UNDERSTANDING PROJECT MANAGERS AT WORK

A thesis submitted in partial fulfilment of the requirements for the Degree of Doctor in Business Administration

by

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ABSTRACT

Since the 1950s the use of project management techniques has extended from engineering applications in project-based organisations to change management in firms which are predominantly functionally organised. This has been accompanied by recognition in the project management literature of the contribution of the project manager to successful projects either in addition to or as a substitute for a technical project management body of knowledge. The characteristics, behaviours and activities of the project manager have been less researched than those of line managers but there is a tendency to portray the project manager as the hero who draws everything together. The purpose of this study is to contribute to the understanding of what project managers actually do.

The qualitative approach adopted has used the techniques of competence researchers including behavioural event interviews (BEI) with twenty one project managers working in functional (as opposed to project-based) organisations in the UK, supplemented by the observation of three projects in UK retail plcs. However, as the BEI and content analysis coding appeared not to capture all the project managers had to say, their descriptions have been analysed and interpreted using the language and concepts developed by Actor Network Theory (ANT), the creation mainly of Callon, Latour and Law. The aim was to look at the familiar from a different perspective. Such a radical change in methodology has required the thesis to explore the nature of paradigm incommensurability, concluding that without a change in paradigm there can be only limited learning.

The study concludes that the project managers consciously placed themselves at the centre of the project by applying simple processes, embodied in standardised documentation, that reinforced their use of simple interpersonal techniques. These activities helped to overcome their lack of heirarchical power within their functional organisations: they placed a non-human actor, "project management," between the other team members and their operational roles so as to order the temporary project structure. Project management processes acted as allies, enabling the project manager to interest and enrol team members and stakeholders and to mobilise the support of sponsors and other powerful players. This perspective thus reunites the technological and the heroic strands of project management literature. It also presents to the mainstream a different concept of competence, as the temporary effect of a heterogeneous network of social, natural and technological resources.

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Joseph, my husband, has completed many projects in the time it has taken me to complete the DBA. To him I dedicate this thesis with a promise that I will not do any more research – until the vegetable garden is finished.

Sarah Blackburn
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"I loved you, so I drew these tides of men into my hands and
wrote my will across the sky in stars
To earn you Freedom, the seven-pillared worthy house, that
your eyes might be shining for me
When we came."

T.E. Lawrence, *The Seven Pillars of Wisdom*, 1926

"So long as histories are written of separate individuals, whether Caesars, Alexanders, Luthers or Voltaires, and not the histories of all – absolutely all – those who take part in an event, it is impossible not to ascribe to individual men a force which can compel other men to direct their activity towards a certain end."

L Tolstoy, *War and Peace*, 1869

TABLE OF CONTENTS

FIGURES AND TABLES

Figures: Main text

Tables: Appendices

CHAPTER 1:

INTRODUCTION

1.0 Introduction and Chapter Summary

Project management is considered by many to be key to the competitive advantage and success of organisations in a world of rapid change (Deloitte and Touche, 1999). The aim of this research is to explore what a project manager does to be an effective builder of the actor-networks we call projects and to increase understanding of what project managers do, seen from the unfamiliar perspective of Actor-Network Theory (ANT). It attempts to create a marriage of practical experience with a sociological understanding of project managers in action so as to aid the formation and temporary stability of project networks and make it possible for project managers to succeed in their task on behalf of the organisation.

This chapter outlines the background, methods and findings of the research project. Section 1.1 describes the personal reasons behind my research into what the project manager does during a project and summarises the arguments of practitioners and researchers. Section 1.2 describes the research process including what I bring to this study as a researcher. Section 1.3 summarises the research findings. The structure of the thesis is set out in section 1.4.

1.1 The origins of the research project

1.1.1 Personal starting point

Between 1993 and 1997 I was Head of Group Internal Audit at Argos plc, a job which included a requirement to review major projects both completed and under development. In June 1993 the Argos Direct Home Delivery operation was moved. The project included the introduction of a new computer system and the bringing in-house of a centralised telebooking/customer service call centre in addition to the warehouse move. Although stock and operations were transferred on time, neither the computer system nor its users were ready for full implementation, customer and order

data were lost on conversion and over the next three months the inability of the warehouse system to record stock movements accurately resulted in large numbers of customer calls overloading the inexperienced staff in the call centre. The subsequent investigation (Argos, 1994) concluded that:

> *"the immediate root causes would seem to be the lack of a project manager from the start of the project and inadequate project control structures and processes... This led to questionable criteria for the package selection, a lack of quality assurance and possibly questionable change control discipline over the programming work, inadequate systems testing, user testing and volume testing, and ultimately lack of user confidence in the system."*

Crawford and Blackburn (1996) give extracts from interviews with managers involved in the project which illustrate 'the power vacuum left in the project structure by the lack of one single point of accountability and authority to deliver':

> *"Jim Bennett was the project manager and he managed the project well."*
> *"Jim Bennett was not the project manager. There was no real project manager. Everyone saw the project from his/her own divisional perspective."*
> *"Either Jim Bennett was the project manager or he was the project sponsor. The other project managers were John Baker and Bill Brady."*
> *"Jim Bennett was not the project manager but the sponsor. If there was a project manager at all it was John Baker."*
> *"John Baker was the project manager. Jim Bennett was the project sponsor. Project integration was achieved through the big meeting which all had to attend."*

This project review prompted me to explore whether more formal project management, and in particular the involvement of a trained and experienced project manager, might help my company to deliver future projects with greater success.

1.1.2 Project Management: techniques and heroism

Put crudely, there have been two different perspectives on project management. The first emphasises methodologies, tools and techniques and reflects the discipline's

background in engineering and management science (e.g. PMI, 2000). At the extreme this approach would in the past have rejected, as ineffective and flawed, the second, which in effect portrays the project manager as a hero by whose skills and actions the successful project is delivered (e.g. Cleland, 1995; Petersen,1991). In this section each is examined in turn: the emphasis on techniques establishing itself in the professional bodies of project management and the contribution of the project manager becoming more prominent from the application of general management competence research to project managers.

It is often stated (for example, Morris, 1994; Hamilton, 1997) that project management originated as a formal discipline in the 1950s in the weapons development industry. Others, notably Pinney (2000), have shown that the first formal descriptions of written, codified methods of project control appeared in the writing of civil engineers in the late nineteenth century. Whenever they originated, project management techniques have become associated with specialist organisations: defence contractors, construction companies, software and systems houses (Hastings, 1993). Thus project management became aware of itself in an era between the late nineteenth and mid to late twentieth centuries when modernism was the dominant paradigm in science, technology and management and there was great faith in rationality and time-efficiency (Lundin, 2000).

Shortly afterwards the professionalisation of project management began, following the example of many new disciplines. Duncan (1995) states that the US Project Management Institute (PMI) was founded in 1969 to pull together the management practices common to project management in diverse industries and so gain recognition for project management as a profession. It thus focused on common practices "to develop a consensus that there *is* a common body of knowledge, and that there *is* a project management profession." (Duncan, 1995). Similar professionalisation has occurred throughout the world (Morris, 2000a) in organisations such as the PMI (Project Management Institute) in the USA, the APM (Association for Project Management) in the UK and the AIPM (Australian Institute for Project Management).

In the 1990s the application of project management spread out from its military and engineering origins and began to be applied to smaller projects, non-scientific

projects and non-technological projects (Lundin, 2000; Buchanan and Boddy, 1992; Nally, 1996; Beddowes et al, 1994). Hart (1996) taking an extreme position wrote: "More and more organisations are realising that everything they do is a project." This is stretching the concept perhaps too far in organisations such as retailers where, despite campaigns, promotions and new product development, underneath there is a well established functional routine of buying, distributing and selling goods. Turner and Keegan (2000) also note the cost to project-based organisations of running everything as projects.

Turner (1990) notes that projects vary in their degree of uniqueness, giving a range from the Thames Flood Barrier to the development of new recipes for canned food. Competitive advantage requires innovation and the pursuit of new initiatives (McGrath et al 1995). As changes become greater and broader in impact and can no longer be managed by functional management techniques, project management is needed to control them (Archibald, 1988). Thus operationally oriented organisations (such as financial services companies, retailers and manufacturers) need project-based management as well as operational line management if they are to innovate and remain competitive.

At the same time technological projects have been recognised to have human implications for the people they affect. For example, the impact of the Channel Tunnel is not limited to engineering: new rail links have affected lives and homes throughout Kent and parts of London. Managing their experience was another element of that project. Meanwhile human and social factors affect technology projects: for example, Latour's (1996) description of the (abandoned) Aramis Personal Rapid Transport System in Paris or the London Ambulance Service's (1993) account of its failed computer assisted despatch system. Andersen et al (1987) coined the term PSO "Personnel, Systems and Organisational development" to cover the vast majority of projects which they said contained all three of these elements, often in addition to technological achievements.

The migration of project management from weapons development to social change has come full circle, as the professional bodies recognise that the social elements of soft projects apply equally to the traditional hard disciplines – since they too involve creating temporary groupings of people and things – which require people skills.

Although there can be many reasons behind project failures (Belassi et al, 1996; Morris and Hough, 1987), there is a general presumption in the practitioner and professional literature of project management (for example, Morris and Hough, 1987; Pinto and Slevin, 1988a; Baker et al, 1988; Wateridge, 1996; Pettersen, 1991; Andersen et al, 1987; Jessen, 1992; Cleland, 1995 etc.) that the project manager and his/her actions are key to the successful implementation of a project. And from a sociological perspective informed by Actor-Network Theory (ANT – to be examined in more detail in Chapter 2), projects can be seen as networks of heterogeneous elements ("heterogeneous networks in which actors of all kinds, social, technical and natural are made and play out their lives," Law (1997)) which appear to have at their centre a hero (Latour, 1988) and which draw things together (Latour, 1990) to create change and make a difference (Law, 1997). However, the concept of the central hero is one that ANT both adopts and questions (e.g. Latour, 1993a, Law, Moser, 1999).

Competence of individual project managers has been stressed but until recently with the global project on project manager competence (Crawford, 2000) there has been limited systematic investigation of the competencies which distinguish the excellent or high performing project manager. The problem is made more difficult by the different interpretations placed by different groups on the words "competence" or "competency". For some it refers to the accredited knowledge and skills a person brings to a job, such as a relevant degree and a clean driving licence. Some see it as the product of experience, as "having seen one like that before." For others competence can only be measured in its performance, in measurement against criterion statements (MCI, 1995). Still others look to underlying characteristics of people that enable them to perform well in a given job. Spencer et al (1994) write: "Most managerial jobs involve the task of planning and organising. The interesting question is what leads a person to plan and organise well and efficiently." In contrast, from an ANT perspective Callon (1999) is interested in people's competencies but sees the individual both as the *centre* of a network, "a power which enrols and dominates," and the *effect* of a network of human and nonhuman elements (as too Moser and Law, 1999).

In the professions there has been a heavy emphasis on knowledge as competence. Whitley (1989) wrote critically: "Some proto-professions attempt to legitimate their claim to professional status and monopoly of particular tasks by deriving their

expertise from a particular specialist area of formal knowledge." Project management has been no exception (Duncan, 1995; Turner, 1996). However, the recognition of the role of behavioural skills and underlying attributes is growing. Stretton (1995), for example, addressed this issue in project management against an Australian government background of competency development (Gonczi et al, 1990). The UK APM PMBoK (APM, 2000) states: "To be successful as a project management practitioner requires a combination of the right knowledge (allied to personal experience) and attitude (or behaviour)" and lists eight such behavioural characteristics.

Concentration on individual attributes and competence might suggest that having a good project manager was the only precondition for project success. As Wateridge (1996) pointed out, there may be many success criteria for a project (he named nine) and many critical success factors, only some of which are dependent on the project manager. These factors include the project and organisation structure (Andersen et al, 1987; Frame, 1987; Baker et al, 1988; Morris and Hough, 1987) the availability of the right resources (Pinto and Slevin, 1988a; Hastings, 1993), the extent of client involvement (Baker et al, 1988; Wateridge, 1996; Frame, 1987) and the project manager leadership style (Buchanan and Boddy, 1992; Baker et al, 1988).

In actor-network theory terminology project managers are actors within project networks and all networks are inherently unstable, requiring constant maintenance (Callon, 1986). Other actors, both human, technological and natural, exert dissident forces on the fragile project network: the project manager actor-hero may not prevail. However, we are used to stories of heroes making a difference (e.g. T E Lawrence (Liddell Hart, 1998), General Kutuzov (Tolstoy, 1869/1986) or Louis Pasteur (Latour, 1993a)) and in examples where projects that have drifted and become becalmed in technological or social uncertainty (for example the Aramis rapid transit project in Paris (Latour, 1996) or the Taurus project at the London Stock Exchange (Drummond, 1996)) it is easy to draw the conclusion that the main reason is the lack or incompetence of a project manager. Latour (1993a, p42) considers rather that we should distinguish two mechanisms at work: the first is how groups within and outside an organisation come together to support a project; the second is how they and we (and probably the project manager) attribute the success of the first to the intervention of a project manager. Latour does not deny the agency of the individual

but he wants to know how that actor leverages his own actions to draw together so many others.

1.2 The Research Process

The research process followed is shown diagrammatically in figure 1.1, identifying the objectives of each stage, the main bodies of literature reviewed and the practical research activities undertaken. The early part of the research used the tools and techniques of competence studies; later the analysis and interpretation of the findings was informed with reference to Actor-Network Theory. The implications of and justification for this shift in methodology is explored in chapter 3.

Twenty project managers were interviewed individually using the critical incident/behavioural event approach (Flanagan, 1954; Boyatzis, 1982) to focus the conversation on events where they felt they had achieved success or encountered problems in their recent projects. They were also asked to identify characteristics they considered important for project managers and to complete a questionnaire which asked for personal data and a self assessment of the degree to which the project managers performed standard project management tasks as defined by the PMI and AIPM. Three projects were also reviewed in their entirety by observation, interviews with participants (including the project manager in two cases, making twenty-one in total), and review of their documentation.

The project managers came from seven UK organisations (all but one publicly quoted): all functional as opposed to project based; two retailers, one transport provider and four in financial services. Interview data was transcribed and sorted to identify behaviour and characteristics exhibited by the project managers and then further analysed to create a picture of how project managers behave from an actor-network perspective. In ANT terms, Latour (1999) says we have to learn from actors themselves "not only what they do but how and why they do it."

Since the approach adopted is interpretive I also list below (Figure 1.2) the elements which I bring to this project so that my perspective may be visible to the reader.

Figure 1.1: The Research Process

Objectives/Tasks	Literature	Research Activity
• To understand why projects in my organisation were not succeeding.	Project management practitioner literature.	• Reviews of two projects with similar deliverables in the same organisation: one without an project manager and one with - including an interview with the project manager, Aaron.
• To understand the theoretical aspects of project management. • To understand the different approaches to determining competence. • To learn how to conduct research into competence. • To define research questions	Professional and academic project management literature. Academic literature on competence. Basic texts on methodology and methods such as behavioural event interviewing and content analysis.	• Working Paper 1, a literature review on competence. • Research proposal. • Training and practice in behavioural event interviewing and content analysis.
• To collect and analyse data from interviews and questionnaires.	Further texts on methodology and methods	• Administration, collection and analysis of questionnaires on project management practice. • Conduct of interviews A to E; transcription and coding through content analysis using strict BEI principles. • Conduct of interviews F to S; transcription and coding through content analysis using modified BEI principles and judgmental coding. • Re-analysis of interviews A to E using modified BEI principles and judgmental coding.
• To improve the quality of analysis.	More advanced texts on philosophy of science, postmodernism, Actor-Network Theory, Social Construction.	• Review of the Kingfisher Y2K programmes and projects including an interview with the project/programme manager, Wendy.
• To share with others the understanding gained.	Further texts on paradigm incommensurability and reflexivity and ANT.	• Interpretation of findings. • Writing up the thesis. • Working Paper 2 (Blackburn 2002), a description of what project managers do from an ANT perspective. • Obtaining feedback from academics and practitioners

Figure 1.2 Experiences brought to the study by the researcher

The experience of the practitioner, having programme managed two project organisations, and having managed significant projects in three organisations
The reflections of the participant observer, having process-audited several major projects in two organisations
The theoretical insights of the researcher, drawing on a wider and deeper literature than one encounters in practice
The skills of the interviewer and listener, both drawn from my daily work as an internal consultant and honed by training with Hay Management Consultants (1995) in behavioural event interviewing
The language and rhetorical skills needed to write this text

1.3 Summary of the findings

ANT notes that to summarise is to simplify and to punctualise, to make tidy what is partial, fragmented and heterogeneous: to claim speak on behalf of actants you have silenced. This summary is presented with that health warning.

