes of behaviour." Kilman et al (1985) describe culture as "a social energy that moves people to act" whilst Hampden-Turner (1990) maintains that "the culture of an organisation defines professional behaviour, motivates individuals and asserts solutions where there is ambiguity"

Perhaps Denison's (1990) perspective conveys a sense of the richness and complexity of the culture concept, and of its importance to an understanding of organisational life.

> "An organization's culture may be seen as a code, a logic, and a system of structured behaviors and meaning that have stood the test of time and serve as a collective guide to future adaptation and survival. This definition helps to explain why cultures can be abstract and mystical, yet concrete and immediate; impossible to change, yet rapidly changing; complex and intricate, yet grounded in very basic values; and occasionally irrelevant to business issues, yet always central to an organization's strategy and effectiveness. This definition also explains why culture must be studied as both a cause and an effect."

The acquisition and development of culture

According to Schein (1985), culture is “a *learned product of group experience* and is, therefore, to be found only where there is a definable group with a significant history.” For Schein, the group is the key to understanding the development of culture in organisations of any size because “organizations evolve from small groups.” However, “organizations develop dynamics that go beyond those of the small group” so small group observations must be extrapolated to larger organisations. Hollway (1991) is critical of Schein’s readiness to generalise observations of small group behaviour to much larger organisations:

> "Given that the word 'organization' features in his book's title, the omission of analysis at the organizational level is very striking. ... in practice there is a constant slippage from group to organizational level, so that he ends up referring to organizational culture in the singular. "

However, other writers (for example, Kilman et al, 1985; or Kotter and Heskett, 1992) have accepted Schein’s direct linkage between the small group and the larger organisation. Schein has drawn up some basic prerequisites for the formation and persistence of groups:

> "In order to function at all ... the group must have [1] a common language and shared conceptual categories; [2] some way of defining its boundaries and selecting its members, a process typically embodied in the recruitment, selection, socialization, training, and development systems of the organization; [3] some way of allocating authority, power, status, property, and other resources; [4] some norms for handling interpersonal relationships and intimacy, creating what is often called the *style* or *climate* of the organization; [5] criteria for dispensing rewards and punishments; and [6] some way of coping with unmanageable, unpredictable, and stressful events, a problem usually resolved by the development of ideologies, religions, superstitions, magical thinking, and the like" (Schein, 1985).

It is mainly the fourth, fifth and sixth of Schein’s criteria which are commonly interpreted as culture. These constitute the “rules we learn ... for how to relate to each other” and serve to “avoid the crippling anxiety of uncertainty and unpredictability” (Schein, 1985). Because “cultures embody the needs and aspirations of their members” the process of culture formation is “inherently satisfying and a strong source of motivation" (Hampden-Turner, 1990), provided that the individual feels part of the group: "climate is moulded not only by relationships and work arrangements, but also by employees' feelings of inclusion or exclusion" (Manning, 1990). For those who feel excluded there can be a "devastating impact on the feelings, attitudes, and behavior of out-group members" (Northouse, 1997).

Hampden-Turner (1990) comments “all cultures are in fact responses to dilemmas,” in the sense that culture arise as the product of successful past choices, which supports Schein’s argument that “solutions that repeatedly appear to solve the problems they encounter tend to become a part of their culture” (Schein, 1985). Hampden-Turner goes on: “If the culture cannot successfully mediate dilemmas, the organisation collapses.” Denison (1990) also refers to “principles and practices [which] endure because they have meaning for the members of an organization” and which “represent strategies for survival that have worked well in the past and that the members believe will work again in the future.” This view of culture as the product of a collective conditioning or social learning process continues the already established analogy of

culture as a form of “group personality.” Whilst initially these processes operate at the individual level, they quickly become “aligned” (Schein, 1985) and shared by group members through a process of observing that other people in the organization “seem to behave in the same way ... others in the setting treat the behavior as normal, and ... we sense that there is some meaning in what people are doing, that there is a purpose to it that others in the situation seem to understand” (Schein, 1985).

There is consensus that the formation and acquisition of culture is a process of learning, on the part of groups and individuals (Deal and Kennedy, 1982; Schein, 1985; Kilman et al, 1985; Hofstede, 1991) and that this learning is vital for the well-being of both the individual and the group:

> "The simplest way to think about the culture of any group or social unit is ... as the total of the collective or shared learning of that unit as it develops its capacity to survive in its external environment and to manage its own internal affairs. Culture is the solution to external and internal problems that has worked consistently for a group and that is therefore taught to new members as the correct way to perceive, think about, and feel in relation to those problems. Such solutions eventually come to be assumptions about the nature of reality, truth, time, space, human nature, human activity, and human relationships - then they come to be taken for granted and, finally, drop out of awareness. The power of culture is derived from the fact that it operates as a set of assumptions that are unconscious and taken for granted" (Schein, 1985).

Schein (1985) argues that “if one is concerned about managing or changing culture, one must look to what we know about the learning and unlearning of complex beliefs and assumptions that underlie social behavior" and maintains that “two interactive mechanisms” are involved which have “different consequences for the stability of what is learned.” First is “positive reward and reinforcement - the success model “which arises from “*positive problem-solving situations”* in which “people repeat what works and give up what does not.” This leads to “positive reinforcement if the attempted solution works.” This model represents Schein’s basic premise for the formation of culture. Schein’s second model is “anxiety and pain reduction - the social trauma model” which arises from “*anxiety-avoidance situations*” which produce positive reinforcement if the anxiety is successfully reduced and if the painful consequences that produced the anxiety are prevented.” Schein maintains that “in practice these two types of situations are intertwined, but they have different motivational bases, different underlying learning mechanisms, and different consequences." In respect of the “social trauma model” Schein warns that “once people learn how to avoid a painful situation, they continue to pursue this course without testing to see whether the danger still exists.” This form of learning is “so stable because not only does the ritualized response avoid the pain, but the actual reduction of the anxiety itself is very rewarding.”

Positive reinforcement is a functionally “better” model because “it produces responses that continually test the environment.” This means that the group will quickly respond

> “if the environment changes so that strategies that previously were consistently successful no longer work. ... This learning mechanism can, however, produce behavior that is very resistant to change if the environment is inconsistent,

> producing success at one time and failure at another time. Unpredictable, intermittent reinforcement leads to very stable learning just as trauma does" (Schein, 1985).

Schein's model of positive reinforcement relies, like other forms of conditioning, upon successful outcomes ensuing from certain actions or strategies. However, "only those solutions which are proposed or invented can become candidates for cultural elements" (Schein, 1985). To become a "candidate" in this sense a particular solution must first be perceived and then seem to be an attractive option. This will be heavily influenced by past experience and present culture. Managers and others bring with them into their organisational cultures the prior experiences and reinforcements which have occurred and still occur in their lives outside the organisation. As Baron and Walters (1994) put it, "individuals do not enter work organisations untrammelled by the values and attitudes of their past experience." This view is strongly supported by a variety of writers over many years (Simon, 1976; Sapienza, 1985; Morgan, 1986; Hampden-Turner, 1990; Hofstede, 1991). Deal and Kennedy (1982), however take a rather different view, arguing that culture is much more a response to environmental imperatives. Baron and Walters (1994) conclude that "corporate culture is determined by a two-way relationship between a number of factors including business strategy, history and environment, and the values and attitudes held by individuals." National culture also has an influence (Hofstede, 1991; Baron and Walters, 1994).

Sethia and von Glinow (1985) examined the reward systems in place in several large companies. They argue that "the cultures and reward systems of organizations are strongly interdependent and will have a tendency to alter each other until they reach a state of mutual balance." Reward systems influence culture directly "by selectively reinforcing certain beliefs and values" and indirectly by "affecting the quality of human resources in organizations," because pay and conditions above the market norm attract the best people, who influence others to improve performance, whilst poor rewards lead to low commitment. Baron and Walters (1994) found that a number of their case study organisations "reported problems in creating a team culture in an environment which stressed only individual contribution and reward."

Several writers have examined the role of leaders in shaping culture. Morgan (1986) believes that "a focus on the links between leadership style and corporate culture often provides key insights on why organizations work in the way they do," although "formal leaders do not have a monopoly on the creation of organizational culture," those with formal power have "a special advantage in developing value systems and codes of behavior, since they often have the power to reward or punish those who follow or ignore their lead." Coopey (1994) argues that leaders can "set the pattern of relationships" through hierarchical control of decision making, mentoring relationships, and modes of selection, training and development." Morgan (1986), however, emphasises the opportunities others have to influence this process by "acting as informal opinion leaders, or simply by acting as the people they are." Morgan is sure that "culture is not something that is imposed on a social setting. Rather, it develops during the course of social

interaction." Schein (1985) suggests that leaders control the "primary mechanisms for culture embedding and reinforcement," which are:

> "[1] what leaders pay attention to, measure, and control; [2] leader reactions to critical incidents and organizational crises; [3] deliberate role modelling, teaching, and coaching by leaders; [4] criteria for allocation of rewards and status; [5] criteria for recruitment, selection, promotion, retirement, and excommunication."

Although less explicitly associated by Schein with leader practice, most of the "secondary articulation and reinforcement mechanisms" he defines are also subject at least to influence if not outright control by leaders, such as organizational design and structure, systems and procedures, physical design, "stories, legends, myths, and parables about important events and people," and formal statements of "organizational philosophy, creeds, and charters." Schneider (1994) is concerned with the appropriateness of leadership style, relating different approaches to his four core culture types. Coopey (1994), however, reviews a variety of aspects of leaders as exemplars, and concludes that most workers do not identify with senior managers and are therefore unlikely to be much influenced by their behaviour. He points out that managers change jobs frequently, including sideways moves and promotions within organisations. This is unusual for ordinary workers, who are "probably stuck in their jobs until fired, retired or made redundant" and presents a barrier to mutual understanding and trust. Deal and Kennedy (1982) discuss "heroes," as distinct from leaders. These are "symbolic figures whose deeds are out of the ordinary, but not too far out. They show - often dramatically - that the ideal of success lies within human capacity." Heroes "personify the culture's values and as such provide tangible role models for employees to follow" and "reinforce the basic values of the culture."

Culture's impact on the organisation

Egan (1994) introduces the notion of a "preferred culture" - a culture that "serves the business," and separates this ideal form of culture from the "culture in use" - the culture that actually prevails in an organisation. Where the preferred culture is actually the culture in use, Egan argues, the organisation will prosper. Schneider (1994) agrees that "core culture" must be "congruent with the nature of your enterprise" for an organisation to be successful. Kotter and Heskett (1992) found that many of the organisations they studied had cultures which did little to foster organisational success, often because they were rigid, fixed and unadaptive. They found that performance-enhancing cultures can emerge "in start-up situations ... where the entrepreneur has a business philosophy that is similar to what we have found at the core of adaptive cultures" and where early successes reinforce this philosophy. "We suspect these elements are not unusual in highly successful young companies, mostly because they are necessary for success in a competitive business environment," but they can erode over time.

Denison (1990) believes that management practices are usually "rooted in the values of the organization," so that the underlying values and beliefs held by managers will directly impact on their actions and decisions. If, as many writers argue (for example, Harrison, 1972; Schein, 1985; Burnes, 1992; or Cleland, 1994), values and beliefs are central to the concept of culture,

then it becomes axiomatic that culture will affect organisational performance through the behaviour of managers.

> "The best way to make a company successful is to have a culture that influences members to adopt, by tacit agreement, the most effective approach, attitude, and behavior on the job" (Kilman et al, 1985).

Sapienza (1985) found evidence that core beliefs, preconceptions and attitudes did influence managers' perceptions, behaviour and decisions and "influenced the language that managers used to articulate their perceptions." He goes on to remark that "strategy was designed in some measure to adapt the institution to a metaphorical reality." Smircich (1983) argues that "culture, conceived as shared key values and beliefs, ... conveys a sense of identity for organization members" and "facilitates the generation of commitment to something larger than the self." This coordinating function is also noted by Stacey (1992): "the whole system could move off in highly uncoordinated ways, unless everyone believes in the same thing." Deal and Kennedy (1982) believe that shared values affect performance by focusing managers' attention on "whatever matters are stressed in the corporate value system." They also believe that "down-the-line managers make marginally better decisions, on average" because their perceptions of the shared values guide them, and that "people simply work a little harder because they are dedicated to the cause." Nowhere do Deal and Kennedy, from the perspective of the early eighties, question the desirability of getting people to work harder, or the implied causal link between harder work and better organisational results. They maintain that "a strong culture enables people to feel better about what they do, so they are more likely to work harder." Humble, Jackson and Thomson , writing in 1994, prefer the concept of "high performance" to that of hard work.

However, some writers introduce caveats in respect of strongly shared values. Handy (1985) suggests that "not all cultures suit all purposes or all people" and that cultures "founded and built over the years by the dominant groups in an organisation" may cease to be appropriate as time goes by, - "the risk of obsolescence" (Deal and Kennedy, 1982) - a view which is strongly supported by Stacey (1992) because "strongly shared cultures block an organisation's ability to develop and handle live strategic issue agendas," and by Baron and Walters (1994). Kilman et al (1985) argue that culture which is widely shared and exerts strong influence over behaviour is *positive* if it "points behavior in the right direction" and *negative* if it points behaviour contrary to organisational goals." In the latter case a weak culture is preferable to a strong one.

There is a strong movement in the management literature towards an emphasis on multiple objectives and balanced priorities. Baron (1994) identifies "four main determinants of culture: strategy, structure and technology, values and systems, and policies," and argues that "culture is determined as much by the relationships between these variables as by the variables themselves." Schneider, Gunnarson and Niles-Jolly (1994) maintain that "organizations become effective when they create, maintain, and sometimes change climates and cultures to emphasize the achievement of multiple priorities. This is consistent with Senge's (1990) advocacy of a systemic view of organisation, and with Kaplan and Norton's (1992) "balanced

business scorecard" model, which enjoins broadly equal attention to financial, customer, internal business, and innovation and learning "perspectives." The European Foundation for Quality Management (EFQM, 1994, 1997) uses a balanced model in which four groups of "results" are achieved through five groups of "enablers." "Each of the nine elements, therefore, is a criterion that can be used to assess the organisation's progress along the path to excellence" (EFQM, 1997). Kotter and Heskett (1992), too, advocate a balanced approach, in which companies "value highly customers *and* stockholders *and* employees."

Overall, there is virtual unanimity in the literature that culture is linked to organisational performance, and substantial agreement about the mechanisms through which this occurs. Baron and Walters (1994) refer to Institute of Personnel Management research projects in 1992 and 1993 which both "came to the same overall conclusion: the success or failure of strategies to manage performance or the quality of service or production is largely determined by the culture that prevails within the organisation" and that "an understanding of organisational culture and the commitment to make any necessary changes are prerequisites for almost any successful management strategy."

Hofstede (1991) goes even further:

> "'Corporate culture' is a soft, holistic concept with, however, presumed hard consequences. I once called it 'the psychological assets of an organization, which can be used to predict what will happen to its financial assets in five years' time'."

There have been many attempts to link cultural analysis with organisational success, usually with a view to providing managers with the means to enhance their organisations' performance. Migliore and Martin (1994) have developed a "'culture index," covering twenty items, for "measuring the culture in an organization." They claim that high Culture Index scores correlate with successful organisations, whilst acknowledging that "there is no proof today that culture directly affects normal profit, although opinions might suggest it does." Despres (1995), however, in a "Specific Reply To Migliore and Martin" is dismissive of culture research as an input to management practice, claiming that the three disciplines which contribute most to the "organisational culture debate: anthropology, sociology and psychology" are fundamentally incompatible. He observes that

> "management is largely populated by positivists ... by positivism I mean the conviction that there is some matrix or framework of reality to which we can appeal in determining the nature of truth ... or more correctly, The Truth. ... definitional clarity is essential in positivism; and ... the way managements' positivists have conceptualized organizational culture has made it as unruly a concept as any found in their library."

One of the most influential books for a general audience has been Peters and Waterman's (1982) *In Search of Excellence*, described by Crainer and Hamel (1997) as "the most popular management book of contemporary times." Peters and Waterman analysed the characteristics of, initially, sixty-two successful companies, and identified eight key attributes of "excellence." They found that all their "excellent" companies were "brilliant on the basics." Many had had a strong leader at an early stage in forming their "cultures of excellence." The importance of a

strong, shared culture was paramount in achieving success. Hope and Hendry (1995) explain the core “argument advanced by the 'excellence' literature,” that "autonomous project teams and strategic business units could be given license to innovate in the confidence that their adherence to corporate values would prevent them from acting against the interests of the company” . As Payne (1991) puts it, “the value of a strong culture lies in the fact that behaviour is controlled by the members themselves.” The result of this is that “rules and regulations, in the form of corporate policies and procedures, ... become unnecessary” (Hope and Hendry, 1995).

Peters and Waterman’s findings are consistent with those reported by Deal and Kennedy (1982), who gathered data on "nearly eighty" organisations by interviewing McKinsey consultants who had worked with them. A minority had "clearly articulated beliefs” but those with “qualitative beliefs ... were uniformly outstanding performers.”

Hofstede (1991) gives some rather lukewarm support for "one of the main claims from Peters and Waterman's book ... that 'strong' cultures are more effective than 'weak' ones” because “in the existing organizational/corporate culture literature one will search in vain for a practical [operational] measure of culture strength.” In his own research Hofstede takes strong to mean homogeneous and weak to mean heterogeneous [varied within unit]. Homogeneity was significantly correlated with results orientation.

> "To the extent that 'results oriented' stands for 'effective', Peters and Waterman's proposition about the effectiveness of strong cultures has therefore been confirmed in our data.”

However, the implication in Peters and Waterman that there is 'one best way' towards excellence was not supported by Hofstede’s research:

> "The results of the IRIC study refute this. What is good or bad depends in each case on where one wants the organization to go, and a cultural feature that is an asset for one purpose is unavoidably a liability for another."

Whether or not Peters and Waterman were justified in designating certain companies as “excellent” in the early 1980s, it is notable that the majority of them failed to maintain their performance. Kennedy (1991) notes that "five years after the book's publication, two-thirds of those companies had hit trouble in varying degrees. Only 14 could still be classified as excellent by the original criteria.” Kennedy also reports that "Peters & Waterman individually concluded that nothing in today's chaotic business environment stays the same long enough for excellence of the sustained type possible before 1982 to be developed.” Crainer (in Crainer and Hamel, 1997) interviewed Tom Peters and quotes him as follows:

> "It was a brutal, upfront attack on American management and McKinsey thinking. Okay it was 75 percent about islands of hope but that was what they were: exceptional. I consider *In Search Of Excellence* a bad news book.”

Gordon (1985) uses “the *perceptions* of individuals in the top four or five levels of management” derived from material “collected by Hay Associates in hundreds of companies from 1970 to the present" including responses from "over 50,000 managers and professionals in over 500

organizations." He is able to detect patterns in the focus of attention which distinguish the more successful from the less successful organisations, but these patterns are complex and vary between industry sectors.

Denison (1990) conducted a two-stage study into "the impact that organizational culture can have on performance and effectiveness over time." The study showed that a strongly-shared culture was associated with high performance in the short term but could reduce performance in the longer term. A "vision or desired state" and a "strong sense of direction" were also associated with long-term success. Drawing on these findings Denison concludes that "effectiveness [or lack of it] is a function of the values and beliefs held by the members of an organization."

Kotter and Heskett (1992) conducted a series of studies "to determine whether a relationship exists between a corporate culture and long-term economic performance." They concluded "that there is a positive relationship between strength of corporate culture and long-term economic performance, but it is a modest relationship. The statement 'Strong cultures create excellent performance' appears to be just plain wrong." They attribute this to lack of responsiveness and adaptability. Success was correlated with a balanced concern for all stakeholders, and devolved responsibility.

Meek (1988) is critical of contemporary attempts to link types of organizational culture with success, and thereby to promote culture change/manipulation as a tool for improving business results. He maintains that "corporate success, particularly economic success, is dependent far more upon external environmental influences and the vagaries of the market place than on internal interpersonal dynamics." Kilman et al (1985), however, are in no doubt, declaring: "an important assumption guiding all our discussions on this topic, therefore, is that culture *does* affect organizational behavior and performance." They "find it useful to distinguish three interrelated aspects of impact": direction, pervasiveness and strength.

Payne (1991) maintains that "cultures are essentially about the control of people's behaviour and beliefs; ultimately they are about the control of people's behaviour." Culture also "plays a crucial role in influencing how people respond to attempts at controlling their behaviour" (Johnson and Gill, 1993). The principle being applied is that "if the appropriate values and attitudes are internalized, a common sense of purpose or 'moral involvement' [activated through emotion and sentiment] develops, which makes the constant surveillance of employees as a form of control redundant" (Johnson and Gill, 1993). Wilmott (1993) compares attempts to control and manipulate culture with totalitarian government control of thought processes, as in Orwell's "*1984*."

If these interpretations of culture as behaviour control are substantially valid, then Coopey's (1994) summary appears to be justified:

> "So little, after all, seems to have changed ... . Workers are still treated as 'factors of production' ... . Perhaps the only difference is in the attempts made by the directors of companies with HRM strategies to convert workers through both ideology and direct control, the Bible as well as the whip."

- a view of employee status noted by Denison (1990): “people are treated as expenses rather than assets, and are thus managed with an eye to reducing costs rather than increasing return on assets.”

Hope and Hendry (1995) are dubious about the efficacy of culture as a form of management control in the context of “organisational attempts to unleash innovation, flexibility, and an entrepreneurial spirit,” and receive some support from Johnson and Gill (1993) because “it is not possible to manage and control cultures closely by their very nature.”

O’Reilly (1989) gives a “generic definition” of control systems as “the knowledge that someone who knows and cares is paying close attention to what we do and can tell us when deviations are occurring” which “encompasses traditional formal control systems ranging from planning and budgeting systems to performance appraisals.” Johnson and Gill (1993) refer to “administrative controls” which “try to control the organizational behaviour[s] of other individuals, groups and organizations.” Foremost among such controls are formal rules and procedures. According to Johnson and Gill “most large organizations use such normative means to regulate members' behaviour” or to “pre-specify what members should and should not do in particular situations” in order to create situations “in which people are more likely to behave in ways that lead to the attainment of organizational objectives.” For such an approach to be effective, extensive monitoring systems are needed. Such methods are inappropriate “when tasks are complex and unpredictable.” In such cases “it is impossible to create predetermined rules to regulate members' behaviour.” There may be “many activities undertaken in organizations” for which it “may be crucial to allow members to exercise their own discretion.”

Johnson and Gill also cite the often-observed difficulties with rule-based systems, that "the strict observation of rules can become an end in itself, thereby often subverting the original objectives the rules were intended to enable.” For these reasons, they tend to favour the use of “output control” systems, in which managers focus on what is produced rather than behaviours, as a response to this difficulty. O’Reilly (1989), however, adopts a more contingency-focused approach. He cites the example of hospital work, where "it makes no sense to evaluate the nursing staff on whether patients get well" so monitoring is on the use and application of procedures. Sales people may not be observed doing their jobs, and are typically measured on results, although some retail sales people may be measured on both behaviours and results. There are other situations in which “neither behavior nor outcomes can be adequately monitored.” Activities and situations that are

> “nonroutine and unpredictable, ... that require initiative, flexibility, and innovation ... can only be dealt with by developing social control systems in which common agreements exist among people about what constitutes appropriate attitudes and behavior.”

- an approach which Wheatley (1994) sees as progress towards a more natural ordering of social life:

> “The survival and growth of systems that range in size from large ecosystems down to tiny leaves are made possible by the combination of key patterns or

> principles that express the system's overall identity and great levels of autonomy for individual system members."

Stacey (1991), however, argues that

> "innovation arises out of chaos through a process of self-organization, success depends upon spontaneity and individual initiative in an organization."

and cites the examples of “some Japanese companies” which “purposely provoke instability.” This runs counter to the tone detected by Smircich (1983), in which “the talk about corporate culture tends to be optimistic, even messianic, about top managers molding cultures to suit their strategic ends.”

The discussion of control leads on to consideration of the controllers; those senior people in organisations designated *leaders*. According to Schein (1985)

> "organizational cultures are created by leaders, and one of the most decisive functions of leadership may well be the creation, the management, and - if and when that may become necessary - the destruction of culture.

Northouse (1997) finds some support for this view in his examination of Leader-Member Exchange theory [LMX]. He reports that “high-quality exchanges between leaders and followers produced multiple positive outcomes.” In such cases it can be argued that the leaders are, in a very practical sense, ‘managing culture’ by reinforcing what they perceive to be appropriate behaviours in the course of these “exchanges.” Cleland (1994) argues that “in today's environment ... it is necessary to have good ideas from every person in the organization” and an encouraging, reinforcing leadership style is essential: “those people whose management styles suppress and intimidate are not needed.” Northouse (1997) agrees that “using coercion runs counter to working with followers to achieve a common goal.”

McGregor (1960), writing before the term *culture* entered the everyday management vocabulary, argues for a situational perspective on leadership. He identifies “four major variables now known to be involved in leadership”:

> “[1] the characteristics of the leader; [2] the attitudes, needs, and other personal characteristics of the followers; [3] characteristics of the organization, such as its purpose, its structure, the nature of the tasks to be performed; and [4] the social, economic, and political milieu.”

and advises that the “personal characteristics required for effective performance as a leader vary, depending on the other factors.”

Bryman (1986) defines leadership as “the creation of a vision about a desired future state which seeks to enmesh all members of an organization in its net.” Deal and Kennedy (1982) regard ‘vision’ as an attribute of heroes, rather than managers, although leaders could, of course, be either: Stacey (1992), though, sees no evidence for the role of vision in organisational success, and is dismissive of the concept: He believes that a focus on vision as a leadership attribute is inherently unhealthy because “it perpetuates the myth that organisations have to rely on one or two unusually gifted individuals to decide what to do.” This “perpetuates cultures of dependence and conformity” which obstruct learning.

Schein (1985) believes that leadership and culture “are two sides of the same coin” and inextricably linked.

> “In fact, there is a possibility - underemphasized in leadership research - that the *only thing of real importance that leaders do is to create and manage culture.”*

Culture and the individual

According to Schein (1985) “the individual in a social context has basically three primary needs”; to belong to or in a group, a need for control, power and influence: and a need for acceptance and intimacy. The social context represented by the workplace is potentially capable of satisfying these needs, fully or partially, provided that the organisational culture is reasonably compatible with the individual’s personality, defined by Hofstede (1991) as a "unique set of personal programs which [s]he does not share with any other human being" which is partly inherited and partly learned through personal experiences and the "influence of collective programming,” or culture. This suggests that this compatibility is not fixed, nor is the relationship between culture and personality a linear one.

Jung (1978) argues that “our personal values serve as a guide in our decision making so that we strive to select choices that fulfil our personal meanings and goals.” This inevitably shapes an individual’s willingness to become included in a cultural setting, and the interpretations that individual subsequently puts upon events within the culture. Similarly, organisations strive to select employees who fit the culture, or influence people to adapt to the culture, rejecting those people who cannot or will not fit in (Rousseau, 1995). As well as underlying values, fitting-in may be a function of learning appropriate acceptable behaviours (Morgan, 1986). Warning that this can be far from simple, Morgan describes the complexity of "taken-for-granted skills.” He illustrates his point by suggesting the deliberate disruption of some normal social interactions, for example, staring a stranger in the eyes, or behaving in a neighbour's house as if it were your own: “Disrupt these norms and the ordered reality of life inevitably breaks down.” Morgan points out that simply knowing the "rules" is not enough because the rules are incomplete. A wide background knowledge to give the rules context is also necessary.

Maintaining one’s place within the culture is, therefore, not automatic, and the possibility of losing the means of satisfying one or more of Schein’s “three primary needs” is likely to be a source of some anxiety. The formation of groups is, in any case, a process which involves anxiety on the part of members (Tuckman and Jensen, 1977).

For many management-level employees in the UK, the risk of being permanently isolated from the workplace, through losing a job, is a significant source of anxiety. Kessler and Undy (1996) found that 57% of IPD survey respondents worked in organisations where there had been redundancies and 75% in organisations where there had been restructuring. Restructuring could, of course, result in exclusion from familiar social contexts. New technology and new work practices, which affected 85% and 79% of survey respondents respectively, also have the capability of damaging individuals’ confidence in their place and role within a group. Ashridge Management College (Ashridge, 1996) showed that half of organisations surveyed had reduced

layers of management, broadly supporting the IPD results. Where this has been done, managers complained of an increased burden of trivial tasks, which also has implications for an individual's role and place in the social context. Kessler and Undy (1996) argue that "a history of redundancy or lay-offs in the workplace is shown to be by far the most important negative influence on relations in employing organisations." Similar negative effects on relations between employees involved, directly or indirectly, in these situations and their organisations were also found by Hallier and Lyon (1996).

The anxiety associated with these risks appears to have increased over recent years although the risks themselves may not, objectively, have increased.

> "A computer trawl through Britain's national newspapers from last year found 2,778 stories on insecurity in general and 977 on job insecurity in particular - that's nearly three a day. Ten years earlier, when unemployment in Britain was substantially higher, a similar search found only 234 stories on insecurity, and just 10 on job insecurity" (Smith, 1997).

Smith refers to statistics on job tenure in the UK: and finds that "the average length of time people remain in a job ... has barely changed in 20 years." Men do change jobs a little more frequently, but women rather less frequently. Guest, Conway, Briner & Dickman (1996) report that 24% of survey respondents "have experience of redundancy" but only 14% thought it "at all likely" that they would be made redundant in the next two years and only 12% said they were worried about this possibility.

The risks discussed above are largely risks to the individual that result from the exercise of power by the organisation, or its representatives. According to Meek (1988) "Organizations have access to the three primary instruments of power: condign power [physical], compensatory power [economic], and conditioned power [belief]." Power exercised through "'persuasion, education. or ... social commitment" -or, loosely, culture, - has a limiting effect on the power available to individual managers to exercise on a more personal scale. Stacey (1992) has some concerns about the use of power, which can produce a "group dynamic ...of submission. Or ... of rebellion, either covert or overt."

It is at least arguable that the purest form of power may be that which is exercised vicariously because beliefs, norms and values have been *internalised* (Kelman, 1958), which itself "generates certain modes of behaviour" (Johnson and Gill, 1993). This has a much stronger influence on actual behaviour, which is the purpose of the exercise of power, than either of Kelman's other levels of conformity. *Identification* is conforming behaviour as a "response to social influence brought about by a desire to be like the people who are exerting the influence." This "involves emotional gratification" but "does not necessarily involve the individual developing internal moral imperatives"(Johnson and Gill, 1993). *Compliance* involves acting in deference to a social norm or overt instruction, but without any change in personal values or attitudes, and typically does not persist after the influence is removed. Thus, even though perhaps "to the institution it seems easier to motivate through fear of hygiene deprivation than to motivate in terms of achievement and actualizing goals" (Herzberg, 1966) this is organisationally a

dangerous strategy because "indifference or compliance is a form of passive aggression. People who leave their minds at home and bring their bodies to work will destroy us" (Block, 1993).

Deming (1986) is quite certain that it is essential to “drive out fear” if organisations are to succeed, because “no one can put in his best performance unless he feels secure ... not afraid to express ideas, not afraid to ask questions.” Similarly Handy (1990) argues that “a culture of excitement, of question and experiment, of exploration and adventure cannot survive under a reign of fear." Deming (1986) argues that fear produces deception: “where there is fear there will be wrong figures,” and produces several examples to support his case. He is equally dismissive of some very common management techniques, such as management by objectives: "management by fear would be a better name,” and performance appraisal which, he says, “leaves people bitter, crushed, bruised, battered, desolate, despondent, dejected, feeling inferior, some even depressed, unfit for work for weeks after receipt of rating.”

In its most negative form, the exercise of power may amount to bullying, which Spiers (1996) describes as "a form of harassment, ... the misuse of power - to persistently criticise and condemn, openly humiliate and ... undermine an individual's professional ability." Spiers goes on to maintain that bullying at work is "a sustained form of psychological abuse” which “often emanates from a senior person taking what he believes is 'a strong line' with employees.” Bullying can become part of the company's culture and be accepted by employees as such (Spiers, 1996).

Research by Compton-Edwards (1996) found that one in eight UK workers are victims of bullying and only 28% thought their organisations disapproved of bullying, although 84% of respondents thought bullying was "never justified.” The incidence of bullying was higher for middle managers and professionals. Common examples of bullying were

> "unfair and excessive criticism, publicly insulting the victim, ignoring their point of view and constantly changing or setting unrealistic targets ... constant undervaluation of their efforts ... and shouting or abusive behaviour."

Eight per cent of respondents reported cases of actual physical assault.

A survey by Vartia (1996) in Finland found broadly similar results and noted that "authoritative ways of settling differences of opinion" and uncertainty or insecurity were associated with bullying. Spiers (1996) also suggests a relationship between bullying and insecurity on the part of the bully: "bullies need to be in control. They may, in fact, feel particularly insecure about their own job and take that out on their employees.” An effect of bullying is that “victims can become so fearful that their confidence crumbles and they lose belief in themselves" (Spiers, 1996). Worman (1997) draws attention to the economic cost of such behaviour to the organisations concerned: “the result is not just poor morale but higher labour turnover, reduced productivity, lower efficiency and divided teams.”

Spiers (1996) observes that bullying may be accepted in some cultures: “They may ... be subjected to bullying behaviour from above and then subject their own employees to such

behaviour." Where employees come to believe that such behaviour is either explicitly or implicitly required of them, there is evidence that personal reservations may be over-ridden. Several well-known studies of compliant behaviour support this contention. For example, Hofling et al (1966) induced nurses to administer drugs to patients in contravention of regulations and good practice when instructed to do so by "authority figures" - experimenters posing as doctors. Milgram (1973) induced subjects to administer electric shocks of increasing severity as recipients first complained, then screamed, then fell silent. Haney, Banks and Zimbardo (1973) set up a "prisoners and guards" scenario which had to be abandoned on the sixth day after several "prisoners" developed acute anxiety and depression as a result of considerable psychological cruelty on the part of the "guards."

In the workplace, this apparently normal human propensity to comply with the behaviour expected by a reference group is one of the factors which makes the phenomenon of culture possible. It contributes, at least in part, to the pattern of expectations that an individual has of the organisation of which he or she is a member, and the perception of duties and responsibilities that he or she feels towards that organisation. The terms of this "exchange agreement" (Rousseau, 1995) which is "a powerful determiner of behavior in organizations," although it "remains unwritten" (Schein, 1980) are collectively known as the 'psychological contract' between individuals and their organisations. (This concept is explored in more depth in Appendix B).

Culture change

Schein (1985) asks "are we aware that we may be suggesting something very drastic when we say 'let's change the culture'?" According to Hope and Hendry (1994) "the fact that cultural change is fraught with difficulties should not really be surprising when we think what culture is." Because "organisational culture is a product of an organisation's history, of its accumulated experiences, and of the lessons it has learnt in seeking to survive and prosper," change can only be cumulative: "we can add to our experience, but we cannot subtract from it." Kilman et al (1985), too, believe that

> "the most penetrating definitions of culture emphasize the deepest level of human nature or at least refer to shared but unstated assumptions, ideologies, philosophies, and values. Such definitions of culture also imply that it is very difficult to create culture change in any complex organization."

Baron and Walters (1994) remind us of the "polarisation of views in the literature about culture - something which IS the organisation, or something an organisation HAS." In the former perspective , which "holds that culture is the rationale of organisational existence," culture could not be controlled, but from the latter, which "holds that culture is something which is acquired with the process of organisational development ... it becomes a powerful organisational tool." Baron and Walters take the view that "from the evidence studied it can be concluded that culture is manageable through the manipulation of the determinants of culture." In order do this "organisations must ... not only be able to identify the determinants of culture, but also have the capacity to understand the way in which they interact with each other." This might invoke

Meek's (1988) criticism of the "tendency for some researchers to treat organizational culture as a 'variable' that can be controlled and manipulated like any other organizational variable." Schein's (1985) balanced consideration of the issue is that

> "Even if we learn how to decipher organizational culture, it is not at all clear that full knowledge of our own culture will help us change it. Sometimes self-awareness is a source of anxiety and discouragement, and sometimes self-awareness destroys the mystique of what we have. On the other hand, lack of insight into our own culture leaves us vulnerable to forces of evolution and change which we may not understand and which we may have difficulty controlling."

Morgan (1986) takes an essentially similar view, regarding culture acquisition as evolutionary:

> "managers can influence the evolution of culture by being aware of the symbolic consequences of their actions and by attempting to foster desired values, but they can never control culture in the sense that many management writers advocate. The holographic diffusion of culture means that it pervades activity in a way that is not amenable to direct control by any single group of individuals."

Hassard and Sharifi (1989) argue that "when executives say they want culture change they are generally saying that they want people to *do* things differently; they want tangible, behavioural evidence of change," but they maintain that this will only happen if underlying "covert and implicit spheres," notably assumptions and values, undergo change. Morgan (1986) maintains that "effective change also depends on changes in the images and values that are to guide action." This is because "attitudes and values that provide a recipe for success in one situation can prove a positive hindrance in another." Meek (1988) also believes that "the problem is one of changing people's values, norms and attitudes so that they make the 'right' and necessary contribution to the healthy collective 'culture' ."

Payne (1991), however, believes that visible changes may occur unaccompanied by changes in the underlying levels, a view shared by Kilman et al (1985), who suggest that "defining culture primarily as behavioral norms allows managers and consultants ... to identify, assess, and change corporate cultures - at least at that level." They argue that, "although the deeper approaches initially seem to be more penetrating, in practice they seem to be impractical" and they recommend "more superficial approaches" which, although they "at first appear to disregard the more fundamental bases of culture, in practice they appear to offer some specific handles for managing culture." Warren Wilhelm (1992), head of organization and management development for Amoco Corporation, believes that "the most effective way to enhance organizational capability is by helping employees to learn the new behaviors set against the existing corporate culture background." He advocates the modelling by senior executives of "the behavior they wish employees to emulate." If the senior managers in the organisation set the right "tone," then the desired behaviours will "percolate through the organization." Hope and Hendry (1995) found from their research that that "the change initiatives that have concentrated on behaviour have been far more successful than the initiatives concerned with inculcating shared values."

The prevailing view, therefore, is that managers cannot hope to control or change the culture of their organisation directly, but it may well be possible to influence overt behaviours, and,

because culture is the product of experiences it may be possible to exercise some control over some of those experiences, and thus to influence the way culture develops. Schein (1985) seems to make common ground with the chaos theorists when he ponders how this might happen in practice.

> When we are dealing with social systems [as opposed to biological units], there is no such thing as spontaneous change or mutation. There are no cosmic rays hitting the social genes to produce unpredictable changes. There is always *someone* inside or outside the system who has a motive to make something happen. The actual outcome may be a complex interaction of the forces unleashed by the different intentions of different actors, but the outcome will never be random and unpredictable. The only difficulty may be that the events and interactions are so complex that it is not practical to try to unravel them."

Other influences identified by Kotter and Heskett (1992) include “crises [which] ...force a group to re-evaluate some values or set of practices ... new challenges ... turnover of key members ... rapid assimilation of new employees, diversification ... and geographical expansion” all of which can “weaken or change a culture.”

Several writers take up the theme of the dynamic nature of culture. Meek (1988) comments that “people do not just passively absorb meanings and symbols; they produce and reproduce culture, and in the process of reproducing it, they may transform it.” Hassard and Sharifi (1989) note that “corporate cultures are constructed socially and are re-constructed socially. Assumptions and values are not only learned, they are also re-learned." They believe that "we should not ... become too pessimistic about cultural change, for we should remember that organisations are dynamic phenomena: organisations are structures locked in a state of process.” Egan (1994) would support this. He maintains unequivocally that “culture can be changed. There are too many companies who have changed or are currently changing their cultures to think otherwise."