In chapter 4 I describe codes, themes, clusters and areas that are the product of my interpretation of the interview transcripts as an index so that I could find stories, examples and quotations again easily. I borrowed a simple conceptual framework – a simple model of change management which states that getting from an original to an altered state does not only involve the *tasks* which must be gone through but requires attention to the *processes* involved and the *relationships* between the people involved.

In chapter 5 I analyse the stories in ANT terms, identifying examples of how the project managers problematised the project, placed obstacles between other actors and commitments apart from their projects, and enrolled those actors in the project to the extent that they were mobilised to speak on its behalf: thus showing the application of the sociology of translation (Callon, 1986) to project management. The total effect was that they placed project management, embodied in themselves and in the project documentation, at the centre of the project and made the project methodology the obligatory passage point through which the project and all its actors had to pass to reach its goals. In specific terms these project managers reported activities including:

- On coming into a project, identifying the other actors and spending time with each of them apart from the others to understand what they wanted and what they had to offer.
- Identifying further actors later and also dealing with them one at a time before being drawn into the group or kept apart as necessary.
- Translating the other actors' aspirations into the PM's own language in the project initiation document, the project plan and project management plan which were presented back publicly to the actors most directly involved as a group and to which all were asked to sign their agreement.
- Placing the project documents and the processes they represent between the actors and their other commitments in the organisation.
- Documenting what they considered the other actors wanted and added the crucial elements of project management: standard structures, key processes and single point accountability.
- Preferring to leverage the authority of other actors to exert pressure on other groups where they had no direct authority.
- Where they had direct authority derived from the accepted norms in the organisation, using it.
- Scanning the project for dissidence and reinforcing the project direction by monitoring it, formally and informally, and the project processes by repeated cycles of reporting, one to one meetings and group meetings.
- Mobilising the sponsor (and others) to act as spokesperson for the project.

I concluded that the linking together of project manager (human) and project management techniques embodied in documentation (non-human) represented a mutual reinforcement of both the technique and the hero. It also added a new dimension to the study of competence by exposing the network of other actors, human and non-human, on which the individual is dependent for what s/he is able to do at any time and at the same time exposing its transient nature.

1.4 Structure of the thesis

This thesis, like any other, is an actor-network built up from the work of others (as described in the literature review in Chapter 2), the powerful allies that support the methodology (Chapter 3), and the interpretation of the researcher (a representation of

the data which is given in Chapter 4 and further discussed in Chapter 5). Writing the text gives it substance and allows it to exert some influence upon its readers. Taking all the elements and getting them to work together will, if successful, translate them into an insightful portrait of the project manager at work.

Chapter 2 explores the literature on project management and finds much of it concerned with knowledge and quasi-scientific techniques; it explores the literature on competence/competency and finds it incomplete because it is focused on what the individual possesses or does, ignoring the contributions of other people, of material and natural objects, and of relationships, in leveraging more effect than one individual can achieve. I therefore also examine the principles of Actor-Network Theory (ANT), and relate both theoretical areas to the profession of project management. This forms the starting point for this study's contribution to knowledge.

Chapter 3 sets out the philosophical underpinnings to the research and the measuring sticks whereby the thesis can be evaluated. This includes the methods used in collecting and analysing data on project manager behaviour and the reasoning behind the choices exercised therein. I also examine the limitations and constraints thereby encountered.

Chapter 4 is a description oriented chapter which introduces the reader to the project managers whom I interviewed and the companies and projects they work with. Incidents from their stories are analysed to gain understanding of how they build and perform their networks. There is extensive quotation to allow the reader to share in the analysis.

In chapter 5 the data is interpreted first in early ANT terminology – which finds a good fit between Callon's (1986) moments of translation and the actions of project managers – and then in the light of later ANT preoccupations: the use of material elements to fortify the fragile human relationship network and achieve a degree of irreversibility; the tension between the project manager as hero and the decentring effects of actor-networks. This is a new perspective on project management.

Chapter 6 provides a summary of the insights gained and concludes on how the behaviours of the project managers contribute to the successful translation of

operational hierarchy into project network. It examines the relevance to employers of the findings: for example, how they can recognise project managers as network-builders; and how they can help or hinder project managers in their task. Having set out the limitations of this study it ends by considering directions for future research.

CHAPTER 2:

A REVIEW OF THE LITERATURE

"In military theory I was tolerably read... my interest had been abstract, concerned with the theory and philosophy of warfare especially from the metaphysical side."

T.E. Lawrence, *The Seven Pillars of Wisdom (1969 edition, page 193)*

* * *

2.0 The Nature of a Literature Review and the Structure of the Present Chapter

I do not believe that anyone comes to any topic in adult life without a farrago of theory, belief, prejudice and emotion. It is therefore advisable to inform yourself beforehand what others within a given community of practice or theory have already stated. The saliency of a text (and hence of its content) depends on the socially constructed view of its contribution — which depends on who has made the statement, what else s/he has published, where s/he works and which journal or other medium carried the message (Latour, 1987 p31), and who has read it and cited it. Latour (1987) also points out that the citation of others strengthens any text, even if the evaluation is by quantity more than quality (although the latter wins through with the probing reader who follows up the references).

Hart (1998) defined a literature review as:

"The selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence written from a certain standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed."

This definition has the advantage of being very broad: it can encompass differing points of view of the researcher, and of the community in which the research is based; it can have differing aims and views on the nature of the topic; it can envisage differing approaches to the research. This is useful since the purpose of a literature

review can vary depending on the philosophical standpoint of the researcher.

The traditional view may be summarised as a survey of previous writing as a familiarisation exercise and search for gaps and inconsistencies leading to the formulation of hypotheses concerning areas that need further or new research — looking, like Jemima Puddleduck, for a safe place to lay research eggs. In contrast, those writers who draw a distinction between academy and praxis or the proponents of grounded theory point out that it is also possible to *"use pre-existing theories only to illuminate particular points or to substantiate theoretical approaches as they arise in the research"* (Playdon, 2000) and that only after collecting and interpreting empirical material is it possible to establish similarities and convergences with the literature (Glaser and Strauss, 1967). In other words the literature review may come before, during or after reference to the empirical world.

However, when the results of sifting through the literature are presented, the chronological nature of the review (as opposed to the chronology of its contents) may be camouflaged accidentally or on purpose. In fact, to represent the whole in a logical order to the reader it is probably necessary to conceal the manner of its collection deliberately. Figure 2.1 below shows the logical structure of how this literature review will unfold. Its aim is to define and explore the fields of project management, competence and actor-network theory to provide useful background to how project managers conduct themselves in their work, and different perspectives to challenge accepted views and thus broaden understanding.

Section 2.1 introduces project management as an activity and its practitioners' attempts to establish themselves as members of a knowledge-based profession. In section 2.2 what factors may be involved in the success or otherwise of a project are briefly considered — and it is concluded that for most project management writers the key factors involve the knowledge and skills of a competent project manager. Section 2.3 describes the work of academics who have attempted to add empirical evidence to the theories of what makes a good project manager. In section 2.4 the accreditation of the performance of professionals is reviewed from the perspective of the standards view of competence – which links back to section 2.1 (the rise of project management as a profession) and forward to 2.6 (which considers professionalism more generally). The standards view of competence is contrasted with the behavioural view of

competencies in section 2.5.

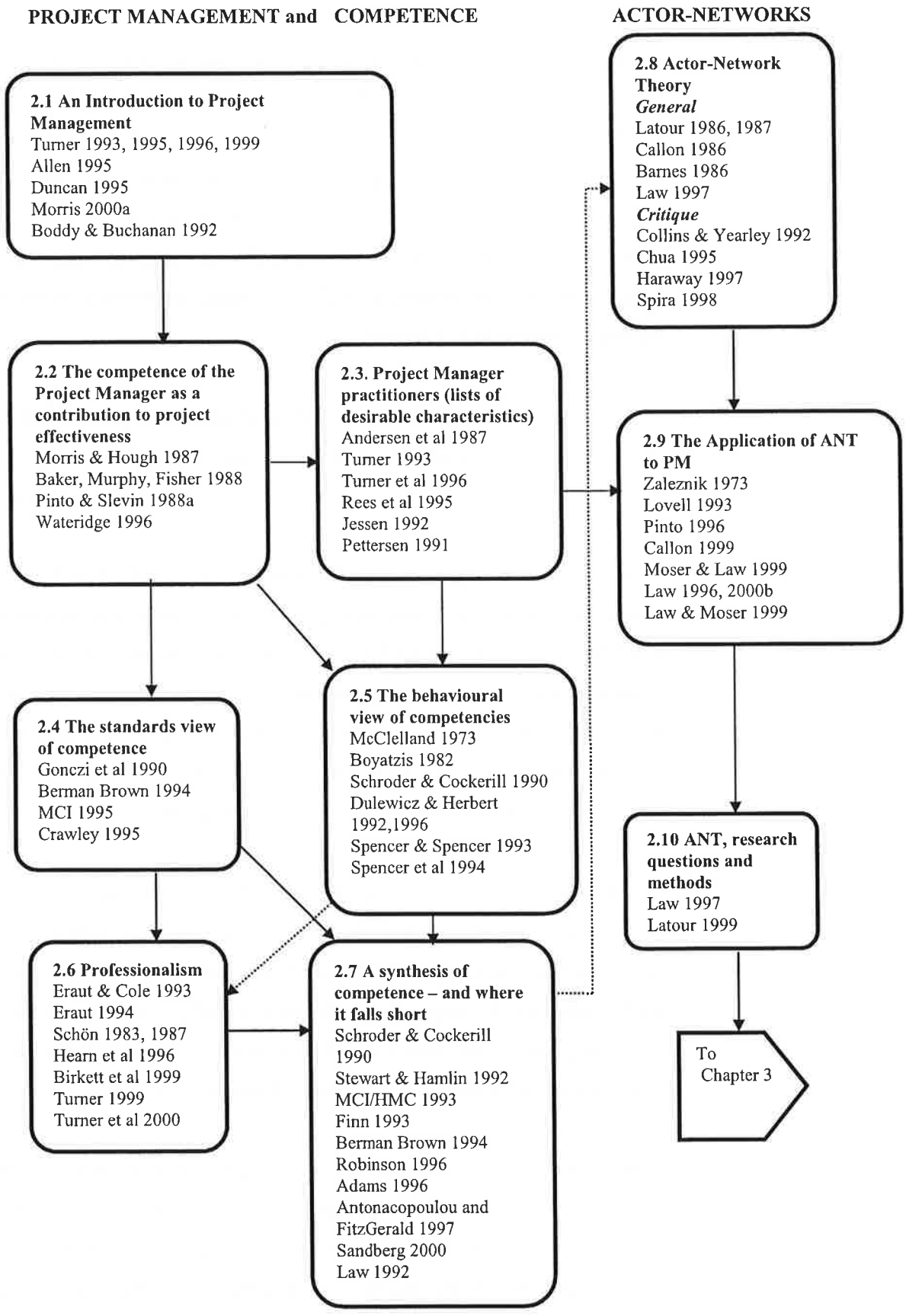
Section 2.6 reviews the understanding of what it is to be a professional and section 2.7 then attempts to synthesise these three aspects of competence: standards of performance, behavioural competencies and professional knowledge and skills. However, continuing exposures to project managers showed me that there was another element to the behaviour of the experienced professional project managers I interviewed: again and again their stories told me about social networks and leveraging movement off powerful stakeholders as well as a hammering insistence on the technology of project management processes. Looking for insights from the literature I turned to Actor-Network Theory (ANT).

Section 2.8 introduces the basic concepts and terminology of ANT and presents some of the critique in which it has been engaged. In section 2.9 I examine the relevance of ANT to project management and explore its perspective on competence. Section 2.10 reviews ANT's attitude to research questions and methods and concludes that this approach can be adopted to research the contribution of project managers to projects. Issues then arising from the use of what could be considered incompatible paradigms are discussed in Chapter 3.

Figure 2.1 is a route map, an attempt to present the reader with alternative combinations and flows of ideas so far as can be done without creating this document on a series of hypertext web pages. A list showing a logical linear progression from a problem to a new perspective via a variety of existing perspectives would fail to show the links, inferences and multiple routes between the groups of texts under review (Haraway, 1997, p 231).

It would be naïve to suggest that all of the texts were reviewed before I went into the field. In fact, some of those writers whose ideas I did not meet until after concluding the interviews have had the greatest influence on my analysis and interpretation.

Figure 2.1: A Route Map of the Literature Review, citing key references only



2.1 An Introduction to Project Management and its professional bodies

I begin by defining what is meant by project management and examining how its practitioners have begun to establish claims to its being a profession.

People have embarked on major activities, both unique and repetitive, since pre-history. While the evidence of many repetitive prehistoric activities such as food production is now mostly fragmentary, the products of some unique ancient undertakings such as Stonehenge still stand. Today we would most probably manage building Stonehenge as a project:

> *"A combination of human and nonhuman resources pulled together in a temporary organisation to achieve a specified purpose."*
>
> (Cleland and Kerzner, 1985).

However, just as management of operations was only formalised in scientific management in the nineteenth century by Taylor, so project management had to wait until the 1950s for its formal birth as a modernist collection of tools and techniques orientated towards novelty and a unique scope of work (Turner and Peymai, 1994). Key to this was the project management triangle (Turner, 1993, p11, but note that he considers this traditional view far too simplistic) of time, cost and quality: no change can be made to any of these elements without impacting the other two.

As Black (1990) notes, the key paradigms of the present form of project management are rooted in technological and scientific, military and space traditions. Turner (1993) describes how it was originally systems based and more concerned with the hard side of technological developments. Only more recently was the concept seen to have wider application and even technological projects were recognised to have human implications for the people they affected (Andersen et al, 1987).

Duncan (1995) states that the US Project Management Institute (PMI) was founded in 1969 to pull together the management practices common to project management in diverse industries and so gain recognition for project management as a profession. It thus focused on common practices "to develop a consensus that there *is* a common body of knowledge, and that there *is* a project management profession." (Duncan,

1995). By 2000 the PMI had more than 60,000 members worldwide. It awards a qualification in project management (PMP) and there are 20,000 PMI certified PM Professionals world-wide in 2000. (www.pmi.org).

Allen (1995) describes how the PMI began development of a project management Body of Knowledge (PMBoK) about 1980 "with the objective of defining the scope and structure of project management as *a requisite for the development of a distinct project management profession.*" (my italics). Turner (1999) contends that it is questionable whether project management or any other management can be defined by knowledge. Duncan (1995) adds that the PMBoK was misnamed, as it was never intended to provide a PMBoK in the sense of a comprehensive encyclopaedia of project management. The later editions (1996, 2000) are now called "A Guide to the Project Management Body of Knowledge". The intention was to "[move] the document in the direction of establishing a comprehensive set of professional standards, principles and practices that will be used publicly as a measure of project-management performance." (Allen, 1995).

There are national associations of project managers throughout the world and there have been attempts to create international liaison between the national bodies (e.g. Wirth and Tryloff, 1995; Turner, 1996). There are also several professional associations in the UK to which project managers may belong. Arguably the Association for Project Management (APM) is the most significant of these because it does not represent any one industrial sector such as engineering, construction or information technology and is therefore well placed also to support project managers in financial services and other non-traditional industry sectors.

The professional knowledge framework for project management is well catered for by others in addition to the PMI. Wirth and Tryloff in 1995 pointed out that at least ten national or international organisations were working separately on PM BoKs and five more deciding whether to write their own or use someone else's. The APM first published a Body of Knowledge in 1992 (Willis, 1995) and updated it in 1996 and more radically in 2000 (Morris, 2000a). Despite some minor differences there is a good degree of consensus on what knowledge a project manager uses.

The PMBoK (2000) defines nine areas of project management knowledge and five

process groups. The knowledge areas are:

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management.

The five process groups are:

- **Initiating Processes:** Recognising that a project or phase should begin and committing to do so.
- **Planning Processes:** Devising and maintaining a workable scheme to accomplish the business need that the project was undertaken to address.
- **Executing Processes:** Devising and maintaining a workable scheme to accomplish the business need that the project was undertaken to address.
- **Controlling Processes:** Ensuring that project objectives are met by monitoring and measuring progress and taking corrective action when necessary.
- **Closing Processes:** Formalising acceptance of the project or phase and bringing it to an orderly end.

The PMI uses its PMBoK as a basis for the PMP examination, although it offers PMI membership on application without passing the examination.

The APM BoK (APM, 2000) lists 42 topic areas clustered into seven groups: general, strategic, control, technical, commercial, organisational and people. Five processes are also identified: opportunity identification, design and development, implementation, handover and post project evaluation. Despite the differences in approach there is a common core to both the PMI and APM BoKs, the latter reflecting a more recent update and a longer standing concern with personal effectiveness in project management.

The UK APM offers two professional qualifications, the APMP and the Certification.

The former is a multiple choice examination based around the APM BoK whilst the latter is a test of professional competence based on experience of managing a project or projects. Projects are categorised into four levels and applicants must have had experience of managing a project above level one (single discipline, single company). Membership is shifting to become contingent on passing the APMP examination.

Its subsequent use in this study as the basis for a questionnaire of project manager behaviour and competencies requires mention of the National Standards of Competency of the Australian Institute of Project Management (AIPM). Based on the PMI PMBoK, the AIPM Standards denote three levels of project management expertise, known as levels four, five and six. Level four is a project team member, level five is a project manager of a smaller project or sub-project manager in a larger project, level six is the manager of a major project (involving many disciplines and many companies). These are aligned with the Australian Standards Framework which is similar to the UK NVQ system and the same numbered levels are approximately equivalent to NVQ levels 4 and 5.

Turner and Huemann (2000) go beyond certification programmes to describe professional education for project managers. New entrants to a profession have usually acquired some knowledge and skills which mature over time. A professional worker may therefore work at different tasks at different stages in his or her career: initially concentrating on technical problem solving and later requiring a greater proportion of management skills. Turner (1995) describes a three dimensional competency model used by the Digital Equipment Company: *I know, I can do* and *I adapt and apply*. "As a person's competence develops, they need proportionately more and more capacity in the lower two in order to achieve competence in the top dimension." (Turner, 1996) In this a project manager may differ from a general manager, since, despite seniority, the technical element is still important to his or her professional work in addition to the growth of the managerial aspects of the job.

While project management has been establishing itself as a profession (Wideman, 1995), there has been a growing recognition of project managers outside traditional project industries and an interest in generic project management techniques for those dividing their time between projects and operational management.

When project management is discussed by non-specialists, there is a noticeable

tendency to the belief that its skills relate entirely to the use of a limited number of scheduling techniques, notably PERT-CPM. This is like saying that accountancy consists of nothing but discounted cash flow calculations. For example, Lord (1989) noted that the project management roles investigated had much in common with general management but generally lower status and greater dependence on methodology and support provided by planning and control systems. Frame (1987) identified poor planning and control as a source of project failure and Wateridge (1996) listed planning and management methodology among his critical success factors. Baker et al (1988) qualified this: the "judicious use of PERT-CPM" was associated with success, particularly in terms of time and cost targets, but when too much detail was used the tool would become too bureaucratic and time-consuming to maintain.

However, both within project management and outside the specialism there is an awareness not only that PERT-CPM is not the only tool available but also that it is not readily applicable to all projects (Andersen et al, 1987). In its place, and in addition to the traditional expertise areas of project management, they recognise a range of interpersonal and influencing skills (Lord, 1989; Kerr, 1989; Tampoe, 1989; DiMarco et al, 1989; Pinto and Pinto, 1991; Boddy and Buchanan, 1992; Strohmeier, 1992; Pinto and Kharbanda, 1995; Cleland, 1995).

As McGrath et al (1995) point out: *"A principal mechanism through which organisations develop new competitive advantages is through the pursuit of new initiatives — attempts to add new products, markets and technologies to its current repertoire."* Similarly Archibald (1988) notes that *"Step-wise growth occurs when the organisation goes beyond growth by accretion and initiates discrete actions to expand or improve: new products or services, new markets, new processes or production facilities, new information systems, new organisational patterns, new people."* He adds: *"when the steps become significant in size, they clearly are recognisable, and are, in fact, projects."* Thus operationally oriented organisations (such as retailers, manufacturers and financial services companies) need project-based management as well as operational line management if they are to innovate and remain competitive.

When in a professional capacity I reviewed company projects within several retail organisations, I concluded that some of the strengths of its lean, low-cost functional

management are likely to become weaknesses when innovation is required (Blackburn and Bell, 1999). These include:

- the stability of simple, repeated tasks which can be learned by experience and do not need formal specification of requirements;
- loyalty to a single manager or function;
- specialist knowledge which does not extend beyond the function;
- acceptance of routine tasks.

In contrast, in the project context writers have stressed the need for clearly defined objectives (Briner and Geddes, 1989), tolerance of uncertainty and ambiguity (Posner 1991), matrix reporting structures (Hollis 1993, Andersen et al 1987, Argyris 1989, Chambers 1989, DiMarco et al 1989), and understanding of cross-functional issues (Sparrius 1994, Cleland 1988a, Pinto and Pinto 1991, Cleland 1995).

In the opinion of some writers, tried and trusted operational management techniques are no longer so effective. Although Argyris (1989) believes "the old forms are going to be more effective for the routine, non-innovative activity that requires little if any internal commitment by the participants", he sees the future as being more effectively managed through a matrix organisation. Turner, Clark and Lord (1990), and Boddy and Buchanan (1992) stress the tension between the functional structures and the management of projects.

> *"The task will often be unfamiliar, done by staff who are working together as a temporary team, with longer term responsibilities elsewhere in the organisation. The manager's direct authority over the project team, and over those whose support is needed, will typically be ambiguous..."*
>
> Boddy and Buchanan, 1992

Hence project management is established as delivery of a specified objective, technological or otherwise; within a project-based or a functionally structured organisation; using knowledge of a body of tools and techniques, combined with interpersonal skills.

2.2 The Competence of the Project Manager as a Contribution to Project Effectiveness

This section examines what is meant by a successful project and the contribution to that success from the project manager.

A successful project might appear superficially to be one which meets its objectives for time, cost and realisation of the specification. To this Baker et al (1988) added *perceived* project success. This was reinforced by Morris and Hough (1987) who noted the successful nature of several projects such as the Thames Barrier despite delays and cost over-runs. Wateridge (1996) concluded that for a project to be agreed to be successful on completion the criteria for its success should be agreed at the outset. Hartmann (2000) also considered that the success of projects needed to go beyond time, cost and specification and referred to 'perceptions of success' recognising an inevitable subjectivity which has been further explained by Wilemon (2000) who notes that successful experiences for project managers are not necessarily the same as the successful achievement of project goals.

The factors considered by four key writers (Morris and Hough (1987), Pinto and Slevin (1988a), Baker et al (1988) and Wateridge (1996)) as instrumental to project success are summarised in figure 2.2.

Morris and Hough (1987), drawing on case studies of major projects, list nine dimensions of project success and note:

> *"Whereas senior managers consider the causes of missed schedule and budget targets to be often due to inadequate project definition, planning and control, the 'real' reasons... are in the 'social' areas, specifically: problems with organising the project team; weak leadership; communications problems; conflict and confusion; and insufficient upper management involvement."*

Pinto and Slevin (1988a) report a study of 418 PMI members via questionnaire to investigate the authors' development of a ten factor critical success factor model for project management success. To these (the first ten factors in figure 2.3) they also added four external factors: the effects of environmental events (i.e. events outside

the project manager's control), client acceptance, having the right personnel on the project, and the ability to work one's way out of trouble. Of these only environmental events were also seen as critical to project success by other writers quoted here.

Baker et al (1988), reporting on a study of 650 projects at NASA, list ten factors which they deem strongly linearly related to the perceived success and failure of projects plus the added factor of teamwork. They also add 29 characteristics of project

Figure 2.2: Factors in Project Success

Factor	Pinto and Slevin, 1988a	Wateridge, 1996	Morris and Hough, 1987	Baker et al, 1988
characteristics of project leader	✓	✓	✓	✓
communication	✓	✓	✓	✓
monitoring and feedback	✓	✓	✓	✓
project schedules and plans	✓	✓		✓
top management support	✓	✓		✓
client consultation	✓	✓		✓
clear project mission	✓		✓	✓
technical tasks: degree of uncertainty and innovation	✓		✓	✓
power and politics; organisational form and structure	✓		✓	✓
urgency or importance of project	✓		✓	✓
teamwork			✓	✓
environmental events	✓		✓	
client acceptance	✓			
trouble-shooting	✓			
right personnel	✓			
motivation		✓		
management methodology		✓		
delegation		✓		
development methodology		✓		
financial, legal and contractual matters			✓	
labour relations			✓	

failure and 23 characteristics which they considered necessary but not sufficient for project success. Their work, together with twelve other papers, has been used as the foundation for a study by Crawford (2000) which identified 24 success factors. She concludes that "with the possible exception of Organisational Support, Organisational

Structure and Team Selection" all the factors came back directly to competences exhibited by the project manager and she argues that each of these others are also open to influence from the project manager.

Wateridge (1996) as a result of his questionnaire based research arrived at a matrix model of nine Project Success Criteria and eleven Critical Success Factors in which he attempted to match up the success criteria or outputs (commercial success; meets user requirements; meets budget; happy users; achieves purpose; meets time; happy sponsor; meets quality; and happy team) with the critical success factors or inputs (leadership; motivation; planning; development methodology; monitoring; management methodology; delegation; communication; clear objectives; user involvement; and top management support).

The project success factors most commonly cited by these four authors are the characteristics of the project leader, communication, and monitoring and feedback on project progress (Crawford, 2000). The last presupposes some kind of project schedules and plans which three of the four writers consider to be success factors. All of these are dependent on the characteristics and skills of the project manager. The need for top management support, client consultation, a clear project mission and appropriate organisational form and structure are also recognised by three of the four. Three out of four also recognised that the degree of uncertainty and innovation, and the urgency or importance of the project may have a negative impact on its eventual success.

Baker et al (1988) point out that *"a very high proportion of the key factors associated with success are within the control of the project manager or the project team."* They state that three types of skills are important: technical, human and administrative, and in that order of importance. This does not accord with the views of other writers who would unequivocally put the human skills first. For example, Kharbanda and Stallworthy (1990) stated: *"...ultimately it is the human factor in a project, far more than the tools or techniques, including IT, that determines success."* Kerr (1989) noted the attitude of the project manager as a critical factor in achieving project success. Frame (1987) considered project success was due to the project manager's ability to influence others. Thamhain (2000) described the effective project manager as *"usually a social architect who understands the interaction of organisational and*

behavioural variables and can foster a climate of active participation and minimal dysfunctional conflict."

Baker et al (1988) reviewed leadership style separately and concluded that for the majority of projects the leadership style of the project manager should be task-oriented with social orientation as a backup. They say that this suits both favourable and unfavourable situations: intermediate situations require a nondirective leadership style. Buchanan and Boddy (1992) are more prescriptive:

> *"Directive management as a source of access to resources and commitment in such circumstances has to be replaced by the discrete and tactful exercise of influencing and negotiating skills."*

Cleland (1988a) notes that the basis of authority will come from knowledge, skill, personal effectiveness and attitudes more than from the legitimacy of an organisational position. Wilemon (2000) asked project team members to assess effective project management and concluded that in their perception it rested first in team management skills, then in personal qualities and finally in managing project processes.

Both practitioners and project management academics recognise that there are many factors contributing to project success, whether it is concrete or perceived, but return again and again to the contribution of the project manager. They stress technical knowledge and interpersonal skills, and hint at a less tangible quality which is sometimes referred to as attitude. Section 2.3 now expands on competent behaviour among project managers as it has moved from the definitions of experts to the subject of empirical academic research. In section 2.9 I shall return to the subject of individual competence as a component in achieving project success and find that sociology offers a different perspective.

2.3 Project Management Practitioners and the Characteristics of Effective Project Managers

Until recently the skills and behaviours required of professional project managers have mostly been defined by experts, both academic and practitioner, rather than derived from analysis of competent practitioners. Starting with the professional

bodies, the APM BoK (2000) lists and describes the following eight behavioural characteristics of a Project Management Professional:

- Attitude
- Common sense
- Open-mindedness
- Adaptability
- Inventiveness
- Prudent risk taker
- Fairness
- Commitment.

The 1996 version added:

> *"Personal characteristics necessary to fulfil the function of a project manager will be given very high priority in assessing whether a member of the APM can use the designation Certificated Project Manager."*

The 2000 version states:

> *"... to be successful as a project management practitioner requires a combination of the right knowledge (allied to personal experience) and attitude (or behaviour)."*

However, there is no empirical evidence cited to support the APM list. It is similar to the lists produced by Pettersen (1991), Andersen et al (1987) and Jessen (1992) which will be discussed below. Similarly Cleland (1995) considers project managers have vision, the ability to influence (through charisma, knowledge, skills, political savvy, networks, interpersonal skill, the ability to communicate, empathy, and coaching techniques), and the ability to inspire others. Verma (1996) considers that project managers' skills include being high achievers, able to co-ordinate and integrate across multi-functional lines, familiarity with the operations and strengths of all functional departments, and strong communications and interpersonal skills.

Andersen et al (1987), Turner (1993), Turner et al (1996) and Rees et al (1995) report an exercise to identify six traits for effective project managers: problem-solving ability and results orientation, energy and initiative, self-assured personality, sense of perspective, good communications skills and negotiating skills. Turner (1993)

describes the basis of this list: selection by international course delegates, individuals and teams, of six traits from a longer list of nineteen. All nationalities approached, except for the British managers, also included technical competence in their selection.

Jessen (1992) listed the characteristics of an effective project manager as: creativity, innovation, new way of thinking, ability to define concrete aims and objectives for work output, skills in planning and organising task production, ability to establish priorities and make decisions, insight into forces behind motivational and demotivational reactions amongst team members, curiosity and ability to accept and handle change, knowledge about and ability to mediate information and communication plus acceptance of hardship and willingness to compete.

Pettersen (1991) used the literature to draw up a list of predictors for selecting effective project managers and equated performance with a combination of abilities, motivation and personality. His inclusion of specialised knowledge, descriptions of effective actions and inner qualities such as loyalty, self confidence and the need to achieve results reflects his use of the work of Boyatzis (1982) as well as specialist project management writers. However, his list, like the others, is susceptible to similar criticisms to those Boyatzis (1982) levelled at what he called the theory or panel approach to competence definition (he also referred to such lists as "laundry lists"). Those criticisms were that experts may innocently invent espoused theories of idealised behaviour rather than realistic theories in use (Argyris, 1989); that the characteristics identified may not be behaviourally specific enough to assess; and that they are not empirically tested against performance data.

Figure 2.3 compares the characteristics identified by Pettersen (1991), Jessen (1992), Andersen et al (1987) which show the similarities and differences in their approach. Personal qualities and interpersonal relationships are included in both Pettersen (1991) and Andersen et al (1987), but not explicitly in Jessen's list (1992), although much of his book is concerned with leadership qualities. Again Pettersen (1991) and Andersen et al (1987) include specialised knowledge and technical competence respectively but Jessen (1992) only implies it in skills in planning and organising task production. And although all three consider their lists to be characteristic of effective project managers, they are unsupported by empirical evidence of their actual or

relative importance or, from a functionalist perspective, of their predictive reliability.

Figure 2.3: Comparison of Pettersen's, Jessen's and Andersen's lists of project manager qualities

Pettersen (1991)	**Jessen (1992)**	**Andersen et al (1987) Turner (1993) Rees et al (1995)**
A. Problem solving		
Problem analysis	Creativity, Innovation, New way of thinking	Problem-solving ability and results orientation
Judgement and practical sense		Sense of perspective
Decisiveness	Ability to make priorities and decisions	
B. Administration		
Planning and Organisation	Ability to define concrete aims and objectives for work output	
Control	Skills in planning and organising task production	
Strategy and organisational know-how		
Specialised knowledge		Technical competence
C. Supervision and Project Team management		
Delegation of Responsibilities		
Team structuring		
Consideration towards team members		
Development of team members		
Teamwork, flexibility and co-operation		
Resolving conflicts		
D. Interpersonal relations		
Oral communication		Good communications skills
Interpersonal influence, persuasion and negotiation		Negotiating skills
Ascendancy		
E. Other Personal Qualities		
Need to achieve and Proactivity		Problem-solving ability and results orientation
		Energy and initiative
Self-confidence, maturity and emotional stability		Self-assured personality
Loyalty, honesty and integrity		
Tolerance towards ambiguity and openness to change		
Interest in the job		

Empirical studies have been carried out for individual companies, many on a commercial basis. Baker et al (1988) looked at factors for project success at NASA. Mulenburg (2000) explored project managers' Myers-Briggs personality types there. Leonard et al (1996), also at NASA, compared fourteen excellent project managers

against fifteen average comparators. Strohmeier (1992) surveyed 58 project managers and 59 line managers in a German aerospace company. He identified four areas of interpersonal problems: influence and motivation; conflict; communications; and teamwork and co-operation. He concluded that project managers did not require any special type of development but that "the discipline cannot use people with no fundamental social competence".