Culture change does not, however, occur quickly. Baron and Walters (1994) found that "even in the exemplar companies highlighted in the literature, the process of culture change appears to be slow and painstaking” and they criticise the “management gurus,” whose writing “sometimes suggests that a kind of cataclysmic shift will occur” if their advice is followed. Meyerson and Martin (1987), arguing that “organizational cultures are resistant to change, incrementally adaptive, and continually in flux,” seek to explain “these seemingly contradictory statements about cultural change” by re-asserting “the premise that cultures are socially constructed realities ... and, as such, the definition of what culture is and *how cultures change* depends on how one perceives and enacts culture.” Schein (1985) argues in this respect that “both structure and attitude are, in a sense, artefacts of the culture; and if one thinks of changing the artefacts without confronting the underlying assumptions, one will not obtain successful change.” Partly for this reason, Hassard and Sharifi (1989) believe that “the deepest layers of culture” can only be managed [and by implication, changed] through participative methods, because “top management, with or without the help of consultants, cannot dictate changes in assumptions about human nature and the business environment, they can only set appropriate parameters.”

Egan (1994) acknowledges that “the stronger the assumptions, beliefs, values and norms that drive patterns of behaviour, and the larger and more complicated the institution, the more difficult it is to get at and change the culture.” He sees culture change as requiring long-term implementation of a clear strategy

> "The goal of culture change is not a full personality transformation. The goal is sustainable patterns of behaviour change that serve the business in key areas. The goal is to affect enough change to make a difference.”

Wilhelm (1992) believes that “change takes several [three to ten] years and assumes constant and massive reinforcement, without which the changes will not occur at all.” He argues that “impatience with behavioral change must be guarded against” and advocates the strategy of “rewarding only *desired* behavior” in order “gradually [to] cause the extinction of undesired behavior.” Kilman et al (1985) support this advice with a warning against reward systems that encourage “old behaviours” in conflict with the new behaviours required to sustain a changed culture. Burnes (1992) and Kotter and Heskett (1992) agree that continual reinforcement is the key to change. Leaders must “find hundreds or thousands of opportunities to influence behavior. And the resulting actions on the part of a growing group of people must produce positive results; if they do not, the whole effort loses credibility.”

Ogbonna (1992) warns that “if we accept that culture can be changed, reliance on techniques which guarantee *permanent* or deep-rooted change may itself become an impediment to future change.” Payne (1991) agrees that “strong cultures need to build into their strength the capacity to be adaptable, to look for change and new opportunities.” If they fail to do this, their own strength will ultimately become a weakness and cultural collapse a likely outcome.

There is a strong assumption in much of this advice that culture change is being planned and implemented according to some grand strategy. This assumption implies a degree of far-sighted leadership, an implication which is confirmed by Kotter and Heskett (1992). In the ten organisations they studied “major change began after an individual who already had a track record for leadership was appointed to head an organization.” Ogbonna (1992) argues that this *change* of leadership is the key factor: “changing culture requires change in leadership at the top.” Ogbonna argues that the different perspective of the newcomer, which was unavailable to the outgoing leaders, regardless of their quality, is what makes change possible. This does, however, present another obstacle: the new leader “must have both an outsider's openness to new ideas and an insider's power base” and must be “distant enough so as not to see things through the eyes of their predecessors” whilst still having a deep understanding of the organisation they are trying to change (Kotter and Heskett, 1992). “This paradox sums up the difficulty in changing culture" (Ogbonna, 1992). Burnes (1992) agrees that attachment to the status quo is a major impediment to change, although it is not clear from Kotter and Heskett’s research whether for them the change itself was the deciding factor, or the personal qualities of the new leaders which had been lacking in their predecessors.

Hampden-Turner’s (1990) view is that

> "It is possible to intervene to change your corporate culture. The method involves a cumulative investigation into values, myths and rituals, using interviewing and group discussion.

This process facilitates an understanding of "how your corporation functions, and how it learns from its environment."

Schein (1985) provides perhaps the most comprehensive taxonomy of "change mechanisms," documenting eleven different processes with comment about each.[†††]

Notwithstanding the copious advice available about how to change culture, and the assertions of Hassard and Sharifi (1989) and Egan (1994) that planned culture change for strategic purposes is possible, there is a note of pessimism in the literature about the subject. Trice and Beyer (1985) observe that "it now seems clear that if cultures can be and are deliberately changed, doing so requires a gradual and deliberate process." Baron and Walters (1994) observe that "success at bringing about sustainable, positive changes in culture has been limited," whilst Manning (1990) takes an even more jaundiced view:

> "after countless research studies there's precious little evidence that it can be manipulated, no clear guidelines showing |how| to do it, and no real proof that a new culture leads to better business results."

[†††] Schein's taxonomy of change mechanisms is documented in Appendix C.

Organisational culture: a summary

Organisational or corporate culture is viewed by many writers as analogous to individual personality. In its observable manifestations it represents distinctive patterns of behaviour - often expressed as 'the way we do things here' - which characterise specific organisations and distinguish them in particular ways from otherwise similar organisations. These manifestations include such things as idiosyncratic language, stories, ceremonies, and norms of behaviour.

These behavioural characteristics are shaped and determined by underlying values, beliefs and attitudes which are shared among members of the organisation. These in turn rest upon sets of assumptions. Members of the organisation may be unaware of the specific constituents of this complex system of assumptions, values, beliefs and attitudes, which are frequently unspoken and unrecorded, and are consequently not readily available for question or test.

Culture develops through social learning mechanisms. Actions and behaviours which are associated with favourable outcomes tend to be repeated, and eventually become behavioural norms. Underlying assumptions become established in a similar way.

Much of the research into culture has been based on the study of small groups. This gives rise to the criticism that the interactions in a larger organisation are exponentially more complex and generalisations from the small group scenario may be of limited validity. It is also the case that multiple cultures may exist within any large organisation, each with its own system of assumptions, values, beliefs and attitudes. These sub-cultures may be in conflict or competition with each other, and may not support the aims of the senior management of the organisation.

Individuals bring with them to the organisational setting the values and assumptions of other cultural systems to which they belong, such as ethnic, linguistic, class or professional contexts, and these contribute to the development of the organisational culture. The interaction between the individual and his or her organisation is governed by a set of mutual expectations, commonly called the psychological contract. This 'contract' is unwritten and often defined only by learning mechanisms, and is therefore subject to different interpretations by the parties involved. The psychological contract is both a product of the prevailing culture, as influenced by individual contributing factors, and a determinant of it.

Because cultures become established through a process of development, it follows that they are not static, but continue to develop under the same pattern of influences. This gives rise to the hope that they can be changed according to some strategy or plan devised by managers. The literature shows disagreement about whether such change can be affected at the behavioural level, by influencing what organisation members *do*, or only at the underlying level, by influencing what members *feel* or believe. There is some pessimism in the literature about the efficacy of culture change initiatives, but general agreement that any such change is likely to be slow and very demanding of the time and attention of management

Managers might wish to change their organisation's culture because certain types of culture have been identified in the past as contributing to organisational success. The literature

contains a variety of taxonomies of culture types. Association of specific types with performance is, however, somewhat discredited. So-called ‘strong’ cultures, which is usually a synonym for highly homogenous or strongly shared culture, have been shown to be associated with high performance. However, the characteristic of ‘strength’ in this sense has also been shown to lead to inflexibility and reduced ability to respond to the need for change. Success is therefore seen to be the product of interaction between cultural and environmental factors, and many organisations previously designated ‘excellent’ for this kind of reason have subsequently demonstrated reduced performance as circumstances change.

Chapter IX

ISSUES AND PROPOSITIONS

In Chapter ii of this thesis a tentative structure, based on Checkland's (1981) Soft Systems Methodology, was proposed as a means of modelling the diverse factors which were believed likely to have a role in developing current understanding of the association between perceptions of threat on the part of project management professionals, and the performance of the projects on which they work. This structure was represented graphically in the form of a noun-based system map (Exhibit 2, reproduced right). It was suggested that this model was likely to be over-simplistic, and that the true interactions between its elements would be found to be at a lower, more detailed, level.

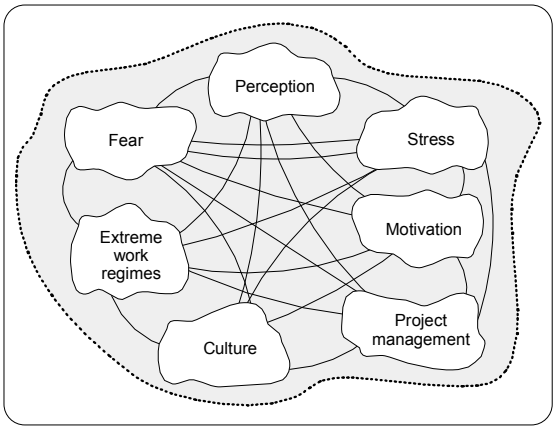


Exhibit 2 Noun-based system map

The reviews of the available literature concerning these individual elements, which are contained in the preceding chapters, tend to confirm this view and provide a rich and eclectic array of lower-level system elements. Certain of these elements stand out as having a particular relevance to the perceptions, behaviours and effectiveness of project management professionals, and to the outcomes of their projects. These are identified in the following paragraphs.

Project management is found to be a discipline which is "more behavioural than quantitative" (Kerzner, 1989). Key amongst the behaviours required of its practitioners are those focused on relationships, teamwork, open flows of information, and persuasiveness. The success of a specific project is seen to be frequently a matter of subjective judgement by a variety of stakeholders, and not readily amenable to quantifiable, auditable, assessment, although superficially the reverse might be expected since ostensibly objective targets for time, cost and quality for project performance are usually identified.

Conflict, at the organisational and at the personal level, is seen to be endemic in the project scenario and this may be especially problematical for the individual manager where dual or multiple reporting lines exist. The temporary or short term nature of project work raises issues of uncertainty about future career options for many project management professionals. Project work is seen to confer some benefits, on organisations, where it is perceived to soften boundaries and encourage flexibility, and on individuals, where participation in projects has the potential to broaden horizons and develop managerial skills.

Pressure to perform may be a source of stress in situations where tight deadlines and high quality standards are required but responsibility is often not supported by commensurate levels

of authority. Project management is seen as being typically goal-driven, and members of project teams may or may not be involved in the definition of these goals. Individuals may or may not personally adopt project goals as their own personal targets.

The sub-system elements to be considered here are therefore: authority, organisational/individual benefits, conflict, dual reporting, definition/adoption of goals, inter-personal skills, organisational support, subjectivity of project success, and job [or role] tenure.

The **perception** of threat is found to be highly subjective and may exist in the minds of individuals even though the events they anticipate will not or are unlikely to occur. This also means that no threat exists unless those subjected to it perceive themselves to be threatened. A definition of threat has been adopted here as *the anticipation of impending change to a state less favourable than the status quo*. [cf Lazarus and Folkman (1984) "harms/losses which have not yet taken place but are anticipated"]. This implies that threat is conditional upon the anticipated consequences of the occurrence of the prospective event being regarded as undesirable by its object. This will depend on, amongst other things, the wishes, preferences, intentions and circumstances of the individual concerned.

Perception is found to be a highly individual construct. A totally objective and undistorted perception is impossible. The proportion of its constituents which are internally supplied means that virtually identical sets of stimuli may produce very different perceptions within the minds of different people. The formation of perceptions is influenced by all life experiences and by the wider cultural norms and expectations of the society in which the individual exists. Because "Mankind finds an absence of meaning unendurable. We are a meaning-endowed animal" (Checkland and Scholes, 1990) meaning is sought and explanations constructed for what is perceived and this cognitive activity influences and alters perception.

The sub-system elements to be considered here are therefore: meaning attributions, individual circumstances, cultural influences, life experiences.

Fear is an emotional response to the perception of danger, or threat. It is found to be based in physiological changes which are virtually identical to responses which may be experienced as the emotion of anger. Which of the two emotions is experienced depends on cognitive evaluation of situations which in turn is heavily influenced by experience. Fear is adversely associated with performance by inhibiting both the acquisition and the retrieval of information (Eysenck, 1983), by curtailing innovation (Vartia, 1996), and by constraining questioning, the expression of ideas (Deming, 1986) and experimentation (Handy, 1990). Fear-based work regimes such as slave labour have often been found to be inefficient and/or ineffective, and have been abandoned on economic as well as moral grounds (Walvin, 1983; Bettleheim, 1988).

The sub-system elements to be considered here are therefore: cognitive evaluation (the fear-anger continuum), innovation, free expression, questioning.

The term **stress** is used here in the sense defined by Cummings and Cooper (1979) as "any force which puts a psychological or physical factor beyond its range of stability producing a

strain within the individual." Such strains are associated with uncertainty, lack of control over events or situations, discrepancies between perceived demands and perceived ability to meet those demands, novel or unfamiliar situations, and poor relationships in the workplace. Stress is a causal factor in a number of physiological and psychological health problems, with chronic, rather than acute exposure to stress being more significant in this respect. Stress is also a factor in reduced performance at work, partly through direct causes such as absenteeism and "burnout," and partly through reductions in information-handling ability similar to those associated with fear.

The experience of stress is moderated by individual factors such as "personality, attitudinal and cognitive factors" (Moos and Billings, 1982) and by the social environment.

The sub-system elements to be considered here are therefore: work demands, personal resources, work organisation, and social factors.

Motivation concerns the "arousal, direction and persistence of behaviour" (Ilgen and Klein, 1988). In the present context, Lawler's (1973) assertion that "those individual behaviors that are crucial in determining the effectiveness of organizations are, almost without exception, voluntary motivated behaviors" is accepted as broadly true. Good performance in the project environment is therefore taken to require individuals to choose to perform certain actions rather than either no action or other possible actions, and that the actions so performed will be conducive to improved project outcomes. Actions may be extrinsically or intrinsically motivated. That is, they may be performed because, although not in themselves pleasurable, they are believed to be instrumental [likely to lead to desired outcomes], or they may be performed because the action itself gives pleasure. Extrinsic motivation requires that the individual has both "outcome expectancy," ie, believes that the action is likely to result in the desired outcome, and "efficacy expectation," ie, believes that he/she can successfully perform the instrumental action. These expectations may be modified by personality factors.

There is a strong theme throughout much of the literature that high performance is associated with interest in and commitment to the content of the work, as distinct from anticipated outcomes. Rewards are not generally regarded as highly effective in motivating appropriate behaviours in situations where complex or difficult tasks are involved, requiring creativity, conceptual understanding, and cognitive flexibility (Deci, 1992). On the other hand, Kanfer (1990) maintains that "intrinsic motivation may be ... conceptualized as episodic and temporally bounded rather than continuous." Positive reinforcement is found to be more effective than punishment in promoting appropriate behaviours.

Goal setting is regarded as an effective means of directing behaviour towards specified outcomes, and is a significant feature of most project management approaches. However, this only applies where the goals are accepted by the individuals concerned. Imposed goals are not found to have the same positive effects (Locke and Latham, 1990).

The sub-system elements to be considered here are therefore: acceptance of goals, choice of actions, expectancy, intrinsic outcomes, rewards [extrinsic outcomes], and reinforcement history.

The term **Organisational Culture** refers to distinctive patterns of observable behaviours in organisations or groups. These are believed to result from a combination of reinforcement patterns which foster certain behaviours and discourage others, underlying values, assumptions, attitudes and beliefs, and wider environmental factors. As such, an organisation's culture may be seen as the context within which other influences may act to impact upon performance.

Cultures develop through learning mechanisms: "Employees observe what happens to them [and around them] and then draw conclusions about their organization's priorities [and] ... then set their own priorities accordingly" (Schneider et al, 1994). Appropriate ways of behaving are internalised in this way through modelling (Bandura, 1977a). The outcome of this process is a "system of informal rules that spells out how people are to behave most of the time" (Deal and Kennedy, 1982).

Individuals are socialised to conform to organisational behavioural and attitudinal norms through three primary mechanisms. Organisations tend to select and recruit people who appear to be consistent with organisational values and attitudes. Once taken into the organisational context, social learning mechanisms operate to cause them to adapt further to existing norms. Those who are unwilling or unable to adapt may leave of their own volition or be "managed out" in various ways [attrition] (Rousseau, 1995).

To the extent that an organisation's culture is the product of any conscious wish or desire on the part of that organisation's management, its object may be seen as one of control of people's behaviour. However, culture operates at a more subtle level than any formal rules and predetermined procedures, leaving members free to decide what will be culturally-consistent behaviour in any specific situation, even, an perhaps especially, where that situation is novel or poorly understood. This is potentially very valuable in terms of effective performance because "when tasks are complex and unpredictable ... it is impossible to create predetermined rules to regulate members behaviour" (Johnson and Gill, 1993). Members are driven by a "social commitment to what seems natural, proper or right" (Gabraith, 1983). "to adopt, by tacit agreement, the most effective approach, attitude, and behavior on the job" (Kilman et al, 1985). The underlying values and beliefs held by managers will directly impact on their actions and decisions, and on what they come to see as being "natural, proper or right."

This may lead to particular management styles becoming generally accepted across organisations, and these styles may be perceived as supportive or destructive by staff who are subject to them. Bullying and overt coercion may become normal practice where such styles are set by senior figures. Where employees come to believe that such behaviour is either explicitly or implicitly required of them, there is evidence that personal reservations may be over-ridden. A phenomenon often observed in coercive work regimes finds that workers who are allowed to

exercise authority over their colleagues frequently become more severe in their behaviour towards their fellows than are the power-holders they seek to emulate. This phenomenon is here characterised as the “Trustee Syndrome.” A possibly allied phenomenon, known as the “Stockholm effect,” finds a form of bonding occurring between coerced people and their oppressors.

Bullying or harassment has deleterious effects on its victims and on organisational performance. "Harassment can lead to illness, absenteeism, an apparent lack of commitment, poor performance and resignation. The damage, tension and conflict which harassment creates should not be underestimated. The result is not just poor morale but higher labour turnover, reduced productivity, lower efficiency and divided teams" (Worman, 1997). “Where power is applied as force and consented to out of fear, the group dynamic will be one of submission. Or where such power is not consented to, the group dynamic will be one of rebellion, either covert or overt" (Stacey, 1992).

Another practical effect of cultural characteristics is to focus attention on some things and divert it from others. Where “managers and others give extraordinary attention to whatever matters are stressed in the corporate value system ... this in turn tends to produce extraordinary results” (Deal and Kennedy, 1982). However, it may also mean that possibilities which are not entirely consistent with established norms may be rejected, or simply not recognised. Project work, which often lies outside the mainstream of organisational activity, may be especially vulnerable to problems from this source: "Time and again we see projects getting into difficulties because of organizational constraints and cultures that individuals are not able to overcome" (Morris, 1994).

Multiple cultures may exist within any large organisation, each with its own system of assumptions, values, beliefs and attitudes. These sub-cultures may be in conflict or competition with each other, and may not support the aims of the senior management of the organisation. Project teams may well exemplify such sub-cultures. Membership of a project team may offer opportunities for recognition as well as the satisfactions to be derived from mutual support.

In some ways, multiple cultures may serve the ends of organisational effectiveness by keeping alternative views visible, and thus available, to the wider organisation. Inflexibility is seen as a risk factor in longer-term performance, even survival, for organisations.

Individually, employees form beliefs about “reciprocal exchange agreement[s]” between themselves and their employing organisation (Robinson and Rousseau, 1994). Such notional agreements are called psychological contracts. Guest et al (1996) found that “a positive psychological contract is strongly linked to higher commitment to the organisation, higher employee satisfaction and better employment relations" and is therefore “worth taking seriously.” Because psychological contracts are unwritten and often not explicitly defined, there is scope for misunderstandings and feelings that the contract has been violated, regardless of intention. Rousseau (1995) found that “strong relationships ... frequent interactions [and] sacrifice and other previous investments that serve to bind parties to each other" tend to reduce

such “experienced violation[s].”

Where employees perceive that changes which affect them have been made in an “arbitrary and ... unjust way ... their response is to get out, get safe [by keeping their head down] or get even [by psychological withdrawal or even sabotage]" (Arnold, 1966).

The sub-system elements to be considered here are therefore: management style, control, coercion/bullying, trustee syndrome, social learning, selection-adaptation-attrition, submission-rebellion, project sub-culture [and team membership], and psychological contract [violation].

Collation of the sub-system elements identified in the above paragraphs enables a new and more complex mapping of the components of the notional system which may be entitled “project performance” [recognising that non-behavioural factors are not here being taken into account].

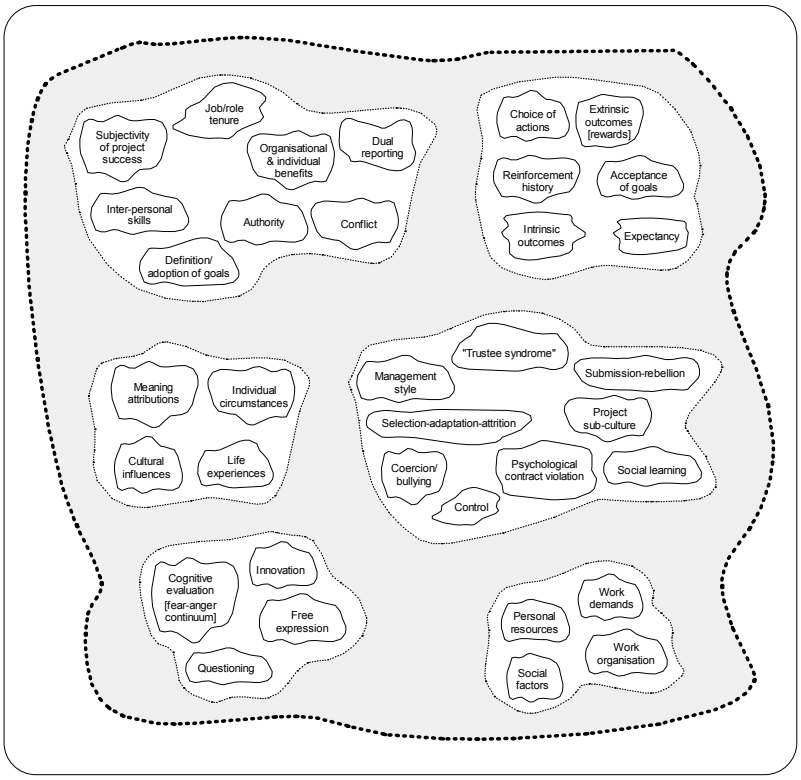


Exhibit 16 Project performance system map

Even the relatively small number [35] of elements identified in these six sub-systems produce an unmanageable pattern of interactions when an attempt is made to map their probable influences upon each other. Each element is found to be likely to have some influence on virtually every other element, in some cases in reciprocal patterns and/or through complex sequence chains. The elements can, however, be re-grouped to form three new sub-systems: [α] an *Inputs or Stimuli* sub-system, [β] a *Processing or Interpretation* sub-system, and [γ] a *Reactions or Outcomes* sub-system. Some elements in [α] are found to recur in [γ].

At this level, interactions show predominantly uni-directional influences from [α] to [β] to [γ] and on to a fourth, as yet undefined, sub-system [δ] representing quantitative and qualitative assessments of project success.

The elements of these sub-systems are:

[α]: Work organisation, Management style, Work demands, Control, Dual reporting, Job/role tenure, Inter-personal skills, Subjectivity of project success, Coercion/bullying, Life experiences / reinforcement history / social learning, Cultural influences, Selection-adaptation-attrition, Project sub-culture, and Conflict.

[β], Definition / adoption of goals, Individual circumstances, Personal resources, Social factors, Cognitive evaluation [fear-anger continuum], Meaning attributions, Adaptation-attrition [2], Authority, Project sub-culture [2], Conflict [2], Psychological contract violation, and Expectancy.

[γ], Acceptance of goals, Choice of actions, Submission-rebellion, Questioning, Free expression, Innovation, "Trustee" syndrome, Intrinsic outcomes, Extrinsic outcomes [rewards], Conflict [3], Social learning [2], and Project sub-culture [3].

[δ], Time / schedule, Cost / budget, Quality / technical specification, and Stakeholder perceptions.

The organisational and individual benefits which may also follow incidentally from the use of project management in an organisation form a separate logical subsystem, [ε].

These sub-systems may be represented graphically as illustrated in Exhibit 17, below:

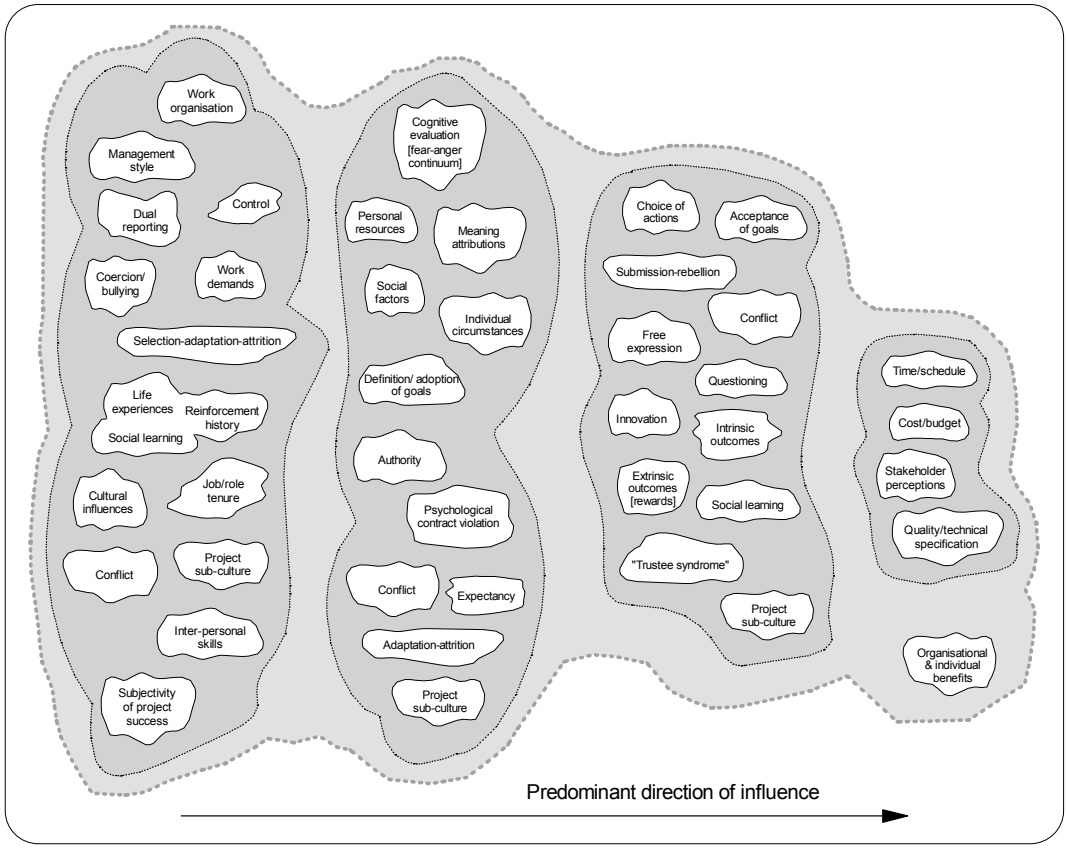


Exhibit 17 Influence flow system map

From this conceptual mapping it is possible to derive certain propositions concerning the major influence patterns which may have a bearing on objectively- or subjectively- assessed project outcomes. These propositions may be supported or refuted by the perceptions of project management professionals.

To avoid unwieldy parentheses, it is convenient to distinguish here two forms of threat. Purposive threat is that which is directed at individuals either to coerce their behaviour or from malice. Coercion and bullying fall within this definition. Environmental threats are those which arise from natural events, from societal forces which, for practical purposes are undirected by intelligence, or from macro-political causes or policies determined so remotely from the affected individuals that they may be regarded, again for practical purposes, as being undirected (see Chapter iv).

Proposition 1

Project management professionals will have perceptions about the success of projects in which they have been involved, and will be able to explain, justify or rationalise these perceptions.

Proposition 2

A project sub-culture exists within the environment of an organisational culture, with which it must be compatible whilst not necessarily being the same. The selection-adaptation-attrition process will tend to promote compatibility over time. Management style will be an integral part of culture at both levels.

Proposition 3

Purposive forms of threat will be perceived as unfair [violating the psychological contract] and will evoke psychological responses on the fear-anger continuum leading to behavioural responses of submission-rebellion.

Proposition 4

Management styles which tolerate purposive threat will be negatively associated with project sub-cultures which exhibit the attributes of voluntarism [free expression, innovation, questioning, intrinsic satisfactions, participation in goal definition]

Proposition 5

Project sub-cultures which foster the attributes of voluntarism will be more strongly associated with successful project outcomes than those which do not.

Proposition 6

Environmental forms of threat will have a detrimental impact on the project sub-culture and will tend to be negatively associated with project success.

Chapter X

PERSPECTIVES ON METHODOLOGY AND DESIGN

It may be helpful at this point (Trafford, 1997) to re-state explicitly the reason for selecting the current research topic. That is, that information on the types, degrees and sources of threat perceived by project management professionals, and the nature of any association between such perceptions and project outcomes, is currently lacking and any debate is therefore inadequately informed. This has both practical and ethical significance, since there is an implicit assumption in the application of purposive threat, that is, threat with behaviour-shaping intent, that improved performance will result. Environmental, or non-purposive, threat may also be viewed in some quarters as a spur to performance. If these assumptions have substance, then a justification on practical grounds for the application or tolerance of threat may be advanced. There would then remain the ethical question of whether enhanced performance adequately justifies the effects of raised stress levels on the physical and psychological health of those subjected to threat. If, however, no significant positive association between threat and performance were perceived, then such a justification would lack merit and managers could be advised, in their own interests, to work towards the removal or reduction of threat.

Following Burrell and Morgan's (1979) advice, researchers should state their own attitudes on this matter, which is in this case that the well-being of the individual is of great importance and that the quality of working life contributes significantly to that well-being (Schumacher, 1979; ACAS, 1991; or Worral and Cooper, 1997). Discussion of ethical issues arising from any relationships between threat, performance and the quality of working life, which might be complex, is in Chapter xiii.

Research orientation

At first sight, the conceptual framework of the research appears seductively positivist in orientation. That is, whether organisational climate, with the focus on threats of various kinds, does or does not affect project outcomes by causing changes in the behaviour of people involved in managing the project. Such a concept has already been shown, by reference to the literature, to be too simplistic to be tenable. All three elements: organisational climate, the behaviour of the people involved, and the outcomes of projects, are found to be complex, multivariate systems. Causal links between them are exponentially more complex and to operationalise quantitative forms of enquiry would hardly be practicable.

One construct, however, stands out; extending its influence across the boundaries of all three conceptual systems. This is the set of *perceptions* experienced by the individual project management professional. The theoretical and empirical exploration of the construct *perception* has been a theme of much of the preceding review of the literature and will not be reiterated here. The implications of taking the perceptions of those involved as the principal focus of the present research is that the orientation of the research must be phenomenological rather than positivist, qualitative rather than quantitative.

According to Creswell (1994) in phenomenological studies "human experiences are examined through the detailed descriptions of the people being studied." Rubin and Rubin (1995) value the variety and inconsistency of the individual accounts that arise from such an approach because:

> "There is not one reality out there to be measured; objects and events are understood by different people differently, and those perceptions are the reality - or realities - that social science should focus on. It matters less whether a chair is 36 inches high and 47 years old than that one person perceives it as an antique and another views it as junk."

Guba (in Erlandson et al, 1993) shares this view. Because "the way things are constructed to be and to work depends on the particular human constructor entertaining the ideas [in other words, ... there are multiple realities rather than a single reality, each relative to the constructor's experience]" the appropriate form of research is "subjective inquiry," with the aim of "the development of shared constructions [including constructions for action] among members of a particular group." Stated in such terms, there appears to be a fundamental incompatibility between the underlying philosophical positions of phenomenology and positivism, since the latter would maintain "firstly, that reality is external and objective; secondly, that knowledge is only of significance if it is based on observations of this external reality" (Easterby-Smith et al, 1991).

Two approaches to social research follow from these differing philosophical positions. Positivist or quantitative approaches are:

> "based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true" (Creswell, 1994).

They make the assumptions of

> *"independence*: the observer is independent of what is being observed; *value-freedom*: the choice of what to study, and how to study it, can be determined by objective criteria rather than by human beliefs and interests; [and] *causality*: the aim of social sciences should be to identify causal explanations and fundamental laws that explain regularities in human social behaviour" (Easterby-Smith et al, 1991).

The range of approaches which are summarised as qualitative (Miles and Huberman, 1994), in contrast, assert that "many subjects of interest to social scientists cannot be meaningfully formulated in ways that permit statistical testing of hypotheses with quantitative data" (Trafford, 1997) and even that the "objectivity [which] is a goal of traditional research ... is largely an illusion" (Erlandson et al, 1993). Instead, qualitative research aims to develop "understanding [of] a social or human problem" through a process which is "based on building a complex, holistic picture, formed with words, reporting detailed views of informants" (Creswell, 1994). Such an approach is held to be more "useful for hearing data and understanding meaning in context" than positivism which "denies the significance of context and standardizes questions and responses, so that there is little room for individual voices" (Rubin and Rubin, 1995).

The polarisation of these two approaches has been criticised by several writers. Easterby-Smith et al (1991) observe:

> "In the red corner is phenomenology; in the blue corner is positivism. Each of these positions has to some extent been elevated into a stereotype, often by the opposing side."

Easterby-Smith et al provide a model of the key features of the two paradigms:

	Positivist paradigm	*Phenomenological paradigm*
Basic beliefs	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what is observed
	Science is value-free	Science is driven by human interests
Researcher should:	focus on facts	focus on meanings
	look for causality and fundamental laws	try to understand what is happening
	reduce phenomena to simplest elements	look at the totality of each situation
	formulate hypotheses and then test them	develop ideas through induction from data
Preferred methods include:	operationalising concepts so that they can be measured	using multiple methods to establish different views of phenomena
	taking large samples	small samples investigated in depth or over time

Exhibit 18 Positivist and phenomenological paradigms (Easterby-Smith et al, 1991)

King, Keohane and Verba (1994) argue that whilst

> "the two traditions appear quite different; indeed they sometimes seem to be at war. Our view is that these differences are mainly ones of style and specific technique. The same underlying logic provides the framework for each research approach."

For King et al, the use of one approach or another is a matter to be determined by the subject of the research or enquiry, neither approach is intrinsically “better” or more valid than the other for all circumstances.

Kaplan (1964) argues that quality and quantity are simply facets of a common reality: "Quantities are *of* qualities, and a measured quality *has* just the magnitude expressed in its measure,” a view strongly supported by Miles and Huberman (1994):

> "In some senses, all data are qualitative; they refer to essences of people, objects, and situations. ... We have a 'raw' experience, which is then converted into words ['His face is flushed.' ... 'He is angry.'] or into numbers ['Six voted yes, four no.' ... 'The thermometer reads 74 degrees.']”

Miles and Huberman believe that the

> “quantitative-qualitative argument is essentially unproductive. ... In a deeper sense ... the issue is not quantitative-qualitative at all, but whether we are taking an 'analytic' approach to understanding a few controlled variables, or a 'systemic' approach to understanding the interaction of variables in a complex environment."

It is clear that in the present research the latter approach is implicit in the focus of the study.

The selection of a qualitative approach has implications for the way in which conclusions will be drawn from the data which is subsequently collected. According to Creswell (1994) a quantitative approach is associated with deductive logic - - "concepts, variables and hypotheses are tested in a cause-and-effect order. ... The intent of the study is to develop generalizations.” A qualitative approach would suggest inductive logic, which seeks "patterns or theories that help explain a phenomenon" and in which “the researcher discovers recurrent phenomena in the stream of local experience and finds recurrent relations among them" (Miles and Huberman, 1994). Such a dichotomy is explicit in Easterby-Smith et al’s model illustrated above.

However, the completely “blank slate” beginning suggested by a pure form of inductive logic presents great practical difficulties. As Phillips and Pugh (1994) describe it:

> "The myth of scientific method is that it is inductive: that the formulation of scientific theory starts with the basic, raw evidence of the senses - simple, unbiased, unprejudiced observation. Out of these sensory data - commonly referred to as 'facts' - generalizations will form. The myth is that from a disorderly array of factual information an orderly, relevant theory will somehow emerge. However, the starting point of induction is an impossible one."

King, Keohane and Verba (1994) support this view:

> "most philosophers agree that a complete, exhaustive inductive logic is impossible, even in principle."

These caveats do not, of course, invalidate an inductive stance. They do, however, suggest that the infinite research arena implied by such a stance in a pure form should be restricted by having some “orienting constructs and propositions to test or observe in the field,” which Miles and Huberman (1994) describe as a characteristic of a deductive strategy. This pragmatic dilution of the pure inductive paradigm is not unusual: "seldom do actual studies exemplify all of the ideal characteristics of either paradigm" (Creswell, 1994).

Such an orientation is also appropriate because of the multivariate nature of any meaningful definition of causality in the phenomena to be explored. As Oscar Wilde puts it: "Truth is never pure, and rarely simple" (*The Importance of Being Ernest,* Act 1). Or, in Miles and Huberman’s (1994) words:

> "The case can be thoughtfully made ... that causality is not a workable concept when it comes to human behavior: People are not billiard balls, but have complex intentions operating in a complex web of others' intentions and actions."

Oppenheim (1992) agrees that:

> "in social research we rarely deal with monocausal phenomena, that is with a single cause having a specific effect. Almost invariably we have to deal with multi-

> causal models, so that any effect is the outcome not of one cause but of a complex network of determinants. Quite possibly many of these will not only be related to the dependent variable but also to each other: they will form a network of *interrelated determinants*."

"Multiple realities exist in any situation" (Creswell, 1994) and these "multiple realities enhance each other's meanings; forcing them to a single precise definition emasculates meaning" (Erlandson et al, 1993). In the same way

> "The causes of any particular event are always multiple. ... The causes are not only multiple but also 'conjunctural' - they combine and affect each other as well as the 'effects.' Furthermore, effects of multiple causes are not the same in all contexts, and different combinations of causes can turn out to have similar effects. That statement means that we have to think of causes and effects as arranged in a *network* ... that we approach as a system changing over time" (Miles and Huberman, 1994).

For these reasons a phenomenological stance is taken in this research, intended to facilitate a basically inductive extension of understanding through the exploration of individuals' experiences and perceptions.

The research domain

Much attention has already been given to defining and describing the activity of *project management*, the meaning[s] of the term *project*, and the work of a *project manager* (see Chapter iii and Appendix A). The focus of the present research is on project managers, which has for this purpose been taken to mean "anyone whose job or profession involves executive responsibility for projects or parts of projects, regardless of present assignment" (Chapter iii).

Projects are undertaken in a wide variety of industry sectors and in a great range of work areas. These two broad areas of classification overlap to a considerable extent. A survey by the professional journal *Project Manager Today* (January 1998) showed the top ten industry sectors in which its readers worked as:

National and Local Government	17%
Construction and engineering	15%
Information technology	15%
Finance and insurance	14%
Defence	7%
Electronics	7%
Telecommunications	6%
Pharmaceuticals	4%
Utilities	4%
Mailing industry	3%

Clearly, this is only moderately helpful, since a project manager employed in, for example, local government, might be working on an information technology project, a construction project, an engineering project, or an organisational development project, or in almost any other work area.

Statistics supplied from The Association for Project Management's membership database (APM, 1998) list the following "disciplines." It should be recognised, though, that the Association's origins are in the construction industry, with information technology as a more recent but increasingly significant source of membership, and that 39% of the membership are listed as "other - unclassified." The percentages shown below are of the total membership:

Building and property development	24%
Reorganisations and relocations	14%
Information technology	11%
Defence	10%
Civil engineering	4%
Capital investment	3%
Software development	2%
Research and development	2%
Process plant / chemical plant	1%
Management training	1%

Whilst the precise nature of the work area is not in itself especially significant or relevant to the present research, the validity and reliability of any observations would be enhanced by similarities, or explainable, documentable differences (Easterby-Smith et al, 1991; Erlandson et al, 1993; Rubin and Rubin, 1995) between the experiences and perceptions of sources, or "informants" as Spradley (1979) prefers, from across the spectrum of work areas and industry sectors. For this reason, efforts will be made to select informants from a variety of organisations, industry sectors and disciplines, but without attempting a rigorous statistical distribution. Informants will, however, be required to satisfy Rubin and Rubin's (1995) three basic requirements:

> "They should be knowledgeable about the cultural arena or the situation or experience being studied; they should be willing to talk; and when people in the arena have different perspectives, ... [they] should represent the range of points of view."