There have been far fewer cross company studies. Gadeken (1986, 1989, 1991) compares two studies, one carried out with 60 program managers working for the US Department of Defense, the other with 15 project managers working for the UK Ministry of Defence. He used behavioural event interviews to elicit data from 'exemplary' project managers selected by their employing organisations and validated his findings with surveys of 128 US and 111 UK project managers. He identified eighteen behavioural competencies: six which he considered differentiated the higher performing project managers, five more which possibly were differentiators and seven that both groups had in common. He later (Gadeken, 2000) reduced the differentiators to just two: *strong commitment to a clear mission* and *thriving on relationships and influence.*

Buchanan and Boddy (1992) carried out some qualitative research on individuals from several organisations but their emphasis was on the amateur practitioners. They arrived at fifteen competencies grouped into five clusters developed from content analysis of diary transcripts from a sample of managers of change projects. However, they called them unremarkable, perhaps because they reflected general management competencies.

The major international study of project manager competence in the 1990s has been that led by Lynn Crawford (Crawford, 1996; 2000). The main measures used were a knowledge test, using multiple choice questions drawn from sample PMI PMP examinations; and a self assessment against the AIPM National Competency Standards. Neither of these provides data on behavioural characteristics.

This section therefore concludes with the observation that whilst it is recognised that personal characteristics and behaviours are important to the effective performance of a project manager, and some writers have attempted their own lists of behaviours,

empirical studies of project manager behaviour have been relatively limited.

The following section, 2.4, looks at the type of competent behaviour modelled in performance standards such as the AIPM National Competency Standards, and then section 2.5 contrasts that with the behavioural competency school and section 2.6 with the concepts of professionalism.

2.4 The Standards View of Competence

The literature on competence divides into three main areas (performance standards (section 2.4), behavioural competencies (section 2.5), professional knowledge and skills (section 2.6)) and extends into a number of related areas such as personality, motivation, the competence of teams and organisations, and most recently into emotional intelligence.

If the term competence is used by a management practitioner it is likely to be in the context of recruitment or possibly appraisal. Organisations define job descriptions and person requirements in job profiles and recruitment advertisements. Smith D et al (1989) note that employers' lists of what they are looking for may have the same words but many different meanings. Finn (1993) states that they "... produce a list particular to a specific role within an organisation; the list will describe competent employees by what sort of people they are, what level of education they have attained and what skills they have." And yet the practitioner will often state that holding a particular qualification does not predict competent performance. Reliance may be placed on years of experience in similar work or on aptitude testing. The interview is frequently used to assess in general terms the sort of person, sometimes assisted by psychometric testing.

In terms of appraisal a person may be deemed competent if he or she has shown that he or she can do what his manager expects of him or her because he has done it. Cabanis (1996) writing of knowing how to do a job states: "Here at last is the area of career development that we are most comfortable with: the portfolio of demonstrable skill, the list of projects on the résumé, of tools mastered and certifications won." It is implied that an individual will therefore be able to repeat the performance. However, it does not explain how and why the performance was achieved.

Leaving for the moment the issue of professionalism, there are two main schools of thought on the competence/ competencies of individuals. They share the same or similar name but divide fairly consistently on a number of characteristics which will be described below and are summarised in figure 2.4. The key point of division can be described in terms of the questions its adherents wish to address. Finn (1993) draws the distinction between competence and competencies clearly. What may be termed the behavioural or *competencies* model (section 2.5) looks at the highly effective manager and asks what is it about him or her as opposed to other less effective managers that has made him so effective. The other, standards based, *competence* model (this section) concentrates on the job and asks whether a manager has carried out the tasks specified.

There is a well-trodden method for identifying new competence standards. Outcome competences are identified via a functional analysis technique which breaks jobs down into constituent parts and describes what a person needs to do element by

Figure 2.4: Comparison of behavioural and standards models of competence/ competency

Behavioural model :"Competencies"	Standards model :"Competences"
Focused on the individual, the superior performer in the role	Focused on the job and on the minimum competence levels
Aims to predict competent behaviour	Sets criteria for recognition or accreditation of competent performance
Competencies can be motives, traits, self-concepts, attitudes or values, content knowledge or cognitive or behavioural skills.	Competences are standards of performance which are recognised by some writers to draw on knowledge and understanding on the one hand and personal characteristics on the other
Favoured by companies	Favoured by governments and professional and trade associations as capable of efficiency assessment

element in order to fulfil the requirements of that job. Finn (1993) states that outcome competences *"...are an ability to perform a task satisfactorily when the task is clearly defined and the criteria or standards of success have been clearly outlined."* Finn (1993) also notes that they have been criticised for breaking up management roles and tasks and thus failing to see the whole. Many writers (for example, Johnston and Sampson, 1993; Berman Brown, 1994; Stewart and Hamlin, 1992, 1992a, 1993, 1994) consider that human skills are integrated and holistic rather than separate and incremental; they are *"overarching competences such as analysis, synthesis, balance and perspective which transcend contextual limitations."* (Johnston and Sampson,

1993). Thus the breaking up of jobs into elements is not realistic. However, on this highly control-oriented basis systems of standards have been drawn up to support job related qualifications, providing an immediate practical reason for their use.

Stewart and Hamlin (1992) also identified two problems with the concept of competence standards as outcomes. In the first instance, outcomes are often not assessable because their product, tangible or intangible, cannot be evaluated in the short term or needs some reference point to determine its success. This is the same issue as declaring a project successful: did it deliver time, cost, quality and what the sponsor ordered; and will it still be standing in twenty years time (which does not facilitate prompt feedback to the project manager). Second, the wording of standards is universally phrased with verbs: "identifies fault and carries out cost effective repair;" not nouns and adjectives: "television functional on all channels". They argue that the latter is the form of expression of an outcome, the former is actually describing a process. Despite Mansfield's (1993) counterargument distinguishing outputs from outcomes, Stewart and Hamlin's (1994) point remains valid: despite defining competence as performance standards, the descriptive terms used are phrased as processes.

As the behavioural competency model has become more widely known, further criticism of outcome competencies has included a lack of clarity in their relationship to knowledge and personal skills (Stewart and Hamlin, 1992, Crawley, 1995); that they are threshold rather than superior performance competencies, that they ignore process competencies, they do not account for personal development over time and that they concentrate on the external and measurable when development is internal and subjective (Finn, 1993). A criticism which may be levelled at outcome competences (and also at behavioural competencies) is that unless the management of change is specified and described as elements in the standard, the model is static and fails to take account of a changing environment.

Since an area where the Standards model falls short is in explaining the underlying knowledge, skills and attributes which the competent performer brings to his/her role in order to achieve the outcomes, one of the bodies involved in vocational qualifications, the Management Charter Initiative (MCI), has produced standards for management which attempt to bridge the gap between standards and behavioural

competencies (MCI, 1995) by including a personal competency model to identify the behavioural competencies that distinguish superior performers. The MCI standards stress that performance of the competence elements is underwritten by knowledge and understanding on the one hand and by personal characteristics on the other (Henley Management College, 1993). Crawley (1995) states that organisations may not accept or use the MCI Standards because their link to NVQs is seen as too narrow, whilst their generic nature makes them less obviously relevant to specific management job roles. This is borne out by Matthewman's survey (1995): *"NVQ and MCI standards are being introduced for front-line operational and sales staff, while behavioural frameworks tend to be favoured for managerial, specialist and professional groups."*

The other omissions are ethics and values which have been left out of the competence standards but which might be considered essential to superior performance in most occupations but particularly with regard to professional workers (Eraut, 1994). Morris (2000b) also notes the lack of research interest in ethics and values in project management.

For project management there now exist several standards based competence models. The Australian Institute of Project Management (AIPM, 1996) has developed National Competency Standards for Project Management (Stretton, 1995). These standards (described in section 2.1 above) were arguably the first project management standards to be published although in the UK there are now NVQs in Generic Project Management (levels 4 and 5) from the Engineering Organisation Standards Group and in Construction Project Management (level 5) from the Construction Project Management Group. The AIPM Standards are organised according to the nine knowledge areas defined by the PMBoK (1996, 2000). Thus the AIPM has adopted a basic map of the knowledge underlying each area of performance and intends to combine these assessments with work-based assessments by the employer (Stretton, 1995).

Section 2.5 now looks at the main alternative view of competence.

2.5 The Behavioural View of Competencies

Although Adams (1996) considers the origins of the competency based education and

training movement can be traced back to the 1920s, the behavioural model probably had its origins in the late 1960s when the US Information Service found that scores on written examinations did not predict success in the subsequent job as rated by performance on the job (Spencer et al, 1994). They were also often biased against minorities, women and people of lower socio-economic status (Spencer et al, 1994). McClelland (1973) identified principles for doing research to identify competency variables which he considered did predict job performance and which were not biased (or at least, were less biased) by race, sex or socio-economic factors. These principles were the use of criterion samples (comparing people clearly successful in jobs or life outcomes of interest to the researcher with people less successful in order to identify those characteristics associated with success) and the identification of operant thoughts and behaviours causally related to these successful outcomes (Spencer et al 1994). McClelland had previously worked on motivation (McClelland, 1961, McClelland and Winter, 1969, McClelland and Burnham, 1976) and he adapted methods used there to his study of competency (Spencer et al, 1994): the Behavioural Event Interview technique combining elements from Flanagan's critical incident method (Flanagan, 1954), the Thematic Apperception Test (McClelland, 1961) and scoring of transcripts by Content Analysis of Verbal Expression (CAVE) (Zullow et al., 1988).

McClelland (1973) considered that competencies can be motives, traits, self-concepts, attitudes or values, content knowledge or cognitive or behavioural skills. His followers define competence as an underlying characteristic of a person which results in effective or superior performance, focusing on work roles rather than on jobs (Spencer and Spencer, 1993). Finn (1993) summarises this stating that competencies are, therefore, groups of behaviours that competent people carry out better than others. Competency includes what people should be able to do in a job, not only what they can or do do. (Finn, 1993).

McClelland's work was extended by Boyatzis (1982) and by McClelland's consultancy firm, McBer Associates (later part of Hay Management Consultants). Boyatzis (1982) identified six clusters of generic competencies which would predict superior performance in any management role as opposed to specific competencies seen in superior performers in specific jobs. He also defined the concept of threshold competencies. Finn (1993) states that this *"is a person's generic knowledge, motive,*

Figure 2.5: Summary of Management Competencies (after Boyatzis, 1982)

Cluster	Motive	Trait	Self-concept	Skill
Goal and action management	concern with impact			concern with impact
			diagnostic use of concepts	diagnostic use of concepts
	efficiency orientation		efficiency orientation	efficiency orientation
			proactivity	proactivity
Leadership				conceptualisation
			self confidence	self confidence
			use of oral presentations	use of oral presentations
			logical thought*	logical thought*
Human Resource management				managing group processes
			use of socialised power	use of socialised power
				accurate self assessment*
			positive regard*	
Directing subordinates			developing others*	developing others*
				spontaneity*
			use of unilateral power*	use of unilateral power*
Focus on others				perceptual objectivity
		self control		
		stamina and adaptability		
Specialist knowledge			Specialist knowledge*	

*Threshold competencies

trait, self-image, social role or skill which is essential if the job is to be carried out competently ..." If a person does not have the requisite threshold competencies he or she cannot perform at all: but having the threshold competencies will not make him or her a superior performer. It is notable that Boyatzis (1982) himself warns against generalising from his findings which were based on secondary data from non-random samples. Although his total sample appears large at more than 2,000 people in twelve organisations in 41 management jobs, in practice it was far fewer because different measurements were used for different groups. Seven hundred and fifty six had job criterion performance ratings, of whom only 253 people were given behavioural event interviews. There does not appear to have been an overlap between these and others who had been assessed using tests aimed at identifying motivations and values.

There was some difficulty in defining performance: Boyatzis (1982) considered work output measures more reliable than supervisory and peer judgements. This is obtainable for jobs involving quantifiable measures (such as double glazing contracts sold) — although there is no indication of what is the most important performance indicator or combination of them to use. It does not work for jobs where performance is hard to quantify or judge, for example, project management where the success of projects is not readily definable and more factors than project manager competence may be involved. Of those in Boyatzis' (1982) study given behavioural event interviews none had a work output measure. Boyatzis (1982) used each organisation's nomination of superior or average performance (those in the private sector would not admit to any poor performers), but he recognised "the problem of potential short-sightedness of the entire organisation" and the difficulty in knowing whether superiority in organisation A was equivalent in organisation B.

The behavioural event interview findings (Boyatzis, 1982) showed that only two-thirds of skills differences between superior, average and poor performers were significant: in private sector companies only five out of nineteen skills showed a significant difference between superior and average performers. The mean motive, trait and self-image tests showed that only 23% of the comparisons between superior, average and poor performers were significant. This may be the result of poor performance definition since 99 out of 253 people interviewed were classified by their organisations as superior performers and the superior and average performers in the motive and trait tests also greatly outnumbered the poor performers. A study on project managers (Leonard et al, 1996) using a similar combination of measurements and research techniques identified only 14 superior performers out of 210 project managers on site and compared them in detail with 15 average performers. In other words, Boyatzis (1982) may have included too many non-superior performers.

More rigorous work was done by Spencer and Spencer (1993) to establish a system of definitions of competencies and to identify the specific requirements for a number of occupational groups. Examples in their publication include not only differences between average and superior performers in managerial roles but also technical specialists in practical jobs such as repairmen. The behavioural model has also won support within organisations: over 66% of UK organisations surveyed by

Matthewman (1995) used competency frameworks describing the behaviours of high achievers and qualities required for business success.

Other criticisms which have been levelled at the behavioural competency model include the breadth of the competency definition which can cover motives, traits, and skills without explaining their interrelationship (Adams 1996). This, however, can be remedied by returning to the work of McClelland (1973) who explored those relationships. Adams (1996) and Woodruffe (1991) also find the distinction between threshold and superior competencies unclear, both seeing it as only "a matter of degree". Woodruffe (1991) adds that competencies are not exclusively, although they may be mainly, one or the other.

A more potent criticism is that of Woodruffe (1991) who points out that historic competency models based on past success may be less suitable to organisations in times of rapid change. Intuitively this seems valid for knowledge and skills but the possibility of attributes such as flexibility, adaptability, willingness to learn, an innovation orientation and a non traditional approach (none of which is included *per se* in Boyatzis' 1982 model) suggests that such organisations could select or train people for rapid change.

There is some disagreement as to whether management competencies are universal across all organisations or specific to each organisation. Spencer and Spencer (1993) catalogued differences by functional specialism while Dulewicz and Herbert (1992), Finn (1993) and Matthewman (1995) found similarities between company specific lists. Dulewicz (1989) writes "I have often given a 'guestimate' that 70% are general requirements across different organisations and 30% are organisation specific." Boyatzis (speaking at the Linkage International Competence Conference in London in September 1999) confirmed this view and joked that organisations did not need to pay consultants like Hay for individual studies. Schroder and Cockerill (1990), aiming to integrate theories of managerial competence and cognitive style, found high performance management competencies universally applicable but more likely to be relevant to a dynamic and rapidly changing organisation. However, Smith D et al (1989) found differences in skill requirements did exist between sectors for those employing recent business and law graduates.

2.6 Professionalism

We now move back to the light that professionalism may be able to shed on competence. Project management practitioners want to be seen as members of a profession. Whilst no doubt there are some issues of personal status involved, we should also be aware that professional membership implies a group of like-minded allies, an economic closed shop (Whitley, 1989), brand recognition to inspire trust (ICAEW, 1992), and an alternative actor-network to that of the employing organisation (Law and Singleton, 2000a).

In parallel with work on the generic competencies of managers at different levels in organisations, the competencies of many specialists and professionals are also under scrutiny. For example, Gonczi et al (1990) reviewed the development of professional competency standards in pharmacology, nursing, law, medicine, teaching, dietetics and accountancy in Australia where at least twenty professions were developing competence standards in response to a government initiative. Eraut and Cole (1993) reviewed the assessment of competence in eleven professions. Hearn et al (1996) have begun to look for competencies common to all professionals. The Institute of Chartered Accountants in England and Wales (ICAEW, 1992) and the Chartered Institute of Management Accountants (Matthews, 1992) have both reviewed the competences of accountants. The Royal College of General Practitioners (1996) notes that *"over the last two decades considerable attention has been paid to defining the professional skills and knowledge required for the demonstration of clinical competence."* For example, Patterson et al (2000) is one of several recent studies of the competencies required of family doctors. The reasons for this interest in the established professions would appear to stem from challenges to their self regulation and the need to confirm the continuing competence of qualified and accredited professionals (Eraut, 1994). However, there is at least as much interest among the newer professions. For example, the Institute of Internal Auditors Research Foundation (1999) has looked beyond standards to other issues facing the internal audit professional and commissioned a six volume study of auditor competence.

What marks out a professional may be difficult to define (Eraut, 1994) but is likely to include specific expert knowledge (Duncan, 1995). As Whitley (1989) wrote critically: "Some proto-professions attempt to legitimate their claim to professional status and monopoly of particular tasks by deriving their expertise from a particular

specialist area of formal knowledge." Knowledge is included in the behavioural competence models but is less prominent in the basic standards models. Professionals therefore are more likely to be dissatisfied with the NCVQ approach, despite attempts to extend their scope to encompass knowledge (MCI, 1995; Stewart and Hamlin, 1992; Gonczi et al, 1990). Eraut (1994) also sees the need for professional values: legal (working within the law and regulations), professional (relationships with clients and other professionals), organisational (relationships with colleagues, staff, customers and the general public), personal (individual beliefs and behaviours).

Eraut and Cole (1993) describe a research project to study current British practice in formal assessment of professional competence for the purposes of qualification, registration or membership of professional bodies. The evidence of capability sought was:

- *"underpinning knowledge and understanding of concepts, theories, facts and procedures;*
- *the personal skills and qualities required for a professional approach to the conduct of one's work;*
- *the cognitive processes which constitute professional thinking."*

Eraut and Cole (1993)

Gonczi et al (1990) describe the competent professional as a person who has the attributes necessary for job performance to the appropriate standard. They define attributes as knowledge, skills and attitudes; performance as the observable outcome; and standards as the criteria for measuring performance. "Competency-based standards provide explicit statements of what people need to be able to do to practise successfully as a professional." (Gonczi et al 1990).

Standards taken alone would only cover outcome competences. Therefore Gonczi et al (1990) advocate an integrated approach to professional competencies, starting both from functional analysis of specific tasks and from identification of attributes, including knowledge. An example which goes well beyond the standards model is that of the Royal College of General Practitioners (1996) which divides clinical competence into six categories: personal attributes; specific clinical competencies essential for GPs; clinical competencies shared with other medical professionals; managerial skills shared with non medical personnel; teaching/ learning skills

acquired from/ shared with educationalists/ academics; research, audit and evaluation skills. But it also notes that competence includes knowledge, communication skills, history taking, physical examination/ technical skills, clinical reasoning/ problem solving, decision making and personal values. *"These cognitive and interpersonal skills, moral and personality attributes are developed and deployed to carry out the functions which a society entrusts to its doctors."* (RCGP, 1996).

If the medical general practitioner is an example of a long established professional, the internal auditor could justifiably claim to be almost as *nouveau* as the project manager. Birkett et al (1999) have completed an international study for the Institute of Internal Auditors Research Foundation which, although entitled a *Competency Framework for Internal Auditing*, examines the issues facing the profession as a whole. It includes a Delphi study of the future of auditing, and global perspectives on the Common Body of Internal Auditing Knowledge, as well as standards for individual and organisational performance in internal audit. Not least it examines the cognitive and behavioural attributes of competent practitioners. While some internal auditors may be disappointed that it cannot be immediately turned into a set of assessment tests, its determination to go beyond measurable standards marks it as professional.

This is borne out by Schön (1983, 1987) who does not have a comprehensive model of competence but offers a new epistemology of professional practice based on knowing in action (acquired tacit knowledge) and reflection (ability to learn through and within practice). He coined the term "reflective practitioner" for the professional worker and rejected technical rationality, the belief which has underpinned professional education — that the essence of being a professional is to solve problems using specialist knowledge. Experience of the professional work produces not only the performance outcomes but, subject to the exercise of reflection, a reinforcement of professional knowledge and understanding, skills and values.

Having looked at the views of project managers on competence and referred back to those looking more generally at competence, whether as performance standards, behavioural characteristics or professional knowledge and behaviour, section 2.7 attempts to draw these insights together.

2.7 A Synthesis on Individual Competence – and where it falls short

With two or three very different models competing for similar terminology in similar contexts it was perhaps inevitable that academics should attempt to integrate them consciously if only to pre-empt the practitioners who were using several models without necessarily knowing there was more than one (Woodruffe, 1991). The majority of these academic writers appear to start from the Standards model and seek to remedy its short-comings (Berman Brown, 1994; Stewart and Hamlin, 1992, 1992a, 1993, 1994; Mansfield, 1993; Eraut, 1994). There is another, related group whose starting point has been professional and occupational qualifications (Gonczi et al, 1990; Cheetham and Chivers, 1996; Hassall et al, 1996). Some of these writers have become more concerned with the relationship between knowledge and competencies as, for example, Schön (1983, 1987), Cheetham and Chivers (1996) and Eraut (1994). The Behavioural model has given rise to Schroder's and Cockerill's High Performance Managerial Competencies (1990) and Finn's Transformational Model (1993), MCI's Personal Competencies (Henley Management College, 1993) and the model presented by Robinson (1996) to Henley DBA associates. Finally, Antonacopoulou and FitzGerald (1997) and Sandberg (2000, 2001) have separately taken phenomenological approaches to competency which contrast with the functionalist stance of the majority of competency experts.

Like many who reviewed the standards model Berman Brown (1994) found the NVQ approach unsatisfying: *"such narrowly defined competences do not represent the full scope of management."* She suggested that a distinction be drawn between managerial processes which are competence based (skills plus their accompanying knowledge for application) and those which are based on meta-competences (knowledge, where this concerns learning, adapting, anticipating and creating). She added:

> *"A manager may acquire a number of competences ... all of which can be learned on the job or by participating in management education. But their appropriate or efficient utilisation is dependent on a foundation of meta-competences — something which perhaps cannot be so taught."*
>
> (Berman Brown, 1994)

In contrast Stewart and Hamlin (1992, 1992a, 1993, 1994) present the case for

examinations and other discarded techniques in assessing competence. Their main argument is dissatisfaction with NVQs but they do point out the construct of *competence potential*: the demonstrated capability to become competent. For example, a driver may not be fully competent until some time after passing a driving test which measures a standard of knowledge and skill but someone who could not pass the test would never become a fully competent driver. Turner (2000) refers to this as the entry ticket of explicit knowledge: you cannot play in the game without that minimum entry qualification. He points out that more explicit knowledge does not then make you a better player – what you need is an accumulation of tacit knowledge, experienced knowledge through doing (Turner, Keegan and Crawford, 2000).

Eraut (1994) argues that the construct 'capability' would help to define what the NVQs call "knowledge and understanding". He disagrees that because *"knowledge and understanding is embedded in competent performance, its presence in candidates can be inferred from their performance."* (Eraut, 1994).

A professional competence model needs a definition of outcomes or performance standards, the criteria of excellence, and descriptions of the knowledge, skills and personal attributes which make those outcomes possible. Since professionals develop over the course of their career it also needs some differentiation between novices and seasoned professionals in terms of both outcomes and behavioural competencies. Crawford (1996) considers that competence profiles for project managers will vary according to organisational context, project type, and the project manager role (or job description). This reflects the view of Crawley (1995) that organisations will want to adapt NCVQ type competence models to their own circumstances. Wirth (1996) in a pilot study has indicated that project management skills are transferable across industries but that this is more readily feasible in some directions than others. Despite this a professional body can only define generic standards and competencies.

This accords with the stated intent of the UK MCI management standards. The MCI model represents three sets of factors contributing to managerial competence: the standards themselves which are the outcomes of behaviour or role expectations; the knowledge and understanding thought to underpin competent behaviour; and the personal competences thought to underpin competent behaviour. Yet as Crawley

(1995) points out, in practice it appears little emphasis is given by the candidate or the assessor to knowledge and understanding or to personal competence. All three sets of factors are needed for a fully rounded picture of professional competence.

In confirmation of the views of Gonczi et al (1990), the RCGP (1996), the MCI (1995) and others, Eraut and Cole's (1993) study showed that none of the sampled professions relied entirely on examinations (written or oral) to assess competence but expected candidates for membership to have had one or more years of practical experience on the job (evidenced by log books, candidate reports, sign off by supervisor, or on the job assessment). What this implies is an apprenticeship model of learning (Eraut, 1994; Turner et al, 2000; Argyris and Schön, 1974) whereby professional procedures and values are learned by working beside one or many more experienced practitioners. This may be concurrent with learning the theoretical knowledge or take place after at least part of it has been studied and examined.

Cheetham and Chivers (1996) developed a provisional model to test the concept of professional competence. It also attempts to unify the outcomes approach of NVQs with Schön's reflective practitioner. The model has four core components: functional competence, personal/behavioural competence, knowledge/cognitive competence and values/ethical competence. Over these are meta-competences such as communication, creativity, analysis and problem solving. The individual may reflect on the outcomes and partial outcomes to feed back into his/her core competences.

Schroder and Cockerill (1990) attempted to integrate the theories of high performance managerial competence and cognitive style. Eleven managerial competences (Schroder, 1989) were compared with the Kirton Adaptation-Innovation index of cognitive style. They found that in an innovative organisation higher competence managers were innovative in style because that was what their organisations valued and developed. Cockerill et al (1995) concluded that high performance managerial competences were enough because they were of predictive value as to future performance to all except highly stable organisations.

The most fully worked model to arise from the behavioural school is Finn's (1993) analysis of the behavioural and standards approaches into what he calls input, process and outcome competency models. Input models define the pre-requisites of

management at a given level. Process models define competencies as the behavioural characteristics and attributes used in work. Outcome models concentrate on capability to achieve prescribed outcomes in the job. Finn (1993) pulls together these different strands in competence thinking and posits a Transformational Model of managerial competence. This model combines three variables: the input, process or outcome models; the stage of the individual's development (entry level, basic level and high level performance); and the context of the performance (Finn, 1993). He indicates that the input, process and outcome models can be linked but without a more extensive example than Finn provides it is hard to see whether this model is widely applicable.

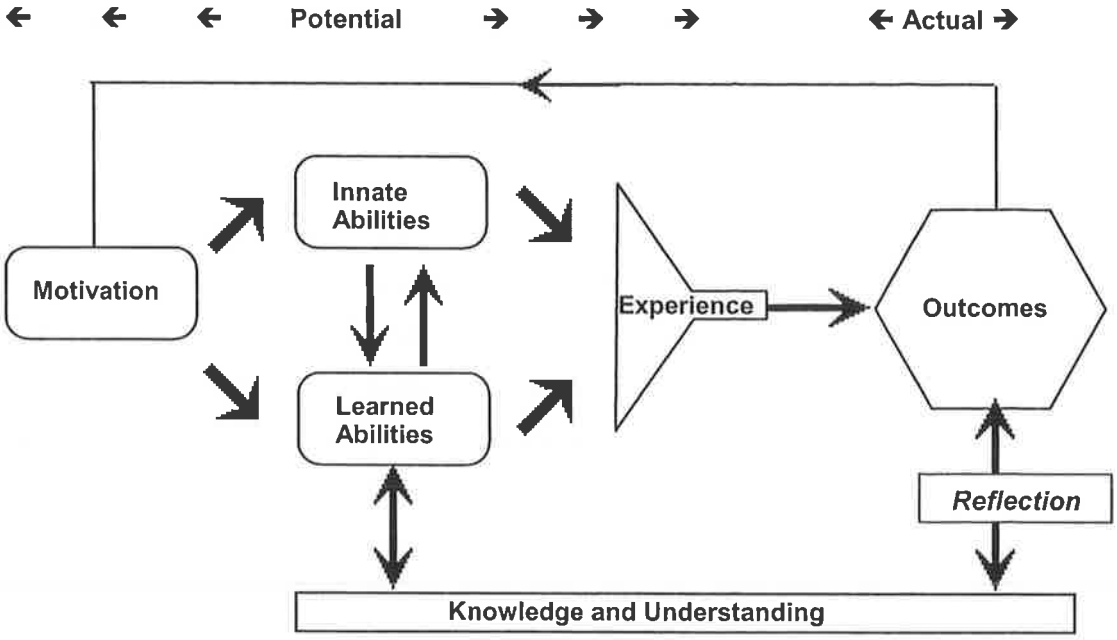
Antonacopoulou and FitzGerald (1997) define competence as consisting of the virtues unique to each individual which are expressed in the process of interacting with others in a given context. They examine the epistemological basis of the competency approach and describe phenomenological research into the use of competency frameworks in three banks. They conclude that the evidence suggests that managerial work is not based on one common universal set of skills and competencies and they note differences by function, level of responsibility and organisational context. Antonacopoulou and FitzGerald (1997) also contend that the positivist approach creates a misleading link between competency and performance. They question to what extent behaviour in terms of demonstrable performance should be the sole or appropriate means of identifying management competency. Competence if defined and assessed as performance is only a first order measure and fails to recognise the second order measures: the knowledge, skills and understanding which underpin performance. Antonacopoulou and FitzGerald (1997) challenge those researching competence: instead of providing a narrow set of competencies for a narrow set of tasks, they should concentrate instead on growing the natural talents and strengths of individuals. They use the Greek term *arete* ('αρετή) for those who continuously set themselves the task of moral perfection and excellence in any aspect of life – a concept perhaps similar to Maslow's self actualisation (1954). Antonacopoulou and FitzGerald (1997) put the individual back at the centre of the competency concept: a system which functions more flexibly due to the co-ordination and harmonisation of certain key elements: their existing body of knowledge, inherent and acquired capabilities and skills and the distinctive personality of the individual.

Sandberg (2000, 2001) basing his conclusions upon his 'phenomenographic'study of engine optimisation engineers at Volvo Cars argues that attributes acquire their context-dependent nature through workers' experience of their work and that competence depends on how people understand their job. He distinguished three groups of engineers according to their vision of their work: those who applied their knowledge to optimising each individual performance indicator for the engine sequentially; those who saw their role as optimising all the interdependent performance indicators; and those who believed their job was to provide the customer with a good driving experience. Each group carried out their job in accordance with their respective understandinging but all agreed that the customer oriented engineers were the most effective and the sequential optimisers the least. However, each explained their rating on the basis of their own understanding of the job, the sequential optimisers rating the customer optimisers as good at testing engine performance indicators sequentially and not recognising those engineers' skills in teamwork, learning and appreciation of real driving conditions. To develop increased competence Sandberg (2000) recommends promoting changes in the workers' conception of their work (rather than training for specific attributes) and suggests that Schön's (1987) reflective approach may offer a way forward, one that is likely to be composed of a series of small incremental changes rather than a a single, major change.

Figure 2.6 attempts to illustrate my understanding of the competence models described to this point from the competence literature I reviewed.

As suggested by Robinson (1996), the model returns to the work of McClelland (1961, 1973) and uses the term 'ability' for the skills, traits, values and attitudes which Boyatzis (1996) now prefers to 'competencies' because of the confusion with standards. Abilities may be either innate or learned (in the latter case it may be preferred to call them 'skills') and the two may feed off each other. Neither, however, will come to anything without the impetus of motivation. Competence is linked to the motivation and state of mind of the individual which changes over time and includes a dynamic element which implies a continuing search for improvement. (Antonacopoulou and FitzGerald, 1997). The model goes back to McClelland's

Figure 2.6: An Integrated Competency Model



(1961) definition of motivation as needs for achievement, power and affiliation. This is supported by Stewart and Hamlin (1992) who see performance as a result of individual ability, individual motivation, and the organisation – interdependent and interconnected factors that can also act independently.

The organisation is represented by the funnel-shaped box labelled *experience*. It is shown here as a filter through which innate and learned abilities act to produce outcomes. Although some degree of experience is necessary, those with the relevant innate abilities or previously learned abilities (or even just knowledge and understanding) may require less practice to achieve successful outcomes. For a professional the experience funnel (Turner et al, 2000), subject to the exercise of reflection (Schön, 1983, 1987), produces not only the performance outcomes but a reinforcement of professional knowledge and understanding, skills and values. Knowledge and understanding, acquired from off the job learning and on the job experience, support and underlie the movement from the potential of behavioural abilities to the outcomes which are actual but at the same time are increased thriough the use of reflection. The outcomes also feedback to increase or decrease motivation.

I offer an illustration based on physical rather than theoretical expertise. A successful

gymnast has the right innate physical attributes (desired height, slim physique, flexibility of joints, strength of tendons). She also has to learn a repertoire of actions, gymnastic skills, and practising these will enhance her natural abilities. Underlying this is knowledge of how the body works, of how to use it and of contexts such as the rules of particular competitions. Some of that knowledge is learned from her direct experience, some from talking to others or reading the regulations. The experience of entering competitions puts her abilities to the test. She may win there on her first contest or return many times without winning. However, unless she has the motivation to use her abilities and learn from her experiences, unless she wants to perform gymnastics at a competitive level, even if she has a perfect physique and a sound repertoire of acquired skills, she is unlikely to enjoy continuing success.