Rose (1982) however, applies a touch of realism: "in many research projects ... it must be recognised that time and money limitations are the chief determining factors" and Bell (1987) observes that

> "you may be forced to interview anyone from the total population who is available and willing at the time. Opportunity samples of this kind are generally acceptable as long as the make-up of the sample is clearly stated and the limitations of such data are realized."

Erlandson et al (1993) address the motivation of informants to participate in the research:

> "some will respond simply because higher-ups have approved the research. Others will respond to relieve boredom or loneliness. Some will respond as an opportunity to express grievances. The researcher must be aware that there are many possible motivations to respond."

In order to optimise the free and open description of feelings and perceptions Rubin and Rubin (1995) advocate treating informants as “partners rather than as objects of research,” an attitude which seems fully consistent with Spradley’s (1979) advice to treat sources as "informants,” who cooperate with the researcher by providing information rather than as "subjects" who/which are studied by the researcher.

Data collection

Having determined that a phenomenological orientation to the research issues, and an inductive stance towards conclusions, are appropriate in this case, the question arises of how best to obtain the data from which such conclusions might eventually be derived. The broad options available include an ethnographic approach, in which "the researcher studies an intact cultural group in a natural setting, during a prolonged period of time by collecting, primarily, observational data” (Creswell, 1994), case studies, surveys, and interviews. Of these options, both ethnography and case studies are relatively unattractive because observation would not necessarily penetrate the perceptions of the informants, which have been identified as the key to developing understanding. They would also be very demanding in time and resources. Creswell’s (1994) view that in phenomenological studies: "human experiences are examined through the detailed descriptions of the people being studied” make it preferable to capture those descriptions directly from the informants themselves in as free and open a manner as possible.

Such “detailed descriptions” can be obtained through surveys, a medium in which the present researcher has experience in both the academic (Gray, 1993) and commercial contexts. Oppenheim (1992) divides surveys into two broad groups; The “analytic, relational survey [which] is set up specifically to explore the associations between particular variables” and the “descriptive survey,” the purpose of which “chiefly tell us how many [what proportion of] members of a population have a certain opinion or characteristic or how often certain events occur together.” The term ‘survey’ may be applied to techniques in which there is no direct personal contact between researcher and informant, as with questionnaires, and to forms of interview in which predetermined questions are asked, either face to face or over the telephone (Bell, 1987; Oppenheim, 1992).

However, a less prescriptive interview format is advocated for qualitative/ phenomenological research (Sanger, 1996) and there is consistency in the literature about the value of the interview, in a minimally structured form, as a vehicle for collecting data concerning "how individuals construct the meaning and significance of their situations“ (Stewart, 1982; also Easterby-Smith et al, 1991), and when “we need to ask numerous open-ended questions, or open-ended probes. Such open-ended questions are important in allowing the respondents to say what they think and to do so with greater richness and spontaneity” (Oppenheim, 1991). They also permit a “skilful interviewer” to

> “follow up ideas, probe responses and investigate motives and feelings, which the questionnaire can never do. The way in which a response is made [the tone of

> voice, facial expression, hesitation, etc.] can provide information that a written response would conceal. Questionnaire responses have to be taken at face value, but a response in an interview can be developed and clarified" (Bell, 1987).

Rubin and Rubin (1995) distinguish between unstructured interviews, in which "the researcher suggests the subject for discussion but has few specific questions in mind" allowing the "interviewee [to] answer any way he or she wishes," and a semistructured or focused format, in which the "interviewer introduces the topic, then guides the discussion by asking specific questions." Despite Oppenheim's (1992) advice that "the ideal free-style interview would consist of a continuous monologue by the respondent on the topic of the research, punctuated now and again by an 'uhuh, uhuh' from the interviewer," Easterby-Smith et al (1991) warn against

> "assuming that a 'non-directive' interview, where the interviewee talks freely without interruption or intervention, is the way to achieve a clear picture of the interviewee's perspective. This is far from true. It is more likely to produce no clear picture in the mind of the interviewee of what questions or issues the interviewer is interested in, and in the mind of the interviewer of what questions the interviewee is answering! Too many assumptions of this kind lead to poor data which is difficult to interpret. Researchers are therefore likely to be more successful if they are clear at the outset about the exact area of their interest."

Easterby-Smith's advice is consistent with the orientation towards a pragmatic form of phenomenological/inductive methodology already outlined above.

The need for "interpersonal skills of a high order" (Oppenheim, 1992) on the part of the researcher is a feature of semistructured or unstructured interviews which makes this approach attractive only where the researcher has at least moderate levels of training and experience in the basic techniques. In particular, the approach is at risk of bias from several sources, including the interviewer's own "strong views about some aspect of the topic" (Bell, 1987) which may lead to "interviewers imposing their own reference frame on the interviewees, both when the questions are asked and as the answers are interpreted" (Easterby-smith et al, 1991), and the possibility of "leading" the informant unconsciously through verbal and non-verbal signals (Pease, 1981; Bell, 1987; Marsh, 1988). Because "the person being interviewed is the expert about what he or she knows, understands, and feels," the interviewer's task is to "access this rich store of data from the interviewee, not to impose, even inadvertently, his or her own interpretations or constructions" (Erlandson et al, 1993). Rubin and Rubin (1995), however, acknowledge that the researcher

> "forms a relationship with the interviewee, and that relationship is likely to be involving. The researcher's empathy, sensitivity, humor, and sincerity are important tools for the research. The researcher is asking for a lot of openness from the interviewees; he or she is unlikely to get that openness by being closed and impersonal."

The present researcher has extensive training (see Appendix E) and experience in interviewing techniques for personnel selection purposes, and has applied these techniques successfully in organisational research projects. Acknowledging that the use of semistructured interviews is not necessarily an easy option, it does seem to be appropriate for the specific requirements of the

present research.

Griffin and Hauser (1993) have examined the available research on data collection in the field of market research. They conclude that twenty to thirty one-to-one interviews will “identify 90-95% of customer needs.” In their analysis, they also observe that group synergies add little to the data collected, noting that two one-to-one interviews are “about as effective as one focus group” and four such interviews are “about as effective as two focus groups.” Utilising Griffin and Hauser’s analysis, the figure of twenty to thirty interviews is taken as a starting point for the scale of the present research, with the proviso that "you interview until you gain confidence that you are learning little that is new from subsequent interviews. The point at which you are not learning any more new material is called *saturation*" (Rubin and Rubin, 1995).

Analysis issues

> "The cold summary that researchers ask for should be seen as having as much relationship to a living process as snapshots have to the experience of a holiday" (Boulton and Coldron, 1991).
>
> "Seldom, if ever, has the full potential of human sources been totally exhausted by a researcher" (Erlandson et al, 1993).

Although “the purpose of qualitative interviewing is to hear and understand what the interviewees think and to give them public voice" (Rubin and Rubin, 1995), it must be recognised that in its raw form that voice is likely to be far too verbose to be of value as the product of research. Forms of analysis must be applied which will reduce the volume of material and summarise its content in usable forms. Miles and Huberman (1994) identify three “streams” of analysis activity: "*Data reduction* refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions.” This is vital because "humans are not very powerful as processors of large amounts of information,” and may over-simplify “into selective and simplified gestalts or easily understood configurations” or “drastically overweight vivid information.”

Several writers advocate systems of classification as a means of reducing the volume of collected data in this way. Spradley (1979) describes a system which involves the identification of “domains” of shared elements of meaning, within which are various levels of subcategories. Strauss (1987) uses the term “axial coding” in which ideas which are related according to some schema are grouped into categories, and King, Keohane and Verba (1994) suggest “converting the raw material of real-world phenomena into 'classes' that are made up of 'units' or 'cases' which are, in turn, made up of 'attributes' or 'variables' or 'parameters' .” All these systems are variations on a theme of taxonomy based on selecting sections of interviews “from the infinite number of facts that could be recorded” (King et al, 1994) as the raw material. A version of this approach will be used in the present research and is described in the following chapter.

Miles and Huberman’s (1994) second stream of analysis is *data display*, described as "an organized, compressed assembly of information.” King et al (1994) argue that "the best scientific way to organize facts is as observable implications of some theory or hypothesis.

Good data display facilitates Miles and Huberman's third stream of analysis, that of "conclusion drawing and verification," which are closely linked because:

> "Conclusion drawing, in our view, is only half of a Gemini configuration. Conclusions are also *verified* as the analysis proceeds. Verification may be as brief as a fleeting second thought crossing the analyst's mind during writing... or it may be thorough and elaborate ... . The meanings emerging from the data have to be *tested* for their plausibility, their sturdiness, their 'confirmability' - that is, their *validity*. Otherwise we are left with interesting stories about what happened, of unknown truth and utility" (Miles and Huberman, 1994).

This is consistent with Guba's assertion (in Erlandson et al, 1993) that "In naturalistic inquiry, data collection and data analyses go on in concurrent and integrated steps that build on one another."

Confidence factors

> "If intellectual inquiry is to have a impact on human knowledge, either by adding to an overall body of knowledge or by solving a particular problem, it must guarantee some measure of credibility about what it has inquired, must communicate in a manner that will enable application by its intended audience, and must enable its audience to check on its findings and the inquiry process by which the findings were obtained" (Erlandson et al, 1993).

Arguing that "most indicators of validity and reliability do not fit qualitative research" and that "trying to apply these indicators to qualitative work distracts more than it clarifies," Rubin and Rubin (1995) believe that the credibility of qualitative work should be judged on three criteria:

> "*transparency*, ... a reader of a qualitative research report is able to see the basic processes of data collection";
>
> "*consistency-coherence*, ... A credible final report should show that the researcher checked out ideas and responses that appeared to be inconsistent. ... In qualitative research the goal is not to eliminate inconsistencies, but to make sure you understand why they occur. ...
>
> Credibility is increased when the researcher can show that core concepts and themes consistently occur in a variety of cases and in different settings."
>
> "*communicability*. ... The portrait of the research arena that you present should feel real to the participants and to readers of your research report. It should communicate what it means to be within the research arena."

Rubin and Rubin's comments, on the "coherence" issue, are expressed in terms that are elsewhere categorised as "triangulation" - in which "the researcher seeks out different types of sources that can provide insights about the same events or relationships" (Erlandson et al, 1993; also Creswell. 1994; Miles and Huberman, 1994). Erlandson et al add to Rubin and Rubin's advice by suggesting that "an inquiry is judged in terms of the extent to which its findings can be applied in other contexts or with other respondents." Whilst recognising that positivist concepts of generalisability are not readily applicable in qualitative research, Erlandson et al maintain that knowledge gained from one context may "have relevance for other contexts or for the same context in another time frame. 'Transferability' across contexts may occur because of shared characteristics." King et al (1994) suggest that replicability is a factor in increasing the credibility of qualitative research: "Even if the work is not replicated, providing the

materials for such replication will enable readers to understand and evaluate what we have done."

Summary

Following Rose (1982), it is possible to track the development of the research issues and propositions defined in Chapter ix from the preceding various reviews of subject-specific literature, and to continue in the present chapter to determine that a phenomenological, qualitative and broadly inductive stance is appropriate for the further investigation of these issues. The operationalisation of this research through the medium of semi-structured interviews with project management professionals, against the background of research theory examined in the above review, will be described in the following chapter.

The principal concepts to be explored are those of [a] project success, which has been shown to be a subjective and to some extent an intangible construct, [b] aspects of organisational culture, including management style and distinctive sub-cultures, and evidence of voluntarism in project groups, and [c] the perception of threat on the part of project managers. In particular, any apparent associations between these factors in individual cases will be of special interest.

The broad intention guiding the design of the research is to facilitate the free expression of feelings and perceptions by individual project managers. The principal method adopted is the semi-structured, recorded interview, in which researcher directiveness is limited, within the boundaries of practicality, to topic definition and prompts, and the free expression of feelings through narrative is encouraged.

Chapter XI

FIELDWORK

In order to operationalise the research questions expressed as the six “propositions” in Chapter ix of this thesis, two basic mechanisms are required. The first need is for an interview structure which facilitates informants’ talking comprehensively about their experiences as project management professionals, covering as much of the area of enquiry as is practicable within the time available. The second requirement is for an analysis framework which will enable the classification and “reduction” (Miles and Huberman, 1994) of the data collected into a manageable and usable form. The second of these requirements is addressed first, on the grounds that management of the interview process will be made easier if the categories of information to be elicited are clearly predefined.

Analysis framework

Three primary categories are defined: *Project success*, *Culture*, and *Experience of threat*. Within these, secondary and tertiary sub-categories are defined representing aspects of the primary categories expressed in greater detail. The full model is illustrated in Exhibit 19, below.

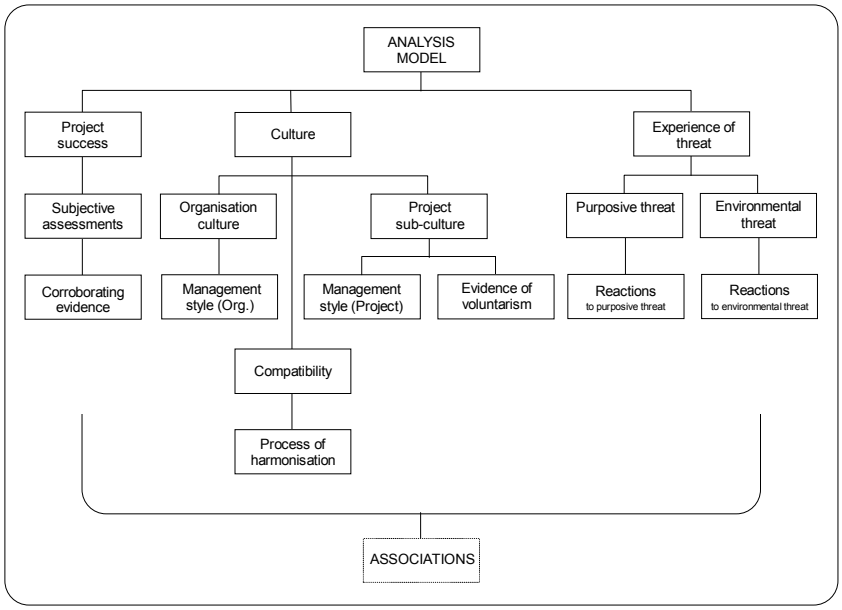


Exhibit 19 Analysis model

To facilitate the collection and categorisation of data, a computer database was designed [using Microsoft® Access® v. 2.00] with fields to contain a coded identifier for the informant, codes identifying the industry sector and the principal objective of the project [referred to as *work area*], codes for the primary, secondary and tertiary category and sub-categories to which each data item seemed, prima facie, most relevant, and a text field to contain the item itself. Each data item was either a verbatim quote or a summary of a quote, taken from a recorded interview. A dummy example of the database record format is illustrated as Exhibit 20, below:

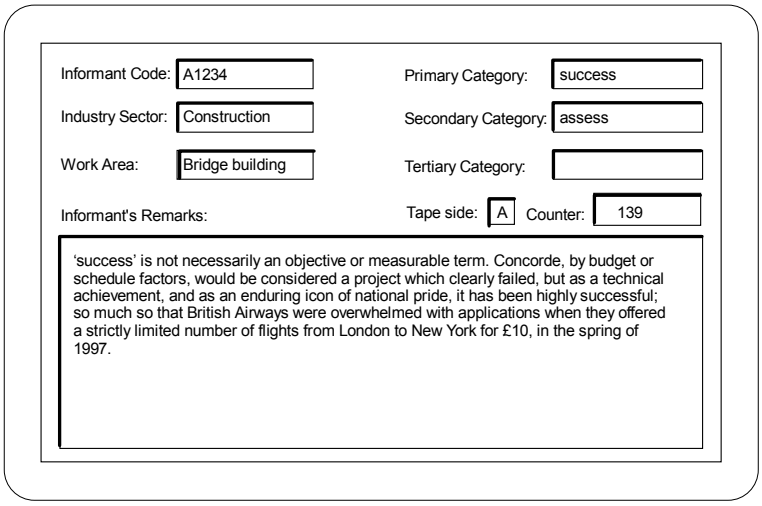


Exhibit 20 Database record

This design enabled material to be collected and categorised in such a way that assessments could be made, initially in respect of each individual informant, of that individual's perceptions concerning each separate element in the analysis model [Exhibit 19, above]. Specifically, it was possible to assess the following:

1. Whether and to what extent the informant considered the project[s] under discussion to have been successful.
2. Whether the informant could provide any corroborating evidence for this opinion, and the form of any such evidence.
3. The perceived management style at the organisational level within which the project work was done, with particular attention to the levels of threat or insecurity.
4. The perceived management style at the project level.
5. Whether and to what extent voluntarism was apparent at the project level.
6. The compatibility of the project-level culture with the organisational-level culture.
7. Whether and to what extent a process of harmonisation between the two culture levels was apparent.
8. What perceptions the informant had of purposive threat directed at him/herself, or others.
9. What perceptions the informant had of environmental threat affecting him/herself, or others.

1. The informant's behavioural reactions to perceived purposive threat.
2. The informant's behavioural reactions to perceived environmental threat.

In many cases explicit answers to the research questions were not antipated. Rather, as Rose (1982) advises, "research indicators" were looked for. For example, in most cases it was considered undesirable because of the risk of 'leading' to ask an informant directly if he/she felt threatened, but suggestions that the informant was aware of penalties attached to certain forms

of behaviour might be taken to indicate such a feeling.

For ease of handling, the database records were printed out onto index cards, and the analysis factors were then considered one by one, each record being considered for its applicability to the factor under review. A summary sheet, reproduced as exhibit 21, below, was produced for each informant's data.

Identifier	Industry Sector	Project Work Area

Analysis Factor	Rating	Evidence
Project Success		
Schedule		
Budget		
Specification		
Stakeholder views		
Opportunity cost		
Corroboration of success assessment		
Management style (Organisation) High<>Low threat		
Management style (Project) High<>Low threat		
Purposive Threat		
Environmental Threat		
Voluntarism		
Overall climate rating High<>Low threat		
Cultural Compatibility Project<>Organisation		
Harmonisation of Prot<>Org Cultures		
Reactions to Purposive Threat		
Reactions to Environmental Threat		

Remarks	Informant's Seniority:

Exhibit 21 Informant's summary sheet

For analysis purposes, the assessments of items 1 to 9 could be reduced to a simple ordinal scale from *Very High, to Very Low*, or *Not Found*, although the richness of the descriptive material supporting such a judgement was carefully retained in the database records and used to inform the narrative account in Chapter xii. On completion of the interview series collective assessments of support for the six propositions defined in Chapter ix would then be possible.

A further level of summarisation was employed, in which the ratings from the summary sheets were transferred to a spreadsheet. This enabled a two-dimensional matrix to be prepared using the analysis factors as one axis and the individual informants as the other axis. Graphical representations of correlations between any factors could thus be readily produced.

Interview structure

For the reasons set out in Chapter ix, the conduct of interviews was planned to follow a semistructured or focused format in which the “interviewer introduces the topic, then guides the discussion by asking specific questions" (Rubin and Rubin, 1995). In this way a pragmatic balance would be achieved between the benefits of, on the one hand, the copious but dilute richness to be gained by allowing informants an unrestricted “continuous monologue ... on the topic of the research” (Oppenheim, 1992) and on the other hand, those of optimising the use of time both during and after the interviews by excluding material which was not directly pertinent.

To this end, a series of “header” or topic-defining questions was prepared, together with supplementary questions to be used as prompts if useful material did not seem to be forthcoming in any of the categories in the analysis model. These header and supplementary questions are shown in Appendix F.

All the interviews were tape recorded and relevant material captured direct from the recordings onto the database. Full transcription of the recordings was not attempted. A separate tape was used for each interview, and was labelled on site with the code number allocated to the interviewee. To preserve confidentiality no other details were entered on tape labels. A separate record showing time, date, place and informant details was made and kept securely in a different location to the tapes. This record is the only means by which informant codes can be associated with other informant details and each informant was given an undertaking that access to it would be restricted solely to the researcher.

Piloting

Three consecutive pilot interviews were conducted, all with people working in the construction industry. Following Oppenheim’s (1992) advice, the pilot interviews were conducted in all respects as if they were implementational interviews, including introductory letters. After each pilot minor modifications were made to the opening positioning statements made to informants, to the format of the prompts used, and to the way informants’ remarks were captured. No significant alterations were made following the third pilot and at this point it was decided that the operationalisation was sufficiently robust for full implementation. The wording of the prompts was found to be useful for guidance, but whilst the substance of the questions was retained in every case the exact words used were improvised as appropriate.

The design of the analysis model was also reviewed critically during the pilot interview process and some modifications were made to the database structure and the spreadsheet used for analysis, but the basic design was found to be adequate at the broad overview level without the need for modification. In more detailed consideration of each data item it was found to be helpful to use the initial categorisation for guidance but to apply the data item to any topic or topics to which it seemed to have relevance.

More significantly, the assessment of factors such as project success was strengthened by the use of a model in which each component factor was separately assessed, and the overall

assessment based on an aggregate view of these components. In the example of project success, the informant's account of completion against schedule, budget, and specification, and the views of stakeholders were each rated on an ordinal scale from excellent to very poor. The reasons advanced for any variations and the credibility of the corroboration suggested by the informant were taken into account, and an overall subjective assessment made which was informed by all these factors. A particular issue arose in making this assessment where informants reported completion on time, or within budget, but went on to describe significant delays or additional costs incurred. Where it was clear from the informant's account that a more efficient implementation would have allowed earlier completion [or reallocation of resources] and/or significant savings against the authorised budget, a negative 'opportunity cost' factor was applied to reduce the overall success rating.

Although not explicitly required for the exploration of the six propositions defined in Chapter ix, the opportunity was taken to make an assessment of the operating climate expeienced by each informant. This was done on a similar basis to the assessment of project success, but taking account of organisational management style, management style at the project level, purposive threat, environmental threat and evidence of voluntarism.

Selection of informants

It is not the intention in the present research to examine differences between industry sectors or work areas and for this reason no attempt was made to achieve a rigorous statistical distribution of informants by these criteria. However, the possibility of bias which might arise from a narrow informant base, especially one derived from very few companies, industry sectors, or work areas, was recognised and attempts were made to avoid this weakness. These attempts were, on the whole, successful. Interviews were obtained with 44 informants from a total of 17 organisations, drawn from 7 industry sectors and covering 6 broad project work areas.

In order to identify suitable informants approaches were initially made by letter to senior managers in a variety of medium to large companies. These companies had themselves been identified through recommendations from professional associations and the researcher's own contacts. A standard form of wording was used in the letters, designed to be as concise as possible whilst providing enough information to allow the manager to nominate suitable informants from within his/her organisation. The letter made it clear that nominees must be "*willing to participate*." The letter to senior managers is reproduced in Appendix G[1]. A total of forty-two senior managers were approached in this way. Nine declined to participate, either by replying to the letter or in subsequent telephone conversations. Eleven did not respond after a maximum of three telephone calls and further attempts were abandoned. The remaining twenty managers agreed to participate, although four subsequently failed to respond to telephone calls and further attempts were abandoned.

Letters were also sent to the editors of four magazines: *Management Today*, *People Management*, *Project Manager Today*, and *Project* [the journal of the Association for Project Management]. Nothing was published in either *Management Today* or *Project Manager Today*.

A heavily edited version was published in *People Management*, and the full letter was published in *Project.* Only one response was received by this means, arising from the letter in *People Management*. A further offer arising from this source was received after the field research was completed.

Once informants had been nominated by their organisations, a second letter was addressed personally to the nominees. This letter provided more information about the background and requirements of the research, as well as confirming appointment details. In the letter, informants were told "*It would be useful if you could have in mind the last completed project in which you were involved, and be ready to talk about the outcomes of that project as well as about how it felt to work on the project*." The intention of this request was to focus the informant's thinking on actual case examples in order to facilitate meaningful accounts of project success and perceptions of the other factors on which the research is centred, whilst avoiding selection of "shining example" projects for discussion by directing each informant's attention to a specific case. The letter to informants is reproduced in Appendix G[2].

For the benefit of informants, a brief personal profile of the researcher was also provided. This profile is reproduced in Appendix G[3]. A brief summary of definitions was also prepared and made available to informants on request. This summary is reproduced in Appendix G[4].

Prior to each interview, informants were asked to select the description which best fitted their industry sector from a list of nine options, as follows:

1	Construction	C
2	Electronics	E
3	Heavy engineering	C
4	Light or precision engineering	E
5	National or local government	G
6	Publicly-funded agency	G
7	Transport	T
8	Utilities	U
9	Other (please specify)	M+

The coding letters shown on the right of this table represent the slightly broader groupings which were actually used as a guide in checking that an adequate variety of industry sectors had, in fact, been investigated. It should be noted that informants working for the same organisation did not always select the same industry sector description from this list. In most cases the informant's selection was adopted, but seven were reclassified from 'Other'; four of them to a new category, 'Financial Services' [F] and three to 'Utilities' [U].

The distribution of informants and their organisations was as follows:

Category	Infrmnts	Orgs	Comment
C	4	1	Construction
E	2	1	Aerospace
F	4	2	3 Bank, 1 Financial market institution
G	5	3	1 Local authority; 1 Broadcasting; 3 Energy supply [1 org. each].
T	6	3	4 Rail [2 orgs] 1 Airport operations; 1 Motorists' services
U	17	6	6 Telecommunications [2 orgs.]; 8 Energy supply [2 orgs.]; 2 Mail delivery (1 org.] 1 Broadcasting
M+	6	3	2 Computer operations mgmt. [1 org.] 2 Parts distribution [1 org.] 2 Motorists' services [1 org.]

Informants' own descriptions were adopted to define work areas and a typology was derived post hoc from these descriptions. It was found that the relatively small number of six work area descriptions was required, with only superficial paraphrasing. These were:

B	Building/civil engineering
C	Organisational change/relocation
E	Engineering
M	Customer relations/marketing/bid management
P	Product development
S	Software development/computer systems

The status of each informant was rated on a scale of 1 to 5, with 1 representing responsibility for a single work package of modest value and complexity within a larger project, or overall responsibility for a low-value, low complexity project, and 5 representing a senior project or programme manager or director, with personal responsibility for the complete operation of a multi-million pound project or programme of high complexity. The mid-point on this scale, 3, represented personal responsibility for a project of medium value and complexity, or a major work package within a larger project. The assessment of status was made using the informant's own description of his or her role and responsibility, but without asking directly and explicitly for a status evaluation.

Operational issues

The interviews were conducted over a three-month period from May to August 1998. Forty-two were held on the informants' premises and two at the researcher's home. All the interviews lasted between forty minutes and one hour. Approximately 35 hours of taped interview were recorded in total, producing 1211 database records.

No serious unanticipated difficulties were encountered. Arranging appointments was more difficult and time-consuming than expected but on the whole organisations and individual informants were cooperative and welcoming. One interview was postponed due to the informant's illness and three prospective informants were unavailable for interview at the time of the appointment. In one of these cases a substitute was found, the other two interviews were cancelled. No abortive journeys were made, but several journeys, including one to Birmingham, resulted in single interviews.

In most cases suitable meeting rooms or offices were provided for the interviews, although several of these were reserved areas in open-plan accommodation and were subject to some extraneous noise. One interview was held in a staff restaurant. In three cases interviews had to be terminated before completion owing to double-booking of meeting rooms, although this did not seriously impinge on coverage of the full range of topics.

Tape quality varied considerably, despite the fact that the same recording equipment was used for all interviews. No pattern was detected in the variability and tapes recorded in very similar situations and with careful attention to positioning and settings produced noticeably different results. Overall the quality was rather poor, and transcription proved to be laborious and difficult. It was, however, possible to capture informants' remarks verbatim from most of the tape footage. In only one case, Informant T/028, was it necessary to resort to extensive summarisation.

No follow-up interviews were planned and no contact with direct bearing on the research was made with any of the informants subsequent to the interviews, although in every case an e-mail or letter of thanks was sent either directly to the informant or to the main contact in the organisation with a request to pass-on the content.

Commitment to participants

Informants were told that, in addition to the thesis, the research would be documented in a summary paper which would be supplied in a draft or pre-publication version to all organisations which had participated in the project.

Chapter XII

FINDINGS

The results of this investigation are reported in terms of the six propositions defined in Chapter ix. In each case a view is offered on the extent to which the proposition is supported by the data, but discussion of the respective theoretical and practical implications is reserved for Chapter xiii.

Quotations from the taped interviews are used extensively to support the findings. In these passages the words of the researcher are included only where required for clarity, in which case they are shown in italics enclosed between curly brackets, eg: {*statement*} Each proposition is initially considered separately. Because of the conversational, minimally directed nature of the interviews the words of informants are taken in most cases as "research indicators" (Rose, 1982) which suggest that the specific topics of the enquiry do or do not figure in the informant's experience. The specific "indicators" which have relevance for the individual propositions or secondary findings may be seen as relating to the system elements identified in the preceding chapters.

Proposition 1: Project management professionals will have perceptions about the success of projects in which they have been involved, and will be able to explain, justify or rationalise these perceptions.

It was to be expected that informants contributing to this research would *have perceptions about the success* of their projects, since they had all been asked in the introductory letter to be ready to discuss outcomes. This expectation proved to be justified. Thirty-nine of the forty-four informants [89%] responded initially to enquiries about project outcomes with an explicit overall view on the success of their project. Of these, nineteen [49%] expressed an unequivocal view that the project had been successful, and fourteen [36%] expressed a similar view but with some reservations or qualifications. Six [15%] felt that their project had not been a success.

Of those who made an initial unequivocal claim of project success, fourteen [74%] subsequently identified some aspect in which the project had failed to meet its performance criteria, for example, against schedule, costs, specification or stakeholder opinion. The assessed success ratings of this group were broadly similar overall to those of the group where informants had expressed some reservations. The mean assessments for both groups using numerical equivalents of 1 for very low success to 5 for very high success, were 2.70 for those initially claiming unequivocal success and 2.85 for those with some reservations. The mean assessment, based on informants' own accounts, of thirty-three projects claimed to be successful in some degree was therefore somewhat below the midpoint on this numerical scale, where 3 represents moderate success.

Five informants did not express an initial overview-level opinion of project success. Of these, two discussed project success in terms of the component factors mentioned above without

expressing a summary view. Two were very senior managers who discussed project operations across their companies or divisions. Success in these cases was assessed on the basis of general project delivery. The remaining informant's project was ongoing, and success was assessed for the purposes of this research on the basis of outcomes and results to date.

Overall, ongoing contact with users or recipients was informants' most significant source of information about project outcomes. Thirty-two informants [73%] received direct personal feedback after project completion, and a further three [7%] received indirect feedback via colleagues. Sixteen informants [36%] based their views at least partially on formal feedback procedures. Twelve of these also maintained some contact with the users or recipients of the project outcomes after completion.

Four informants [9%] received neither formal nor informal feedback after completion. Their perceptions of success are based on their own observations:

> "There was very little feedback ... because in many cases the system hasn't been properly used" (C/003)
>
> "The changes were abandoned" (T/028)
>
> "{*After the project is completed, somebody tracks the benefits?*} I have to say we're not very good at that. ... {*The spec had to be adjusted?*} Yes, but of course because there isn't any model spec ... nobody notices that ... {*To be aware of what something cost, and to be aware of how long it took to get it, but not to be too bothered about what it was, seems a little bizarre*} Yes, that's right, yes. But I think it's what it is more in the detail" (U/036)
>
> "It never really came to a successful conclusion" (U/041)

Thirty three informants [75%] were able to provide some information about performance against all four success factors considered in this research [schedule, cost, specification and stakeholder views]. A further ten [23%] had information about performance against three of these factors, and one had information relating to two factors.

In thirteen of the forty-four projects [30%] the informant effectively had no pre-defined budgetary targets. In seven of these cases [ie, 16% of all informants] the informant said that no budget was defined for the project at all, and in the other six cases the informant had no personal awareness of budget. In contrast, all informants had specification and timescale targets, although in some cases these were implied to be flexible.

Summary

All the project managers interviewed had perceptions about the success of their projects, based on a wide variety of information sources including direct observation, measured performance, and formal and informal feedback processes. Ongoing contact with users/recipients of project deliverables after project completion was cited by three out of four informants. Proposition 1 is therefore strongly supported by this research.

Proposition 2: A project sub-culture exists within the environment of an organisational culture, with which it must be compatible whilst not necessarily being the same. The selection-

adaptation-attrition process will tend to promote compatibility over time. Management style will be an integral part of culture at both levels.

In considering the evidence applicable to this proposition it is helpful to identify categories of informant. In six cases [C/001, C/002, C/003, C/004, O/013 and O/021] the informant was working effectively as a consultant project manager, outside his own organisation. These cases have been excluded from consideration of this proposition.

Of the remaining thirty-eight cases, twenty-eight project teams [74%] were composed mainly or entirely of employees of the organisation and ten [26%] had project teams consisting mainly of people, such as contractors, drawn from outside the organisation. Both groups may be further sub-divided into people whose time was dedicated primarily to the project, and those for whom this was not the case. Of the in-house project teams, fifteen of the twenty-eight cases [54%] had mainly dedicated project teams. Of the contractor-staffed projects, four [40%] were resourced mainly by full-time staff.

Informant working away from organisation	Mainly in-house project staffing		Mainly external project staffing	
	Full-time	Part-time	Full-time	Part-time
6	15	13	4	6

Initially these groups were considered separately, but differences between them were found to be modest and in this account the thirty-eight cases are considered as an homogeneous group, with exceptions to this mentioned where appropriate.

Compatibility

In order to compare project and organisational cultures, a rudimentary culture index was compiled for each case, considering voluntarism, perceived threat, control and care for people, all at both the organisational level and the project team level. Twenty-two [79%] of the in-house project teams and nine [90%] of the external teams appeared to have cultures which were very similar in all factors to the culture of the wider organisation. Overall, these project teams were described as having slightly higher levels of voluntarism than in the wider organisations, although exceptionally one part-time in-house informant found that

> "As an operational manager I have much, much more freedom to actually take action on my own initiative" (F/010)

Project teams were generally characterised by lower levels of threat, and higher levels of care for people than their parent organisations. Differences were slight in most cases. Compatibility between part-time in-house project teams and their organisations was marginally lower overall and team distinctiveness was slightly more pronounced, overall, than for the full-time teams, whilst in the external teams differences were negligible and patterns virtually undetectable. The project teams which showed more marked differences from their organisations did so because one or more of the tendencies towards voluntarism, threat and care for people were more pronounced. Levels of control were perceived to be slightly higher in the full-time in-house

project teams than in the wider organisation, but slightly lower in the part-time in-house teams. External teams showed little difference from the employing organisations in this respect.

Most informants suggested that their project team had seemed to them to be distinctive in some way from the organisation in general:

> "They feel they're able to address some of the problems which have just been niggling them for maybe a number of months ... they feel the influence of the project in that they are able to do that, whereas previously they couldn't" (U/005)
>
> "We put together, out of the culture, the way the team wishes to work" (T/007)
>
> "I'd say it has a flavour of its own" (F/011)
>
> "I've been in lots of teams and this felt like a team to me" (U/015)
>
> "It became and retained a distinctness, almost uniqueness, if you like" (U/016)
>
> "They performed in the same manner as I would expect an external team to work. But the way that we work ... is not the norm across all [company]" (U/019)
>
> "[Project teams in the company] develop their own feel. They're different from the core" (O/023)
>
> "It's a completely different environment" (U/032)
>
> "It was characterised as being an island, really. Committed and supportive and loyal and very dedicated, with its own culture" (U/040)

This distinctiveness was not felt by all informants:

> "They didn't gel as well as they should have done ... You just didn't get the feeling of people pulling together" (F/009)
>
> "We never had team energy ... we didn't have this synergy between the teams ... They talked to each other but they didn't communicate" (F/010)
>
> "It feels to a large extent as though it's passing work out to folk" (U/022)
>
> "There was nothing unusual in that group being together ... It was just another piece of work that was being done" (O/026)
>
> "We normally perform, often, working as individuals. It's very, very, very difficult to encourage them to bond" (G/029)
>
> "Basically the job was the Division ... In a sense it was the Divisional Manager was the project manager" (E/044)

Where a special "feel" or atmosphere was perceived by informants their view of this was invariably positive:

> "If ... you just come to work today to do the same job you did yesterday, and it's the one you'll do tomorrow, then there's lack of structure, it's a sort of greyness to your life. If you can think of it in terms of 'oh great we've got this piece of work we've all to do and we've got to achieve it by this particular time' you're far more likely to get a team spirit working" (U/005)
>
> "Within that team we were all working towards the one goal. Within the company, because of its silo culture there is 'that silo's working towards that goal, that silo's working towards that goal' " (F/012)
>
> "I think you'd be failing in your role as a project manager if you didn't have some tribal bond with your team. I think that's very important. ... you should become friends with the team. That's where friends are. That was certainly true of the way it felt in the team. You do feel a different temperature when you go outside of the team office. It's warmer in there" (U/014)

> "The atmosphere in the team at times was electrifying ... And the working together between disciplines was excellent. I'll always remember that" (U/014)
>
> "You can ... turn their back on the organisation and do a good job in spite of the organisation" (U/017)

The strength of the distinctiveness and team cohesion was assessed in each case to provide an indication of team identity. The difference between the culture index for the organisation and that of the project team was also estimated. These two factors were then compared to see whether team identity and project/organisational culture differentials showed indications of being related. In this process high compatibility was represented as low differentiality. There appeared to be some correlation between team identity and differentiality in the part-time in-house teams and in the external teams, but no such correlation where the full-time in-house teams were concerned. This is illustrated in the graphical representation in Exhibit 22:

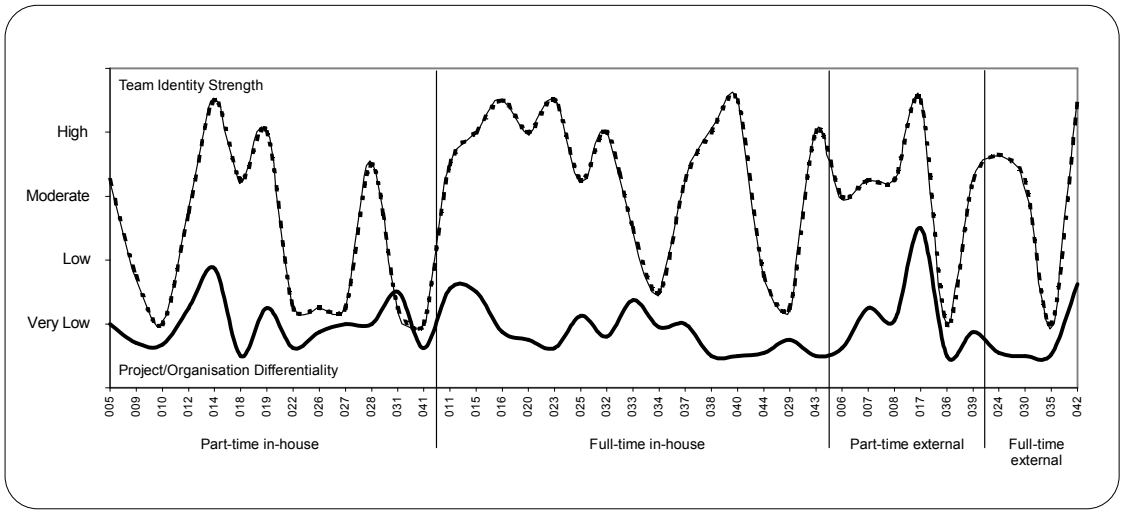


Exhibit 22 Team identity and culture differentials

Since marked cultural differences were not observed, although for many informants the project team did feel distinctive, it appears that the project team and organisational cultures were compatible and that this was not compromised if there were differences between the two environments. The first part of Proposition 2 is therefore supported by this evidence.

Harmonisation

The latter part of Proposition 2 suggests that three related processes: selection, adaptation and attrition, will tend to increase compatibility between the two environments. Evidence for this was less clear.

Informants' opinions were fairly evenly divided on whether project teams tended to harmonise over time with their wider organisations, or to become more distinctive over time. Thirteen informants [34%] suggested a tendency to harmonise, whilst twelve [32%] suggested increasing divergence. The other informants had no view or contributed no evidence on this issue. The distribution of these opinions was as follows:

	Harmonisation	Divergence
Part-time in-house	3	3
Full-time in-house	5	6
External	5	3

Initial selection for project teams in all groups was almost exclusively on grounds of individual skills or because the person represented a part of the organisation which would be required to deliver some aspect of the project. That is, it was the organisational unit which was selected, rather than the individual:

> "I went for a very small but select team, based on skills and personality" (U/016)
>
> "You tend to try to pick people that you think might [fit in with team culture], if you had that luxury. Others, well you have to take a view" (O/021)
>
> "They're each specialists in their own fields" (U/033)
>
> "The resources we need for the company ... are held centrally and farmed out to the various projects" (E/025)

In only two cases [one full-time in-house team and one part-time in-house] was there any suggestion of a conscious attempt to select a team initially which would be compatible with the wider organisation selection:

> I don't think we could have achieved what we did achieve if it had been a totally Systems led project, there had to be business people in there to achieve what we did" (U/014)
>
> "I came in as a user because I'd been working ... as an operational manager" (U/034)

However, the random nature of the selection process would be likely to promote compatibility. Stronger evidence for or against harmonisation through selection would be provided by accounts of how subsequent team vacancies were filled:

> "That's one issue that we've always talked about: 'can we let people go, and do we need to replace them, and who do we need to replace them with, how can we reorganise?' " (U/015)

No informant provided any direct evidence of selection of replacements which clarifies this issue. However, some inductive indicators are contained in evidence bearing on attrition:

> There were people who didn't fit in and they left the team" (U/016)
>
> "Some of those that have gone back [into the general company set-up], from my perspective I think that they have struggled to go back to the normality" (O/023)
>
> "Some people got pushed. Some people moved on, particularly in the early phases of the project when people were inherited, so to speak ... What the project director did was to pull a team together that he wanted" (U/040)

These indicators tend to suggest that the attrition and selection processes are working against compatibility, although the evidence is mixed:

> "{*Why was there a turnover of staff on the project team?*} A mixture of career prospects and personal ... there's been quite a bit of opportunity for people to progress within the company as a part of what we're doing on this project team" U/032)
>
> "I think [it became] more like the organisational norm. The reason I say that is that over that period of time we did have change of members of that team and to a certain extent even with their contractor he recognised that he'd got a good team situation which he utilised" (G/039)

There was more evidence for a process of adaptation, and views on harmonisation or divergence were often expressed in terms of such a process:

> "The more you're out of circulation from the mainstream the more you become isolated. ... There's a lot of socialising ... so we got to know each other better. ... The more they become reliant on each other and work together they grow different from the rest" (T/006)
>
> "Yes, I think it did [become more pronounced as time went on] ... it was drawing the people who were involved more into it for more of their time" (O/024)
>
> "The reaction was probably, speaking with hindsight, for people to get even closer together. These aren't quite the right words, but almost a siege mentality" (U/040)
>
> "I mean it's part of a bunker mentality really, isn't it, that the harder it becomes the greater you sort of isolate yourself from it" (U/042)
>
> "In an organisation as big as this, where there are so many external influences on people, whether they're internal or external, if you like it's forced down a path which, once they've meshed with the company organisation, the company wants it to go" (T/008)
>
> "At first it was quite a unique atmosphere, it was something completely new to me to work in such an environment ... but [this changed] as time went on and you worked in different offices and met more and more people" (U/032)

One organisation, which relies heavily on contractors and employs them for long periods, makes a conscious effort to induct them into organisational ways:

> "One of the things we said to the engineering company is 'we're quite happy to support you in developing your individuals, which will help us anyway, by giving career opportunities within the project. Or we do secondments with the line business units to go and work on the lines, to gain some experience and assist them in other engineering aspects. And then six months later they come back to the project, partly refreshed, partly to see the view of the end user, and part of their ongoing training'. We also take those individuals and they work on knowledge and planning projects ... which helps ... their professional development" (T/035)

Overall, there is evidence of a process of change over time in the compatibility of project teams with their wider organisations, but the evidence is ambiguous as regards the direction of such

change. Selection of project staff was generally on grounds of skills or organisational placement and where compatibility was considered at all it was more likely to be concerned with fitting in to the project team than with wider organisational issues. A process of adaptation was much more apparent in many informants' accounts, but the direction of this form of change was equally likely to be towards divergence as towards harmonisation. The sparse evidence of an attrition process suggested that this was more likely to lead to divergence than to harmonisation, although examples of both were provided.

Summary

The evidence from all sub-groups of informants suggests that, overall, project teams showed a high degree of cultural compatibility with their wider organisations, which was not seriously diminished by the existence of some differences in management style and a distinctive "feel" perceived by informants in the team environment. In the case of part-time in-house project teams and mainly externally-staffed teams some negative relationship was observed between compatibility and team identity or distinctiveness. However, compatibility in every case was within the range of high to very high.

The first part of Proposition 2 is therefore clearly supported.

There is less evidence to support the contention that compatibility increases over time. Views for and against this were fairly evenly divided between informants who believed their project team became less like their wider organisation over time, those believing it became more so, and those believing there was little or no change, or making no contribution on this issue.

Evidence for a process of selection, adaptation and attrition affecting the culture of project teams was similarly mixed. Resourcing of projects seems to have been almost exclusively on the basis of skills or organisational placement. A process of adaptation can be observed in a minority of accounts, but this process is again found to be fairly evenly balanced between harmonisation and divergence. In a few cases a process of attrition can be detected, but this process tended to promote team identity and distinctiveness rather than organisational compatibility.

The present research does not, therefore, allow any generalised conclusions to be reached on the issue of harmonisation and the second part of Proposition 2 is neither clearly supported nor refuted.

Proposition 3: Purposive forms of threat will be perceived as unfair [violating the psychological contract] and will evoke psychological responses on the fear-anger continuum leading to behavioural responses of submission-rebellion.

The forms of purposive threat experienced by informants fell into three broad categories: career implications, financial consequences, and effects on reputation. Associated with the concept of purposive threat, but clearly distinct from it, is a concern for self image. Isolation of any of these factors is to some extent artificial, since they interlink to a considerable degree. The distribution of these factors was as follows:

Threats to	Career	mentioned by	30	informants	[68%]
	Reputation		16		[36%]
	Financial		14		[32%]
	Self image		10		[23%]

Career implications mentioned by informants included the possibility of dismissal or loss of contract, removal from a specific job to another role within the same organisation, and career stagnation.

> "[If you weren't performing] you'd be moved out of what you're doing. I don't think there's any question about that ... to something ... more appropriate, but if that carried on I'm sure you that wouldn't stay in the company... and I think that will start happening more and more ... if they're not up to it then they go" (U/031)
>
> "I got to the point where I just felt that I was just waiting for it to happen, really. ... The board member ... got removed from his job. ... I still suffer from it now. It really sort of finished me off, to be perfectly honest, because I got so worn down by it" (U/042)
>
> "The finger is pointed at you if you don't perform. {*And that could lead to - ?*} Ultimate dismissal, I suppose. ... I Certainly felt that there was that pressure there" (G/043)
>
> "If the project manager ... felt I wasn't doing particularly well ... that might affect the chances of an extension of my contract" (F/009)
>
> "Mud would have stuck ... in terms of promotion prospects, performance related pay for that year, or whatever" (T/006)
>
> "All my projects had gone well, this was the first one that had gone badly ... I didn't think my job was threatened but it was certainly a very uncomfortable time, and I thought that I certainly wouldn't get another such a prestigious job again" (U/017)
>
> "I've seen people suffer directly because of that sort of thing happening. ... There is pressure on people. People are well aware of it" (U/036)

Reputation implications ranged from public humiliation to mild but widespread negative comment.

> "I think I would just get slaughtered at the next project board" (T/007)
>
> "Phone calls start happening, calling my line manager or the board, with 'what went wrong?' Then you start the witch-hunts" (T/035)
>
> "So many people had got so many expectations of me" ((T/020)
>
> "There's always the knowledge that 'who is responsible?' Yes, it was me" (U/030)
>
> "When ... things weren't going too well ... I thought that would impinge on my reputation as a deliverer" (U/032)

> "I had at the back of my mind 'here's an easy – supposedly been given something to cut his teeth on – Boy, what a balls-up he made of that. Can't give him anything else' So that was really what my main concern was, initially" (U/041)

> "I'll give you an example ... A good friend of mine ... he's a tremendous project manager ... he did a complete refurbishment of [a] station, which was an enormous great project, and right at the end they had problems with the escalator, which is one of the longest escalators in Europe and they delayed the opening of the station by a couple of weeks while they did a series of trials on it. Poor Graham is now known as the man who delayed [that] station. Still, three years after it happened, despite the fact that he opened it ahead of time ... Blackening in that sense ... it's hearsay. Not blackened in that there's anything on your file, but in the back of people's minds" (T/008)

Financial consequences were mainly concerned with non-payment of benefits, such as bonuses or pay increments, rather than direct financial penalties.

> "You don't get any increase in pay. You get a hard time from the system" (G/039)

> "It can certainly affect you immediately with bonuses, salary increases, and depending how far adrift you are, disciplinary action, retraining, etc. {*You did say that it was a no-blame culture*} I said in theory" (F/011)

> "The pay structure now encourages good performance, performance related pay increases. We can both give and ... deny increases" (G/029)

> There's not really a financial penalty, that's the wrong word, but there's a financial advantage if you do achieve a good result. If you don't achieve a good result you don't get any advantage" (U/022)

> "The contract that I've got is that if I deliver within the appropriate amount of time within a set of guidelines that was agreed, then there's a fairly substantial bonus ... for me. ... There's also the personal incentive of wanting to achieve within a large blue-chip organisation" (U/005)

Implications for self image were mainly concerned with the pride informants took in doing a good job, and the personal chagrin resulting from failure to perform well.

> "I still think it comes down to a personal level, it's personal pride for me. If I'm going to deliver something I like to make sure that I'm out there and I'm giving it my best" (U/019)

> "I feel it as a matter of I want the company to be successful; my success is based on the success of the company" (O/021)

> "It's the target I've got to go for. I think the pressure that's on me is I always believe I should deliver it, regardless of whether it's good, bad or indifferent, whether it's achievable or not. I think that comes down to personal pride" (O/023)

> "It was my first big job with a new employer and I wanted to try and impress and not to be seen to be falling [behind]" (G/043)

The perception of purposive threat as unfair was, overall, a minority opinion. Thirteen informants [30%] suggested that this was the case, whilst sixteen [36%] suggested that it was not unfair. Fifteen [34%] did not express an identifiable view on the issue. High levels of purposive threat were more likely to be perceived to be unfair: of the twelve cases assessed as having the highest levels of purposive threat, seven [58%] of the informants perceived this to be unfair, whilst only two believed it to be fair.

These results are shown graphically in Exhibit 23:

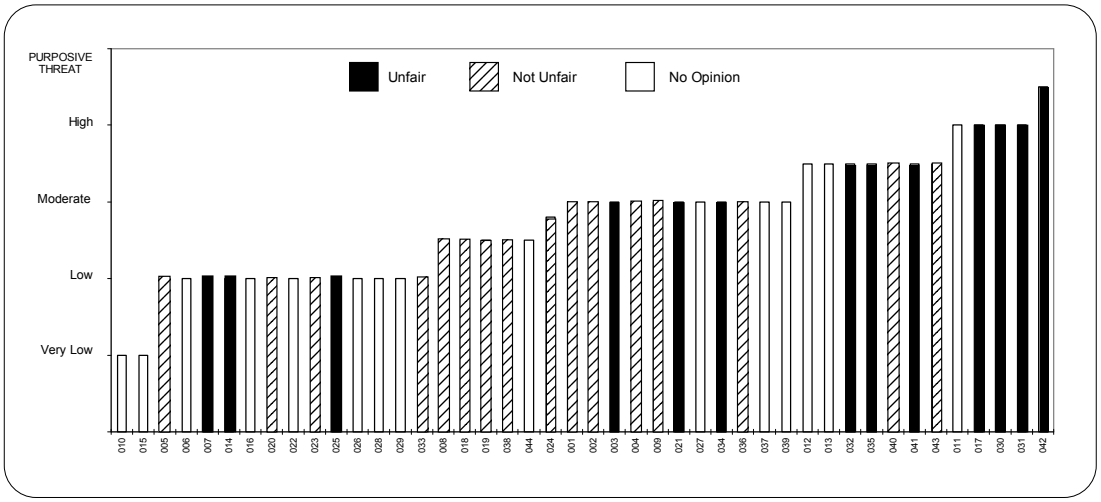


Exhibit 23 Unfairness of purposive threat

It may be noted that in three cases where purposive threat is assessed as low, informants perceived that threat to be in some sense unfair:

> "The business has got to stop treating us the way they treat us, with coming and changing their minds, changing the scope, forcing these timescales on it" (T/007)
>
> "There's an awful lot of pressure and a lot of fear of failure ... I think [the lack of support of senior managers] had quite an adverse effect on morale" (U/014)
>
> "People tend to get blamed for everything but not necessarily where they had any control over, or something has gone wrong which they couldn't control" (E/025)

Unfairness, in the terms of Proposition 3, is to be understood as an infringement of the psychological contract. An examination of the views of informants who felt that a certain level of purposive threat was not unfair suggests that their perception of their psychological contractual relationships with their organisations included an expectation of pressure to perform, with concomitant penalties for under-performance. In this instance, cases where purposive threat was assessed as low or very low have been excluded.

> "That applies to any project management. I mean, I think that's one of the issues about project management, is that if that worries you, you should never be a project manager, in the end" (E/038)
>
> "They ... put a lot of pressure on me to make sure the project went well. But to be fair, that really happens anyway. If a project is not running well that affects the company's reputation" (C/004)
>
> "I think on any project if you're not performing - if the job isn't going the way the client wants - he's entitled to ask ... to change the staff" (C/001)
>
> "It's a fundamental requirement of any project - it's a necessary driver" (C/002)
>
> "Some people got pushed. Some people moved on ... [but] when you were working within that team with a very focused, direct project director, but by the same token a very fair one, who we were incredibly loyal to, it was a good place to work" (U/040)
>
> "If people have got confidence then people make decisions ... {*If people are working to you, would you want to boost their confidence or would you want to*

> *keep them under pressure?*} From my perspective now as a project manager, I'd do both, because I think the two go hand in hand. Confidence is important ... but I also believe keeping people under a degree of pressure's important also" (U/040)
>
> "I think the motive of fear is very relevant, even today ... Putting on pressure does tend to get more productivity out of you ... {*Looking back, do you think that feeling of fear made for better decisions? - You've already said it made for more and quicker decisions*} I don't think the fear caused bad decisions. It kept me on my mettle, I think" (G/043)

The informants represented by the above quotations clearly saw pressure and penalties as accepted and acceptable parts of their psychological contracts with their organisations.

Of the thirteen informants who perceived purposive threat to be unfair, nine [69%] identified threats to career, six [46%] perceived threats to reputation, three [23%] perceived financial threats and two [15%] perceived threats to self image. The distribution of these perceptions was as follows:

	C/003	T/007	U/014	U/017	O/021	E/025	U/030	U/031	U/032	U/034	T/035	U/041	U042
Career			✵	✵	✵		✵	✵		✵	✵	✵	✵
Financial						✵				✵	✵		
Reputation	✵	✵				✵			✵			✵	✵
Self Image	✵									✵			

Nine of these informants [69%] implied psychological responses to perceived purposive threat which tended towards fear rather than anger, and four [31%] implied responses tending towards anger. These responses were not correlated with levels of perceived threat:

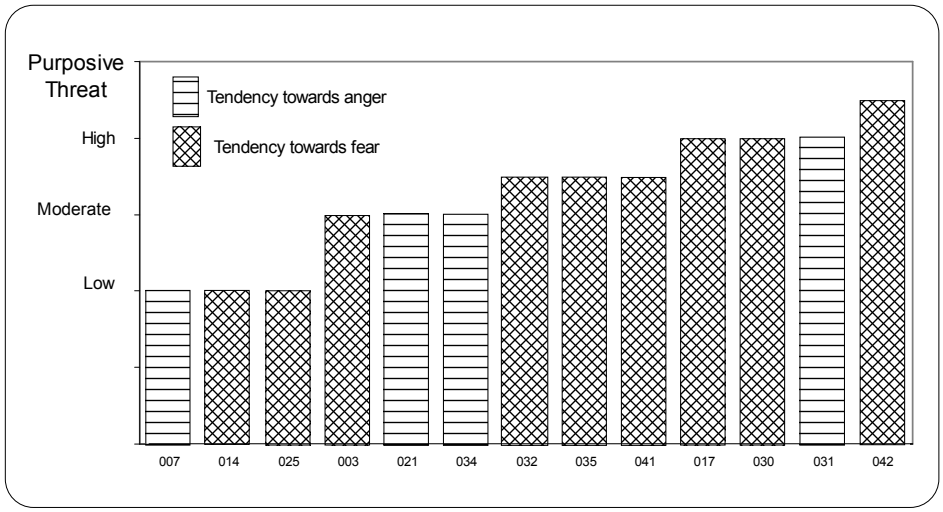


Exhibit 24 Psychological responses to purposive threat

In seven cases [54%] the informant's behavioural response to the perceived purposive threat was assessed as tending towards submission, and in a further two cases [15%] the response was ambiguous, but contained elements of submission. In four cases [31%] the behavioural response was assessed as tending towards rebellion. It may be noted that in all these cases there is a concern for completing the project: the rebellion takes the form of independent action

to achieve the best result the informant believes possible in the circumstances, although this is contrary to the apparent wishes or policy of the employing organisation:

> "Everybody knows you can't build a brick wall without bricks ... It was outside my control ... so at that point I had to call in more resource... I resorted to sourcing local contractors ... until such time as they finally decided to send people" (C/003)
>
> "We said 'well we don't believe we can deliver until ten days after that but we will do our utmost to look at the important parts of your operation and we'll deliver the important parts and the other things will follow" (T/007)
>
> "There was a feeling of guerrilla warfare at times, which is regrettable. {*What did that mean in practice?*} It was almost persuading the client that this is what they wanted by devious means and at times persuading the client that this is the best that was on offer" (U/014)
>
> "I actually left [employer] because I had that conflict and in the end I decided to set up on my own [and continued as an independent contractor to supply equivalent services to the same client]" (T/035)

No clear correlation was observed between psychological response tendencies and behavioural response tendencies. The small number of anger responses in this group would make any conclusions on this issue unsafe. Similarly, the predominant behavioural response is one of submission, with rebellion taking a broadly operational form, as described above. There are therefore no clear grounds to associate particular behavioural responses with any other factor, such as levels of threat, as illustrated in Exhibit 25, below:

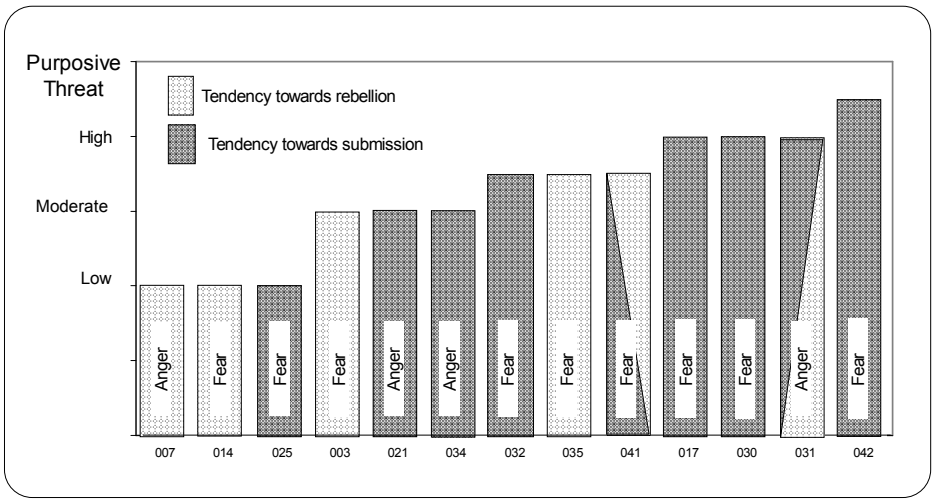


Exhibit 25 Behavioural responses to purposive threat

The assessments made in respect of this group are based on interpretation of passages from the taped interviews which are longer than it would be appropriate to include here. They are set out in greater detail in Appendix H.

Twenty-one [68%] of the informants who did not perceive purposive threat to be unfair described psychological responses which were assessed as tending towards fear. In some cases this tendency was very slight. There were no cases which were assessed as anger; the remaining cases were unassessable for the present purpose. Of these twenty-one cases, eleven [52%] showed behavioural responses which were assessed as tending towards submission. Four [19%] showed responses which were assessed as tending towards rebellion.

> "When things start to go wrong, because of this sort of blame culture ... there is then not the willingness to actually communicate the bad news. ... Hence the bad news is hidden ... What happens is 'Oh, I can't tell them that. If I'd told them six months ago I'd have got away with just a bollocking, it's going to be a real crucifixion now. We've got to fudge this now" (F/012)
>
> "I was asking for more resource and going over their heads to make sure I got it. I couldn't afford not to have them or else I wouldn't meet the deadline" (O/024)
>
> "{*Is your work affected by the need to keep on the right side of senior people?*} Personally we have a slight problem with that because I tend to be I'm afraid a bit too honest about those kind of things. And that would cause me, and has in the past caused me a problem ... It has been and it will be again, at various times [a serious issue for me]. Yes, that is inevitable" (O/027)
>
> {*Does the fact that missing targets could be detrimental to individuals, how do they go about building the business case - does it lead to building-in safety margins?*} Yes, I mean that's basically what happens ... It's relatively easy to hide a little bit of money here and there ... Yes they are actively encouraged to do that" (U/036)

In the remaining cases behavioural responses on the submission-rebellion continuum were not assessable.

Overall, these results suggest that there is little significant difference between the responses of informants who perceived purposive threat to be unfair, and those who perceived it to be fair or did not express a view. The predominant psychological response was towards the fear pole of the fear-anger continuum, and the predominant behavioural response was towards the submission pole of the submission-rebellion continuum.

A concern for project and personal performance was apparent in almost all informants' evidence. Opinions on whether a level of purposive threat was likely to be conducive to enhanced performance were mixed. Several informants were fairly clear that it was unhelpful:

> "When I get negative pressure is it tends to slow me down ... be more ponderous about things ... work longer hours. You tend to be less rational, your judgement I think tends to be affected, so negative pressure is very much a danger in a project environment, well I think it is in any environment to be honest, but it certainly is in project work" (U/005)
>
> "{*Was your performance adversely or beneficially affected*?} I'm sure it was adversely affected ... I mean there's a certain amount of stress and tension you need, I think, to deliver. I mean there's got to be an edge to what you're doing .. I think you need a fair amount of tension, but once it steps over that boundary then that tends towards destructive. In that particular case it must have affected my performance ... It's hard to sit back now and say, well, did the job run later, or did something happen, did I make wrong decisions and all that sort of thing? I couldn't say. ... It certainly didn't help the environment. And of course the other thing was that it was very personal towards me" (U/017)
>
> "{*Do you think team members made a link between their performance on the project and what might subsequently happen to them?*} No, no link at all. {*So no incentive and no threat?*} No. I think I would say that that's fairly common. You tend to find in the project teams I've been involved in that there's an awful lot of self-motivation and people's main driver is job satisfaction. ... I've been on some good projects and I think you tend to find that people aren't motivated by fear. And I think that the more senior they are that fear doesn't work any more. And I think all jobs are not secure any more and I think motivating people by fear is no good in this day and age and where companies try and do it they don't succeed" (U/017)

> "{A*nxiety was not leading to enhanced performance?*} Oh no. They were doing ok in their own little areas, so they were probably working quite hard, but not seeing the right outcomes. So anxiety would make them work harder but not necessarily more efficiently. So they could be working harder going in the wrong direction" (U/019)
>
> "{*Does being under stress affect your performance?*} It depends. The people side of it, it hinders me greatly. I think where there are problems and pressures that I can address myself directly I don't mind that so much, I can actually deal with it" (O/021)
>
> "You're not achieving much with threats" (T/028)

Others suggested, with varying emphasis, that some beneficial effect on performance might result from the application of coercive pressure. It will be noted that informant U/005 is quoted again, but with an apparently contradictory view:

> "If you don't have the potential kick in the backside every so often, but maybe a hundred yards behind you but you know if you stop you're going to get it sooner or later. I think there has to be a perceived threat to add a bit of spice to your life to be honest" (U/005)
>
> "It certainly is demoralising, but it certainly didn't stop me from putting 110% into whatever I was doing to try and achieve it and prove to the person who's above you that they were wrong and you are actually doing the best job you can with what you've got. ... {*So perhaps it had the desired effect* } Probably did with me, yes, I suppose it did" (U/031)
>
> "I would say [applying pressure] can work ... where to get the deliverable it's a case of people doing something which is known, doing more of it. But it's not a technique that works very well in the, - doing the unknown" (U/042)
>
> [Finds targets and performance objectives helpful, but suggests this could be personal - others might feel pressured by them, which might lead to cutting corners] (U/016)
>
> "The finger is pointed at you if you don't perform. {*And that could lead to - ?*} Ultimate dismissal, I suppose. ... I Certainly felt that there was that pressure there. {*How did that translate itself into what you actually did?*} Probably made me work a bit harder. ... {*More effectively, or less?*} Probably more effectively. Putting on pressure does tend to get more productivity out of you. Instead of putting things off to another day, I got them done, I got them resolved. I took decisions, quite quick decisions, because I hadn't got time to think on every aspect and look at it from every angle, because there were other decisions that had to be taken" (G/043)

These differences of view are reflected to some extent in a comparison of assessed levels of purposive threat with project success ratings, as illustrated in Exhibit 26, below. This shows wide variations in project success against similar levels of purposive threat. A 'line of best fit' drawn across the plot of project success ratings does, however, suggest a moderate but clear negative correlation between purposive threat and successful project outcomes. This is confirmed by using the correlation function of the Microsoft® Excel® v4 spreadsheet in which these results are collated to calculate the correlation between the numerical versions of the levels of purposive threat and project success [ie, taking very low as 1 to very high as 5]. This function "returns the covariance of two data sets divided by the product of their standard deviation," covariance being defined as "the average of the product of deviations of data points from their respective means" (Microsoft, 1994). Application of this function in this case indicates a negative correlation of -0.4.

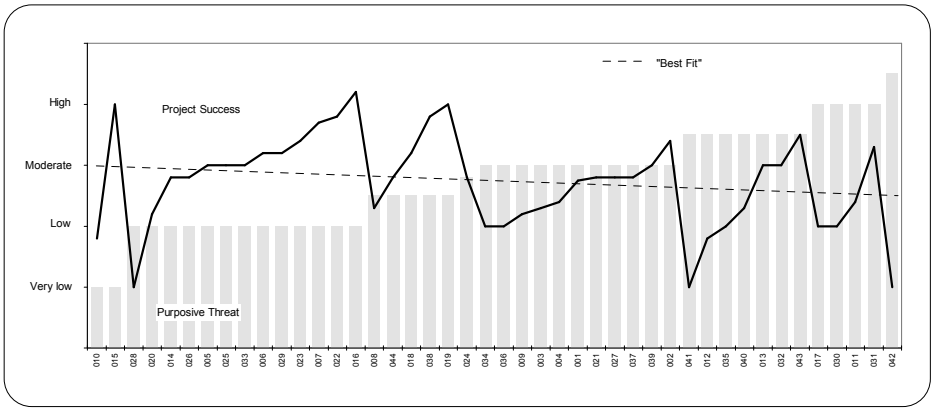


Exhibit 26 Purposive threat and project success

Six of the forty-four informants [14%] alluded to work-related health problems:

> “That's the way that stress affects me personally, I tend to slow down, be more ponderous about things, and just the general pace of life slows down, and I think it's just a reaction to stress. You tend to work longer hours, you tend to be less rational, your judgement I think tends to be affected” (U/005)

> “We've had quite a lot of turn-round, as far as staff are concerned. Sometimes it's down to illness. Whether that's stress-related, we don't know at this stage. {*Is anybody looking into that?*} Yes. We know one project where we had three separate project managers within three months, and each of them went off sick. It might be coincidence, we don't know, it's being looked into” (F/011)

> “The hours that we were putting in were getting severely extended, so from a health point of view I actually began, towards the end, to get a little concerned. ... I was constantly going back and checking myself, or getting somebody else to check me ... The health one concerned me. I've worked with people long enough these days to recognise stress when I see it and to know when I'm under stress ... I start to lose interest in things that I would normally be very interested in, outside of work. Not purely because I'm tired but because the brain won't stop. I find it hard to call it negative because it is part of the job, but it is an inherent threat that I could miss something” (O/013)

> “We had a number of people who patently had some form of illness problem ... three or four people with severe migraine problems ... some of that is going to be stress” (O/013)

> “{*If the boss had been supportive, would you have been more relaxed?*} Christ, yes! I was under a hell of a lot of stress and pressure and I'm sure it did my health no good at all ... It worried me a lot. I used to wake up in the middle of the night” (U/017)(

> “I think I do suffer from some of the symptoms of stress. I find it difficult to switch off. Certainly in the ... project that I've been talking about I've found that very stressful” (O/021)

> “I got so worn down by it that it takes quite a long time to recover from that” (U/042)

Summary

Levels of purposive or coercive threat assessed as higher than low or very low were experienced by twenty-nine [66%] of the forty-four informants. The main categories of such threat were threats to career, to reputation, or to financial rewards. Threats to personal esteem or self image were also identified. Thirteen informants [30%] indicated that they felt such threats to be unfair. These included three cases where the level of purposive threat was assessed as low. Higher levels of purposive threat were more likely to be perceived as unfair than lower levels. Sixteen informants [36%] indicated that they did not perceive such threat to be unfair, but rather regarded it either as an accepted and acceptable part of their psychological contracts, or believed it to be justified on grounds of efficacy. The other informants indicated no discernible view on the issue.

Amongst those who perceived purposive threat as unfair, the predominant psychological response, on an axial continuum of fear <-> anger, tended towards fear,. The four cases where a tendency towards anger on this continuum was identified were not apparently related to the assessed level of purposive threat, and no reliable conclusions can be drawn regarding any correlation between these two factors. The predominant behavioural response, shown in seven [54%] of the thirteen cases, on an axial continuum of submission <-> rebellion, tended towards submission. Four cases [31%] tended towards rebellion and there were two cases of mixed or ambiguous tendency. No reliable correlation was identified between particular behavioural response tendencies and the assessed level of purposive threat.

Very similar response patterns were identified amongst those informants who did not indicate that they felt purposive threat to be unfair. No cases of a psychological response tending towards anger were identified in this group, but responses tending towards fear were identified in twenty-one cases [68%]. Of these twenty-one cases, eleven [52%] showed behavioural responses tending towards submission and four [19%] showed responses tending towards rebellion.

In the terms of Proposition 3, therefore, it is not reliably demonstrated that purposive threat will generally be perceived as unfair, although this was the case in a significant minority of informants and was more likely to be found at higher threat levels. Psychological responses to purposive threat predominantly tended towards fear, with some examples tending towards anger identified amongst the group who did perceive the threat to be unfair. Behavioural responses tended towards submission, but cases of tendency towards rebellion were identified among all groups.

Informants' views on the efficacy of purposive threat in improving performance were mixed, but a moderate but clear negative correlation between levels of purposive threat and project success was observed.

Several informants linked purposive threat to negative effects on health.

<u>Proposition 4:</u> Management styles which tolerate purposive threat will be negatively associated with project sub-cultures which exhibit the attributes of voluntarism [free expression, innovation, questioning, intrinsic satisfactions, participation in goal definition]

For each informant an assessment of the level of voluntarism was made, based freely, and to a degree subjectively, on statements and implications relating to the five qualities mentioned in the proposition. Isolation of these qualities is somewhat artificial, and the presence of one may often be inferred from the mention of one or more of the others. It should be noted that the occurrences detailed below refer to positive mentions, so that it cannot be stated with confidence that specific elements of the voluntarism construct were not experienced by other informants who chose not to mention them. Assessments of voluntarism levels for the purposes of this research have been based on an holistic judgement, avoiding undue emphasis on the presence or absence of any individual element]. A complete absence of any factor was found to be rare and assessments were made on the basis of whether or not the factor was implied to have been influential in any way on the overall climate. Where significant differences seemed to exist between a project team and the wider organisation, the terms of the proposition require emphasis to be given to the personal experience of the informant within the project environment rather than the wider organisational setting.

The occurrence of identifiable component factors contributing to the voluntarism assessment was:

Free expression:	31	instances	[70%]
Innovation:	12		[27%]
Questioning:	25		[57%]
Intrinsic satisfactions:	8		[18%]
Participation in goal definition:	21		[48%]

The distribution was as illustrated in Exhibit 27, below:

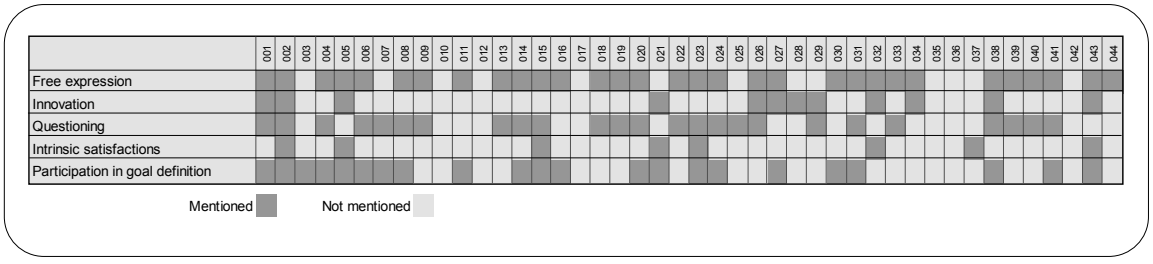


Exhibit 27 Distribution of voluntarism components

The terms in which these components were mentioned by informants were varied. In some areas opposing views were explicitly stated, whilst in others the only discernible evidence tended to be positive. Typical examples include the following:

On free expression [confirmatory views]:

> "We have a culture where people are encouraged to say what they feel" (O/013)

> “In terms of if anybody wanted to raise anything there were lots and lots of opportunities to do that ... I would be surprised if anyone who's been part of the ... team, would come in and say to you 'well, ... I never felt my voice was heard, I never felt that I could affect the outcome' ” (U/015)
>
> “It was very open and honest, and some of the meetings were quite harsh, you know, home truths put through. But it was an open and honest culture there, and we did have some, you know, hot debates” (U/016)
>
> “I feel good about this team because I felt that, although I was notionally the head, it was working with other people taking responsibility and coming back to me” (O/021)
>
> “There are certainly ways by which ideas and issues can be raised ... folks are encouraged to raise issues” (U/022)
>
> “We sat round a table with the people and we did it between us and sort of created something that everyone was happy with from the outset” (U/031)

On free expression [confutative views]:

> “I, being one individual among hundreds of others, was not going to rock the boat. I wasn't there to change their company, I was there to fulfill a task” (C/003)
>
> “For that project we had to be very specific in what we wanted and not listening more to how we could best do it. Not very democratic; very autocratic in our approach” (T/007)
>
> “There is a ... kind of blame culture. It would be denied, but there is. ... Hence there is this thing 'if I stick my head above the parapet it's bound to get knocked off at some stage' “ (F/012)
>
> “Staff do feel inhibited in saying something because they think ‘I’m going to be victimised for saying this’. That’s still an issue” (T/028)
>
> “As the project gets on [they] get frustrated because they can't influence in the way they would want to” (E/025)
>
> “Morale was low. People wanted to be more involved in their work, that type of thing” (O/026)
>
> “I’m sure people in the group don’t tell me about certain things” (T/035)
>
> “{*Can middle and junior-ranking people get their ideas and concerns heard by senior managers?*} They can but they don't” (E/044)

On innovation [confirmatory views]:

> “Whatever solution you come up with, as long as it's sensible, will be backed by your management team” (U/005)
>
> “One particular individual recognised that this was the case and we came up with a strategy ... {*You were getting suggestions from the team?*} Absolutely, yes, once they understood the issue” (O/021)
>
> “We've got quite a young team running the project ... so they are bringing new ideas ... Yes, it's very receptive towards new ideas ... the culture now is one that encourages creativity and actually suppresses the old rules” (G/029)

On innovation [confutative views]:

> “There are things which inhibit them ... and there’s this fear of personal criticism ... There is an employee survey undertaken every 6 months and there has been low scores around ... openness and trust and that sort of area, which ... leads to people not wanting to sort of put forward to the team any ideas or try to take a chance on something” (U/036)

> “[In the division] there's a basic xenophobic resentment to people coming in from outside. {*And yet they're making use of a lot of people from outside*} There's a difference between using people from outside as contractors, where they come in and are a resource and do what I tell you to do, to having somebody come in from outside ... and maybe suggest different ways of doing it, which might be better” (U/042)

On questioning [confirmatory views]:

> “If I wasn’t happy I would make it very clear, and the reasons why” (T/007)
>
> “I think ... we've always had and encouraged an environment where people can question where we're going, what we're doing and how we're doing it, and even the people involved” (U/015)
>
> “We had to on several occasions to go back ... to the senior management and say 'the dates which you wanted ... are not going to happen. These are the more realistic dates that the team has put in place' “ (U/019)
>
> “[Name] became my direct boss, [which was] a lot easier ... because although he and I had often clashed and disagreed with each other very strongly, we always had a great deal of respect for each other” (T/020)
>
> “For instance, [MD] always accepts ... if you see something in his presentation you feel is wrong, then send him a Lotus Note and tell him, and he'll change it. And that's happened ... And we try to propagate that all the way round” (O/023)
>
> “I’ve never felt that I can’t approach anybody if I’ve got an issue or a problem of some sort, which I did during the project” (O/024)
>
> “You can bring it up at meetings ... or perhaps just outside the meeting 'look, I think it would be better if we do this' ” (U/033)

On questioning [confutative views]:

> “They had people who had been in the organisation for a long while, they'd done it that way all their life, they felt happy they knew what they were doing, what do we need these new-fangled programme managers for?” (C/003)
>
> “I don’t think anyone was willing to confront the issues and deal with the director on that” (U/014)
>
> “{*Have you had differences of opinion with senior people?*} Yes, it does arise, it has arisen with me. It doesn't really get handled very well. No, generally it doesn't get handled very well. {*Would you say that was common experience?*} I would think so” (O/027)

On intrinsic satisfactions:

> “It was a new area of experience ... you feel not only are they contributing but also learning. If ... you know you're contributing and people are listening, it's quite enjoyable” (C/002)
>
> “When you're working on a project which is going well ... the sense of teamwork is something which binds you to the project and binds you to the rest of the team, and it's something which you get a great deal of satisfaction out of” (U/005)
>
> “I've thoroughly enjoyed it. At times where I've wanted to bang heads against a wall but I've found it very satisfying overall. ... I've got experiences from it that I've not had before” (U/015)
>
> “I particularly enjoyed the phases where I felt I'd made some useful contribution to it. I did not enjoy those elements of the work where I felt the decisions had been foisted upon me” (G/037)

> "I saw my role as really a leader, if you like. I quite enjoyed that role ... It was very satisfying. I shall always remember that job as being a bit of a pinnacle really, the most satisfying job I've ever run" (G/043)

On participation in goal definition:

> We had a joint project plan, which we input together" (U/016)
>
> "We have to allocate our own time to any of the work we do" (O/027)
>
> "From the people who worked with me, I asked them what job they wanted ... and they each said what they wanted and as it is it worked out quite well" (U/031)
>
> "The sense of freedom to look across the country and make your own decisions was quite heady" (U/032)
>
> "We set our own targets" (G/037)
>
> "{*To what extent are the ideas, suggestions, concerns of team members heard?*} I would say it's crucial. And the issue there is to make sure you've got a management structure, a system which allows that ... People who are important to decisions need to be part of them" (E/038)

When a comparison is made of voluntarism in the project team environment with purposive threat levels experienced by informants there is found to be no correlation between these factors. This is illustrated in Exhibit 28, below:

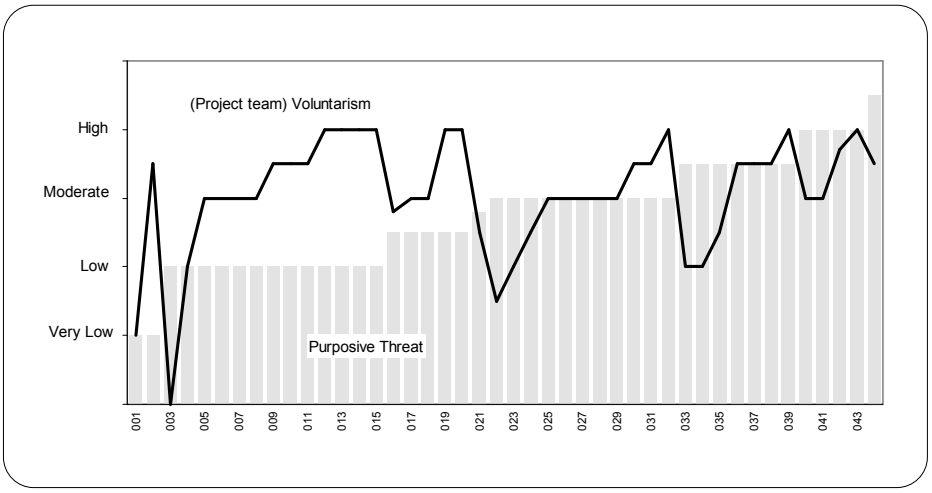


Exhibit 28 Project team voluntarism and purposive threat

and is confirmed by using the correlation function of the spreadsheet in which these results are collated to calculate the correlation between the numerical versions of the levels of these two factors [ie, taking very low as 1 to very high as 5]. This indicates a positive correlation of +0.13. The same calculation made using the overall assessment of voluntarism, rather than the narrower view taken above, indicates a negative correlation of -0.16, reflecting the slightly lower levels of voluntarism found in the wider organisational environment. These very low figures broadly indicate that there is virtually no association between the two factors under consideration.