This example expressed my understanding before I listened to the project managers. As I heard them talking about how they achieved their work objectives I realised there were at least two other aspects of competence I had omitted or glossed over too rapidly. One was the technology involved and the other was the social networks and both seemed to me more than the context referred to by Crawford (1996) and Antonacopoulou and FitzGerald (1997).

I chose the gymnast as a simple illustration because gymnastics is an individual sport, dependent mainly on the human body: mainly but not entirely. Law (1992) writes: *"Perhaps it is only in lovemaking that there is interaction between unmediated human bodies – though even here the extra-somatic usually plays a role too."* Reflection reminded me that gymnasts perform on cushioned mats on sprung floors and may use other equipment which enables them to display balance, fluidity of movement and other desired outcomes. These technologies contribute to the overall performance. Gymnasts start as children so their ability to perform also depends on others who train the, drive them to competitions and allow them to miss other school work. And an adult gymnast who cannot gain sponsorship cannot buy the technology to participate and demonstrate competence.

It is the same for project managers. As Law (1992) writes: *"almost all of our interactions with other people are mediated through objects of one kind or another."* In chapter 4 below the stories of the project managers themselves will illustrate the emphasis that they placed on harnessing the resources of line managers and the

influence of sponsors. Much of this was achieved through the mediation of project management tools such as documented requirements and plans (Frame, 1987; Wateridge, 1996; Baker et al, 1988). I saw the project managers manipulating and being affected by their social environment in a way which individual competence models did not describe. Their personal abilities were interacting with other heterogeneous elements in their social context (Law, 1997).

Boissevain (1974) quoted by Easterby-Smith et al (1991) identified social networks which included what he termed Patrons (people with direct control over primary resources such as people and money) and Brokers (social fixers who use their secondary resources, such as information and a wide range of contacts, in order to achieve their ambitions). This, attractive as an analysis of line management and project managers, led me to Pinto's (1996) general exploration of power and politics in project management. But I turned to Actor-Network Theory to deepen my understanding of the contribution of other people and technology to the projects and their managers. To quote John Law (1992) again:

> *"If human beings form a social network it is not because they interact with other human beings. It is because they interact with human beings and endless other materials too. And, just as human beings have their preferences – they prefer to interact in certain ways rather than in others – so too do the other materials that make up the heterogeneous networks of the social. Machines, architectures, clothes, texts -- all contribute to the patterning of the social. And – this is my point – if these materials were to disappear then so too would what we sometimes call the social order. Actor-network theory says, then, that order is an effect generated by heterogeneous means."*

The next section reviews Actor-Network Theory.

2.8 Actor-Network Theory

Actor-network theory (ANT) "sets out to explain the development and stabilisation of forms of technology" (Grint, Woolgar, 1997) It is one of a number of social constructionist approaches to scientific knowledge (Law and Singleton, 2000a). These include the sociology of scientific knowledge (SSK) which argues that scientific and technological practice and knowledge reflect not only the natural world

but also social influences (Barnes, 1982; Bloor 1976); the social construction of technology (SCOT) where the emphasis is to a greater but varying degree on social forces alone (Constant, 1999); and feminist technoscience studies where there is a political slant to the assumption that social and material practices recursively generate further such practices, technoscientific knowledge and versions of the material and social world (Haraway, 1997). It has roots in Foucault (Law, 2000a), Serres (Brown and Capdevila, 1999), and Elias (Newton, 1999). There is no connection with the structural and sociometric methods of social network analysis (Scott, 2000, p37).

ANT sometimes appears obscure and perverse. It originated among sociologists studying the sociology of scientific knowledge at the Centre de Sociologie de l'Innovation at the Ecole Nationale Superieure des Mines de Paris in the 1980s and it has developed and evolved to the point where one of its key proponents can write that it has eaten itself from within (Law, 1997) and another proclaim difficulties with the words *actor*, *network*, *theory* and also with the hyphen (Latour, 1999). There is an extensive website at Lancaster University which maintains a bibliography of ANT and related writings, the editors of which state *"we are not interested in recommending actor-network theory, arguing that 'it' is right, or that alternative approaches are wrong."* (Actor Network Resource 2.1, 2000). They add:

> *"Actor Network: Not a Unity, Not an Orthodoxy: like any other approach to social analysis, the texts influenced by actor-network theory represent and develop a range of concerns and tools. This means that though it is possible to identify certain preoccupations and concerns common to these texts, there is no orthodoxy, no one 'right way' of developing the approach. It also means that actor-network is not a single orthodoxy, a fully consistent body of writing with its holy scriptures. Indeed, the most creative texts are often those that change and rework its preoccupations and its tools - or which combine them in one way or another with those of other approaches with which it is in dialogue."* (Ibid.)

However, its proponents would also recognise that by writing and talking about ANT they are giving it existence (Latour, 1996) and by inviting others to join in they are opening it up to new possibilities as well as the risk, or rather the certainty, of

translation into another's network.

It was easier in the beginning. Early work by Latour (1986, 1987) is concerned with the development of scientific theory: how does scientific theory gain acceptance and become orthodoxy? He introduced the concept of the 'black box' to describe accepted scientific theory: unquestioned, taken as read. By studying science in action as opposed to ready made we either arrive before the facts and machines are blackboxed or we follow the controversies that re-open them. In order to introduce new ideas scientists may have to re-open the black boxes of science. Making scientific knowledge is as much about social and political interaction as hypothesis testing: scientists and engineers speak in the name of new allies that they have shaped and enrolled — these are used to tip the balance of force in their favour. Who the people are is as important as the facts and machines.

The other father of ANT is Callon (1980) who, using the case study of the véhicule électrique, wrote of the sociology of *translation*, a term borrowed from Serres, meaning *"to express in one's own language what others say and want."* Callon (1986) describes translation as a new approach to the study of power. It is the process or work of making two things that are not the same equivalent (Law, 1999); it *"renders the network into a single punctualised actor and is itself concealed, along with the network, behind the actor"* (Spira, 1998). Its Latin roots indicate physical movement from one place to another. Latour (1993a) describes it as how to move the battle to take place upon your chosen terrain rather than your opponent's. In French the word 'traduction' can also mean betrayal (Law, 1997): when we repeat, rephrase, translate any discourse we alter its meaning, we claim it for our own ends.

To unravel this linguistic ANT black box we need to look at the component parts. The metaphor of the heterogeneous network is used to suggest that "society, organisations, agents and machines are all *effects* generated in patterned networks of diverse (not simply human) materials." (Law, 1992) A network is not a structure — where it is assumed that specific nodes are guaranteed — but a process, perhaps a script (Law, 1997). However, the metaphor script suggests an external writer: if one exists then it is an involved actor who is seeking to write it on behalf of other actors — who may also want to write their own scripts.

To think of reality in terms of networks implies an unwieldy level of complexity. Hence widely performed network patterns are often simplified (or "punctualised" (Law, 1992)): the network acts as a single block and therefore the action and its actor are seen in its place. Thus we might speak of BMW selling Rover or Richard Branson bidding to run the UK lottery. Neither BMW nor Richard Branson in this context is a single actor but a network of people and technology.

An actor engages in many networks composed of many other actors: some human, some technological, some textual, some natural. Infamously Callon (1986) included scallops as actors in a network involving researchers, fishermen and scientific studies of shellfish and currents: not everyone could accept that (Collins, Yearley, 1992; Chua, 1995, Spira 1998). Law (1997) specifically includes another natural actor, *amphiserus cornutu*, a pest which destroys stored cotton plants. What these natural actors have in common with each other and with the human and technological actors in their networks is that they are not necessarily readily controllable by another actor: they may be brought under control but they are unpredictable – they may be enrolled gracefully or break loose. What they do will affect other actors in turn.

But an actor is also the effect of a network. Law (1996) shows that a chief executive is deprived of much of his power and competence as a manager if deprived of the network of secretaries, subordinates, management information, well-furnished office, computer etc. that supports him. Taking an extreme example, Moser and Law (1999) write of Liv, a woman tetraplegic from birth, who lives a substantially independent life in sheltered housing with high technology and human care assistants (over whom she appears to have some control rather than they control her) She illustrates human and non human dependence resulting in relative independence. Liv has an autonomy and capacity for discretionary decision making which she highly values, but all she can move is her chin (even her speech is hard for others to understand). Liv is described as a cyborg. She is also a network, or an actor who is the effect of a network of other people and things. Since each person is limited as to what they can do on their own, we are all cyborgs, we are all effects of a supporting network.

There is a clear corpus of theoretical and empirical studies which are underpinned by ANT. Foremost is Callon's description (1986) of the efforts of three researchers to domesticate the scallops and fishermen of St Brieuc Bay. In this case study Callon

introduces and illustrates the tactics employed by actors seeking to create a new network and drawing together all the materials and resources, human, technological, textual and animal. Lee and Brown (1994) write: *"ANT has achieved a metalinguistic formulation - inscribed as problematisation, interessement, enrolment, mobilisation and dissidence - into which any sequence of human or non human actions can be encoded."* Callon calls them the "moments of translation" He points out that his moments can overlap but that in the process *"the identity of actors, the possibility of interaction and the margins of manoeuvre are negotiated and delimited."*

The first moment of translation is *problematisation* (Callon, 1986): seeking to become indispensable to other actors by defining who is involved and presenting their interests as being subject to obstacles and problems but served by the proposed action. Callon's three researchers (Callon, 1986) set out what they saw as the interests of the fishermen, scientific colleagues and of the scallops. All the obstacles to their attainment could be overcome by studying the way in which scallop larvae anchor themselves (the researchers' interest). This study and its research team become an *obligatory passage point* for all parties.

The second stage is *interessement* (Callon, 1986): a series of processes by which allies are locked into the roles proposed for them. To interest other actors is to build devices which can be placed between them and all others who wish to identify their roles and responsibilities differently.

If successful, interessement achieves *enrolment* (Callon, 1986) into one or more alliances: the devices whereby a set of interrelated roles is defined and attributed to actors who accept them. Callon (1986) suggests that a variety of methods may be used including solicitation, seduction, negotiation, threat, even physical force (as with placing the scallops in sacks). Black boxes of accepted facts are brought out and stacked up.

The final stage is *mobilisation* (Callon, 1986) of allies. Those the actor is dealing with directly are only representatives of other networks of people and other resources, spokesmen for them. They form a chain of intermediaries which allow the manager to act at distance, to effect changes and to claim to represent everyone affected.

To distinguish between the above processes the following statements, derived and expanded from Michael (1996), may be helpful:

"This is what you want to be" — *problematisation*
"We are the ones who can help you to become that" — *interessement*
"Grant your obedience by your own consent" — *enrolment*
"Tell everyone what you are achieving through this programme" — *mobilisation*

At this point a constraining network of relationships has been built. But it could fall apart at any moment. *Dissidence* and controversy may arise — "all the manifestations by which the representivity of the spokesman is questioned, discussed, negotiated, rejected etc." (Callon, 1986). In St Brieuc Bay the researchers eventually lost hold of the fishermen (some of whom "shamelessly... one Christmas Eve" fished out and destroyed the new scallop beds).

In translation one actor or group succeeds in enrolling and mobilising the defined others into a network. But as Law (1997) points out, networks are processes or achievements rather than relations or structures: enrolment is precarious and needs constant maintenance if the network is to stay together. Thus ANT itself has shifted, been translated, as it has been critiqued from within and from outside (Law, 1999).

There are some tensions between ANT proponents, other sociologists and the competence and project management communities which we should examine with open eyes if we are to translate ANT into project management terms. Two have been touched on above: the way ANT includes non humans in networks; and the way some social constructionists eschew 'possessive individualism' (Dachler and Hosking, 1995). The other two tensions are alternative views of power as exercised in project management and the right way in which to study project managers' behaviour.

Collins and Yearley (1992), Chua (1995) and Spira (1998) are particularly unhappy with the inclusion of the scallops in Callon's (1986) account of the conflict between the researchers and fishermen of St Brieuc bay. It is defended by Callon (1999), Law (1999), Gergen (1999) and by Lee and Brown (1994) who see ANT as responding to a tendency in sociology to bracket off the non-human, technological or natural. They add: *"From a position of liberal democracy it is impossible not to recognise the*

agency of the technological and the natural as equal to the social." (Lee and Brown, 1994)

The 'natural world' problem may be overheated. Project management writers recognise the heterogeneity of projects (e.g. Adams and Barnt, 1988). No one has as much difficulty with the concept of an item of human technology as an actor (for example, the project plan in Law (2000b) or the text book in Law and Singleton (2000b)) since it represents a network of human agency. As Spira (1998) says: *"to treat people and machines as equally important in this analysis is not the same as suggesting that people should be treated as machines."* But people can seem very like scallops: in this study a project manager, Henry, talks about tourists who will be affected by closure of a railway line. Their existence is brought to his attention by the tourist board: the closure is discussed and ways of informing tourists of the closure and alternate routes are debated. The tourist board claims to speak on behalf of the tourists but the engineers are not convinced: the tourist board does not control the tourists, it has not asked them what they will do. Despite their economic importance to the city the tourists' wishes and future actions are as unknown to Henry as those of the scallops are to Callon's three researchers. As Callon (1986) says, ANT explains *"how a few obtain the right to express and to represent the many silent actors of the social and natural worlds they have mobilised."* This could include natural organisms.

Dachler and Hosking (1995) describe as possessive individualism the epistemological viewpoint that the individual is "endowed with a knowing mind whose ontology is differentiated from internal and external nature" such that individuals are treated as if possessing properties such as expert knowledge and personality characteristics as well as physical properties such as height and weight. They in contrast adopt what they call a relational perspective, viewing knowledge as socially constructed and socially distributed, an ongoing process of meaning-making which occurs in context. They therefore cannot specify the attributes of leaders but see leadership as a set of coordinated social processes in which an appointed leader is one voice among many.

Based in social constructionism, ANT writings carve their own path between the leader emergent from the coordinated social processes and the purposeful action of an actor who leverages the efforts of others to achieve more than a single person can

achieve alone (Latour, 1993a). The actor in ANT is self directed yet is not the possessor of unchanging attributes (Law and Singleton, 2000c) but the effect of not one but several networks (Law, 1996).

Chua (1995) states that ANT does not depict actors as devoid of intentions and it uses the concept of goal-directed action to help explain why actors relate to a set of constructed facts in particular ways. Law and Moser (1999) propose that subjectivities derive from the orderings of the organisation: managers combine all world views from their organisation plus their own personality. Callon (1999) addresses the conflict between having self-directed individual actors and considering the actor and his actions as an effect of a network by applying ANT to an example in an economic market where a key individual creates a new agricultural exchange in line with a text book model. Latour (1993a, p60) describes the groups at work in nineteenth century French public health: the hygienists, the army doctors, the private physicians etc., but does not deny the action of Pasteur and individual followers and wants to know what precisely Pasteur himself did – the very question the behavioural event interview seeks to draw out from the interviewee (Spencer and Spencer, 1993). Law (1996) points out that although the manager is a network of social and technical relations, made by organisational relations, s/he can make his own decisions. Predominantly s/he uses the resources of the organisation to inform his/her decisions: so the network conditions him/her. But not entirely — s/he has membership of other networks — s/he is a debating society of these networks acting in him/her. When s/he makes a decision s/e can feel pain as s/he balances one network over another: s/he chooses which to favour. Callon (1999) also sees the actor's behaviour at least in part as determined by the larger network: in a network of pure scientific mobilisation or in an economic market network the actor may manifest as self-directed, selfish, self-aligning but in other contexts s/he could be generous and altruistic.

Callon (1999) notes that *"ANT has often been criticised for presenting actors guided by the quest for power and solely interested in spreading networks and their influence."* I argue that this makes it eminently suitable for the study of project managers. There is not room here to include every aspect of power, but since ANT also proclaims itself a new approach to the study of power (Callon, 1986), it is necessary to examine broadly how it differs from how power is understood in the project management context. There the lack of line authority is felt keenly and the

quest is on for alternative ways to get what you want.

Pinto (1996) has drawn together much of the project management thinking on power with an emphasis on practical things the project manager can do to exert influence where resources are scarce and power is lacking (Block, 1983). These include maximising what is available in terms of positional power (limited for most project managers), personal power, and centrality (the use of referred power from the sponsor or other powerful individuals in the organisation) (French and Raven, 1959; Pinto and Slevin, 1988b). Rather than advocate influencing techniques, Pinto (1996) recommends that project managers should cultivate their expert power noting that this may not be viable in smaller projects. Pinto (1996) also lists a number of what he calls political tools and games but suggests that most project managers would find these distasteful (Harrison, 1992; Allen et al 1979). There are counter examples in chapter 4 which suggest that the project managers interviewed had no problem with using political tools and games.