Summary

One or more of the components of the concept of voluntarism, as defined for the purposes of this research, were identifiable in the accounts of most of the informants. Thirty-one informants [70%] suggested that free expression was a feature of their project team experience, twenty-five [57%] suggested that questioning was acceptable, and twenty-one [48%] suggested that they or other members of their project teams were able to participate in setting their own goals. Contrary opinions relating to each of these factors were identified in some informants' accounts. Innovation was mentioned in twelve accounts [27%] , and eight informants [18%] described intrinsic satisfactions arising from their work. Failure to mention any factor is not taken as evidence of its absence.

Assessments of voluntarism in the project team environment compared with previously-assessed levels of purposive threat in each case showed no correlation between these factors, either positive or negative. Neither Proposition 4, nor its logical antithesis, are therefore supported by this research.

<u>Proposition 5:</u> Project sub-cultures which foster the attributes of voluntarism will be more strongly associated with successful project outcomes than those which do not.

Both components of this proposition - project success and the concept of voluntarism - have been explored in some detail under previous headings. This section, therefore, is confined to reporting the association detected between the two factors.

A modest but clear correlation was found between voluntarism in the project teams and the successful outcomes of their projects. This was calculated by the correlation function of the spreadsheet in which these results are collated as +0.37, and is graphically illustrated in Exhibit 29, below.

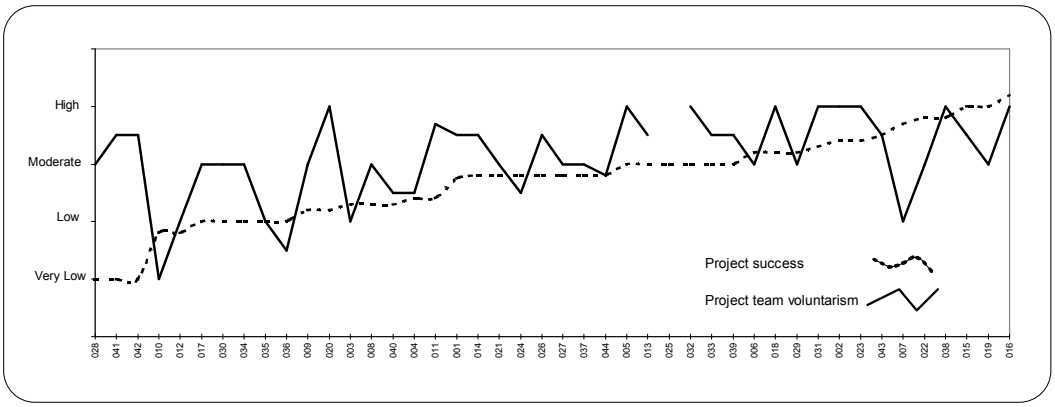


Exhibit 29 Project team voluntarism and project success

As with the preceding proposition, the terms of Proposition 5 require emphasis to be given to the personal experience of the informant within the project environment rather than in the wider organisational setting, where significant differences seemed to exist, and the graphical illustration in Exhibit 29 reflects this. The association between voluntarism and successful project outcomes becomes more pronounced when the overall voluntarism assessment is used, as is illustrated in Exhibit 30, below. The spreadsheet correlation in this case is +0.64.

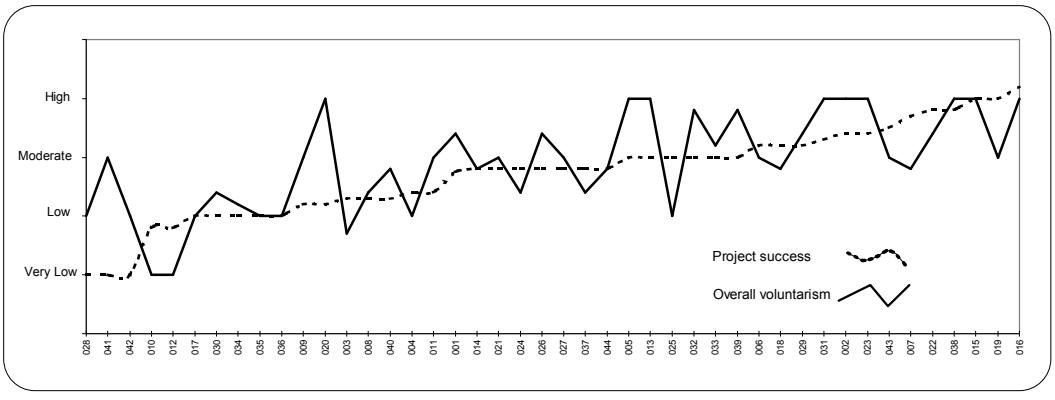


Exhibit 30 Overall voluntarism and project success

Proposition 5 is supported by these findings.

Proposition 6: Environmental forms of threat will have a detrimental impact on the project sub-culture and will tend to be negatively associated with project success.

Environmental threat is defined for the purposes of this research as threats which are not explicitly directed at, and are not explicitly intended to coerce, the individual or individuals who experience them, or to procure any specific behaviours. The sources of environmental threat experienced by informants were diverse. The following categories of such sources were identified:

Organisational change/disruptive organisational climate	17	instances	[39%]
Scrutiny/interest by top management	7		[16%]
Scrutiny/interest by the public, external officials or VIPs	7		[16%]
Industrial relations issues	6		[14%]
Competition	5		[11%]
Resource conflicts	4		[9%]
Takeover/merger concerns	4		[9%]
Physical hazards	3		[7%]
Leading-edge technology risks	2		[5%]

Typical forms of expression of concern about these threats included the following examples.

On organisational change/disruptive organisational climate:

> "The company [is] undergoing a huge amount of change at the moment ... growing at a significant rate ... At the same time the chief executive ... is making some very significant cultural changes in the organisation" (U/005)
>
> "[Company] Group was really two businesses ... and to some extent probably still is ... Both ... businesses had their own cultures ... Communication was at best strained, which impacted hugely on our ability to deliver" (F/010)
>
> "The Finance Director decreed that this was going to happen ... the two or three layers between the Finance Director and the department manager and project manager were pretty anti. So the seeds of strife were sown pretty early on" (U/014)
>
> "Basically; no one trusted the director. It was as simple as that really. {*Looking back, do you think they were right?*} I think they were" (U/017)
>
> "The [employee] survey ... brought up some pretty strong feelings ... One of them was that 'my boss is OK but my boss's boss isn't' " (O/026)
>
> "There were some major problems ... Very low morale. There was continual fighting, at quite high volume in certain meetings. We had people ... storming out of the building ... It was affecting the programme" (T/035)
>
> "I think that is recognised now that system developments that take more than about 3 or 4 months are almost certainly doomed because the organisation will have changed, you know, become obsolescent by the time it's off the board. So goodness knows how anybody develops quite large systems now; I suspect they don't" (G/042)

Some concerns in this area were directly related to the possibilities of job loss:

> “[I] sat in an office with two other people and I'd seen them across the course of about three hours be asked to leave their desks [made redundant]. It's a very sobering experience ... The room's empty. Nobody comes in to say ‘don't worry, it's not you’, and it's very unnerving” (C/002)
>
> “Over the last four years there's been massive down-sizing ... There were people specifically working on the project team who were basically earmarked for redundancy and that was very difficult” (F/009)
>
> “There was still a lot of pressure there. Am I going to have a job? Am I going to be written out of the organisation? What's going to happen to this organisation?” (T/020)
>
> “They are just about to go through tremendous change as well where some people quite clearly will not get a job ... they are going to go through massive change, you know, people are going to be well outside their comfort zones” (U/036)

On scrutiny/interest by top management:

> “Because of the sort of connections with directors ... it was always recognised that if it goes wrong it will be noticed straight away, it's fairly high profile” (T/006)
>
> “It was very visible. Our building is here - our managing director and operation director sit here, so they could see exactly what was going on at any one time, and I was called in a few times” (T/007)
>
> “If you're a national project you deal with national figures ... So as a result pressure was there, and ... I was very conscious of that, speaking with the very senior people in the business and knowing that your every word was being scrutinised” (U/040)

On scrutiny /interest by the public, external officials or VIPs

> “You're presenting to a hostile audience. If ... the public has some involvement ... the people you usually get at the meetings are the ones who don't want it. The ones who do want it don't come” (C/004)
>
> “The station was a listed structure ... This is the home ground station for [a premier] football club. ... It's politically sensitive” (T/006)
>
> “Where there was concern, ... the senior client ... was talking to our MD and our chairman. The Chief Constable ... for the area was always popping his head over the fence, almost literally, asking how things were getting done ... So [we were in] the spotlight” (T/008)
>
> “Those people are particularly prickly individuals to get on with. Once you're all right with them, you're all right with them but they've got a particularly long history, and they've got a warrant from one of the Stuart kings which gives them more powers than the police, and they're quite prepared to exercise them” (T/020)
>
> “The publicity of an incident, a serious incident on the site, is immense. ... Because even if it was an incident where ... it was nothing to do with radioactivity, the publicity would be ' if you can't control this one you can't control radioactivity' principle” (G/039)

On industrial relations issues:

> “They had multiple other sites in the UK as well and because of unionisation we were not allowed to go there. {*Can you expand on that?*} ... The [customer's] management had agreed ... to make sure the unions ... were happy ... what they didn't want to do was upset their workforce by having lots of different people walking around” (O/023)

> "The scope of the project had to change half way through, because of people issues. ... the view was taken that it was such high risk to introduce new terms and conditions... that the whole scope was revised" (O/026)
>
> "If it wasn't handled properly, then we could have had some problems with staff, trade union problems" (U/031)
>
> "We ... avoided industrial action. {*Which was a possibility?*} Well it was a high risk at the start" (U/033)
>
> "We do not have a great track record of achieving collective agreement with the union. We have a very strong union, nationally" (U/040)

On competition:

> "Now the stakes are higher - if we don't succeed we're down the pan rather than just a bit of criticism from the government when we were nationalised and had no competition" (U/015)
>
> "We have a number of competitors that challenge us ... we've got to keep up that pace of change for quite a while longer to be able to stay in the marketplace" (O/026)
>
> "If you go back a few years ... there wasn't a lot of option for people to go outside ... Now they can go and get whoever they want to do it themselves ... The message we're trying to get through to everybody is that our livelihood and our survival depends on delivering" (U/030)

On resource conflicts:

> "An individual may have a particular expertise that two or three projects want ... {*Does the individual feel this tug of war?*} Yes they do and I think it can be quite, stressing isn't the right word but they do feel [it]" (E/025)
>
> "It is a very very tight market. We are having extreme difficulty in getting project managers ... and therefore you start lowering your sights a little bit on capability ... People didn't want to work here" (T/035)

On takeover/merger concerns:

> "There's always a threat of takeover as the industry world-wide starts to consolidate down to a smaller number of players" (U/005)
>
> "There's no right way to handle outsourcing, it frightens people" (O/013)
>
> "There was a lot of uncertainties within the company about the merger ... there was this discomfort about what was going to happen in the merger, whether it will or won't take place and what the implications were" (U/018)

On physical hazards:

> "The previous plant had actually blown up at the site and killed two people. There was a fair amount of fear by the operators anyway about using the plant" (U/017)
>
> "There is always intense pressure that we do things safely... Failure in [company] terms could take on quite serious connections, could be fatal, something like that. Individuals have been prosecuted within [company] and had to stand up in court and account for their actions" (G/039)

On leading-edge technology risks:

> "[The project was] not typical [because it] involved a lot of new technology ... [The company] was working in a new area" (C/003)
>
> [The project area is one of developing technology. Software bugs have caused difficulties and recognised standards are still evolving] (G/029)

Whilst the existence of a variety of forms of environmental threat was readily identifiable, there was less clarity about the impact such threats had on the project culture, or individual behaviour. The effect of organisational changes and a disruptive organisational climate tended to be expressed in negative terms:

> "{*What effect did [your colleagues' redundancy] have on what you actually did?*} It does put you off your work for a while - for quite some time, for quite a few days. A bit like an earthquake. ... You get nervous for a few days afterwards but as time goes on you feel more and more secure. {*Some people might say that it keeps those who are left on their toes*} Yes and no, but I would say it's almost too late by then" (C/002)
>
> "{*Did the possibility of jobs going make any difference to day to day work?*} Yes ... there was no difficulty with the quality of the work. ... but it was not necessarily easy to get urgency into [the work] ... things were looked at in depth. I think there was a bit of excessive caution" (G/037)
>
> "I would say [the atmosphere on the project team] was not as good as it should have been" (F/009)
>
> "We never had team energy between the users and the two IS communities, and between probably the front end staff that were the real users ... While we all got on well enough, in pockets, we never really became this, we didn't have this synergy between the teams ... As a virtual team, it wasn't good, the flow of communication wasn't good" (F/010)
>
> "In team terms, I think [the lack of support of senior managers] had quite an adverse effect on morale. The team had to be bolstered up a few times. You had a few team-building events and that kind of thing in order to try and boost morale" (U/014)
>
> "We all went through a fairly difficult time then, when the relationship between us wasn't good at all during that 12 months or so, extremely difficult I would say. When the pressure's on things get very very hard and relationships get very very awkward ... It certainly is demoralising" (U/031)
>
> "The reaction was probably, speaking with hindsight, for people to get even closer together. These aren't quite the right words, but almost a siege mentality" (U/040)

Scrutiny and interest by top management in the informants' own organisations was overall felt to be a positive factor, although not always comfortable.

> "{*Did high-level interest have any negative effects?*} No. In a way you'd think it might have but there wasn't any fear of, sort of, being looked upon ... It wasn't a fear, it was more of a guidance, reassurance factor" (U/016)
>
> "{*How did the project team feel about working under that scrutiny and pressure?*} A lot of support. I mean there was a tremendous amount of kudos in the sense of being participants" (E/038)
>
> "{*What effect does the visibility, the tensions and so on have on your day to day work?*} In the early days ... it did have an impact. Because I'm a naturally quite thoughtful person, perhaps I think about things too much ... But then your confidence develops and when you start to deliver things and are seen to be delivering things then that becomes a bit of a roller coaster" (U/040)

> "{*Did that interest and scrutiny have any impact on the way you did the job?*} Oh yes, I felt a bit under pressure. It made me feel that I was embarking on quite an important job. And I quite welcomed his involvement, actually" (G/043)

Some informants, having mentioned that their work was subject to scrutiny or interest from senior levels, nevertheless felt that this had little impact on their behaviour.

> "{*Did the visibility of the project change the way people worked?*} No. I don't believe it does ... we've got no problem with anybody looking and seeing what we do" (T/ 007)
>
> "{*Did you feel under scrutiny, with these high powered people involved?*} Having dealt with and been working with MDs outside, and Financial directors outside of our lot, not really. I think some people would have done" (U/019)
>
> "{*Did the senior management attention affect you in any way?*} No, I don't think so. I work on quite a number of strategic projects, and do work with senior managers quite a bit" (O/026)

Public or official attention tended to evoke responses which were described in terms of greater care, or attention to detail.

> "I think people are definitely more mindful that if it's going to look terrible, or it doesn't work, their name is going to be associated with it. ... and I think they do give it a bit more consideration than they might do a normal scheme, because the impact of getting it wrong is there for all to see. Every major event ... there's going to be 50,000 people looking and commenting on your mistakes" (T/008)
>
> "I think that I probably kept the hands on a bit more than I otherwise would. Got involved in the detail more than solely relying on those others to do the tasks" (T/006)
>
> "The fact that it's a high public profile makes a difference to the way you react and your contact with the people outside the project. It doesn't necessarily make a difference to the way you run a project" (C/004)

A specific response within the team environment to the threat of industrial relations difficulties was mentioned by only one informant.

> "It was better to delay the implementation and make the right decision than to rush into changing things for people that could have ended up with strikes and staff unrest" (O/026)

Two informants from one organisation had both indicated a negative view of unions in general and applied this, in one case, to explain the failure of a bid:

> "The reason we got ... I think we believe it ... was that the unions were not prepared to allow them to effectively outsource the whole business" (O/023)
>
> "Because of unionisation we were not allowed to go there" (O/023)

and in another context cited the existence of unions in a client organisation as a potential problem for the project:

> "Because we don't recognise unions at [company], if they'd have had a strong union down there that very fact could have made it difficult as well, the fact that it's going to a non-union business" (O/024)

A similar negative association between union activity and a part of an organisation was mentioned by one other informant, although in this case it is not clear whether the informant believed that the union was in any way responsible for the problem.

> "The staff in [Division], who are fairly militant in union terms, have a mistrust of their senior management" (F/010)

The evidence concerning responses to competition was mixed, and included generalised comment on organisational style:

> "We've become more hard-edged ... things have to be done, things have to be achieved" (U/015)

as well as more specifically project-related concerns:

> [Informant cites increasing competition as a factor creating great uncertainty among the project team in terms of task definition] (U/032)
>
> "Our livelihood and our survival depends on delivering. {*Does that change what you do, day to day?*} I think it may well make you monitor things better [and increase liaison and communication with the customer]" (U/030)

Resource conflicts created some tensions for individuals:

> "Like we all do, we have alliances and this, that and the other to particular individuals and we find that someone would prefer to work for project manager A rather than project manager B, or they prefer working on project C rather than project D" (E/025)

and there were many instances of project managers experiencing difficulty in obtaining sufficient resources:

> "You're saying effectively 'I want to grab this rich resource because they're the best at what they do, to help make sure I fulfil this on time, and achieve its targets. They want to keep it for the same reason" (O/023)
>
> "Everybody recognises that it must be done. For business survival it has to be there. It takes a great amount of resource and money, and whilst we're doing this we're not delivering the change that the business requires" (F/011)

but there was little evidence to suggest that this kind of operational difficulty had a significant impact on project cultures.

Takeover and merger concerns could not be associated with any specific impact on project teams, other than one generalised remark:

> "There was this discomfort about what was going to happen in the merger" (U/018)

Where physical hazards were mentioned the effect on the project team tended towards risk management activity and seeking for increased knowledge.

> "There were genuine fears they had which did actually make the design process quite difficult. They did want to get heavily involved" (U/017)
>
> "We have things called haz-ops. They are typically brain-storming, so that if you've got a hazard ... brainstorm it, and say 'right, we're doing this facility, what is the hazard? ... How do you protect against it? Whose responsibility is it to protect against it?' ... And that is very much a free form" (G/039)

Such technology risks as were identified by informants were addressed operationally and did not appear to impact significantly on the project team culture or morale.

> "The way that we approached that ... was to ideally seek a single supplier. ... or as we actually did we ended up with two suppliers, one who was solely responsible for the hardware and the other one was responsible for software systems (G/029)

Overall, there are grounds for associating impaired morale and team cohesion with organisational change and uncertainty, but this does not seem to be the case where the environmental threat is one of top management interest and scrutiny. The evidence concerning the other forms of environmental threat identified in this research is insufficient to form conclusions. The first part of Proposition 6, that *environmental forms of threat will have a detrimental impact on the project sub-culture,* is therefore partially supported by this research, but must be qualified and rephrased as *some forms of environmental threat will have a detrimental impact on the project sub-culture*.

The proposition goes on to postulate a negative association between environmental threat and project success. A comparison of assessments of overall environmental threat levels with assessments of project success clearly supports this, as is illustrated in Exhibit 31, below. The spreadsheet correlation function in this case is -0.56.

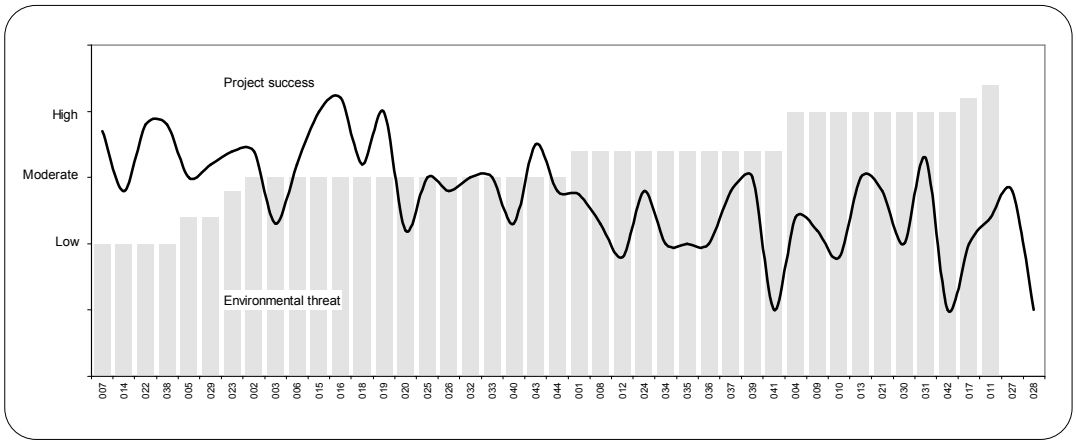


Exhibit 31 Environmental threat and project success

Summary

Some forms of environmental threat, specifically organisational change and disruptive organisational relationships, are shown by the accounts of informants to be associated with negative impacts on the culture of project teams and the morale of project personnel. In other instances, notably interest and scrutiny by senior people in the informants' organisations, the impact is suggested to be either neutral or positive. The effects of other forms of environmental threat cannot be reliably assessed from the evidence collected in this research. Overall, however, a clear negative association is found between levels of environmental threat and the successful outcomes of projects.

Proposition 6 is therefore substantially supported by this research.

Secondary findings

Informants' accounts contained evidence which, whilst not bearing directly on any of the six formal propositions, does nevertheless help to clarify or enrich the understanding of relationships between the individual experiences of informants, their relationships with their organisations, and the outcomes of their projects. Findings which fall into this category are reported below.

Seniority

It was surmised that some relationship might exist between informants' seniority and their perceptions of one or more of the factors examined in this research. In general, this proved not to be the case. Use of the correlation function in the spreadsheet in which these results are collated produced very low correlation results, which cannot be regarded as significant, between seniority and voluntarism [–0.09], between seniority and environmental threat [+0.11] and between seniority and purposive threat [+0.13]. The implication of this is that the influences which determined informants' perceptions of these factors were not significantly weighted by the informants' seniority.

Correlations which may be regarded as approaching significance were detected between seniority and perceptions of threat in the organisational management style [–0.22] and between seniority and perceptions of threat in the project management style [+0.17]. These associations would tend to suggest that the more senior managers were slightly less likely to perceive their organisational management styles as threatening, but that their project team management styles were slightly more likely to be assessed as threatening.

Challenge

Several informants implied that they found it stimulating to be faced with a challenging project situation. This sentiment was expressed in terms such as:

> "It's a challenge. Everything's a challenge ... And I'm motivated by challenge" (T/006)
>
> "The pressure I felt on this has been one to succeed where people have thought we couldn't" (U/015)
>
> "From a project point of view, given a no-win situation then probably people would have said ' well, you know, you couldn't have won anyway' but I don't look at it that way" (U/019)
>
> "What we were doing had never been done before ... There was the pioneering aspect of it which I think was important" (T/020)
>
> "It made me feel that I was embarking on quite an important job" (G/043)

In all, fourteen of the forty-four informants [32%] expressed views similar to these [there is no implicit assumption here that others did not have similar, but unvoiced, feelings].

A comparison of project success ratings was made to establish whether the expression of such sentiments was related in any way to project success. It was found that the mean success

assessment of the fourteen projects where informants had expressed such a view was 3.0, the numerical equivalent of moderate success. The mean success assessment for the remaining thirty cases was 2.6, where 2 represents low success. This indicates a modest association between a positive feeling of challenge and successful project outcomes.

Team identity

Observations on the distinctiveness of project teams were made and reported under the general heading of Proposition 2. One aspect of team identity which lies outside the scope of that proposition is the question of association between the distinctive identity of a project team and the success of its projects. To investigate this the assessment of project success in each case was compared with the assessment of team identity, considering distinctiveness and team cohesion, previously made for the purposes of Proposition 2.

This suggested a modest positive correlation between the strength of team identity and project success, calculated by the spreadsheet correlation function as +0.23, and illustrated graphically in Exhibit 32, below:

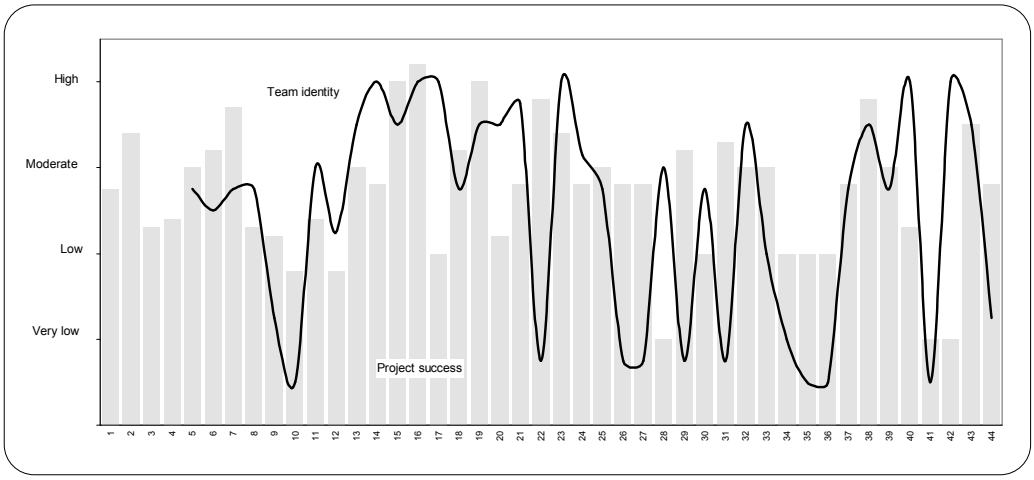


Exhibit 32 Team identity and project success

"Trustee syndrome"

In Chapter V, "*Fear, Work And Oppression*," a phenomenon was identified as often observed in coercive work regimes in which workers allowed to exercise authority over their colleagues frequently became more severe in their behaviour towards their fellows than were the power-holders they sought to emulate. This phenomenon was subsequently characterised as the "Trustee Syndrome."

An initial comparison of the assessments of organisational management style and project management style, in terms of high <-> low threat, suggests that there is a relationship between these two dimensions, calculated by the spreadsheet correlation function as +0.51. This is illustrated in Exhibit 33, below.

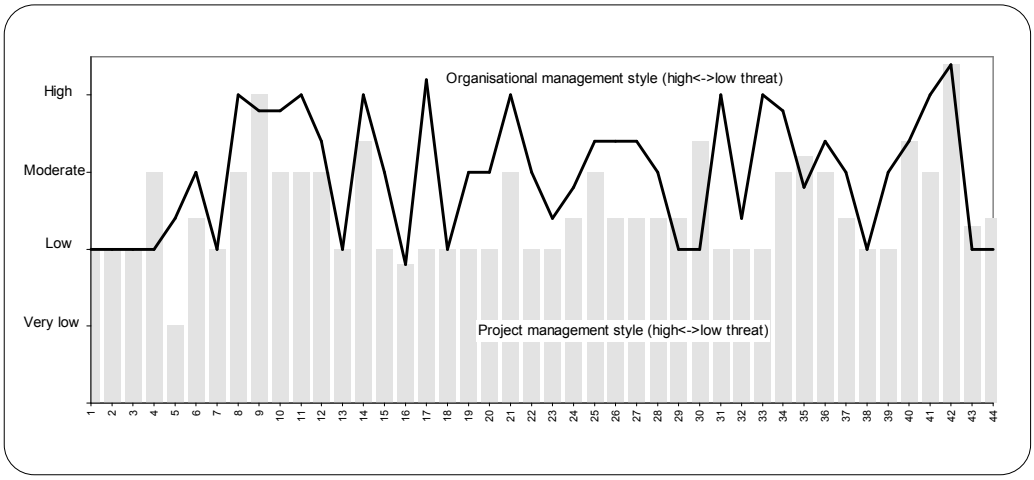


Exhibit 33 Project and organisational management styles

Twenty-two informants' accounts where purposive threat was assessed as moderate to high were examined to ascertain whether the behaviour of informants or their project team superiors reflected this strong correlation. Evidence relating directly to this issue was sparse. Eight cases [ie, 36% of the sub-set] were identified which suggested that informants consciously adopted a less threatening or coercive stance when dealing with their subordinates than they themselves perceived in their relations with their wider organisations. This attitude was expressed in terms such as:

> "When I say 'we' I mean the organisation, I never really held myself in that category anyway - [I prefer] to be non-adversarial in approach, ... which I felt more comfortable with because that's my approach anyway" (C/003)
>
> "You destroy a working relationship unnecessarily" (F/012)
>
> "I think motivating people by fear is no good in this day and age and where companies try and do it they don't succeed" (U/017)
>
> "{*That approach to people management isn't one that you would want to apply to your own project team?*} No, I've never used that, I've never been that sort of a person ... at all. I like to base everything I do on reason and influencing people to see the reason and to generate their own ... motivation from that. But that's probably seen as a bit of a weakness" (U/042)

Only one instance was identified in this group where it was implied that a coercive style might have some merit:

> "{*If people are working to you, would you want to boost their confidence or would you want to keep them under pressure?*} From my perspective now as a project manager, I'd do both, because I think the two go hand in hand" (U/040)

It has already been established in respect of Proposition 2 that management styles at the project level and the organisational level tend to be compatible. The implication of these findings is that project managers tend to prefer a more cooperative stance and may try to shield their teams from the harsher organisational climate to some extent. The existence of a trustee syndrome effect is not supported by these findings.

Organisational climate

Underlying all six explicit propositions is the implicit hypothesis that a general perception of threat is likely to be negatively associated with project success. In order to test for such an association an operating climate assessment was made in each case. This assessment was derived from the assessments previously made of organisational management style, project management style, environmental threat and purposive threat, moderated by the assessment of voluntarism.

Comparison of operating climate assessments with assessments of project success produced a very clear negative correlation, as illustrated in Exhibit 34, below:

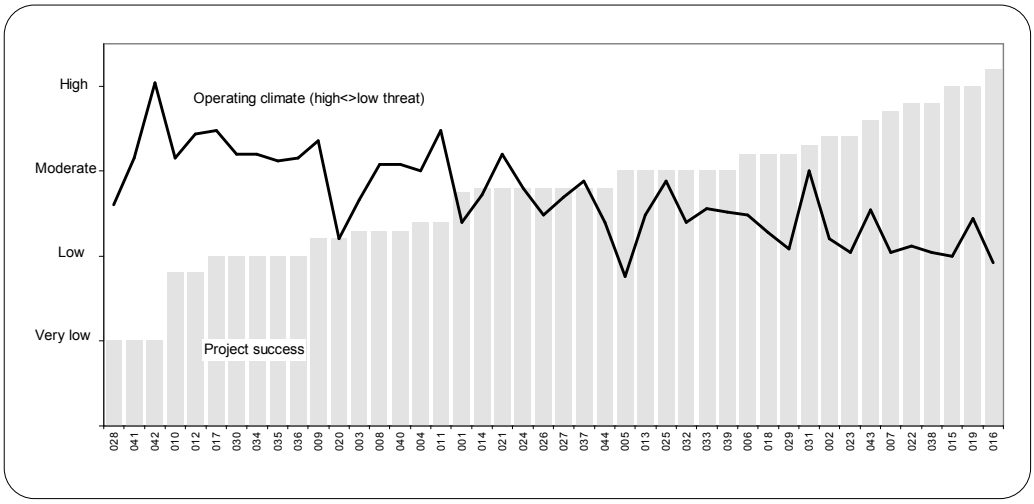


Exhibit 34 Operating climate and project success

This correlation becomes more striking if presented in a line graph format with the operating climate series inverted. In Exhibit 34a the results are arranged in informant identifier number order:

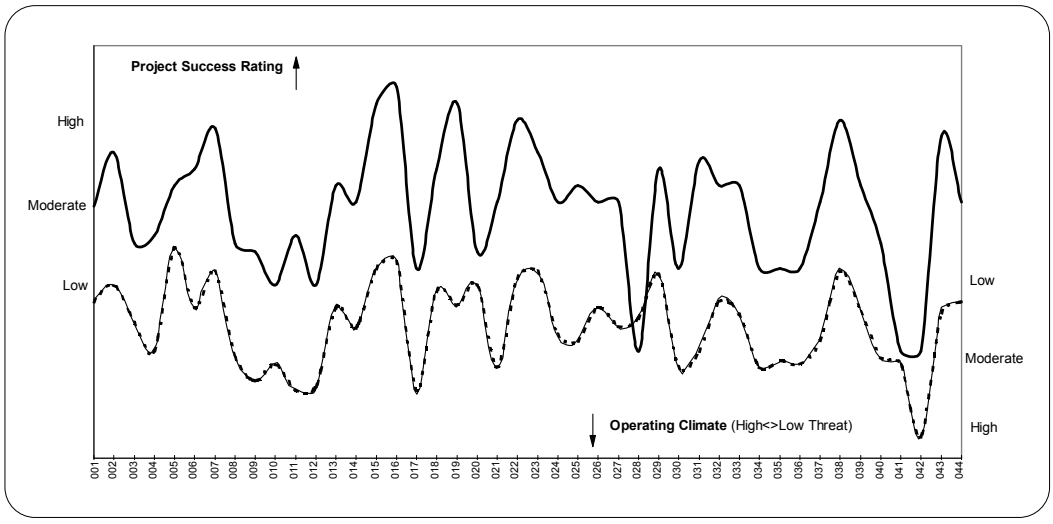


Exhibit 34a Operating climate (inverted) and project success

Use of the spreadsheet correlation function indicates a negative correlation of −0.74. One anomolous case, informant T/028, reported a low- to moderate-threat operating climate, but very low project success:

> “This was something which was good on paper but just didn't work out. So we ended up after a period of time going back to [previous system]” (T/028)

If this case is excluded the correlation rating rises to −0.80.

These results indicate very clearly a strong relationship between a non-threatening operating climate and successful project outcomes.

Summary of results

Proposition 1

Almost all informants were able to make a reasoned assessment of the outcomes of their projects, and to substantiate this with evidence derived from formal or informal feedback. Formal project reviews were conducted in a minority of cases. The main source of feedback was ongoing contact with users after project completion. There was a strong initial tendency to overstate the success of projects but a subsequent readiness to identify aspects of performance which fell short of success criteria. A significant minority of projects had no clearly-defined budgetary targets.

Proposition 1 was clearly supported by the research.

Proposition 2

Most project teams were found to have cultures which were broadly similar in most respects to the cultures of the wider organisations. There was a tendency for project teams to have slightly lower levels of threat, higher levels of care for people, and higher levels of voluntarism than the wider organisations. Most, but not all informants felt their project teams to be distinctive in some way from the wider organisation, and perceived this as positive or beneficial.

The perception of distinctiveness, coexisting with broad similarity between project and organisational cultures gives clear support to the first part of Proposition 2.

Informants were divided on the question of whether compatibility increases or decreases over time. There was little evidence of selection of project team members for organisational compatibility. Rather, selection was found to be for individual skills or organisational placement. In some cases selection was consciously for compatibility with the project team. Processes of adaptation were widely reported, but the effects of this were fairly evenly divided between harmonisation and divergence. The evidence for a process of attrition also suggests no clear trend in either direction.

The second part of Proposition 2 is therefore neither clearly supported nor refuted by the research.

Proposition 3

A short taxonomy of purposive threats was identified. Only thirteen informants [30%] perceived purposive threat to be unfair, whilst sixteen [36%] suggested that it was not unfair, implying that some level of threat was expected and acceptable. Higher levels of threat were more likely to be perceived as unfair. Anger responses to purposive threat were identified in only four cases [9%] , the remaining responses all tended towards fear. Behavioural responses were predominantly towards submission. Cases identified as tending towards rebellion showed strong concern for project outcomes.

Significant differences in response were not identified between those who perceived purposive threat to be fair and those who perceived it as unfair. Correlations were not identified between psychological responses on a fear<->anger continuum and behavioural responses of submission<->rebellion.

Mixed views were expressed about the efficacy of threat in enhancing performance. However, comparison of assessed levels of purposive threat with assessments of project performance shows a clear negative correlation.

A perception of purposive threat as unfair was identified in a minority of informants. Psychological responses of fear<->anger and behavioural responses of submission<-> rebellion were clearly detected, but clear correlations were not found between any of the factors. Proposition 3 is not, therefore, reliably supported by the research.

Proposition 4

Moderate to high levels of voluntarism were identified in most informants' accounts. The most commonly occurring factors were free expression, questioning and participation in goal definition. Innovation was less evident and intrinsic satisfactions were not explicitly identified by most informants. No correlation was identified between levels of voluntarism and purposive threat, either in the project team environment or in the wider organisational setting.

Proposition 4 is therefore neither supported nor refuted by the research.

Proposition 5

Clear correlations were identified between assessed levels of voluntarism in the project team environment and project success. These correlations were more emphatic when voluntarism was assessed for the wider organisational setting.

Proposition 5 is therefore clearly supported by the research.

Proposition 6

A taxonomy of sources of environmental threat was identified. The commonest form of such threat was organisational change or an unsupportive or disruptive organisational climate. This was perceived to be damaging in terms of project team morale. Top management scrutiny was generally perceived to be positive in its effects. The impact of other forms of threat was unclear. Overall, a clear negative correlation was identified between assessed levels of environmental threat and project performance.

Proposition 6 is therefore substantially supported by the research.

Secondary findings

Seniority

Seniority was found not to be correlated with voluntarism, perceptions of environmental threat, or perceptions of purposive threat. A slight negative correlation was identified between seniority and perceptions of organisational management style as high<->low threat, and a slight positive correlation was identified between seniority and perceptions of project management style as high<->low threat. In general seniority appeared not to be a very significant influence on perceptions of any of the factors under investigation in this research.

Challenge

Fourteen informants [32%] indicated that they found challenging project situations stimulating. The mean of success assessments for their projects was higher than the mean of success assessments for all other projects, suggesting that challenge may be a positive factor in project success.

Team identity

Comparison of an indicator derived from team distinctiveness and team cohesiveness with assessments of project success indicated a modest positive correlation between these two factors, suggesting that team identity may be associated with project success.

"Trustee syndrome"

A clear correlation between assessments of organisational management style as high<->low threat and assessments of project management style as high<->low threat suggests that subordinate managers may carry the observed behaviours of their superiors into environments where they themselves have authority. However, project management styles generally were assessed as lower-threat than organisational management styles, and anecdotal evidence suggested conscious efforts on the part of some project managers to shield project team subordinates from coercion and threat and adopt a more cooperative management style.

The existence of any significant trustee syndrome effect is therefore not supported by the research.

Organisational climate

An index of high<->low threat operating climate was derived from assessments of organisational and project management styles, and environmental and purposive threat, and moderated by assessments of voluntarism. A very strong negative correlation was found between this index and assessments of project success.

The research has therefore identified clear evidence that a low-threat operating climate is strongly associated with project success.

Chapter XIII

DISCUSSION

Introduction

The stated purpose of this research was to explore the relationships between organisational climate, with particular emphasis on threats of various kinds, and the outcomes of projects. Underlying this broad statement of purpose was an implicit general hypothesis that the behaviour of people involved in managing the project would be affected by such climate or threats and that their individual contributions would therefore vary to some extent under the influence of the social climate within which they carried out their work. These variations would be reflected in the success of their projects in meeting objectives and/or delivering benefits to their organisations.

This general hypothesis was subsequently condensed for the purposes of operationalisation to six more specific propositions, rooted in an examination of the literature relating to a variety of disciplines and areas of academic or scientific enquiry. Some discussion of the methodology used in this process of operationalisation is included later in this chapter. However, it is helpful at this point to summarise the general approach in order to set the ensuing remarks in context.

The body of literature examined was necessarily eclectic, and may be considered to represent the *background theory* (Phillips and Pugh, 1987) to the present research. Very little of the literature reviewed in the earlier chapters is explicitly directed towards the issues which are being investigated here. In this respect the present research makes use of relevant work from other fields to inform investigation of a new range of issues. Similarly, the views of practitioners and consultants in the field of project management, as well as academic researchers in this area, have been harnessed to provide input derived from practical experience into consideration of the current specific issues of this research.

The six specific propositions which were eventually formulated for testing in the field research documented in the preceding chapters are thus both derived from and validated by the extended reviews of several bodies of literature. These propositions, underpinned by the implicit general hypothesis mentioned above, form the *focal theory* of the research (Phillips and Pugh, 1987). The field research was designed to test and validate the focal theory in a current and topographically appropriate setting. To the extent that the validity of the focal theory had previously been established by reference to published sources, the fieldwork fulfils both a confirmatory or triangulation function and an extension into previously untested areas. Exhibit 35, below, illustrates these inter-relationships graphically.

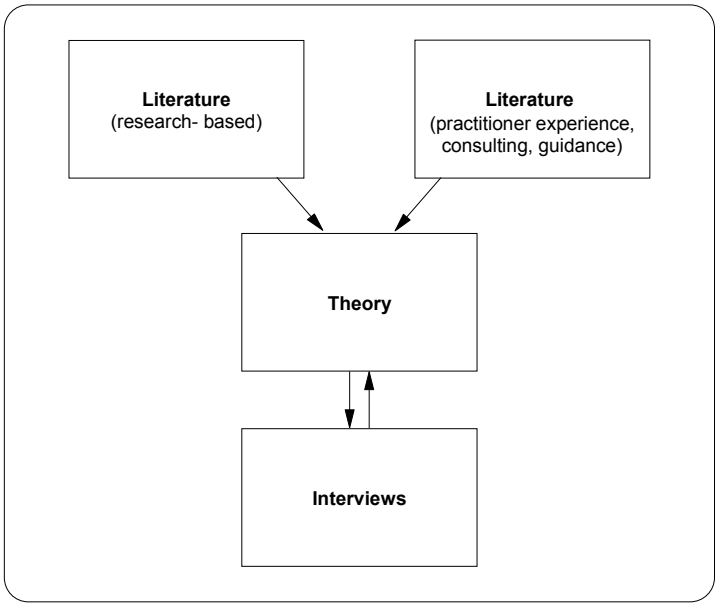


Exhibit 35 Theoretical integrity

Support for propositions

The fieldwork provides considerable, but not unqualified, support for the six propositions. For convenience, discussion of these findings is focused on each proposition in turn. It will be noted that in some cases, part of a proposition is supported by the evidence while another part is not. This suggests that the composite format of the propositions may not have been entirely appropriate.

Proposition 1: Project management professionals will have perceptions about the success of projects in which they have been involved, and will be able to explain, justify or rationalise these perceptions.

This proposition was strongly supported by the field research to the extent that 89% of informants were able to express such a view and to justify their opinions by reference to various forms of measurement and/or feedback mechanisms. It is notable that there was a strong tendency to overstate the success of projects, despite an awareness of shortcomings which were discussed quite freely during the interviews. The fact that the mean of success assessments for the projects of informants who asserted unequivocally that they believed their project to have been successful was marginally lower than that for the projects of informants who expressed some reservations may imply a slightly less critical stance by the former group. However, the mean success assessment of all projects claimed by informants to be successful, with or without some qualification, was below the mid point of the assessment scale. A variety of possible explanations for this apparent anomaly may be advanced. It is possible that the assessment criteria applied in this research were more stringent than those customarily applied by the informants themselves. Equally, some form of cognitive dissonance mechanism could be

operating to redress discrepancies between informants' perceptions of the value of their work and the analytical examination of project outcomes applied in the interviews.

Project governance issues were raised in connection with success assessments. Formal feedback mechanisms were absent in the majority [64%] of cases and, remarkably, almost 30% of informants reported working without budgetary targets. In half of these cases [16% of all cases] informants asserted that no budget was defined for the project at any organisational level. Rather more positive was the finding that most informants [73%] had ongoing contact with the recipients or users of the project deliverables after project completion and based their assessments of project success at least partly on informal feedback received by this means. The findings of Avots (1984) show that 'contractual criteria', such as schedule, budget and specification, tend to diminish in importance following project completion, and success comes to be assessed by how well the project's deliverables meet the needs of their users. Ongoing contact with these users may therefore be regarded as a particularly useful and valid assessment mechanism.

Proposition 2: A project sub-culture exists within the environment of an organisational culture, with which it must be compatible whilst not necessarily being the same. The selection-adaptation-attrition process will tend to promote compatibility over time. Management style will be an integral part of culture at both levels.

Support for the first part of this proposition was strong. Cultural compatibility was found to be high in the majority [70%] of cases, whilst the distinctive feel of working in a project team was mentioned, and generally approved, by most informants. It is notable that in-house project teams [ie, those staffed mainly by the organisation's own employees] showed slightly lower levels of compatibility and higher distinctiveness when the team members were engaged on the project work for only part of their time than they did when the team members were working full-time on the project. A possible explanation for this could be that in these cases continual comparison was possible between the project work and everyday duties, providing opportunities to compensate for unsatisfactory aspects of 'business as usual' or to experiment with unorthodox approaches. This is, however, speculation; no explanation can be derived directly from the data.

The research did not substantiate the second part of the proposition. In many cases project teams were hardly 'selected' in any meaningful sense, but rather tended to come together as a function of the skills or organisational bases required to perform the necessary project work, or as a result of chance availability. Where any genuine selection did occur it was more likely to be influenced by the individual candidate's apparent compatibility with the project team culture than by any consideration of organisational cultural norms. Attrition could be detected, but without any consistent pattern. There was some evidence of individuals being 'managed out' because they did not fit in to the project team, but equally there were instances of project experience facilitating beneficial career moves. The latter effect is consistent with the view of Meredith and Mantel (1995) that project managers often become "more valuable managers" as a result of

their project experience. A process of adaptation was discernible in many informants' accounts, but there was no consistency in the direction of such change; adaptation was as likely to lead to increased differentiality as to increased compatibility.

The implication of this ambiguity may be that context is a major influence on the development of the project team within the environment created and sustained by the wider organisational culture. The selection-adaptation-attrition processes described by Rousseau (1995) as tending to confirm and reinforce cultural norms over time may, in fact, be subject to interference from the relationships between the wider organisation and the project team. Reflection on this discrepancy between the anticipated effect, based on culture research, and the effect reported by informants in the present research suggests the possibility that the key difference may be one of control. In the present context the discretion which project managers have to select, remove and influence members of their project teams may be seen as more restricted, and in most cases more temporally limited, than the control which organisational management is able to exercise in these respects.

Proposition 3: Purposive forms of threat will be perceived as unfair [violating the psychological contract] and will evoke psychological responses on the fear-anger continuum leading to behavioural responses of submission-rebellion.

This proposition was not broadly supported by the present research. 30% of informants did perceive purposive threat to be unfair, whilst 36% took the opposite view. The opinions expressed by members of the latter group that some level of threat is "a necessary driver" (C/002) and helps to "get more productivity out of you" (G/043) clearly exemplify the underlying motive in most cases for applying threat. If this view were supported by the evidence it would lead, as suggested in Chapter x, to a debate about the ethical justification of such behaviour. This issue is discussed in more depth later in this chapter.

Where threats were perceived the predominant response was one tending towards fear. Tendencies towards anger were only found in a small minority of cases. The level of perceived threat did not appear to be a significant determinant of response. Similarly, it had been anticipated that psychological responses of fear would be associated with behavioural responses of submission, whilst psychological responses of anger would be associated with behavioural responses of rebellion. These associations were not detected. Submission was by far the predominant response across the full range of cases. Rebellion was seen to be directed, not towards sabotage or disruption, but rather towards achieving project objectives by unapproved means.

The strong implication of this is that threats were unnecessary, amounting almost to 'flogging a willing horse'. The project managers contributing to this research were committed to project success in any case and required support and facilitation rather than coercion. The fact that assessed levels of purposive threat correlated negatively with project success reinforces the view that threats were not only unnecessary, but also ineffective. A possible alternative view of this observation is that projects which are not performing well may provoke threat-oriented

responses from those in charge. If the latter is the case the apparent ineffectiveness of such a response in converting poor performance remains as a contra-indicator of such strategies.

A possible explanation for the discrepancy between the anticipated effects of purposive threat, derived from published research, and the findings of the present study may be that the levels of threat experienced by the informants were not high enough in most cases to cross the threshold into perceived unfairness. Some support for this view is provided in the present research by the finding that higher levels of purposive threat were more likely to be regarded as unfair, suggesting that there is a tolerance level beyond which threats may be perceived as breaching the psychological contract.

Proposition 4: Management styles which tolerate purposive threat will be negatively associated with project sub-cultures which exhibit the attributes of voluntarism [free expression, innovation, questioning, intrinsic satisfactions, participation in goal definition]

Proposition 5: Project sub-cultures which foster the attributes of voluntarism will be more strongly associated with successful project outcomes than those which do not.

The anticipated correlation between the composite quality described here as *voluntarism* and the incidence of purposive threat was not found in this research. Consequently Proposition 4 is not supported. Proposition 5 is, however, clearly supported by the evidence.

The component elements of voluntarism were found in varying degrees: free expression was a feature of the experience of 70% of informants, 57% of informants felt able to question or challenge their superiors, and 47% claimed to participate in defining their own goals. Acknowledging that these figures represent positive mentions, so that it cannot be stated with confidence that specific elements of the voluntarism construct were not experienced by other informants who chose not to mention them, [assessments of voluntarism levels for the purposes of this research are based on an holistic judgement, avoiding undue emphasis on the presence or absence of any individual element] the results may nevertheless may be regarded as low enough to give rise to concern. This is emphasised by the finding in respect of Proposition 5 of a positive correlation between levels of voluntarism and project success, which is entirely consistent with Deming's (1986) view that "no one can put in his best performance unless he feels secure ... not afraid to express ideas, not afraid to ask questions." There is support in this finding for Baker, Murphy and Fisher's (1988) findings that participation by the project team in setting schedules and budgets was significantly associated with project success, whilst a lack of such participation was associated with project failure, as was a lack of influence on the project manager. Of particular interest is the low rate of mentions for innovation [27%]. This has implications for the utilisation of the resources of knowledge, experience and creativity among project staff.

The lowest incidence of an element of voluntarism was for intrinsic satisfactions [18%]. That fewer than one in five informants felt that the satisfaction they derived from their job was something worth describing to the researcher must be a cause for concern. The motivation literature (Chapter vii) conveys a strong message that intrinsic rewards and reinforcements are highly significant influences on workplace performance. If the low rate of mentions of this element is to be taken as an accurate indication of the feelings of a group of professionals who, in other respects, indicated high levels of commitment to the outcomes of their projects, then the potential for improvement if this issue were to be addressed must be very great. For the reasons mentioned above, it cannot be assumed that failure to mention a component of the voluntarism construct positively indicates its absence. However, even the most generous confidence latitude applied to the assessed figure of 18% would suggest considerable room for improvement.

The absence of any clear association between purposive threat levels and voluntarism was unexpected. The anticipation of a negative correlation was based principally on Handy's (1990) argument that "a culture of excitement, of question and experiment, of exploration and adventure cannot survive under a reign of fear." Re-examination of the data shows a strong negative correlation [-0.57] between voluntarism and a high-threat management style at the project level, and a less pronounced but still significant negative correlation [-0.31] between voluntarism and a high-threat management style at the organisational level. This may suggest that Handy's "reign of fear" does not consist, at least for this context, in the focused coercive nature of purposive threat, but rather in a more diffuse and generalised atmosphere of threat in the style of management to which the informant was subject. Purposive threat does involve communication and may not preclude discussion or suggestion, whilst a forbidding management style may suppress both. The particular nature of the purposive threats experienced by the informants in this research may also have a bearing on this question. For the most part these were threats of penalties of various kinds for poor performance. Given that the informants were all professionals it may be that some of the elements of voluntarism were not precluded by the fear of penalties, since contribution of ideas and discussion of appropriate courses of action might well have been a means of demonstrating competence to instigators of purposive threat. There is some support for this view in the anecdotal accounts of some informants.

Proposition 6: Environmental forms of threat will have a detrimental impact on the project sub-culture and will tend to be negatively associated with project success.

Certain forms of environmental threat were found to be a source of lowered morale and impaired team cohesion. Principal among these was a disruptive organisational context characterised by change, uncertainty, job insecurity, and/or conflict between senior managers. This is consistent with Belassi and Tukel's (1996) finding that "top management support" is a major factor in project success, a view which is reinforced by the finding in the present research that scrutiny by senior managers was often regarded as a positive factor rather than as an

unwelcome source of additional pressure. The findings are also consistent with more general opinions on management style which are discussed in more detail below. Other forms of environmental threat were found not to have any significant effect on the project sub-culture and were likely to be addressed through operational action such as increased monitoring and planned responses.

To this extent the first part of this proposition was substantially supported but requires qualification. The clear negative correlation observed between assessed environmental threat and project success strongly supports the second part of the proposition.

Secondary findings

The 'implicit general hypothesis' of a negative correlation between a high-threat organisational climate and project success, referred to above, was strongly and clearly supported by the evidence. This relationship, anticipated throughout the research process, was confirmed more emphatically than expected and may be considered to carry authority because of the systemic nature of the two constructs being compared; organisational climate having been assessed as an holistic overview of project and organisational management styles, purposive and environmental threat, and voluntarism, whilst project success took account of budget, schedule, specification, stakeholder opinion and, where appropriate, opportunity costs.

This result carries clear implications for organisational management which are explored in more detail below.

Team identity and individual challenge were both found to be associated to some extent with project success. This is consistent with Baker, Murphy and Fisher's (1988) finding that "lack of team spirit" was significantly associated with project failure and with Karasek and Theorell's (1990) argument that challenge, or mental arousal, is a prerequisite for effective learning, and hence for performance.

Relationship to literature

The process of derivation of propositions in this research from various bodies of literature is described in some detail in Chapters ii and ix, and the degrees of support for these propositions found in the results of fieldwork are described above and in Chapter xii. The most explicit linkages are with the findings of reinforcement researchers (eg Skinner, 1938; Korman, 1974) that punishment is an ineffective means of shaping behaviour, and the studies of arousal (eg. McClelland et al, 1976; Bandura 1977a), which indicate that optimum performance, especially of high-discretion tasks, is seen when arousal levels are moderate. Eysenck's (1983) finding of negative relationship between state anxiety and performance to a greater extent than between trait anxiety and performance and Cox's (1993) summary that "while low levels of anxiety and fear may have a motivating effect, higher levels can impair task performance" also point towards a secure environment which stimulates but does not over-tax the worker as being most conducive to high performance, which is confirmed by the present research.

However, the findings have a more general relationship to the literature on management style which provides a useful context for further consideration of appropriate management approaches to project work within organisations. Chapter vii, *Motivation*, contains some discussion of McGregor's (1960) Theory X and Theory Y. Clearly, a management orientation which believes in the efficacy of threats to induce project management professionals to give their best performance is closely allied to McGregor's Theory X, whilst an orientation towards participation, involvement, communication, the encouragement of questioning, security, support and intrinsic satisfactions is highly consistent with Theory Y. It has been said that Theory X is self-fulfilling, in that it promotes employee behaviours which tend to confirm and reinforce the attitudes which underlie it, whilst the implementation of Theory Y as a management style, depending as it does upon a system of attitudes and assumptions on the part of the managers involved which would be practically impossible to operationalise, is almost untestable (Kennedy, 1991). The present research, however, has demonstrated clear associations between some of the components of Theory Y and improved work outcomes. This was not an explicit intention of the research and it would be an overstatement to argue that McGregor's theory had been fully supported by the findings reported here. There is, however, clear support in these findings for the practical economic value of a general Theory Y orientation.

Other management writers have propounded their own versions of management styles with a humanistic orientation, notably Likert's (1961, 1967) "System 4", which places some emphasis on group working and is therefore of particular relevance to team-based project work. Blake and Mouton's (1964) "Managerial Grid", which relates "concern for production" to "concern for people" in respect of leadership styles, has a logical dual maximum position of 9 on both axes in which the leader is concerned to promote "a high degree of participation and teamwork in the organization" and to satisfy "a basic need in employees to be involved and committed to their work" whilst maximising productivity (Northouse, 1997). Adair's (1983, 1990) "Action Centred Leadership" model also argues that concern for the task, the team, and the individual must be combined for maximum effectiveness.

The findings of the present research strongly support the orientations of these authors, whilst not necessarily addressing their detailed arguments. There is also support for other arguments found in the literature which are focused to a lesser extent on management style, but still rely in part on the commitment and participation of individuals for the optimisation of workplace outcomes. Examples of this include Senge's (1990) work on organisational and team learning, Deming's (1982, 1986) views on quality, Kanter's (1979) reasoning on power and influence in organisations, and Handy's (1990) position on the organisation as a community rather than simply the property of shareholders.

It may be seen, therefore, that the evidence which the present research has assembled is consistent with a developing theme in the scientific and management literature, which led to the theoretical propositions described in the preceding chapters. In essence, this theme strongly suggests that a stimulating but secure and open organisational climate, in which individuals feel valued and have real influence over matters which affect them, will be most conducive to operational effectiveness. The evidence from this study validates and confirms this theoretical position.

Contribution to knowledge

The significance of the present research is that it focuses previous research, scholarly debate and practitioner experience from a wide variety of different areas onto the specific issue of threat in workplace relationships involving a specific professional group, and then goes on to validate the emergent propositions of this process by reference to the workplace experience of representative individuals drawn from that professional group. In doing so, it increases understanding of organisational climate and its relevance to organisational success and provides considerable support for earlier humanistic approaches to management, applied in a contemporary context.

As a result of this research, guidelines can be established for organisational management wherever project work is considered as a means of implementing objectives. The ethical debate concerning appropriate management behaviour, discussed in more detail below, is also now better informed by the availability of research data on the association between management style and project outcomes.

Research design

The methodology adopted in this research may be justified by reference to Rose's (1982) criteria for validity, modelled graphically in Exhibit 36, below.

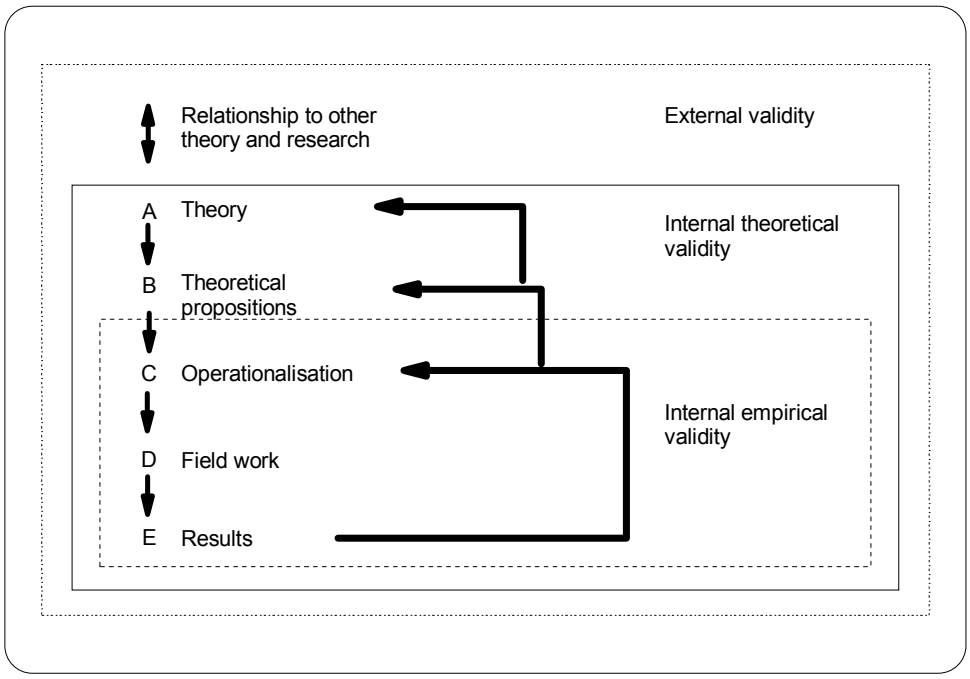


Exhibit 36 Criteria for research validity from Rose (1982)

In this model the "general implicit theory" of association between a low-threat organisational climate and project success leads to "specific propositions to be investigated in the study" (Rose, 1982). In Rose's model, validity is established by retracing the research process from E to C to B to A.. In the present context, it is possible to assert that the operationalisation was

adequate, valid and reliable because appropriate data was collected which enabled conclusions to be drawn and supported concerning all aspects of the enquiry. The open format of the data-collection method employed avoided significant researcher bias and most of the data provided was volunteered by informants with minimal prompting. In most areas of the study it is arguable that, because of the number and variety of informants, more data was available from which to draw conclusions than was strictly necessary; adding to the confidence with which the results may be regarded. Internal empirical validity is therefore apparent.

According to Rose (1982) “the inferences from C to B and to A are more general - they depend essentially on the logical and theoretical considerations involved in the operationalisation, and *not* on the data as such.” In the present case it may be seen from the arguments presented in chapter ix that the six theoretical propositions defined in that chapter represent specific factors within the implicit general theoretical position and are entirely consistent with that general implicit theory. The operationalisation enabled those propositions to be empirically tested, demonstrating in Rose’s terms that they were adequately testable and confirming both the internal theoretical validity of the research process and the consistency of validity across the boundary of internal empirical to internal theoretical validity.

Finally, the external validity of the research process is established by reference to the bodies of literature which were the original source of the defined propositions. The research design and implementation may therefore be seen to meet the criteria set out in Rose’s model. The research reported in this thesis may therefore be seen to have validity at all three of Roses’s validity levels; external, internal theoretical and internal empirical.

The choice of a phenomenological approach to operationalisation was explained and justified in Chapter x. Briefly, an approach was required which would enable the exploration of relationships between three complex, multivariate systems: organisational climate, the behaviour of the people involved, and the outcomes of projects. The extreme complexity of causal links between these multivariate systems led to the view that quantitative forms of enquiry would be impractical and to the decision to approach the study through “the set of *perceptions* experienced by the individual project management professional,” addressed by means of semi-structured interviews. This type of interview has the inherent weakness that it depends to some extent on the informant for its content. The interviewer can ask specific questions and guide the conversation, but in the end will only learn such information as the informant is willing to make available to a stranger and believes to be worth sharing. Because of this, not all informants provided information on every topic, although coverage was sufficiently comprehensive to be considered reliable.

Possible alternative approaches which were considered included the following:

1. An ethnographic approach, in which the researcher would have observed project management professionals in their workplaces over an extended period. The requirement for extended involvement, the suspicion that observation would not necessarily penetrate the perceptions of the informants and the probability that even several such studies would fail to

provide data which could with confidence be generalised to the wider population of project managers, made this option relatively unattractive.

2. Case studies were similarly rejected on the dual grounds of practicality, in this instance because of the difficulty of obtaining suitable cases, and generalisability unless a large number of cases were reviewed. This approach also was subject to doubt that the perceptions of the informants would be adequately represented.
3. Surveys, either remotely administered or conducted face to face, had more to recommend them in the present context, but were rejected on the grounds that a less structured approach would be more likely to gather the spontaneous feelings of informants.

The semi-structured interview approach may therefore be seen as satisfying Rose's (1982) requirement for internal empirical validity for the specific requirements of the present research

The sample population requires some consideration in this context. The study of threatening organisational climates is not ideally carried out in organisations which do not threaten their employees. Conversely, organisations which regard threat as legitimate or efficacious may not be the most amenable to expose their behaviour in this respect to visiting researchers. The population within which this research was eventually conducted must therefore be regarded as probably relatively low threat, at least in the perceptions of the senior managers who consented to their participation in the study. This orientation may be slightly modified because some of the informants discussed projects carried out in previous employment, and some others were themselves the 'gatekeepers' for their organisations in the sense that they were contacted directly, rather than through superiors.

This potential weakness in the research design has, in the event, proved to be a source of additional validity. The strong correlations observed within these, mainly, relatively mild examples of threatening climates demonstrate the validity of the research at each of Rose's (1982) levels.

Further research suggestions

The present research provides the basis for further exploration in several areas:

1. Team identity/distinctiveness has been associated to a limited extent in this research with project success. There is a need for better understanding of the nature of project team distinctiveness within the limits of compatibility with the wider organisation, of the mechanisms by which it may affect project outcomes, and of any boundaries beyond which its influence may become negative. In earlier examination of organisational culture arguments were documented that organisational culture has its origins in small group cultures. The influence that established organisations may have upon smaller groups subsequently formed within the wider organisational context, such as project teams, is an area worthy of further exploration to promote better understanding of project effectiveness.

2. Individual challenge has also been associated to a limited extent in this research with project success. The nature of such challenge, its relationship with goal-setting, intrinsic satisfactions, and social relationships, the mechanisms by which it influences project outcomes and any limits beyond which its impact becomes negative, are all areas where a better understanding could positively affect management policy and project outcomes.

3. Some forms of environmental threat, notably organisational change, uncertainty, and disruptive relationships at senior management level, have been shown in this research to be negatively associated with successful project outcomes. Other forms, such as senior management scrutiny, were found not to be regarded by many project managers as threats in the normal sense. Evidence concerning other forms of environmental threat was less clear. Further research focused more specifically on such threats as physical hazards, external commercial threats and resource conflicts would develop greater understanding of the nature and impact of these forms of threat, and provide the basis for developing management policy.

4. In the context of the examination in this research of the construct of voluntarism, reports of innovation were rather sparse [27% of informants mentioned this quality]. Further research is needed into the promotion of creativity and ideas in the project context, and the open communication channels which would enable innovation of this kind to become available to project and organisational managers.

5. Informants in this research expressed a variety of opinions about the efficacy of threat in promoting better performance. The evidence produced in this research has demonstrated that threat is negatively associated with project performance. However, the attachment to the contrary view of a significant number of informants [at least 36%] is in itself of interest, and suggests a need for further exploration of the extent to which this view is held, especially among senior managers and policy-makers.

6. The present research was carried out specifically in relation to project management professionals. Some discussion on generalisability is included below. However, there is a need to extend the research into other and wider organisational contexts. In particular, the applicability of the findings to non-management grades of employee would be an especially useful extension of knowledge in this area.

Implications for management practice

Effectiveness

The overwhelming weight of evidence in respect of workplace stress suggests that employees who are experiencing stress/strain will perform less well in a variety of ways than those who are not. Threat has been shown to be stressful. In fact, the term *threat* is often used in the stress literature as a synonym for *stressor*. The present research has confirmed this view in the context of project work. As a result of this research it is possible to describe an idealised

organisational environment within which project work is most likely to deliver successful outcomes to the greatest organisational benefit.

The characteristics of such an organisational environment are that it provides project personnel with security from external threats and does not encourage or permit purposive or coercive threats. It has a syncretic senior management team with clear objectives which supports and takes a constructive interest in the project. It facilitates a climate of free and open discussion, where policy can be questioned, ideas put forward and views expressed in safety. Project teams have their own character and identity but coexist comfortably with the ambient culture of the wider organisation. Team members participate fully in the definition of their goals and targets, which are sufficiently demanding to provide challenge and stimulation but are seen by all as realisable and desirable. Working on projects in this ideal organisation is found to be intrinsically satisfying, and financial and other extrinsic rewards are seen to be fair and liberal, within the constraints of sound organisational governance. Sophisticated and comprehensive feedback mechanisms ensure that the views of all stakeholders are available to the project team, before, during and after implementation, and project outcomes are clearly visible to all the participants.

It is not suggested here that most organisations can or should structure themselves or order their operations principally to maximise successful project outcomes, although there will be some organisations for which this is a realistic possibility. Some of the characteristics will certainly be difficult to attain in practice. For example, individual members of the senior management team will inevitably have their own priorities which will lead to different views being taken of the desirability of individual projects, making unified senior management support hard to achieve. This may mean that project appraisals have to include minimal concurrence criteria, and projects which do not enjoy adequate senior management support are rejected. Other characteristics are principally the natural outcomes of a “Theory Y” orientation, and can be achieved, even if imperfectly, if there is the will to do so.

The potential relationship of this ideal environment to successful project outcomes has been indicated by the present research, and it is here presented as a worthwhile, practical and feasible objective for all organisations engaged in project-based operations.

Ethical considerations

In an earlier chapter the issue was raised of whether improved performance would justify the effects on individuals of any negative effects attributable to the use of purposive threats or the existence of environmental threats. It has been shown that threats of all kinds are associated with raised stress levels, and it has also been shown that raised stress levels have physical and psychological sequelæ which may be injurious to health, in some cases very severely injurious. However, no human activity can be entirely risk-free, and some work-related risks are tolerated and, perhaps, willingly accepted by society, by organisations, and by individuals. As an example, driving is an activity which inevitably carries a greater risk of injury, including fatal injury, than most office or shop work (RoSPA, 1996), but full- or part-time driving jobs are

commonplace, and are essential in a modern economy. The risk to the individual job-holder is considered acceptable, subject to some safeguards, because of the economic value of the activity. This is a fairly simple application in the present context of the principles of utilitarianism advocated by eighteenth century philosophers such as Jeremy Bentham and John Stuart Mill (eg Bentham, 1789) and familiar in the modern commercial context as cost/benefit analysis. In the example under discussion here the cost in terms of suffering [ignoring economic costs] arising from the increased risk of accidental injury or death, is considered to be outweighed by the economic benefits of rapid and convenient transportation of personnel and goods.

The principle weakness of utilitarianism; that accurate calculation of all costs and all benefits arising from any action is probably impossible (Velasquez, 1998) hardly applies here because the risks arising from driving in the UK, although clearly greater than the risks of a substantially static but otherwise healthy activity, remain very modest, whilst the economic benefits which accrue from the activity of professional driving are clearly very great. Accurate calculation is irrelevant and unnecessary; the balance is clearly in favour of driving.

More difficult calculations would be involved in more dangerous occupations, such as mining, fishing, oil exploration, or construction work, all of which are considered acceptable forms of employment because of their economic benefits.

If it were possible to show that the application of purposive threats, and/or the toleration of environmental threat, could be associated with improved project performance, then the issue would have to be addressed of how much benefit might ensue from such improvement, and how much cost might ensue from the application or tolerance of threat; a difficult and perhaps impossible calculation to make. In the starkest terms it might lead to the assessment of percentage return on investment against the incidence of heart disease among project staff.

Ethical perspectives other than utilitarianism are possible in this context. The Kantian view would hold that it is morally wrong to use others merely as a means of advancing one's own interests and would require the initiator of an action to ensure that others affected by it had fully-informed freedom of choice (Kant, 1788). This does not preclude employment of others to perform dangerous occupations, but does preclude coercion and threat. The broadly humanistic perspectives on employment which have featured in academic thinking on management issues in the later twentieth century, from Herzberg through Maslow and McGregor to Schein, Kanter and Adair may be seen to be rooted in this basic "categorical imperative" (Kant, 1788).

Bottery (1992) poses the question

> "Should not ethical questions come before those of effectiveness? Would one want to countenance management methods ... which were effective but ethically unacceptable?"

The present research, by showing a clear association between successful project outcomes and a humanistic approach to management, relieves managers of the need to address this question, at least in the present limited context, and shows that there is no logical conflict between the Kantian moral imperative and economic prosperity. Thus the research, whilst not claiming to resolve the underlying ethical issue, makes it irrelevant to the specific workplace

situation investigated because an ethical orientation towards employees is seen also to be an effective management approach. A high quality of working life is shown to be fully compatible with economic success.

Issues of generalisability

The selection of a significant number of informants, drawn from a range of industry sectors, working on a variety of project types, and positioned at a variety of levels of seniority within their organisations, gives confidence that the findings of the research should be applicable to most project management situations. To this extent the research design supports the generalisation of the findings within the boundaries of this specific kind of work organisation. Consideration of the generalisability of the findings to other areas of management, and other categories of employee, requires two questions to be addressed:

1. Has explanatory theory been developed which transcends the contextual limits of the research population?
2. Is project management essentially different from other forms of organisational activity?

Clearly, if the first question can be confidently answered in the affirmative, then the second need not be addressed, and a negative answer to the second question has as an implicit corollary an affirmative answer to the first.

In Chapter iii and Appendix A a definition of the term *project* was proposed: 'a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality', and the designation *project manager* has been applied for the purposes of this research to 'anyone whose job or profession involves executive responsibility for projects or parts of projects'. The use of the terms *manager* and *executive responsibility*, as well as the characteristics of the research population, mean that it would be unsafe to generalise the findings of this study to include non-management grades of employee. This is a major restriction on the applicability of the findings and has been mentioned above as an area requiring further research. However, the compatibility of the findings with management approaches such as McGregor's (1960) Theory Y, described above, may indicate a probability that such further research would find that the underlying principles remained constant. Weight is added to this contention by the publication late in 1998 of a survey by consulting firm Deloitte Touche, which shows correlations between business growth and human resource management practices which foster involvement and participation (Deloitte Touche, 1998).

If, however, the generalisability of the findings is acknowledged as limited to individuals and groups with management-level responsibilities, then it is useful here to identify any significant differences between project management and what are often termed 'business as usual' or operational activities.

Clearly, such activities are not *unique* or *finite* undertakings. They are, on the contrary, ongoing. This is not to say that they do not consist of tasks or responsibilities which are themselves unique or finite. In fact, the essential difference for the individual employee between project and operational work may be simply that the tasks in operational work are likely to be repeated in the same context and for the same line managers with no clear end-point to the pattern of repetition. The distinction here appears to be more related to the organisation of the work than to the management of the individual.

That project objectives are to be *clearly-defined* has been shown by the present research to be an ideal which is often not attained. It would seem to be equally desirable for the objectives of operational work to be clearly defined, and this is a feature of most performance management models (Torrington and Hall, 1987). There appears to be no significant distinction here between the two forms of work organisation, except possibly the time-scales over which objectives are pursued which may be, but are not necessarily, shorter in project work that in operational work.

Projects involve *inter-related tasks or activities*, but it would be difficult to argue that operational work does not do so. The interactions and complexity of the tasks may be greater in project work, but this is not necessarily the case Similarly, operational work may very well require *the contribution of a number of people working co-operatively* for its successful implementation. In these respects the differences do not appear significant. Also, the characteristic of *centralised control* may be more apparent in operational management than in some forms of project organisation, especially where functional matrix or balanced matrix forms of organisation are in use (see Chapter iii).

The present research has shown that project outcomes are not always rigorously specified and that their parameters of *time, cost and quality* are not clearly defined in every instance. These characteristics of projects may, again, be seen as ideals. Operational work also has specific outcomes which are sought and parameters of time, cost and quality are often set. Timescales may be longer, but are not necessarily so.

These observations suggest that the one essential difference between project and operational work is that the project *as a whole* is regarded as unique and finite, which makes it possible to study projects as complete entities rather than as processes. If this is so, then an individual project may be seen as operational work in microcosm. This would reinforce the view that lessons learned in the project context have applicability to operational work. It becomes possible to observe in the delimited context of the project what *is* the case, and to surmise from this what *ought to be* the case in the wider operational context.

> "the study may be relatable in a way that will enable members of similar groups to recognize problems and, possibly, to see ways of solving similar problems in their own group" (Bell, 1987).

Summary

The present research represents a modest but clear extension of the available body of knowledge relating to organisational climate and project management, and provides a basis both for further academic research and for developing management practice.

Chapter XIV

CONCLUSIONS

This research continues a long tradition of exploration of the place of the individual in the work organisation setting, and especially of the effects of social factors upon the effectiveness of organisation members. The accretion of theoretical and research evidence to indicate that optimum performance, especially of high-discretion tasks, is seen when arousal levels are moderate, is consistent and compelling. From Yerkes and Dodson's (1908) finding that there is an optimum level of arousal for any task, which will be lower as the difficulty of the task increases, via Skinner's (1938) behavioural response research, through Selye's (1952) General Adaptation Syndrome, the theme continues on to the studies of arousal by McClelland et al (1976) and Bandura (1977a), and the work on the effects of fear and anxiety on task performance by Eysenck (1983). The link between stress, which may be seen to be a product of anxiety or unproductive arousal, and such attributes as creativity and commitment is summarised [and publicised] by Cooper (eg Talbot, Cooper and Barrow, 1992). The need for some level of personal control over events is a parallel theme which has been explored by Locke (1968) in the context of goal setting, by Lawler (1973) in the context of motivation and commitment and by Karasek and Theorell (1990) and Cox (1993) in the context of personal well-being.

The application of this tradition to organisational performance has been taken up by writers such as McGregor (1960), Likert (1961), Blake and Mouton (1964), Kanter (1979), Adair (1983), Senge (1990) and Handy (1990). The developing understanding of the contribution of the individual to organisational performance that emerges from this tradition indicates very clearly that organisations can expect to benefit from a concern for the well-being and, to apply an emotive term to a subjective construct, the happiness of their employees.

The present research may be seen in the context of this tradition; adding a little to what has previously been established and applying the findings to a specific organisational context.

The research has identified a variety of purposive and environmental threats perceived by project management professionals to affect them. Of these, threats to career were predominant among purposive threats and organisational change and uncertainty was the most significant form of environmental threat.

A widely-held view that threats of various kinds are justified on the grounds that they promote enhanced performance was reflected in the opinions of some of those who were themselves subject to such threats. This opinion was not supported by the evidence of project outcomes provided by the informants in this research. On the contrary, the fact that clear negative correlations were found between levels of purposive threat and project success, and between levels of environmental threat and project success, indicate that the reduction of threat should be a primary management objective. Evidence has been presented in this research to suggest that threat, uncertainty and unfairness are linked to stress and are antithetical to the well-being

of individual project personnel in a variety of ways. Arguments that such outcomes are unfortunate but unavoidable side-effects of a managerial approach which is necessary and justified on the grounds of efficacy have been shown to be without foundation by the clear negative correlations established between high threat and project performance.

A widespread concern for project performance was found among the informants in this research, which persisted in the face of high levels of threat, even when such threat was perceived to be unfair. This strongly suggests that threat is not only unhelpful but is also unnecessary. Project management professionals may be expected, on the basis of this research, to have a strong interest in the successful outcomes of their projects regardless, or indeed in spite of, the levels of threat which they experience. Management attention would therefore be more productively focused on creating the kind of organisational environment that has been shown to be conducive to successful project outcomes.

Project success has been shown to be positively correlated with the group of social attributes characterised as *voluntarism*. There is hard organisational benefit to be derived from active promotion of an organisational climate in which participants have maximum involvement in defining their own targets and goals, in which they feel free to question, challenge and contribute to the decisions of more senior people, in which their suggestions and ideas are actively sought and, once elicited, are valued and treated with respect, and in which intrinsic satisfactions are to be found. The expression of attitudes of mistrust for senior management or reluctance to assert views or proposals has been found to be inimical to the beneficial characteristics of voluntarism, and as such is negatively associated with successful project outcomes. It is clearly in the interests of organisations, through the behaviour of individuals in positions of influence, to dispel such attitudes and to promote their opposites.