Lovell (1993) considers *"Much of the skill of a project manager revolves around the ability to manage the political and power dimensions within and around the project team."* Having surveyed the potential for the project manager to exercise power downwards, upwards and sideways (Cavanaugh, 1984; Lukes, 1974) including noting that *"the supreme exercise of power is to get another or others to have the desires you want them to have - that is, to secure their compliance by controlling their thoughts and desires,"* (an echo of Foucault? (1975)), Lovell concludes that the keys are control over resources, over agendas for decision making, and over myths believed by all..

However, as Zaleznik (1973) and Martin and Sims (1956) point out, the source of power is not in the superior but the subordinate: the superior can only exercise the power that others allow him/her. While appointment to positions comes from above, affirmation of power comes from below; and unless s/he performs and gets results (thereby risking his/her power base) others will doubt him/her and his/her power will diminish.

Similarly Latour (1986) argues that when an actor has power, nothing happens and s/he is powerless; when an actor exerts power it is others who perform the action.

Power is not something one can possess - it is a consequence rather than a cause of action. (Latour, 1986). However, Turner (2000) draws an illustrative analogy with electric power:

> *"In an electrical circuit the battery has power. Certainly the battery cannot release its power until the circuit is open. The other elements of the circuit regulate the way the power is released, but the battery has power. So I would say that an individual exerts power but that power can only be released when there is an open network. The other actors regulate the way the power is released (and people are all potential sources of power)."*

Nor is power necessarily negative. Foucault (1975) writes:

> *"We must cease to describe the effects of power in negative terms: it excludes, it represses, it buries, it censors, it abstracts, it masks, it hides. In fact power produces; it produces the real; it produces domains of objects and rituals of truth. The individual and our knowledge of this individual come from this production."*

2.9 The Application of Actor-Network Theory to Project Management

Adams and Barnt (1988), writers outside the ANT tradition, describe project management in terms very similar to ANT (echoing Cleland and Kerzner, 1985):

> *"Project management was designed to provide sustained, intensified, and integrated management of complex ventures and to pull together a combination of human and non human resources into a temporary organisation to achieve a specified purpose."*

Applications of ANT range from the medical (Singleton and Michael, 1993, cervical screening; Law and Singleton, 2000b, alcoholic liver disease) through technology (Law, 2000b, the Zimbabwe bush pump); navigation (Law, 1986, the Portuguese route to India); accounting (Chua, 1995); economics (Callon, 1999); management (Newton 1996, recruitment of management consultants; Law, 1996) and corporate governance (Spira, 1998). Some of the scientific and technological undertakings described were undoubtedly projects but it is only more recently that ANT writers

have begun an exploration of project management itself (for example, Linde and Linderoth (2000)). The concept, however, does not yet seem to be greatly distinguished by ANT theorists from other types of management (Law and Singleton, 2000a; Law, 2000b) of which there is some suspicion, with concern expressed about centralism and managerialism (e.g. Callon, 1999).

Law and Singleton (2000a) studied the TSR2 project. They noted several assumptions of project management (which they called "projectness") such as:

- technologies evolve under centralised control; they need to be managed;
- if they are fragmented this could be a problem; they involve co-ordinated problem solving;
- they move through stages and have a chronology;
- they may have setbacks which need to be overcome;
- how they evolve is a function of background macro-social factors of one kind or another as well as other relatively stable conditions in the real world; and
- there is more technological knowledge around at the end than at the start.

In the course of their work they found themselves being drawn in to the project management network and what they wrote became a resource for those creating it. The researchers, whether they wanted to or not, colluded with management's efforts to reinforce that the way such work was done was through "projectness".

Law (2000b) describes a project plan as a spreadsheet (given the size of project he is referring to in his example I hope that the project manager in question had more than a simple spreadsheet). He compares it to Bentham's Panoptikon.[1] (Foucault, 1975) in that it allows the project manager to become a kind of visionary, someone who has seen the future and knows that it does not work. But one should be aware that the plan also shows the likelihood that the future will work – compare Owen (4.6.1.21) talking about using the project plan to 'take a look down the river' into the future. Law (2000b) considers the project plan an actor in its own right: an agent of homogenisation, quantitative and thus expressing operators and values in symbolic

[1] Bentham described a model prison in which the inwards facing prison cells faced a central guard tower: the guards at the centre could look into every cell and observe every prisoner at a distance thus imposing control and order upon the prison population without physically patrolling the cells. A nineteenth century version of CCTV, examples were actually built in several countries.

form, a sociotechnology of simplification (much is being turned into rather little), a sociotechnology for centring — a single person can read it and see the whole, it draws things together, it creates new realities (knowledge of a resource shortage in the future for example), and the what-if facilities in the software allow the construction of options or creation of (im)possible futures.

The project management experience is further reflected in the later ANT emphasis on performance. This is not the 'performance' of competence standards but a dramatic enactment. Law and Singleton (2000b) describe the process of building a network as a performance. Successful performances cannot be built out of nothing. Raw materials have to be put and held in place; allies have to be cajoled, seduced, bought or forced to play the roles allocated to them. It is not enough to pick them off one by one: to pick any off you have to have most of the others already lined up — *"they all have to perform together and if they don't, if any one bunch of actors goes off script then the network holding all the others in place is also disrupted and they are in danger of going native."* (Law and Singleton, 2000b) The effort to construct a counter-network would take the same order of resources that went into the accepted original: the more people buying into it the more you have to buy off. Therefore performances are difficult to put on unless they build on networks already in place. Managing projects takes far more effort in functional organisations without a pre-formed understanding of project management than in those where project management is embedded (Blackburn, Bell, 1999).

Callon (1999) sets out to explain actors' competencies: *"The ANT actor may, alternately and indiscriminately, be a power which enrols and dominates or, by contrast, an agent with no initiative which allows itself to be enrolled."* Competence is the power an actor has to achieve his/her performance in the dramatic ANT sense rather than an outcome. It is again a network of human and non-human materials. Although we normally think in terms of single, punctualised actors we have to remember that each actor is the effect of a network of people and things which make them capable of performance. This is most obvious in a person like Liv (Moser and Law, 1999) who controls her wheelchair, household items and PC with small movements of her chin: her autonomy and capacity for discretionary decision making is totally dependent on people who feed, wash and dress her and on others who have invented the technology that supports her. But it applies also to Andrew (Law, 1996;

Law, 2000b), a manager whose powers are extended, distributed through people but also through texts and technologies. All these extend the range of his memory, his ability to communicate, and to act at a distance.

While some (e.g. Adams, 1996) have objected to the behavioural competency movement lumping together internally held knowledge, skills and attributes as competencies, ANT also includes external resources such as technology, and the mobilised efforts of others. The manager may have the skills to use a PC, but if there is no PC or no electricity, the skill is not expressed. If I hire a manager who has many contacts in project management I gain a greater than individual competency in that field.

As Law (1992) writes:

> *"Is an agent an agent primarily because he or she inhabits a body that carries knowledges, skills, values and all the rest? Or is an agent an agent because he or she inhabits a set of elements (including of course a body) that stretches out into the network of materials, somatic and otherwise, that surrounds each body?"*

This brings us to a chicken and egg conundrum: is it Liv's personal determination i.e. an internal competency which means that she achieves so much from her technologically boosted life or is it the network of technology and people which makes it happen for her? On the one hand the drive, the motivation comes from Liv herself. Yet her drive was encouraged by parents and carers (Moser and Law, 1999) and by the re-inforcing successes of each consecutive technological enabler. Furthermore her successful use of these may have spurred technologists and carers on to give her greater control over her life. And yet that control is both there and not there at the same time: Liv cannot feed herself. She has only the power others accord to her (Barnes, 1986; Latour, 1986; Newton, 1996).

Is Andrew the project manager different? (Law, 2000b) Why do others allow him to manage? For Latour (1999) we cannot escape the personal behaviours of the actor. ANT started with ethnomethodology: *"actors know what they do and we have to learn from them not only what they do but how and why they do it."* He considers

ANT a method to learn from actors without imposing on them an *a priori* definition of their world-building capabilities. Hence we will understand better how project managers build networks and perform projects if we watch them and better still if we ask them how and why they do it.

2.10 ANT, Research Questions and Methods

Although ANT is a broad church, before proceeding to the research design this section checks out the precedents in ANT for the research approach adopted to the questions "What is it that the project manager does that makes a difference? How is the work of one person scaled up to produce maximum effect?" As Latour (1993a) writes: *"Pasteur must have done something himself to bring his heterogeneous allies together under his banner."*

ANT acknowledges ethnomethodology among its roots (Latour, 1999). The best known ANT papers are based around case studies (e.g. Callon, 1986; Singleton and Michael, 1993; Chua, 1995; Law and Moser, 1999; Law, 2000b) and, as Spira (1998) notes, ANT is *"a method of analysis particularly suited to the examination of large technical projects where development over a lengthy time period may be traced and where considerable documentation exists and is accessible."* However, she herself applied it to interviews with a number of managers in a succession of companies with audit committees.

ANT does not require a case study to be based on personal observation by the researcher: it can use historical documents, official reports and other sources. Some of the cases, such as the Portuguese expansion in the East Indies (Law, 1986) are set in the distant past. Newton (1996) studied the recruitment of management consultants in one company via documents and semi-structured interviews with senior and middle managers, and with clerical and trade union staff.

Law (1997) foresaw a change in the type of evidence used for ANT research. He considered that ANT may no longer be confined to chronological narratives about the growth or decline of networks but *"we need to attend to lots of little stories, and then to the patterns that subsist between those stories."* ANT studies, such as the UK cervical screening programme (Singleton and Michael, 1993), and alcoholic liver disease (Law and Singleton, 2000b), bear this out. They involve interviews with

members of different interest groups in different organisations — who may or may not be representative. Spira's (1998) study of audit committees is an enlightening analysis based on semi-structured interviews with people concerned with corporate governance in several different companies. She spoke to a limited number of people in each company, had only limited access to documentation and was examining common patterns in different organisations. She did not observe audit committees in session.

Given this change in ANT and its welcoming attitude to development and dialogue (Actor Network Resource 2.1, 2000), I consider it was reasonable for me to collect evidence via interviews with individual project managers in many organisations rather than in one and to use their stories to enrich the understanding of project processes I had observed. The project managers' stories concern the great network of project management (how ironic that the IPMA was once known as Internet, before the worldwide web became a household name), as well as many smaller networks of the individual projects they had brought into being and to successful or unsuccessful dissolution. Further discussion of methodology is continued in chapter 3.

2.11 Chapter Summary

Section 2.1 described project management (which is seen by many as a key factor in the successful delivery of projects (section 2.2)) and its quest for professional status (section 2.6). Professional bodies have tended to emphasise knowledge as key to this and to this some have added the notion of professional ethics and values. Project management experts have drawn up theoretical lists of attributes (section 2.3) while the empirical work that has been done by researchers into competence has either looked at the highly effective manager and asked what knowledge, skills and attributes have made him/her more effective than other managers(section 2.5), or has centred on the job and asked whether a manager has carried out the tasks specified (section 2.6).

In section 2.7, having described others'attempts to synthesise competence, I identified areas which are not addressed by the knowledge, skills and attributes of the competent project manager: their stories challenged me to account for the role that the technology of project processes and techniques play in project manager competence and for the way the project manager operates within social networks.

Sections 2.8 and 2.9 show that Actor-Network Theory addresses both these issues and has added a different perspective to the understanding of how project managers build actor-networks. Section 2.10 notes that despite the concern of some of its later writings to distance themselves from managerialism, ANT recognises the goal-seeking actor who enrols others and prescribes talking to him/her to identify *"not only what they do but how and why they do it."* (Latour, 1999). This supports the use in this study of the methods to be described in chapter 3 to gather evidence which can be interpreted from an ANT perspective.

CHAPTER 3:

RESEARCH DESIGN AND METHODS

"If in the accounts given us by historians ... we find their wars and battles conforming to previously described plans, the only conclusion to be drawn is that their accounts are not true."

L Tolstoy, *War and Peace, 1869, p1184*

* * *

3.0 Introduction and Structure

Henley Management College differentiates clearly between a DBA thesis and a PhD thesis (DBAthes2.doc Sept 2000 *(My emphases)*):

> *"The objective of a DBA thesis is to demonstrate academic excellence, with a practical/applied orientation and contributing to knowledge. It will* ***develop personal competence*** *in independent* ***rigorous research, strongly underpinned by theory****. It requires the undertaking and production of an* ***original investigation*** *in the area of business and management that results in* ***significant new understanding and insights*** *as well as providing evidence that the implication of the research has* ***a potential impact for practising managers****."*

In contrast a PhD thesis has to demonstrate a "contribution to knowledge and originality of thought" and will develop research competencies for people intending to become academic researchers in a business school environment. It is likely to be single discipline based whereas a DBA, reflecting practical management problems, is often interdisciplinary, grounded in management theory and needs to articulate from the research the applied implications.

This thesis describes my research into the contribution made by project managers to the accomplishment of business projects. As explained in Chapter 1, this arose from my professional work as a management auditor with a number of projects that had a

project manager and other projects that did not. For me this has been a journey in which I have developed several areas of personal competence, in both the practical and theoretical aspects of research. My challenge in this chapter is to show how this personal development process has also been a coherent piece of research, despite having followed a course which differed from my original plan and having encompassed theoretical areas which I had not envisaged existing at the outset.

Section 3.1 looks at the nature of a research design and concludes that it may take several forms, not necessarily tidy unless some housekeeping is done before it is shown to others. It describes the research purpose and questions and sets out the eventual plan and how it evolved from the original plan. It also explains why it was modified: a growing awareness that I could not in conscience complete the work in the manner originally specified.

Section 3.2 examines the theoretical background to paradigm incommensurability, which in its early formulation prescribed rigorous consistency of theories and methods. Later writers have sought to legitimate multi-paradigm research and to provide strong theoretical underpinning for alternative approaches.

Section 3.3 describes the methods I used for the collection of empirical material and evaluates the strengths and weaknesses of each in relation to theory. Section 3.4 sets out the processes of interpretation and reflection and again attempts their evaluation. Section 3.5 summarises the chapter and adds an allegorical story to illustrate the practical problems of a change in perspective.

3.1 The Evolving Design of the Research

3.1.1 The Nature of Research Design

A coherent research design can be conceptualised in different ways. It can be seen as the practical design for an exercise wherein questions are answered and puzzles are solved, probably by challenging theory with data, in a variety of methods (Bryman, 1989; Silverman, 1989; Arndt 1985). It can also describe the plan for organising the research activity (e.g. Easterby-Smith et al, 1991 p 33): writing up, familiarisation with the literature, theorising, gathering and analysing empirical evidence, monitoring

progress (not listed in order). Even at the outset the research design sets out what the researcher hopes to learn from the content of what is studied (e.g. Easterby-Smith et al, 1991 p 20) and sometimes also from the process. And finally it means having an understanding of how the research activity is bound together in a coherent whole with reference to a philosophical position on reality and truth, and whether we can know anything about them.

However, Platt (1976) has shown that many in the early stages of research projects are unclear about their aims and goals which indicates the research design can change in response to the practical and philosophical challenges which arise during the project. This change can be viewed negatively as departure from a design or positively as showing flexibility in the attempt to reach meaningful goals. At the point of writing up it is tempting to go back in time and write up the design as if what actually occurred was all that was meant to be. This is tidy but it is like re-writing a budget to reflect actual costs: it hides the mistakes but in the process also hides the learning. The following sections are therefore my attempt to combine an honest description of a personal development process with a coherent research design. However, it is impossible to expunge the benefits of hindsight in describing an earlier situation.

3.1.2 Research Purpose and Questions

I wanted to understand better how people who are good at managing projects behave in their work. From the outset, because one of the desired useful outcomes would be the implications for those who wish to employ project managers either as professionals or as part of a wider career, I was more interested in identifying behaviours which others could emulate and constructs that they could acquire than inborn personal traits and characteristics. Later I wanted to see how project management is performed from the perspective of the project manager but involving other actors as well as the project manager.

The eventual aim of this research was to explore what a project manager draws on and does to be an effective builder of the actor-networks we call projects and to increase understanding of what project managers do, particularly in terms of actor-networks. From this I explore some of the implications for those who employ or wish

to employ project managers in functionally oriented organisations.

As explained in chapter 2, I have come to understand project managers as people who build actor-networks (of which they themselves are a part) which are temporary and mobile networks of heterogeneous actors, both human and non human (technological and natural), to achieve their goals. Such networks also exist without the intervention of project managers (or similar 'fiery spirits' (Linde and Linderoth, 2000) but the presence of someone who has the drive and know-how to make things happen in a unique, changing and complex situation appeared to me from my professional experience as catalytic.