It is clear that a supportive organisational environment is a key factor in successful project outcomes. This suggests that controversy, conflict or dispute at the senior management level about the desirability of a specific project, or about the project definition, is a contra-indicator for pursuing a project proposal. Organisational change and environmental uncertainty are also negatively associated with successful project outcomes and whilst these may not be directly connected to specific project proposals there is a strong implication that the timing of any project implementation should take such factors into account. Postponement or modification of the proposal should be considered in these circumstances.

The creation of a project team which has its own distinctive ‘feel’ and character, whilst not being so different from the wider organisation as to cause conflict, has the potential to improve project performance and to be a source of intrinsic satisfaction to the participants. There is a delicate balance to be achieved here but the evidence of this research suggests that it is a worthwhile objective for the project manager to pursue.

Specific psychological and behavioural responses to specific external stimuli have been shown to be difficult to identify or substantiate in this research. This is consistent with the view established in Chapter ii that that *the complexity of the interactions between these elements,*

which are themselves composed of lower-level elements, will make it impossible to predict outcomes mechanistically. However, clear patterns have emerged which do indicate relationships between tendencies in organisational climate and project outcomes.

The strong negative correlation demonstrated in this research between a broadly-based index of threat in organisational climate and a similarly broadly-based index of project success indicates clearly that a low-threat, secure and stable environment in which individual contribution is maximised within a distinctive team culture offers the optimum environment for successful project outcomes.

Projects are undertaken within a context of organisational activity. For the most part, any individual project is likely to represent only a small proportion of such activity and it is unrealistic to expect that most organisations can or will structure themselves and order their operations to optimise individual project outcomes. However, the present research provides an ideal; a broad description of an optimum organisational environment for project work. It is open to organisational managements, whenever a choice of alternative actions is available, to choose that option which moves their organisations towards, rather than away from, this ideal. The impact on project effectiveness of each such choice may in many cases be modest. Sometimes it may be very significant. In most cases, though, the impact is likely to be positive. Applied consistently, the management orientations suggested by this research may be expected to lead to more effective project delivery, more satisfied and fulfilled project managers, and more successful organisations.

APPENDIX A

Definition of the terms "project" and "project manager"

The stated focus of this research is on project managers. This term presents problems of definition which must be dealt with in order to define the research universe.

The first difficulty is in what constitutes a project. The representative body for the project management profession in the UK, the Association For Project Management [APM], has "no official definition of the term" (Heath, 1995), although a form of definition is contained within the APM's *Body of Knowledge* (1995), the reference document for those aspiring to professional certification by the Association. Most writers on the subject find it necessary to provide a definition or listing of characteristics of a project, or project manager, or project management, in order to set their remarks in context.

To provide an authoritative definition of the work-area of the focus population, a total of 49 such definitions were collected from a wide variety of texts, company guidance documents, journal articles and training material. A full verbatim listing of the definitions collected and their sources is shown at the end of this appendix. The content of the definitions was then analysed. The results showed that the following characteristics of a project received mention by a significant proportion of sources, using the same or closely equivalent wording:

Characteristic	Times mentioned	Examples of terms used
Definition of objectives	35	definite objectives; finite; goal-directed; specific task; limited scope.
Definition of completion time *Often linked to* Definition of starting point	34 22	Defined end-date; defined time-frame; specified completion time; defined start and end points; a beginning and end.
Uniqueness	33	Non-repetitive; unique; one-time; one-shot; non-routine; separately-identifiable; no practice/rehearsal; risk; uncertainty.
Complexity of component tasks	29	Connected activities; sequenced activities; clear, manageable steps; integrated; complex; sub-tasks; inter-related; co-ordinated.
Diversity of contributors	20	Team of people; ad hoc team; co-operative enterprise; cross-functional; cross-divisional; variety of skills/ resources.
Finity of resources	20	Limited/specified resources; funding limits; budgets; specified costs.

Centrality of control	17	Central direction; one person's responsibility; organised; co-ordinated; planned; special skills/ techniques; client/customer.
Product specification	13	Specified quality; specification; end product; time, cost and quality.

This enables the following definition to be constructed:

A *project is a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality*.

However, although this definition may adequately define project work, it only partially addresses the difficulty in identifying a project manager. To define this term simply as "the person with overall responsibility for the execution of a project" would be unsatisfactory because of the difficulty in generalising the project definition. This problem can best be understood through the concept of the Work Breakdown Structure [WBS], a device commonly used throughout project work for planning and for subsequent reporting. (See, for example, Harrison, 1992; Lock; 1992 or Reiss, 1992).

The WBS is a hierarchical breakdown of all the work required to complete the project. Starting with a description of the whole project, subdivisions are made into meaningful sections, for example, specific kinds of work, or perhaps geographical sectors. Lockyer and Gordon (1996) suggest that:

> "Common ways are by division of the product into major components which are then split into sub-assemblies and so on down to components, by a functional breakdown or by cost centre code. The way chosen is usually related to the type of project and the industrial or public sector in which it is taking place."

Further logical subdivisions may be made "explod[ing the WBS] into increasingly finite, measurable tasks and sub-tasks" (Kliem and Ludin, 1992) until, at the "bottom" of the structure, work packages can be defined which specify tasks to be undertaken, together with relationships with other tasks and a variety of detailed information about timescales, deliverables, costs and resource needs. Harrison (1992) describes the WBS as "a method of project organization, planning and control, based on 'deliverables' rather than simply on tasks or activities". Morris (1994) asserts that "it is fundamental to project control" because

> "without a WBS it is difficult to communicate a clear view of the total scope of the project and to organize the various project data in a consistent way".

A WBS is often represented graphically, as in Exhibit A*i*, below.

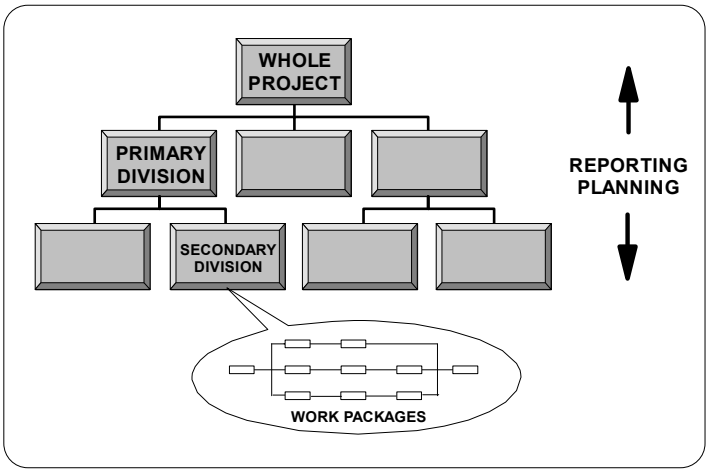


Exhibit A*i* Work Breakdown Structure [WBS]

During the life of the project, the WBS can be used as a model for reporting progress, since each of its elements represents a summary of all the work below it in the hierarchy. Costs incurred and objectives realised may be aggregated and reported against the higher level, enabling management of the overall project without excessive detail.

In a complex project there may be several levels in the structure before work packages are defined, and it may be appropriate for the work packages themselves to be sub-divided to provide a level of detail which would be inappropriate when considered from the whole project viewpoint. A further complication may be introduced if the project forms part of a "programme", defined by Ferns (1991) as:

> "A group of projects that are managed in a coordinated way to gain benefits that would not be possible were the projects to be managed independently".

The various levels in this structure, including the work packages, display a high degree of self-similarity, that is, "differences between them are purely matters of scale and scale is wholly relative" (Gray, 1997). Work packages are very likely to be managed as though they were projects, sub-divided into lower-level tasks or activities with a number of individuals taking responsibility for the implementation of the component elements. A person responsible for any one of the elements of the WBS, at any level, may regard the scope of his/her responsibilities as a project, and the manager of a project which is part of a programme may be constrained in the latitude he/she has to manage idiosyncratically. The potential complexity of major projects is "horizontal" as well as "vertical". Harrison (1992) alludes to the need for coordinated management:

> "More and more undertakings are involving multiple disciplines and/or multiple companies for their completion. If these undertakings are to be completed successfully, the individual disciplines and companies can no longer take a blinkered, parochial approach and be managed as separate entities. They are inevitably interdependent and interact, and therefore require integration into one project organization.
>
> Project management provides the means for this integration, the forms of

> organization which span multi-discipline and multi-company activities, and the management systems designed to cope with this situation and the problems involved."

The involvement of contributions from people with differing reporting or management lines, gives considerable scope for overlap or duplication of roles:

> "The project ... could be of such importance and complexity that each of the ... organizations [involved] would need to appoint its own project manager. The roles of these project managers will not be identical, owing to the division of work and responsibilities, and to the particular roles and functions of the different organizations." (Young, 1994).

Harrison (1992) observes that “there are often two levels of project manager”: the overall manager of a multi-company or multi-discipline project, and managers of individual companies or disciplines within the project. Corrie (1991) complains that

> "The term 'project manager' has become overworked - each participating party may have one or several persons so titled, who may only be responsible for certain elements."

Thus it can be seen that to define the term *project manager* only against a benchmark of responsibility for a project is unduly restrictive, since it limits the role to current assignment and not to the nature of the work performed. In addressing this difficulty in another context Gray (1997) has used the term “project-type work activity [*pwa*]” to embrace a documented responsibility which complies in general terms with the criteria for a project but may in a specific case be situated at any level in the WBS.

The project managers on which this research is focused are therefore managers who are, or have been and may be again, personally accountable for a project-type work activity [*pwa*].

Definitions of the term "project" found in the literature

Definition	Source
Any undertaking that has definite, final objectives representing specified values in the satisfaction of some need.	Davies (1951)
Encompasses the production of an identifiable non repetitive item, large or small in scope, under conditions of technical uncertainty, and to be completed at a specific time.	Steiner & Ryan (1968)
A group of connected activities with a defined starting point, a defined finish and need for central intelligence to direct it.	Taylor & Watling (1973)
One-time and largely unique efforts of limited time duration which involve work of a non -standardized and variable nature	Clough & Sears (1979)
An enterprise involving a number of inter-related activities (which) may be performed by a number of different departments or divisions within a company, or by sub contractors	Staffurth (1980)
A complex of non routine activities that must be completed with a set amount of resources and within a set time interval	Gray (1981)
A one shot, time limited, goal directed major undertaking, requiring the commitment of varied skills and resources.	Stuckenbruck (1981)
A complex effort to achieve a specific objective within a schedule and budget target, which typically cuts across organizational lines, is unique, and is usually not repetitive within the organization.	Cleland & King (1983)
A complex system of resources managed to achieve a specific objective within schedule and budget targets. The management of a project usually cuts across organizational lines; projects are unique and usually not repetitive in the same form within an organization.	Kerzner & Cleland (1985)
Á one-time endeavour by people to do something that has not been done that way before.	Smith (1985)
A human endeavour which: creates change, has composite goals and objectives, is unique, is limited in time and scope, involves a variety of resources, with different skills, responsibilities and competence.	Andersen, Grude & Haug (1987)
Any endeavour that has a recognisable beginning and end, can be divided into manageable tasks, requires discrete and identifiable resources for execution, produces a tangible end product(s) and can be managed by setting objectives, organising the execution of work, measuring performance and acting upon results.	Branton & Butler (1987)
[A] unique endeavour ... formed to achieve specific objectives and ... carried out in an atmosphere of risk and uncertainty ... [its] management call[s] for special skills and techniques.	Open University (1987)
A complete sequence of tasks that has a definite start and finish, an identifiable goal and entity, and an integrated system of complex but interdependent relationships.	Lock (1987)
A cycle of activities with the purpose of supplying, within definite starting and completion dates, a unique product, service or set of information to a specifiable quality and cost.	Lock (1987)

They are goal oriented ... involve the coordinated undertaking of interrelated activities ... are of finite duration, with beginnings and ends ... are each to a degree, unique	Davidson Frame (1987)
A human endeavour which creates change; is limited in time and scope; has mixed goals and objectives; involves a variety of resources; and is unique.	Anderson, Grude, Haugh & Turner (1987)
A group of related tasks (or activities) which together satisfy one or more objectives.	House (1988)
Has a start and a finish ... a time frame for completion ... a unique one-timeness ... an involvement of several people ... [is] on an ad hoc basis ... [uses] a limited set of resources ... [involves] a sequencing of activities and phases	Randolph & Posner (1988)
An enterprise involving a number of interrelated activities with a defined objective, or set of objectives.	Miller (1988)
A specific task to be completed to a specification within an agreed time and an agreed budget.	BP (1989)
Any series of activities and tasks that: have a specific objective to be completed within certain specifications, have defined start and end dates, have funding limits (if applicable), consume resources (ie, money, people, equipment).	Kerzner (1989)
A co-operative enterprise, often with a social or scientific purpose but also in industry, etc.	OED (1989)
A plan, draft, scheme or table of something; a tabulated statement; a design or pattern according to which something is made.	OED (1989)
An undertaking to achieve specific objectives in a certain time	O'Neill (1989)
... built around the cornerstone of accomplishing goals. The setting is generally complex and constrained by time, involving different groups and various technologies.	Dinsmore (1990)
Planned developments requiring the performance of organized tasks and use of organized resources in their accomplishment	Frankel (1990)
Involves a single, definable purpose, end product or result, usually specified in terms of cost, schedule and performance requirements.....cut (s) across organizational lines.....is unique...involves unfamiliarity.....(is a) temporary activity.....is a process of working to achieve a goal.	Nicholas (1990)
A piece of work with particular characteristics - a specific objective, a beginning and an end, and a series of linked activities in between.	Cooke-Davies (1990)
A one-off activity rather than repetitive, routine work, which delivers a specified requirement or set of requirements to a customer, requires a number of related activities to complete it, requires a team of people to bring it to a successful conclusion and has a defined start and end point.	Adapted from BT (1992)
A separately-identifiable activity with its own start and end date, and a definite goal or set of goals, involving a complex set of integrated tasks and organised relationships, re-acting with its environment and needing co-ordination which is distinct from normal functional management.	Saunders (1992b)

The principal identifying characteristic of a project is its novelty. It is ... fraught with risk and uncertainty. No two projects are ever exactly alike.	Lock (1992)
Is an instrument of change Has a clearly identifiable start and finish Has a specific aim Results in something being delivered Is unique Is the responsibility of a single person or body Involves cost resources and time Uses a wide variety of resources and skills	Brown (1992)
Any series of activities and tasks that have a specific objective to be completed within certain specifications, Have defined start and end dates Have funding limits (if applicable) Consume resources (i.e. money, peoples' time , equipment.)	Harrison (1992)
Has complex and numerous activities (is) unique a one-time set of events (is) finite - with a beginning and end date (has) limited resources and budget (has) many people involved, usually across several functional areas in the organizations (has) sequenced activities (is) goal oriented (An) end product or service must result	Weiss & Wysocki (1992)
[Has] a unique, one time, focus A specific end result A start and a finish A time frame for completion An involvement of an ad-hoc, cross-functional group of people A limited set of resources [Involves] a sequencing of interdependent activities [Has] a clear user (client, customer) of the results	Randolph & Posner (1992)
Any endeavour with a defined starting point and defined objectives by which completion is identified. In practice, most projects depend on finite or limited resources by which the objectives are to be accomplished.	Project Management Institute [USA] quoted in Harrison (1992)
A human activity that achieves a clear objective against a time scale. Projects nearly always have the following characteristics: one clear objective, a fixed time scale, a team of people, no practice or rehearsal, change.	Reiss (1992)
A commitment to produce a specific result by a specific date and time, with the necessary actions broken down into clear, manageable steps	Lovejoy (1993)
A sequence of related tasks or activities undertaken for the purpose of supplying, within definite start and completion dates, a unique requirement, or set of requirements, to a specified quality, cost and time.	BT (1994)
Requires a team of people, contains a number of activities, has a financial element, has its own time scale with start and finish dates, has its own unique objectives and is a sub-set of the company's business.	Open University (1994)
Work that has a beginning and an end	Burton, with Michael (1994)
An organised endeavor aimed at accomplishing a specific non routine or low volume task.....may take significant amounts of time and ..... are sufficiently large or complex to be recognized and managed as separate undertakings.	Shtub, Bard & Globerson (1994)
A discrete undertaking with defined objectives often including time, cost and quality (performance) goals ... recognised start and finish points ... goals are defined and the project is finite.	APM (1995)

All projects involve people.....are, in some way, unique.....exist for a limited and defined period of time....are primarily concerned with change....have defined outcomes or targets....are undertaken by the use of a variety of resources.	Baguley (1995)
A specific, finite task ... usually a one-time activity with a well-defined set of desired end results. It can be divided into subtasks ...[which] require careful coordination and control in terms of timing, precedence, cost and performance.	Meredith & Mantel (1995)
A unique set of co-ordinated activities with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined schedule, cost and performance parameters.	BS 6079 (1997)
A unique process, consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including the constraints of time, cost and resources	ISO 10006 (1997) [draft]

APPENDIX B

The psychological contract

The term *psychological contract* has become part of management and organisational vocabulary over recent years. Rousseau (1995) defines it as “individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization”, and Schein (1980) regards it as “a powerful determiner of behavior in organizations”, although it “remains unwritten”.

There is general agreement in the literature that although the term “contract” is quite legitimate usage here, the psychological contract is a special kind of contract for several reasons, not least that “the essence of the psychological, as opposed to the economic, contract is that the expectations concern non-tangible, psychological issues" and is “to a large extent informal, and implicitly rather than explicitly understood. It is, therefore, essentially subjective" (Makin, Cooper and Cox, 1996).

Rousseau defines four types of contract: Psychological contracts are "beliefs that individuals hold regarding promises made, accepted, and relied on between themselves and another [employee, client, manager, organization]". Implied contracts are- "interpretations that third parties [eg, witnesses, jurists, potential employees] make regarding contractual terms." A normative contract is the "*shared* psychological contract that emerges when members of a social group ... , organization ... , or work unit ... hold common beliefs" and social contracts are "broad beliefs in obligations associated with a society's culture" or “*social contracts* are cultural, based on shared, collective beliefs regarding appropriate behavior in a society”. It can be seen that the concept of a social contract within Rousseau’s definition has implications for individual behaviour in the organisational context, and has much in common with definitions of culture discussed earlier.

Makin Cooper and Cox (1996) argue that an essential feature of all contracts is that they involve *exchange*. This is consistent with what Rousseau (1995) describes as a “universal norm ... of reciprocity”.

> This ancient and pervasive cultural belief has two minimal demands: People should help those who have helped them and should not injure those who have helped them ... . This norm in effect requires the recipient to be grateful to the giver until repayment is made. Thus, both prosocial activities [giving, helping, supporting] and exchanges can create obligations between work groups or within organizations."

Exchanges of this type are not necessarily easy to define or quantify, however:

> "Economic exchanges ... are usually extremely formal and specific. Costs and benefits can be quantified, and are equated one to the other. In addition, they can be openly discussed and indeed may be made legally enforceable through formal procedures. Social exchanges, on the other hand, are far more complex and diffuse, and are generally not enforceable by law. This is not to say, however, that

> a form of contract does not emerge informally. It is apparent, therefore, that the concept of social exchange can be seen as a major contributor to the concept of the psychological contract" (Makin, Cooper and Cox, 1996).

Arnold (1996) makes very similar assertions:

> "Transactional contracts focus on material rewards, are short term or at least time limited, relatively narrow in scope, and publicly observable. ... Relational contracts ... focus on intangible as well as material rewards, are indefinite, wide-ranging, and subjective to the parties involved. Based on social exchange, these contracts involve long-term obligations based upon trust."

Rousseau defines the psychological contract as “an individual's belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party” (Robinson and Rousseau, 1994).

> A psychological contract emerges when one party believes that a promise of future return has been made [eg pay for performance], a contribution has been given [eg some form of exchange] and thus, an obligation has been created to provide future benefits. ... It is comprised of a belief that some form of a promise has been made and that the terms and conditions of the contract have been accepted by both parties".

If the term psychological contract is taken to refer specifically to some form of exchange agreement between an individual and an organisation, the issue must be confronted of “who can create a contract with another?” (Rousseau, 1995) and “exactly who constitutes ‘the organization’ as a party to the ... contract?” (Arnold, 1996). Rousseau answers the first question broadly:

> “From the vantage point of a psychological contract, any person who conveys some form of future commitment to another person is potentially a contract maker. Organizations become party to psychological contracts as principals who directly express their own terms or through agents who represent them."

but Arnold foresees potential difficulties developing over time:

> “One constituency, or even one person, may be responsible for defining [or failing to define] the mutual expectations at the recruitment stage, while other constituencies or other persons may subsequently be responsible for meeting the expectations of an individual or of the original recruiter."

Rousseau (1995) also argues that psychological contracts

> “have the power of self-fulfilling prophecies: They can create the future. People who make and keep their commitments can anticipate and plan because their actions are more readily specified and predictable both to others as well as to themselves."

However, the rational element of predictability is not the only consideration in the concept of the self-fulfilling prophesy. The power of one party’s expectations has been shown in experiments to exercise very tangible influence over the behaviour of other parties. Rosenthal and colleagues (Rosenthal and Jacobsen, 1968) found, initially, that identical groups of rats produced different levels of performance in experiments depending on what the experimenters had been told about them. They extended their research to school children, randomly choosing

one child in five and informing teachers that the selected children were “academic spurters". The selected children were found after a year to have added twenty-two points to their IQs. Wheatley (1994) applies this principle to the organisational setting:

> "It is common to speak of self-fulfilling prophesies and the impact these have on the people we manage. If a manager is told that a new trainee is particularly gifted, that manager will see genius emerging from the trainee's mouth even in obscure statements. But if the manager is told that his or her new hire is a bit slow on the uptake, the manager will interpret a brilliant idea as a sure sign of sloppy thinking or obfuscation".

Kanter (1977) refers to the impact of opportunity in organisations. She describes how "the anointed" - high fliers in organisations, progress because others expect them to do well, and place positive interpretations on their actions. They are given enhanced opportunities and increased resources, and are observed in the expectation that they will succeed - which they often do.

Rousseau (1995) outlines some "basic social findings relevant to contracts”. The first of these is “*Voluntariness*: No one can be forced to make a contract. Commitments must be freely made. Voluntariness promotes contract fulfilment”. This is also regarded as a key attribute of contracts by Makin, Cooper and Cox (1996), who argue that "they are also characterized by being, in theory at least, negotiable and entered into quite freely". This is a vital aspect, indeed a *sine qua non*, of any contract:

> "Contracts arise when people believe themselves to have choice in their dealings with others. Commitments obtained by coercion are not legally binding ... . Contracts are made when we surrender some of our freedom from restrictions in exchange for a similar surrender by another. But by giving up something voluntarily, each gets more than might be possible otherwise" (Rousseau, 1995).

Rousseau defines other attributes of contracts as:

> “*Incompleteness*: Due to bounded rationality, it is virtually impossible to spell out all details at the time a contract is created. People fill in the blanks along the way, and they sometimes do so inconsistently.
>
> *Reliance losses*: Because contracts are created to benefit their parties, changes can create losses. Contract-related activities focus largely on reducing losses.
>
> *Automatic processes*: Once contracts are established, they create enduring mental models that resist change. Mental models can actually keep people from noticing changes that do occur."

If it is accepted that psychological contracts do legitimately qualify as contracts within the broad meaning of the word, some examination is required of the process by which they become established in the organisational setting. Rousseau (1995) observes two sets of processes at work here; firstly, "external messages and social cues [offering expressions and interpretations of the firm's future intent]” and secondly “individual cognitions and predispositions [what messages she receives, her interpretations, and her own personal style of processing this information]". Because “the ecology of contracts means that all behavior is relative to the setting in which it occurs” these processes are governed, or heavily influenced by context. “Promise

and commitment have no universal meaning but take on a character influenced to a great extent by the setting in which they occur" (Rousseau, 1995). This is regarded as highly significant by Makin, Cooper and Cox (1996).

> "situation appears to have far more influence over people's behaviour than does their personality. Similarly with attitudes; people's attitudes tend to be determined to a large extent by their experiences. This is a fairly positive conclusion from the organization's point of view. If behaviour is influenced, and attitudes formed, by experiences then they can be changed, for better or worse, by the organization's actions.
>
> Of particular importance will be the roles that the organization requires people to fill, and the norms within which it operates. Indeed ... the psychological contract is largely concerned with these normative factors - how people expect to be treated. In particular, important aspects of organizational commitment are influenced by the extent to which people's expectations are met, especially during the early stages of their time with the organization."

The psychological contract is thus regarded as a developing product of interaction, which is “not made once but rather it is revised throughout the employee’s tenure in the organization” (Robinson and Rousseau, 1994), rather than a fixed, referenceable agreement.

> "Psychological contracts differ from employment contracts because they focus upon a dynamic relationship that defines the employees' psychological involvement with their employer. The actions of both parties mutually influence the psychological contract. For example, high company expectations about what employees should contribute to the company can produce increased individual performance: when individuals perform at a high level, they come to expect more than just a paycheck. They may also expect job security, respectful treatment, and challenging jobs and training that will help them develop and grow" (Kolb, Rubin and Osland, 1995).

Makin, Cooper and Cox (1996) believe that “work in organizations would become more effective if the psychological contract was clarified and agreed in much the same way as is the legal contract”. This is because

> "a key feature of the psychological contract is that the individual voluntarily assents to make and accept certain promises as he or she understands them. It is what the individual believes he or she has agreed to, not what that person intends, that makes the contract. ... Typically, two people have somewhat different interpretations of terms ... . Nonetheless, in each individual's psychological contract there is a *perception* of agreement and mutuality, if not agreement in fact" (Rousseau, 1995).
>
> "Each party believes that both parties have made promises and both parties have accepted the same contract terms. However, this does not necessarily mean that both parties share a common *understanding* of all contract terms" (Robinson and Rousseau, 1994).

Clearly, different understandings by the parties involved have the potential to create conflicts and resentments when expectations are not fulfilled. The reduction of these discrepancies of perception by “creating a normative contract is part of developing a stable culture” (Rousseau, 1995). This allows employees to make reasonable predictions about the nature of the exchange in which they are to participate:

> "The choices people make in taking a job or planning their retirement, purchasing a product, or commissioning a service all involve some understanding of promises made by employers, product makers, and service givers.
>
> Nonetheless, it's common to think that corporate turmoil and economic competition have made loyalty, trust and commitment things of the past. Employees are told to 'pack their own parachute' ... and corporate attorneys advise their clients to avoid making any statements that might be construed as a promise of long-term employment. Yet the movement toward strong corporate cultures and escalating interdependence belies claims of contract avoidance" (Rousseau, 1995).

Rousseau asks “what leads individuals to interpret organizational actions as promissory?” and “how can organizations frame their actions so that employees will understand what is intended or promised?” She identifies “overt statements” and “expression of organizational policy” such as “manuals, handbooks, compensation systems, and other personnel/human resource-related structures” but also “o*bservation* of treatment of others perceived as party to the same deal” and “*social constructions* - references to history or reputation" as contributing to the perceptions formed by individuals. She argues that

> “a basic concern with encoding events as promissory is whether the individual receives and recognizes a message. For individuals to attribute a credible or intended promise requires that the contract maker
>
> 1. be perceived as having power, authority, or capacity to make that commitment,
> 2. operate in a context where promise making is deemed appropriate,
> 3. behave in ways consistent with the commitment made."
>
> (Rousseau, 1995).

Kessler and Undy (1996) raise doubts about the capacity of managements to deliver their side of the bargain in current circumstances:

> "Employees trust and identification with the organisation are predicated upon reciprocity and yet managerial inability to control the external environment which threatens employment raises questions about their ability to deliver their side of the psychological contract. This in turn raises questions about organisations' ability to achieve key objectives related to product and service delivery."

Hallier and Lyon (1996) identify loyalty and flexibility as employers’ requirements of employees as part of the contract, to which Guest et al (1996) and others would add working harder, or at least longer, than the formal contract of employment demands. In return, employers provided security:

> "In the past, the cost to the employer ... was relatively high job security for employees. In particular, commitment from managers often required superior employment protection, planned career opportunities and high levels of pay. But his 'psychological contract' is now under threat as changes within the economy and organisational culture makes managers' jobs less secure" (Hallier and Lyon, 1996).

Guest et al identified a number of reasons why employees would work hours beyond those required by their formal contracts, which showed that the overwhelming reason was “feel obliged in order to get the work done” cited by 57% of respondents. This suggests an acceptance by employees of inadequate staffing levels, but apparently direct concerns about

losing jobs if the extra work was not done were cited by only 3% of respondents. Kessler and Undy ask "will employers increasingly see employees as no more than temporary stakeholders in their success, yet require no holding back of effort, initiative or commitment?" implying a one-sided intention to honour psychological contracts.

Makin, Cooper and Cox (1996) point out that, whilst "the formal contract of employment is, generally speaking, fairly stable" the psychological contract is in a "constant state of change and revision; ... virtually any change in the way work is organized, either physically or socially, will have an impact on it". Also, the "implicit mutual expectations and obligations" covered by the psychological contract tend to spread out to "cover more and more of the relationship between the employee and the organization" as people spend longer with an organization. Robinson, Kaatz and Rousseau (in Robinson and Rousseau, 1994) examined the ways in which psychological contracts change over time. "They found that during the first two years of employment, employees came to perceive that they owed less to their employer while their employer owed them more".

If an unwritten, and often unspoken, agreement is subject to change in these ways, then, as Arnold (1996) maintains, "clearly, the implicit nature of the psychological contract leaves scope for interpretation concerning whether or not it has been broken". Rousseau (1995) claims that "we know a contract has been kept when neither party is surprised by the behavior of the other". Conversely, "a violation occurs when one party in a relationship perceives another to have failed to fulfil promised obligation[s]" (Robinson and Rousseau, 1994). Robinson and Rousseau go on to argue that

> "since contracts emerge under assumptions of good faith and fair dealing ... and involve reliance by both parties on the promises of the other, violations can lead to serious consequences for the parties involved."

Rousseau (1995) explores the topic of psychological contract violations in more detail:

> "It is our thesis that experienced violation occurs when failure to keep a commitment *injures* or causes damages that the contract was designed to avoid. Failure to keep commitments can be based on opportunism, negligence, or failure to cooperate. *Opportunism* is active, self-serving behavior by one party at the expense of another [eg, quitting an employer with whom there was an agreement to stay]. *Negligence* is more passive than opportunism, involving failure to perform specified responsibilities ... In situations where the long-term nature of the relationship between the parties makes exit costly, violations arise not just because of specific terms but from breaches of good faith that jeopardize the relationship itself. Such breaches of good faith are *failure to cooperate*. Based on norms regarding good faith and fair dealing, failure to cooperate involves behavior that undermines the ability of the parties to maintain their relationship".

Longitudinal research by Rousseau (in Robinson and Rousseau, 1994) on MBA graduates found that 55% reported that the employer had violated the psychological contract in some way, predominantly in respect of training/development, compensation, and promotion, although "this study focused solely on MBA graduates and hence, care must be taken when generalizing these results to other employee populations". Rousseau regards these results as important

because she found that “careerism moderated the relationship between violations and trust”, which suggests that “the employees whose trust was most affected by violation were those planning to build a career with their employer; employees whose trust the firm should value most”.

Rousseau (1995) lists the circumstances in which contract violations are most likely to occur:

> “There is a history of conflict and low trust in the relationship
>
> Social distance exists between the parties such that one does not understand the perspective of the other.
>
> An external pattern of violations exists [eg, an era of business retrenchment].
>
> Incentives to breach contracts are very high or perpetrators perceive themselves to have no alternatives [eg, organizational crises].
>
> One party places little value in the relationship [eg, alternative parties are relatively available and there are few sunk costs”.

Rousseau identifies “the factors that reduce experienced violation” as including “strong relationships ... frequent interactions [and] sacrifice and other previous investments that serve to bind parties to each other." This is confirmed by Makin, Cooper and Cox (1996) who argue that

> “long-standing and close relationships can tolerate considerable periods when one partner is continually giving, while the other is only receiving. [In fact, one way to tell when a relationship is under stress is when the time scale over which the 'balance sheet' is balanced, shortens. In such situations the participants begin to expect almost immediate repayment of favours done ...]."

Incremental changes may pass almost unnoticed but over time have the power to alter perceptions of the way that the psychological contract is being fulfilled or violated. Kessler and Undy (1996) conclude from the IPD survey by Harris and Templeton College that

> “working harder did not in many cases directly produce a commensurate increase ion pay, although it may, of course, have affected job security. So it seems reasonable to assume that the above general experience of work probably affected employees' psychological contracts adversely, rather than positively. If expectations between employee and employer as to what constituted a fair effort-reward exchange had been in equilibrium at the time of the initial contract, or even five years previously, it is fairly certain that, for most employees, it had moved out of equilibrium by the time of our survey and reduced employees' collective power, making it difficult for them to resist such changes. Therefore increased powerlessness ran parallel with less favourable terms of employment so damaging the psychological contract."

Hallier and Lyon (1996) report feelings of bitterness on the part of managers declared redundant, who

> “found themselves reappraising their long-standing relationship with the company. For many, career and company were one and the same. They had worked under pressure for long hours and had sometimes travelled extensively in return for a salary, career progress, employment security and esteem.

Arnold (1966) believes that

> "in fact, it looks as if individuals try quite hard to convince themselves that their employers have acted unreasonably and dishonourably. This highlights the possibility [or probability] that not only is the content of the psychological contract in the eye of the beholder, but so is the detection of its violation and the interpretation of the causes of violation."

and cites research evidence from several sources to argue that

> "employees are not impressed by what they see as the arbitrary and often unjust way in which changes have been made. Their response is to get out, get safe [by keeping their head down] or get even [by psychological withdrawal or even sabotage]. None of these strategies is likely to serve organizational interests, particularly as the limits of cost-cutting are reached and the need for innovation and team-working becomes apparent."

Robinson and Rousseau make a distinction between contract violations and mere “unfulfilled expectations”, arguing that responses are likely to be more intense in the former case than in the latter, largely because additional factors are present:

> “The intensity of the reaction is attributable not only to unmet expectations of specific rewards or benefits, but also to more general beliefs about respect for persons, codes of conduct, and other patterns of behavior associated with relationships."

Arnold (1966), though, “is not aware of any research that has directly tested the added impact of broken [or indeed kept] promises over and above the more neutral met and unmet expectations”.

Several writers argue that the state of the psychological contract has direct implications for organisational performance. Guest et al (1996) found that “a positive psychological contract is strongly linked to higher commitment to the organisation, higher employee satisfaction and better employment relations" and is therefore “worth taking seriously”. Kessler and Undy (1996), expressing "significant doubts about the health of the psychological contract” on the basis of their research, conclude that

> “the breakdown in reciprocity highlighted has clear implications for staff morale and commitment which in turn raises question marks about the ability of organisations to pursue key objectives related to product and service delivery effectively."

On the basis of the Harris survey [discussed above] Guest et al (1996) believe that

> “the core of the psychological contract can be measured in terms of fairness of treatment, trust, and the extent to which the implicit deal or contract, reflected in a set of mutual obligations and in some sort of exchange, is perceived to be delivered”.

They have produced a model of the associations, arrived at through multivariate statistical analysis, between the “causes, content and consequences” of a generic psychological contract. They acknowledge that

> “although the model implies causes and consequences, in a cross-sectional study of this sort we cannot 'prove' cause and effect - we can only show associations”.

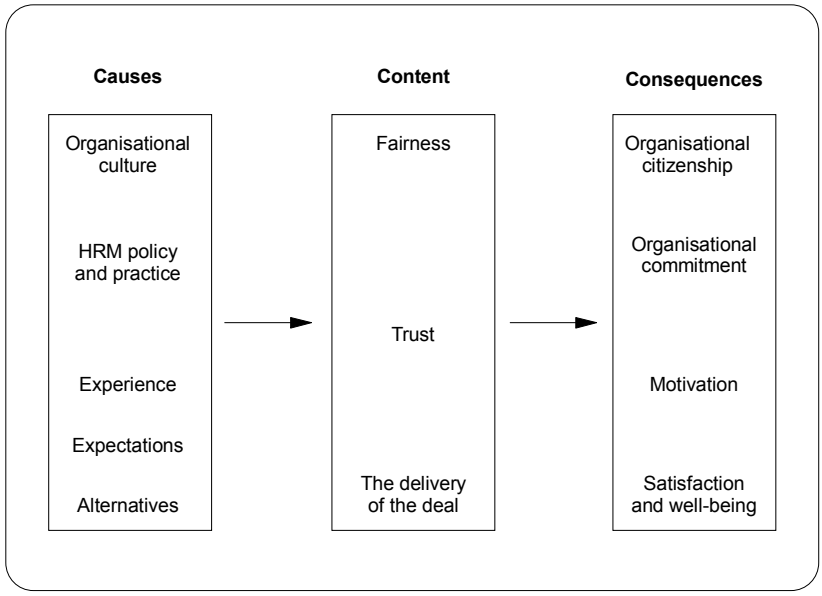


Exhibit B*i* The Psychological Contract (Guest et al, 1996)

The inclusion of "motivation" amongst the "consequences" of the psychological contract is tentative. Guest et al admit that the Harris survey was "less successful in finding any link between the psychological contract and motivation" and suggest that "this may be because motivation is very difficult to measure in this context". The assumption that the two concepts are, in fact, linked is implicit in an *Economist* article:

> "Unless [corporations] find new ways to motivate those who survived the repeated purges of the professional ranks, most big firms may never achieve the gains that are supposed to justify such wrenching changes. That is because they are tearing up the implicit contract they have always had with managers and other professionals: security of tenure in return for dogged loyalty ... many companies have given no indication of what the new psychological contract is" (*The Economist* 25-1-93, quoted in Hope and Hendry, 1995).

Whether or not it is possible to establish supportable correlations between aspects of the psychological contract and specific dimensions of organisational performance, it is difficult to refute Makin, Cooper and Cox's (1996) belief that culture and the psychological contract existing within the organization are inextricably linked.

> "Indeed they are so closely related that it is impossible to say which one causes the other, since the culture determines how people relate, and how they relate determines what sort of contract exists between them."

APPENDIX C

Schein's (1985) taxonomy of change mechanisms

"Change mechanism 1: Natural Evolution ...

If the organization is not under too much external stress and if the founder or founding family is around for a long time, the culture simply evolves by assimilating what works best over the years.

... General evolution toward the next historical stage of development involves diversification, complexity, higher levels of differentiation and integration, and creative syntheses into new and higher-level forms.

... Specific evolution involves the adaptation of specific parts of the organization to their particular environments. Thus, a high-technology company will develop highly refined R & D skills, while a consumer products company ... will develop highly refined marketing skills."

"Change mechanism 2: Self-Guided Evolution Through Organizational Therapy ...

Therapy that operates through creating self-insight permits cognitive redefinition to occur and thereby can produce dramatic changes. Outsiders probably will be needed to [1] unfreeze the organization, [2] provide psychological safety, [3] help to analyze the present defensive nature of the culture, [4] reflect back to key people in the organization how the culture seems to be operating, and [5] help the process of cognitive redefinition."

"Change mechanism 3: Managed Evolution Through Hybrids ...

One process is to selectively fill key positions with 'hybrids' - that is, 'insiders' who have grown up in the culture and are accepted but whose personal assumptions are somewhat different from the mainstream. ... For this mechanism to work, some of the most senior leaders of the company must have insight into what is missing, which implies that they first must get somewhat outside their own culture through a therapeutic process."

"Change mechanism 4: Managed 'Revolution' Through Outsiders ...

A young and growing company may select outsiders to fill key positions, on the grounds that the organization needs to be more 'professionally' managed - that is, needs to bring in modern management tools that the founder did not have."

"Change mechanism 5: Planned Change and Organization Development ...

"Much of the work of organization development practitioners deals with the knitting together of diverse and warring subcultures, helping the dominant coalition or the managerial client systems figure out how to integrate constructively the multiple agendas of different groups. ... The various conflicts that develop require the creation of interventions that permit mutual insight and the development of commitment to superordinate company goals."

"Change mechanism 6: Technological Seduction ...

At one extreme this category includes the diffusion of technological innovation and various forms of acculturation where new technologies have subtly changed entire cultures. At the other extreme, it includes the deliberate, managed introduction of specific technologies for the sake of seducing organization members into new behavior, which will, in turn, require them to reexamine their present culture and possibly adopt new values, beliefs, and assumptions."

Change mechanism 7: Change Through Scandal, Explosion of Myths ...

As a company matures, it develops a positive ideology and a set of myths about how it operates, what Argyris & Schon (1974, 1978) have labeled 'espoused theories'; at the same time, it continues to operate by other assumptions, which they label 'theories-in-use' and which more accurately reflect what actually goes on."

"Change mechanism 8: Incrementalism ...

Certain kinds of changes can be produced best if one patiently but consistently uses every opportunity to influence the organization in a certain direction."

"Change mechanism 9: Coercive Persuasion ...

if one has no exit option, one is subject to strong unfreezing forces, which, sooner or later, will motivate one to find new information that will permit cognitive redefinition to occur."

Schein's "Change mechanism 9" is based on the study of "brainwashed" prisoners from the Korean war. Schein explains that consistently challenging old assumptions makes them difficult to sustain, whilst consistently being supportive and rewarding any evidence of movement towards new assumptions provides some psychological safety.

"Change mechanism 10: Turnaround ...

Turnarounds usually require the involvement of all organization members, so that the dysfunctional elements of the old culture become clearly visible to everyone. The process of developing new assumptions then is a process of cognitive redefinition through teaching, coaching, changing the structure and processes where necessary, consistently paying attention to and rewarding evidence of learning the new ways, creating new slogans, stories, myths, and rituals, and in other ways coercing people into at least new behavior. All the other mechanisms described earlier may come into play, but it is willingness to coerce that is the key to turnarounds."

"Change mechanism 11: Reorganization and Rebirth ...

Little is known about this process ... If one destroys physically the group that is the carrier of a given culture, by definition that culture is destroyed and whatever new group begins to function builds its own new culture. his process is traumatic and therefore not typically used as a deliberate strategy, but it may be relevant if economic survival is at stake."

APPENDIX D

Cox's Transactional Model of Occupational Stress

Cox (1993) summarises the internal and external elements involved in workplace stress by means of a five-stage transactional model representing, in stage 1, sources of demand [part of the environment] faced by the individual, in stage 2, the individual's perceptions of those demands in relation to his/her ability to cope, in stage 3, the psychological and physiological changes associated with recognition of stress arising from stage 2, including perceived ability to cope, in stage 4, the consequences of coping, and in stage 5, the general feedback [and feed forward] that occurs in relation to all other stages of the model.

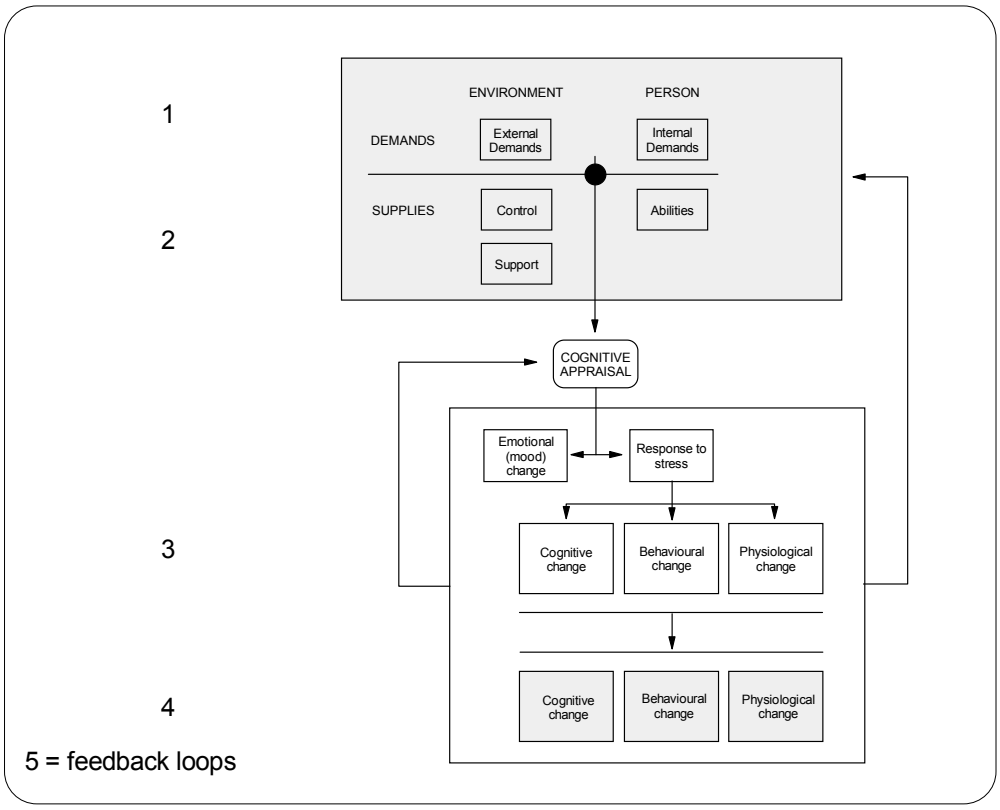


Exhibit D*i* Transactional Model of Stress

Cox (1993)

APPENDIX E

R J Gray: Interviewing skills training record

Sept 87 - May 88	"Personnel Selection & Interviewing" (P673) Distance learning course + 2-day residential using observed/assessed practice. Foundation for developing interviewing skills and ideas on staff selection.	Open University	Pass
March 89 (5 days)	"Personnel Assessor Training" Residential course using observed/ assessed practice with video feedback. Development of interviewing skills and understanding of their application in BT environment. Essential qualification to practise as a Personnel Assessor in BT.	BT	Accredited PA
March 91 (2 days)	"Advanced Selection Interviewing" Residential course using observed/ assessed practice with video feedback. Further development of interviewing skills.	Oxford Training	Completed
February 98 (1 day)	Seminar: Stage 1 Selectors' Course Group discussion and role-play. Required training for Relate trustees/directors to select prospective Relate counsellors	Relate	Completed

APPENDIX F

Interviewer's guidance

a) Thank the informant for offering his/her time, and for any hospitality afforded to the researcher. Ensure that the informant is comfortable and ready to begin.

b) Assure the informant of confidentiality and answer any questions.

c) Indicate the tape recorder and check that recording the interview is acceptable to the informant. Indicate the "stop" button and invite the respondent to stop the recording at any time if he/she should wish to do so.

d) Check that all the informant's details have been captured.

e) Remind the informant of the request to have a specific project in mind. Check that he/she does have such a project on which to draw.

f) Begin the interview. Utilise the following header [H] and supplementary [S] questions as necessary to ensure comprehensive coverage:

Question		Purpose
H 1	Please tell me something about the project you have in mind, and your own role in it.	To clarify informant's understanding of the terms "project" and "project manager" and to provide details of project work area for the record. [Material may also arise here which is relevant to Question 5].
S 1.1	How typical do you think that project was?	
H 2	How would you rate the success of that project?	To explore informant's concepts of project success.
S 2.1	What do you base that view on?	To check for corroborating evidence.
S 2.2	Have you got any evidence, apart from your own feelings, which demonstrates the level of success of the project?	
H 3	How do you think the management at the company level felt about the project?	To explore informant's perceptions of organisational climate To establish levels of threat in the wider organisation.
S 3.1	What was the general atmosphere like in the company at that time?	
S 3.2	Was the project team under any pressure to perform in any way?	
	[If so] — how did that come across?	
H 4	Can you tell me how the project team was organised?	To explore relationships between informant and his/her superiors in the project team.
S 4.1	What was the atmosphere like in the project team?	To explore informant's perceptions of management style/climate in the project team.
	Did you feel under pressure to perform in any way?	To establish levels of threat at the project level.
	[If so] — how did that come across?	[Material may also arise here which is relevant to Question 5].

H 5	Did you enjoy working on the project?	To check for indications of voluntarism at the project level. eg: free expression innovation questioning intrinsic satisfactions participation in goal definition
S 5.1	How involved did you personally feel in the project?	
S 5.2	Did you have much say in what was to be done?	
S 5.2	What happened if you questioned what you were asked to do?	
H 6	Were you aware of anything special about the project team?	To explore discrepancies and similarities between the project-level and organisational-level cultures.
S 6.1	Did working in the team feel different in any way to working anywhere else in the company?	
S 6.2	Did everyone on the team seem to fit in?	To check for evidence of selection-adaptation-attrition in the project team.
H 7	[Assuming some differences] As time went on, did you feel that the way the project team worked was getting closer or further away from the normal company way of working?	To check for evidence of harmonisation between the two culture levels. To check for evidence of selection-adaptation-attrition at the organisational level.
S 7.1	What made you feel that?	
H 8	What did you feel would happen if you personally were not felt to be performing in some way?	To explore informant's perceptions of purposive threat.
S 8.1	What was it that made you feel that?	
S 8.2	[Assuming some threat was defined] Did you actually see that happen to anyone?	
S 8.3	What did you actually do about it?	To explore informant's behavioural reactions to purposive threat.

H 9	Were there any factors affecting the project, or the company, which could have caused you a problem?	To explore informant's perceptions of environmental threat.
S 9.1	What effect did that have on what you actually did?	To explore informant's behavioural reactions to environmental threat.
H 10	Is there anything else that you think might help me to understand what it was like to work on that project?	To provide an opportunity for informant to make any points which seem important to him/her, but which have not been brought out in the interview so far.

g) Stop the tape recorder. Ensure that the tape is labelled.

h) Thank the informant for his/her participation. Invite any comments or questions about the research and especially about how his/her own contribution might be used.

i) Close the interview.

APPENDIX G

Participant briefing

[1] Wording of letter addressed to senior managers requesting their participation.

[2] Wording of letter to participants.

[3] Researcher profile — attached to letter to participants.

[4] Definitions of terms — supplied on request.

G[1] Wording of letter addressed to senior managers

Dear .....

I am writing to ask for your co-operation in a research study into human factors affecting the success of projects in the UK. The research focuses on the perceptions of project managers concerning such factors as project team working, organisational climate, and some aspects of the wider macro-economic climate.

In order to collect and analyse these perceptions we need to interview project managers from a wide variety of industry sectors and project types. Interviews would last about one hour and the content of individual interviews would be confidential. Neither individuals nor their organisations will be identifiable in any published material arising from this research.

We define the term "*project*" as:

> *"a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality"*

By "*project manager*" we mean someone who has responsibility for managing a project or part of a project (or has done so in the past). This includes people at various levels of seniority. We will be happy to clarify definitions or any other aspect of the research if you wish.

Your help in, firstly, allowing us to talk to (up to four) suitable project managers in your organisation, and secondly in identifying individuals who are willing to participate, would be greatly appreciated. I will call you in a few days to ask if we can take this proposal further, but meanwhile please do contact me by phone or e-mail if you require more information.

Yours sincerely

Roderic Gray

Doctoral Researcher
Anglia Business School

G[2] Wording of letter to participants

Dear .....

Thank you for agreeing to take part in our research study into human factors affecting the success of projects in the UK. This letter gives some background to the research and explains how we would like you to help us with it.

Background

The research focuses on the perceptions of project managers concerning such factors as project team working, organisational climate, and some aspects of the wider macro-economic climate. We aim to identify any links or associations between aspects of these factors and successful project outcomes.

There are many definitions of the term "*project*". We have analysed the content of some 50 published definitions and arrived at the following generic definition:

> *"A project is a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality"*

However, no definition of the term *project* conveys any real sense of scale. Projects can be large or small, complex or relatively simple in structure, and still fit the above definition. Because of this, we cannot limit our research to people who are responsible for "whole" projects. Rather, for the purpose of this research, we are regarding as a project manager anyone who is responsible for the management of any discrete part of a project (or has been in the past).

Field research

We would like you to help us by talking to the researcher about your own experiences as a project manager. It would be useful if you could have in mind the last completed project in which you were involved, and be ready to talk about the outcomes of that project as well as about how it felt to work on the project.

The researcher will introduce several topics to keep the discussion focused, but otherwise the conversation will be quite free-form. We would expect the discussion to last about one hour. We would like to tape-record the conversation to avoid the need for written notes.

Confidentiality

The content of the discussion will remain anonymous. Each discussion will be identified only by a code number and only one researcher will know which code refers to which discussion. Neither you nor your organisation will be identifiable in any published material, and nothing you say will be reported back to your organisation (unless you want it to be).

Arrangements

The researcher who will visit you will be myself and the visit has been arranged for (time and date). Please do contact me by phone or e-mail if you require more information.

Verification

The Anglia Business School faculty member supervising this research is: Dr Vernon Trafford, Anglia Business School, Anglia Polytechnic University, Main Road, Danbury, Chelmsford, CM3 4AT. Telephone 01245 225511.

Your help in this research is greatly appreciated. We hope that it may contribute to some valuable insights which will be of benefit to project managers, their organisations, and their clients.

Yours sincerely

Roderic Gray

Doctoral Researcher
Anglia Business School

G[3] Researcher Profile: Roderic J Gray

Rod Gray is a Doctoral Researcher at Anglia Business School, working to complete his PhD in early 1999. His career has included line management, project management, training and consultancy, and until September of 1997 he was an internal consultant with BT's Strategy and Business Management Division, focused mainly on project teams and product development teams. He is now self-employed as a management consultant and academic.

He holds an MSc in human resource management from Anglia Business School and a Professional Diploma in Management from the Open University Business School. He was a Graduate of the Institute of Personnel Management and subsequently a full corporate member of the Institute of Personnel and Development. He is also a member of the Institute of Management and of the Association for Project Management.

His research interests are principally in the area of individuals' relationships with their organisations, taking in organisational culture and climate and also aspects of soft systems and complexity theory.

Publications:

"Gang Aft Agley" (1966) *Project Manager Today*, April.

New Product Development: A Review of Best Practice (1996), London, BT Strategy & Business Management Division (Not restricted to BT).

"It Takes All Sorts" (1966) *Project Manager Today*, September.

"Alternative Approaches to Programme Management" (1997) *International Journal of Project Management*, Vol 15, No 1, February.

G[4] Definition of the terms "project" and "project manager"

The stated focus of this research is on project managers. This term presents problems of definition which must be dealt with in order to define the research universe.

The first difficulty is in what constitutes a project. The representative body for the project management profession in the UK, the Association For Project Management [APM], has "*no official definition of the term*" (Heath, 1995), although a form of definition is contained within the APM's *Body of Knowledge* (1995), the reference document for those aspiring to professional certification by the Association. Most writers on the subject find it necessary to provide a definition or listing of characteristics of a project, or project manager, or project management in order to set their remarks in context.

To provide an authoritative definition of the work-area of the focus population, a total of 49 such definitions were collected from a wide variety of texts, company guidance documents, journal articles and training material. A content analysis was then performed on the definitions. The results showed that the following characteristics of a project received mention by a significant proportion of sources, using the same or closely equivalent wording:

Characteristic	Times mentioned	Examples of terms used
Definition of objectives	35	definite objectives; finite; goal-directed; specific task; limited scope.
Definition of completion time *Often linked to*	34	Defined end-date; defined time-frame; specified completion time; defined start and end points; a beginning and end.
Definition of starting point	22	
Uniqueness	33	Non-repetitive; unique; one-time; one-shot; non-routine; separately-identifiable; no practice/rehearsal; risk; uncertainty.
Complexity of component tasks	29	Connected activities; sequenced activities; clear, manageable steps; integrated; complex; sub-tasks; inter-related; co-ordinated.
Diversity of contributors	20	Team of people; ad hoc team; co-operative enterprise; cross-functional; cross-divisional; variety of skills/ resources.
Finity of resources	20	Limited/specified resources; funding limits; budgets; specified costs.
Centrality of control	17	Central direction; one person's responsibility; organised; co-ordinated; planned; special skills/ techniques; client/customer.
Product specification	13	Specified quality; specification; end product; time, cost and quality.

This enables the following definition to be constructed:

> A project is a unique, finite undertaking with clearly-defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralised control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality.

However, although this definition may adequately define project work, it only partially addresses the difficulty in identifying a project manager. To define this term simply as "the person with overall responsibility for the execution of a project" would be unsatisfactory because of the difficulty in generalising the project definition. This problem can best be understood through the concept of the Work Breakdown Structure [WBS], a device commonly used throughout project work for planning and for subsequent reporting. (See, for example, Harrison, 1992; Lock; 1992 or Reiss, 1992).

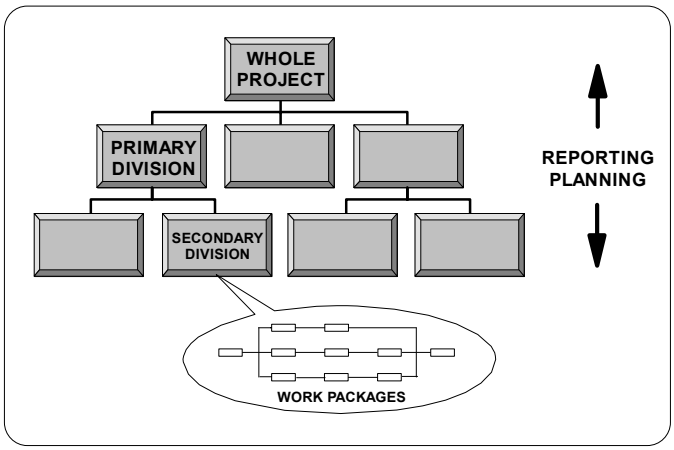
The WBS is a hierarchical breakdown of all the work required to complete the project. Starting with a description of the whole project, subdivisions are made into meaningful sections, for example, specific kinds of work, or perhaps geographical sectors. Lockyer and Gordon (1996) suggest that:

"*Common ways are by division of the product into major components which are then split into sub-assemblies and so on down to* components*, by a functional breakdown or by* cost *centre code. The way chosen is usually related to the type of project and the industrial or public sector in which it is taking place."*

Further logical subdivisions may be made "*explod*[ing the WBS] *into increasingly finite, measurable tasks and sub-tasks*" (Kliem and Ludin, 1992) until, at the "bottom" of the structure, work packages can be defined which specify tasks to be undertaken, together with relationships with other tasks and a variety of detailed information about timescales, deliverables, costs and resource needs. Harrison (1992) describes the WBS as "*a method of project organization, planning and control, based on 'deliverables' rather than simply on tasks or activities*". Morris (1994) asserts that

"*it is fundamental to project control*" because *"without a WBS it is difficult to* communicate *a clear view of the total scope of the project and to organize the various project data in a consistent way".*

A WBS is often represented graphically, as below:



During the life of the project, the WBS can be used as a model for reporting progress, since each of its elements represents a summary of all the work below it in the hierarchy. Costs incurred and objectives realised may be aggregated and reported against the higher level, enabling management of the overall project without excessive detail.

In a complex project there may be several levels in the structure before work packages are defined, and it may be appropriate for the work packages themselves to be sub-divided to provide a level of detail which would be inappropriate when considered from the whole project viewpoint. A further complication may be introduced if the project forms part of a "programme", defined by Ferns (1991) as:

"A group of projects that are managed in a coordinated way to gain benefits that would not be possible were the projects to be managed independently."

The various levels in this structure, including the work packages, display a high degree of self-similarity, that is, "*differences between them are purely matters of scale and scale is wholly relative*" (Gray, 1997). Work packages are very likely to be managed as though they were projects, sub-divided into lower-level tasks or activities with a number of individuals taking responsibility for the implementation of the component elements. A person responsible for any one of the elements of the WBS, at any level, may regard the scope of his/her responsibilities as a project, and the manager of a project which is part of a programme may be constrained in the latitude he/she has to manage idiosyncratically. The potential complexity of major projects is "horizontal" as well as "vertical". Harrison (1992) alludes to the need for coordinated management:

"More and more undertakings are involving multiple disciplines and/or multiple companies for their completion. If these undertakings are to be completed successfully, the individual disciplines and companies can no longer take a blinkered, parochial approach and be managed as separate entities. They are inevitably interdependent and interact, and therefore require integration into one project organization.

Project management provides the means for this integration, the forms of organization which span multi-*discipline and multi-company activities, and the management systems designed to cope with this situation and the problems involved."*

The involvement of contributions from people with differing reporting or management lines, gives considerable scope for overlap or duplication of roles:

"*The project ... could be of such importance and complexity that each of the ... organizations [involved] would need to appoint its own project manager. The roles of these project managers will not be identical, owing to the division of work and responsibilities, and to the particular roles and functions of the different organizations*". (Young, 1994).

Harrison (1992) observes that "*there are often two levels of project manager*": the overall manager of a multi-company or multi-discipline project, and managers of individual companies or disciplines within the project. Reinforcing this, Corrie (1991) complains that

"*The term 'project manager' has become overworked - each participating party may have one or several persons so titled, who may only be responsible for certain elements.*"

Thus it can be seen that to define the term *project manager* only against a benchmark of responsibility for a project is unduly restrictive, since it limits the role to current assignment and not to the nature of the work performed. In addressing this difficulty in another context Gray (1997) has used the term "*project-type work activity [*pwa*]"* to embrace a documented responsibility which complies in general terms with the criteria for a project but may in a specific case be situated at any level in the WBS.

The project managers on which this research is focused are therefore managers who are, or have been and may be again, personally accountable for a project-type work activity [*pwa*].

References:

Corrie, R K (1991)	*Project Evaluation* London, Thomas Telford
Ferns, D C (1991)	"Developments In Programme Management" *International Journal Of Project Management*, Vol 9, No 3, 148-156
Gray, R J (1997)	"Alternative Approaches To Programme Management" *International Journal of Project Management*, Vol 15, No 1, 5-9
Harrison, F L (1992)	*Advanced Project Management* 3rd edtn., Aldershot, Gower
Heath, D L (1995)	Personal letter to R J Gray from D L Heath; Chairman, Education, Training and Research Committee, Association for Project Management.
Kliem, R L and Ludin, I S (1992)	*The People Side of Project Management* Aldershot, Gower
Lock, D (1992)	*Project Management* 5th edtn., Aldershot, Gower
Lockyer, K and Gordon, J (1996)	*Project Management and Project Network Techniques* 6th edtn., London, Pitman
Morris, P W G (1994)	*The Management of Projects* London, Thomas Telford
Reiss, G (1992)	*Project Management Demystified* London, E and F N Spon
Young, E J (1994)	"Project Organization" in D Lock [ed] *Handbook of Project Management*, 2nd edtn., Aldershot, Gower

APPENDIX H

Psychological and behavioural responses to perceptions of purposive threat

where that threat is perceived to be unfair [infringing the psychological contract]

Psychological Response	Behavioural Response
C/003	
"I tended to take on too much before shouting {*why do you think you did that?*} I don't know, never really analysed it ... I'll have to think about that again. Something at the back of my mind, I suppose, that it's my job and I should be able to do it" (C/003) <Fear>	"At some point you realise that somebody else should be helping out ... Banging your head against a brick wall only hurts for so long and then and then it stops ... Everybody knows you can't build a brick wall without bricks ... It was outside my control ... I could not achieve that, I could not do that before the next phase, so at that point I had to call in more resource and eventually got ... four or five people on board ... I resorted to sourcing local contractors to get involved with the m&e ... until such time as they finally decided to send people out ... When we finally got everything we needed to do the job it went like a dream, but getting to that point was really stressful" (C/003) <Rebellion>
U/014	
"There's an awful lot of pressure and a lot of fear of failure. So you tend to be fairly focused ... {*By fear of failure, do you mean a desire to succeed, or a fear of some consequences of not succeeding?*} Yes, it's interesting. You can put those two very different slants on it. I suppose in a way you're going down a corridor and you could bounce off either wall. If you're going along you're obviously focused on getting to the end of the corridor and achieving success. But obviously you're very much aware that at any time you can go off track slightly, and start bumping up the sides. {*Was the client aware that senior managers disagreed with the project, and the impact that had?*} Yes, that obviously did come to the surface. But I don't think that anybody was willing to confront with the issues and to deal with the director on that. ... {*The other senior managers didn't feel constrained not to voice their disagreement?*} They certainly didn't feel constrained in dealing with me, but they probably did in dealing with him" (U/014) <Fear>	"There was a feeling of guerrilla warfare at times, which is regrettable. {*What did that mean in practice?*} It was almost persuading the client that this is what they wanted by devious means and at times persuading the client that this is the best that was on offer because we were dealing with a package. So rather than delivering exactly what the client wanted and what the client had specified we almost felt we were selling and persuading" (U/014) <Rebellion>

Psychological Response	Behavioural Response
U/017	
"I had a very unpleasant assistant director who was commonly known as the cause of the war. He wasn't a very pleasant man ... He was on my back fairly continuously ... he was into blame and we had a major dispute with the contractor ... So there was a fair amount of pressure, internal pressure ... {*How did that pressure come through to you?*} It was very personal, at a very personal level. I would go into [my boss's] office and you didn't know what to expect. One day it would be smiles, the next day it was all pretty nasty ... I thought that I certainly wouldn't get another such a prestigious job again ... {*So you did have something hanging over you?*} Oh yes" (U/017) <Fear>	"I don't think I did the project any differently. I tried to keep him on board, tried to get him involved in what the problems were, but of course he didn't want to do that ... In the end I just tried to avoid the guy as much as I could ... If one of my managers now behaved the way he did I'd do one of two things. He'd certainly get a big bite back, but I suppose I'm confident of my own ability and I'd just say, well, sod it, I'll just get another job. That wouldn't be a problem. Perhaps at that stage of my life I wasn't so confident" (U/017) <Submission>
E/025	
"People generally are almost afraid to put their head above the parapet, afraid of getting it chopped off ... It is certainly a trait ... that people tend to get blamed for everything but not necessarily where they had any control over or something has gone wrong which they couldn't control" (E/025) <Fear>	"There's a lot of people who will try and keep their head below the parapet" <Submission>
U/030	
"All of a sudden it came cascading down on you ... There was an awful lot of pressure there, and I think that particularly came down through the ... hierarchy ... through onto our guys" (U/030) <Fear>	"It was a pretty experienced team that was on it, we'd all been on that kind of thing before ... We did have a quite major problem ... at one point and we went to the project director and said 'look, this could potentially cost a lot of money and cost us a lot of time'. We took the telling-off and came out without any more time or any more money. So I must admit at that point I did think 'is this really worth it? ... It was very much the project team, that were expected to deal with things" (U/030) <Submission>
U/032	
"The stuff we were working on was constantly being given targets for completion ... {*Was that difficult? Did it put you under pressure?*} Some of the individual tasks, yes ... you have conflicting deadlines, which is always a problem ...{*Did you feel it would be bad for you if you were seen not to be performing well?*} Yes, I would say definitely, yes" (U/032) <Fear>	"We started off where we would have a forum where as a team ... we would sort of meet together and chart it out, pick it to bits and it was extremely thorough and extremely effective. As time went on we sort of moved away from that ... I think results probably suffered as a result of not continuing as we started" (U/032) <Submission>

Psychological Response	Behavioural Response
T/035	
“The environment has always been not to encourage people to share if there's a problem or a mistake ... automatically phone calls start happening, calling my line manager or the board, with 'what went wrong?' Then you start the witch-hunts. When I first got involved there was a lot of that going on. And it is common practice I think in this company to go into a witch-hunt mode” (T/035) <Fear>	“Things were not being disclosed. I actually left [employer] because I had that conflict and in the end I decided to set up on my own, I work for [company] as a supplier and at least got rid of that 3-way process, it's on one-on-one” (T/035) <Rebellion>
“Then you have the morale issues, very low, because where's their future going? They're in [company] and they work for another company. 'Where's my future? Where's my development? Where's my career opportunity?' “ (T/035) <Fear>	
U/041	
“{*You seem to be rather visible in a situation where someone else has got themselves into an untenable situation*} It certainly did feel like that at times. I think half of it as well, from my own point of view, was this was my first project if you like that I'd been let loose on, so ... I was unsure whether some of the problems were my fault ... and as you say you're very exposed ... {*Did you feel as you were working on it that there was potential for you to have trouble, that your career could be damaged?*} Oh, indeed. Yes, I did” (U/041) <Fear>	“The problem is ... you're trying to defend actions that you've taken, but they're a course of action which you've only followed because you've been advised to do it. ... You feel that you're having to justify yourself for somebody else's advice really, perhaps a bit unfairly ... Through the monthly meetings, whatever, I made damn sure that everybody knew ... that it wasn't this simple project that everyone had thought it was” (U/041) <Submission>
U/042	
“We were under constant criticism ... I would say that the harder it got the environment became more hostile ... {*Did you feel there could be repercussions for your career?*} Oh yes. ... I got to the point where I just felt that I was just waiting for it to happen, really. ... The board member ... got removed from his job” (U/042) <Fear>	“At the end of the day these things take as long as they take. ... But people did work on it very very hard, put a lot of effort into it, a lot of mental anguish and a lot of physical effort” (U/042) <Submission>
T/007	
“The business has got to stop treating us the way they treat us ... The project was thrown at us very hard, there was no nice soft feely time to get into the project” (T/007) < Anger>	“If I wasn't happy I would make it very clear, and the reasons why” (T/007) “We said 'well we don't believe we can deliver until ten days after that but we will do our utmost to look at the important parts of your operation and we'll deliver the important parts and the other things will follow” (T/007) <Rebellion>

Psychological Response	Behavioural Response
O/021	
"{*If something didn't happen there'd be consequences for you?*} Well, consequences, yes, potentially yes. I don't know. I feel it, certainly ... If you're going to be a 'kick arse and take names' project manager then maybe you can lay most of that off but I tend to wish to work in relative harmony, if I can. Sometimes the projects don't allow that ... I felt pressure on others that I was having to bring that was again not of their making and sometimes it makes you feel like you're the meat in the sandwich" (O/021) <Anger>	"The team tends to absorb pressure rather than being if you like vented upwards" (O/021) <Submission>
U/031	
"Our boss at that time, he was under extreme pressure ... He was passing that on and it was the case that I was dealt unfairly with at one point ... Some of the things that were raised were just totally unfair that it made me quite angry" <Anger>	"At one point I said 'well, give me redundancy and I'll go' because I'd had it up to here, with being unfairly treated" (U/031) <Rebellion> When the pressure's on things get very very hard and relationships get very very awkward ... You feel you've got to take whatever's thrown at you. It certainly is demoralising, but it certainly didn't stop me from putting 110% into whatever I was doing to try and achieve it and prove to the person who's above you that they were wrong and you are actually doing the best job you can with what you've got" (U/031) <Submission>
U/034	
What was frustrating was you'd get the work done and then they'd change the plan, which meant you did it all again. {*What caused that?*} The fact that the system wasn't ready ... We went through probably half a dozen replans. (A071) {*The need to work so hard was caused by someone else's failure to meet their own work package targets?*} Yes" (U/034) <Anger>	"I think the most common adverse consequence is you work harder to achieve what you haven't done ... . By hard I mean 7 days a week, especially in the migration window ... Had I been in this situation and was, say, 10 years younger I would have left" (U/034) <Submission>

APPENDIX J

Pirsig on Sanity (from *Lila, An Inquiry Into Morals* pp 342-344)

What anthropologists see over and over again is that insanity is culturally defined. It occurs in all cultures but each culture has different criteria for what constitutes it. Kluckhohn has referred to an old Sicilian, who spoke only a little English, who came to a San Francisco hospital to be treated for a minor physical ailment. The intern who examined him noted that he kept muttering that he was being witched by a certain woman, that this was the real reason for his suffering. The intern promptly sent him to the psychiatric ward where he was kept for several years. Yet in the Italian colony from which he came everybody of his age group believed in witchcraft. It was 'normal' in the sense of standard. If someone from the intern's own economic and educational group had complained of being persecuted by a witch, this would have been correctly interpreted as a sign of mental derangement.

Many others reported cultural correlations of the symptoms of insanity. M. K. Opler found that Irish schizophrenic patients had preoccupations with sin and guilt related to sex. Not Italians. Italians were given to hypochondriacal complaints and body preoccupations. There was more open rejection of authority among Italians. Clifford Geertz stated that the Balinese definition of a madman is someone who, like an American, smiles when there is nothing to smile at. In one journal Phædrus found a description of different psychoses which were specialized according to culture: the Chippewa-Cree suffered from *windigo,* a form of cannibalism; in japan there was *imu,* a cursing following snake-bite; among Polar Eskimos it is *pibloktog.* a tearing off of clothes and running across the ice; and in Indonesia was the famous *amok.* a brooding depression which succeeds to a dangerous explosion of violence.

Anthropologists found that schizophrenia is strongest among those whose ties with the cultural traditions are weakest: drug users, intellectuals, immigrants, students in their first year at college, soldiers recently inducted.

A study of Norwegian-born immigrants in Minnesota showed that over a period of four decades their rate of hospitalization for mental disorders was much higher than those for either non-immigrant Americans or Norwegians in Norway. Isaac Frost found that psychoses often develop among foreign domestic servants in Britain, usually within eighteen months of their arrival.

These psychoses, which are an extreme form of culture shock, emerge among these people because the cultural definition of values which underlies their sanity has been changed. It was not an awareness of 'truth' that was sustaining their sanity, it was their sureness of their cultural directives.

Now, psychiatry can't really deal with all of this because it is pinioned to a subject-object truth system which declares that one particular intellectual pattern is real and all others are illusions. Psychiatry is forced to take this position in contradiction to history, which shows over and over again that one era's illusions become another era's truths, and in contradiction to geography, which shows that one area's truths are another area's illusions. But a philosophy of insanity generated by a Metaphysics of Quality states that all these conflicting intellectual truths are just value patterns. One can *vary* from a particular common historical and geographical truth pattern without being crazy.

The anthropologists established a second point: not only does *insanity* vary from culture to culture, but *sanity itself* also varies from culture to culture. They found that the 'ability to see reality' is not only a difference between the sane and the insane, it is also a difference between different cultures of the sane. Each culture presumes its beliefs correspond to some sort of external reality, but a geography of religious beliefs shows that this external reality can be just about any damn thing. Even the *facts* that people observe to confirm the 'truth' are dependent on the culture they live in.

Categories that are unessential to a given culture, Boas said, will, on the whole, not be found in its language. Categories that are culturally important will be found in detail. Ruth Benedict, who was Boas' student, stated.

> The cultural pattern of any civilization makes use of a certain segment of the great arc of potential human purposes and motivations just as ... any culture makes use of

> certain selected material techniques or cultural traits. The great arc along which all the possible human behaviors are distributed is far too immense and too full of contradictions for any one culture to utilize even any considerable portion of it. Selection is the first requirement. Without selection no culture could even achieve intelligibility and the intentions it selects and makes its own are a much more important matter than the particular detail of technology or the marriage formality that it also selects in similar fashion.

A child in a money-society will draw pictures of coins that are larger than a child in a primitive culture. Moreover the money-society children overestimate the size of a coin in proportion to the value of the coin. Poor children will overestimate more than rich ones.

Eskimos see sixteen different forms of ice which are as different to them as trees and shrubs are different to us. Hindus, on the other hand, use the same term for both ice and snow. Creek and Natchez Indians do not distinguish yellow from green. Similarly, Choctaw, Tunica, the Keresian Pueblo Indians and many other people make no terminological distinction between blue and green. The Hopis have no word for time.

Edward Sapir said,

> The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group ... Forms and significances which seem obvious to an outsider will be denied outright -by those who carry out the patterns; outlines and implications that are perfectly clear to these may be absent to the eye of the onlooker.

As Kluckhohn put it,

> Any language is more than an instrument of conveying ideas, more even than an instrument for working upon the feelings of others and for self-expression. Every language is also a means of categorizing experience. The events of the 'real' world are never felt or reported as a machine would do it. There is a selection process and an interpretation in the very act of response. Some features of the external situation are highlighted, others are ignored or not fully discriminated.
>
> Every people has its own characteristic class in which individuals pigeonhole their experiences. The language says, as it were, 'notice this', 'always consider this separate from that', 'such and such things always belong together.' Since persons are trained from infancy to respond in these ways they take such discriminations for granted as part of the inescapable stuff of life.

That explained a lot of what Phædrus had heard on the psychiatric wards. What the patients showed wasn't any one common characteristic but an absence of one. What was absent was the kind of standard social role-playing that 'normal' people get into. Sane people don't realize what a bunch of role-players they are, but the insane see this role-playing and resent it.

There was a famous experiment where a sane person went onto a ward disguised as insane. The staff never detected his act, but the other patients did. The patients saw he was acting. The hospital staff, who were playing standard social roles of their own, couldn't detect the difference.

Insanity as an absence of common characteristics is also demonstrated by the Rorschach ink-blot test for schizophrenia. In this test, randomly formed ink splotches are shown to the patient and he is asked what he sees. If he says, 'I see a pretty lady with a flowering hat,' that is not a sign of schizophrenia. But if he says, 'All I see is an ink-blot,' he is showing signs of schizophrenia. The person who responds with the most elaborate he gets the highest score for sanity. The person who tells the absolute truth does not. Sanity is not truth. Sanity is conformity to what is socially expected. Truth is sometimes in conformity, sometimes not.

Phædrus had adopted the term 'static filter' for this phenomenon. He saw that this static filter operates at all levels. When, for example, someone praises your home town or family or ideas you believe that and remember it, but when someone condemns these institutions you get angry and condemn him and dismiss what he has said and forget it. Your static value system filters out the undesirable opinions and preserves the desirable ones.

But it isn’t just opinions that get filtered out. It's also data. When you buy a certain model of car you may be amazed at how- the highways fill up with other people driving the same model. Because you now value this model more you now see more of it.

When Phædrus started to read yachting literature he ran across a description of the 'green flash' of the sun. What was *that* all about? he wondered. Why hadn't he seen it? He was sure he had never seen the green flash of the sun. Yet he *must* have seen it. But if he saw it, why didn't he *see it?*

This static filter was the explanation. He didn't see the green flash because he'd never been *told* to see it. But then one day he read a book on yachting which said, in effect, to go see it. So he did. And he saw it. There was the sun, green as green can be, like a 'GO' light on a downtown traffic semaphore. Yet all his life he had never seen it. The culture hadn't told him to so he hadn't seen it. If he hadn't read that book on yachting he was quite certain he would never have seen it.

A few months back a static filtering had occurred that could have been disastrous. It was in an Ohio port where he had come in out of a summer storm on Lake Erie. He had just barely been able to sail to windward off the rocks through the night until he reached a harbor about twenty miles down the coast from Cleveland.

When he got there and was safely in the lee of the jetty he went below and grabbed a harbor chart and brought it up and held it, soaking wet, in the rain, using the boat's spreader lights to read by while he steered past concrete dividing walls, piers, harbor buoys and other markers until he found the yacht basin and tied up at a berth.

He had slept exhausted for most of the next day, and when he woke up and went outside it was afternoon. He asked someone how far it was to Cleveland.

'You're *in* Cleveland,' he was told.

He couldn't believe it. The chart said he was in a harbor *miles* from Cleveland.

Then he remembered the little 'discrepancies' he had seen on the chart when he came in. When a buoy had a 'wrong' number on it he presumed it had been changed since the chart was made. When a certain wall appeared that was not shown, he assumed it had been built recently or maybe he hadn't come to it yet and he wasn't quite where he thought he was. It *never* occurred to him to think he was in a whole different harbor!

It was a parable for students of scientific objectivity. Wherever the chart disagreed with his observations he *rejected the observation* and followed the chart. Because of what his mind thought it knew, it had built up a static filter, an immune system, that was shutting out all information that did not fit. Seeing is not believing. Believing is seeing.

If this were just an individual phenomenon it would not be so serious. But it is a huge cultural phenomenon, too and it is very serious. We build up whole cultural intellectual patterns based on past 'facts' which are extremely selective. When a new fact comes in that does not fit the pattern we don't throw out the pattern. We throw out the fact. A contradictory fact has to keep hammering and hammering and hammering, sometimes for centuries, before maybe one or two people will see it. And these one or two have to start hammering on others for a long time before they see it too.

Just as the biological immune system will destroy a life-saving skin graft with the same vigor with which it fights pneumonia, so will a cultural immune system fight off a beneficial new kind of understanding ... It can't distinguish between them.

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