Callon (1999) writes that the actor may be a power which enrols and dominates or an agent with no initiative which allows itself to be enrolled. As I became informed by not only the empirical evidence but also the sensitising effects of theory (mainly ANT but also authors such as Dachler and Hosking (1995) and Alvesson and Skoldberg (2000)) I wanted to look differently at project managers at work, get their views but also consider them in relation to the other actors in a project. To distinguish between Callon's powers and agents, Latour (1999) suggests we have to look at the personal behaviours of the actor: *"actors know what they do and we have to learn from them not only what they do but how and why they do it."*

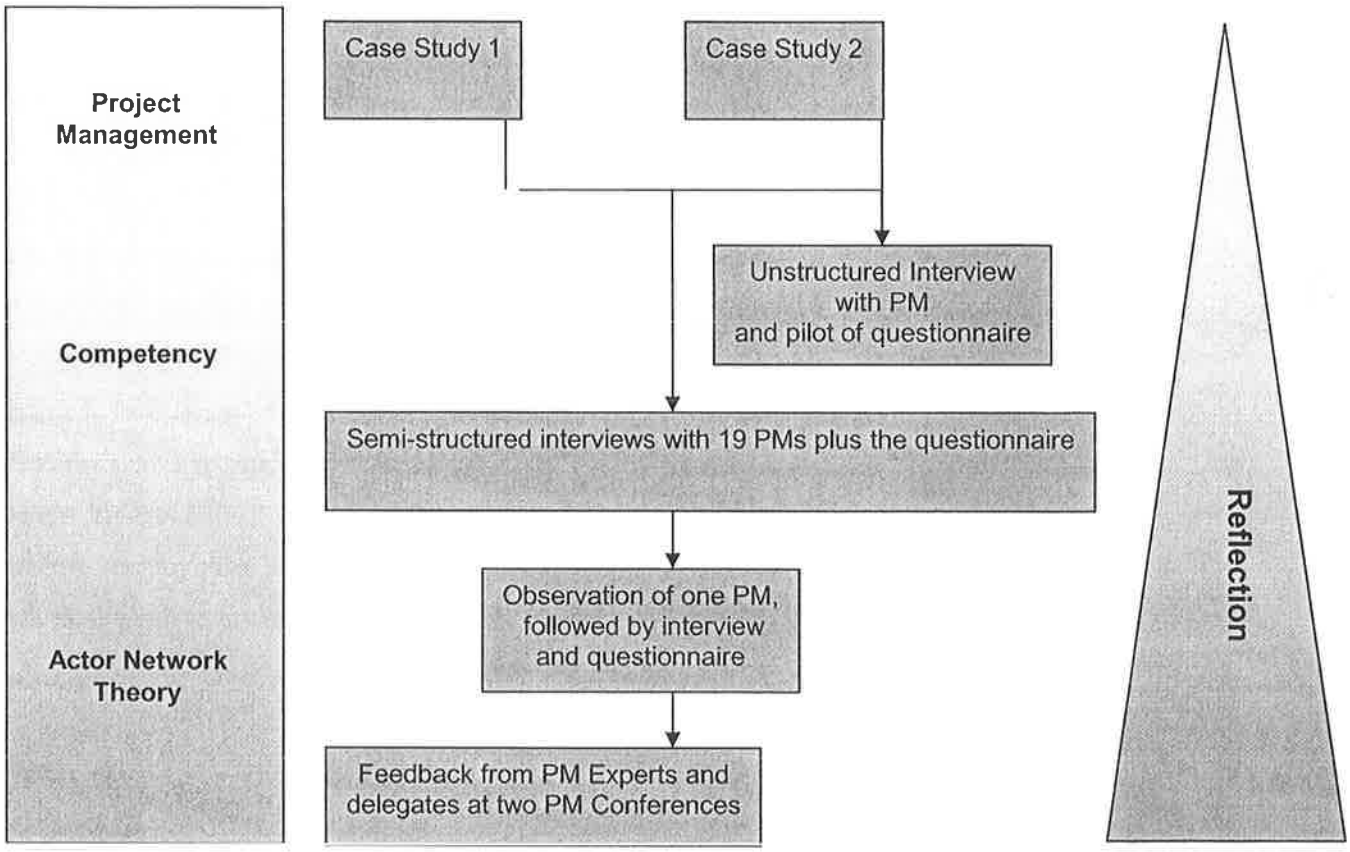
3.1.3 The Research Design

The eventual overall research design is shown diagrammatically in Figure 3.1 reflecting the main sources of empirical material (drawn from my professional work and reviewing projects as well as material collected only for this research), the key areas of literature and the increasing amount of reflection as the study progressed.

I reviewed two projects in my own organisation (Argos, the British catalogue showroom retailer) using attendance at and observation of project team meetings, interviews with the sponsors and team members, and review of the project documentation. The term 'case study' is perhaps too grand but these reviews, conducted from the theoretical framework of the professional auditor (looking for assurance that the management objectives for the project could be met) provided me with the opportunity to "understand processes as they occur in context" (Hartley,

1994). The second of these projects was transformed by the appointment of a very experienced consultant project manager. I interviewed him generally about the project and specifically about the methods he used. He also piloted the AIPM questionnaire and discussed its content with me.

Figure 3.1 Diagram to show the Final Overall Research Design



Informed by the literature and methods of competency research I then conducted semi-structured interviews with nineteen project managers outside my own organisation. I also used a questionnaire to gather information about their background and technical knowledge and I discussed their answers with each of them.

The last project manager to be interviewed came after I had sorted the material from the previous work and had started to interpret and reflect further upon it. She worked for me in my then employers (Kingfisher) and I had had the opportunity to observe her work and talk with her for a year before we conducted a semi-structured interview

on the same lines as the previous nineteen.

Figure 3.2 Changes in the Research Design

	Original Design	Elements of the Eventual Design
Project Planning and Methods for collection of empirical evidence and its analysis	Reproduction of design and method from Spencer and Spencer, 1993 **Step 1:** Identify the jobs to be studied and a population from whom the participants would be drawn **Step 2** Define Performance Effectiveness Criteria (using bosses' evaluations of average and excellent performers, supplemented by a questionnaire based on AIPM Standards) **Step 3** Identify a Criterion Sample **Step 4** Collect data: i.e. conduct interviews using BEI approach **Step 5** Analyse data for emergent categories and develop a competency model **Step 6** Validation of the competency model using a questionnaire and further BEIs, plus comparison with theoretical and empirical models of project manager competence	Not listed in order as they did not happen in a linear fashion: • Two mini-case studies in a retail organisation based on study of documentation, observation of project team meetings and interviews with team members. Projects selected on the basis of contrast (one had a professional project manager, the other did not have any overall project manager) and availability of empirical material. • Interviews with 19 project managers using a modified Spencer and Spencer, (1993) method, i.e. steps 1 and 4 only • Questionnaire based on AIPM Standards was given to 21 PMs and discussed with them • Observation of one project manager who was then interviewed • Interview transcripts analysed and interpreted using first a grounded theory approach and then interpretation sensitised by ANT. No model in the conventional sense developed. • Feedback sought from experienced project management practitioners • Comparison with empirical work of Gadeken (2000)
Philosophy	• Functionalist approach based on managerialist concerns with control and predictability. • Assumptions about the contribution of the project manager based on 'possessive individualism' (Dachler and Hosking, 1995)	• Interpretive approach based on Actor-Network Theory which is loosely based in social constructionism • Rejection of value-free approach in favour of enhancing human dignity (Pym, 1990)
Learning Goals	A competence model of professional project managers to distinguish: • the competencies which distinguish the high performing project manager from the adequate project manager or the poor performer; • the characteristics by which excellent project managers are distinguished from high performing line or functional managers; • the implications for those who wish to employ project managers whether as professionals or as part of a wider career; • the relationship between particular outcome competencies (AIPM Standards) and particular input competencies (knowledge, skills and attitudes). BUT little challenge to my pre-existing assumptions based around the project manager as hero.	Understanding of how project managers contribute to the creation of a project and its deliverables. Implications for management in terms of employing project managers, training them and getting the most from the investment. Understanding of the complexities at work in the project setting. Expansion of the idea of competence to include the performance of competence as an effect of a heterogeneous network of human and non human actors

As I began to write up my research I attempted to share it with the project managers whom I had interviewed and with other people familiar with project management. Some of their feedback is included in Appendix 4.

However, this was not my original design. Figure 3.2 summarises my original research design in terms of its overall plan, the methods used, the philosophy and what I expected to learn from the content and the process – and maps it to elements in the eventual research design.

My initial review of the project management literature had confirmed my observation from projects which I had audited that the contribution of the project manager was a significant component in the delivery of a successful project. Through review of the competence literature I confirmed my assumption that the reason behind this is the competence of those actors: the knowledge, skills, tools, techniques, values, attitudes, traits and motives which result in competent behaviours. Knowledge of project management as a set of tools and techniques has been catalogued, taught and examined by its professional bodies (Duncan, 1995). Related effective processes set out as performance standards by the AIPM (Stretton, 1995) have been tested in the field by Crawford (2000; 2001). This left me several possibilities to cover the behavioural elements:

- using a survey method test the validity of lists of project manager behaviours and attitudes drawn up by others either theoretically (e.g. Pettersen, 1991) or from empirical research (e.g. Gadeken, 2000; Leonard, Fambrough, Boyatzis, 1996);
- draw up my own list using a rapid technique such as repertory grid (Gammack, Stephens, 1994) and then test that empirically; or
- build a competency model from scratch using the interview and content analysis methods created by McClelland and Boyatzis (Spencer and Spencer, 1993) and validate it using a survey and/or further interviews.

All other exposure to empirical material would only be background familiarisation.
My initial decision was to follow the third option and build a competency model from scratch. The key reason for this was that learning from people in their own words seemed more likely to reveal new insights than asking for simple responses to a

questionnaire (Easterby-Smith et al, 1991). However, the interpretation of the interview transcriptions was one of the main factors leading me to question my basic assumptions. Such questioning, I would contend, marked a paradigm shift in my thinking.

3.1.4 A Paradigm Shift

Gummesson (2000, p 20) links his understanding of a paradigm shift to Argyris and Schön (1974): single loop learning takes place within a existing paradigm: double loop learning (when error is detected and corrected in ways which involve the modification of underlying norms and ways of thinking) requires a new paradigm.

Section 3.2 examines the origins and development of and departure from the concept of paradigm incommensurability in philosophical terms. Here I explain how my own approach changed from post-positivism towards social constructionism, a process derived from life and work experiences as well as the literature and reflection upon the empirical material of my research. Such a personal statement is not without precedents in qualitative research, for example, Wolcott (1994) describing the effect on his research of his attempted murder by a research subject; or Burrell (1993, p72) describing his feelings of rejection, confrontation and pleasure turned into pain when his presentation of concepts was repudiated; Jeffcutt (1993, p33) confessing his feelings of guilt over his 'complicity in the achievement of unfortunate outcomes in the [research] setting;' or Goodall (1994) who interweaves autobiography with ethnographic description.

I began the DBA in March 1995, six months earlier than I had planned. I found the adjustment to thinking as a research associate difficult as I had adapted well to the macho style of my organisation where the theoretical and reflective approach of the academic did not find favour. I wanted to follow a low risk route and make rapid progress and therefore I chose to take a traditional approach, working through a set of straightforward tasks, serving my research apprenticeship.

However, even as I invested time and energy in developing and implementing a mainstream research project I became aware that I was moving away from the predominant paradigm in my personal and professional life. The most traumatic

element in this was a development course which revived my childhood anxieties from being bullied and mentally abused at school: I discovered that being bullied or seeing others bullied renders me inarticulate with rage, fear and indignation. I was also developing my thinking about control and management of risks and the role of the internal auditor. This was leading me towards a postmodern view of internal audit which among other things required re-examination of the subject-object relationship between auditor and auditee and a move to a facilitative and partnering approach. I recognised similar concerns in the research methodology material I was reading.

During this time I also moved jobs twice and engaged in a year of mentoring with a psychologist with whom I started to come face to face with the bullying demons. My work in accountancy and audit had led me to adopt a business culture and values in which I did not really share. My mentor helped me to see that it was okay to live by my values and stand up for my beliefs even if they were considered uncommercial in a Taylorian paradigm.

Throughout 1998 and 1999 I had been trying to bring my new approach to life and audit into research. The research process demands solid foundations for new insights and understanding. It is a process of building on the work of others that is respected as solid in its own right before adding your own small block to the structure (or daring to dismantle someone else's). I needed help to find the right literature to read (compare Gummesson, 2000, p1) until I met a researcher who showed me her thesis on audit committees (Spira, 1998). It was a revelation: qualitative and interpretative research in clear and simple language, in a sense validated by me, the reader, by my own knowledge of audit committees but offering insights I had been too close to the subject to make for myself. And it also introduced me to Actor-Network Theory which coincided uncannily with the patterns and inferences I was beginning to draw from my data. I talked to her supervisor and began to work my way through and around the literature of ANT.

At work and in research I have changed my outlook dramatically. I cannot now accept the concept of doing audit *to* an *auditee* (I now audit *with* a *client*) nor would I in future carry out research *on* a sample of people (Gergen, 1999, p98; Hill Collins, 1990, p217 *"criteria of evaluation are based on the ethics of caring, personal responsibility and open dialogue"*). This presented a new challenge. *Audit brevis,*

studia longa. Audits are short: those I started on positivist premises are long finished and I can begin afresh as an ethical, subjectivist interventionist. (*"Descriptions are performances; they are never entirely innocent. You will always interfere so you have to decide how you will interfere."* Law and Singleton, 2000a.)

My research, however, had taken more than five years and risked becoming neither one thing nor the other. My initial approach – which had not challenged my assumptions – had been post-positivist, despite wanting to collect and analyse qualitative data and to explore the experience of project managers in practice. I felt that the content analysis brought little insight unless I had an interpretive framework in which to work. Yet if I took an interpretive line, some interpretivists might consider the initial approach, the interviews and analyses, tainted with post-positivist methods.

However, I am not the first to struggle with these issues and I am indebted to Stephen Downing (2000) for his guidance in a more systematic exploration of the paradoxes of incommensurable paradigms.

3.2 Paradigm Incommensurability

3.2.1 A Summary

Burrell and Morgan (1979) 'challenged the intellectual hegemony of functionalism' by defining four broad paradigms in social and organisational theory in terms of two axes: one (about the nature of science) moving from the objective to the subjective; the other (about the nature of society) from the sociology of regulation to the sociology of radical change. Burrell and Morgan considered these paradigms were mutually exclusive: research work can only be meaningfully conducted within paradigms (although they and others have illustrated multi-paradigmatic approaches to related areas of research); therefore there should be consistency between theory and methodology. They state that the paradigms are incommensurable (mostly by virtue of their language) such that a paradigm cannot/should not be subject to criticism from another paradigm (since this would not be meaningful), only from within. Burrell and Morgan's perspective has been very useful in opening up new possibilities for research designs and creating a firewall around them which protected

them from inappropriate criticism based on positivist evaluation criteria. However, since each paradigm is self-validating there can be little or no change to these paradigms in the manner described by Kuhn (1962) – whose use of the term paradigm differs greatly from that of Burrell and Morgan. Kuhn sets out to explain the process of acquiring and refining scientific knowledge: a normal paradigm is replaced by a new paradigm only after anomalies to the original theory grow so numerous and significant that the old paradigm is discredited and abandoned. A whole community of scientists then achieves a paradigm shift. Kuhn's paradigms are incommensurable over time (diachronic as opposed to synchronic incommensurability) but also have continuity: they build on paradigms which are then abandoned. In Burrell and Morgan's model a person might shift paradigm, but the theories and methods remain in their own boxes. Kuhn is thus more mainstream functionalist: Burrell and Morgan are relativists.

Incommensurability defines a relationship between entities. It occurs when A is incommensurable to B relative to a system of reference C which defines the rules of comparison or measurement. People have attempted to use as criteria empirical data, usefulness, interest or concern for the good of humanity: but unless the criterion is accepted by both paradigms the evaluation is invalid. Scherer (1998) states that where agreement cannot be reached the decision is often decided by power. Despite much support for Burrell and Morgan's (1979) viewpoint (e.g. Jackson, Carter, 1991; Hopper, Powell, 1985) writers since have attempted to show:

a) that there is only one real paradigm (e.g. Donaldson, 1998);
b) that paradigms are incommensurable but that a pluralist approach is still permissible (e.g. Morgan, 1990; Hassard, 1991; Weaver, Gioia, 1994); and
c) that there is a third way (e.g. Schultz, Hatch, 1996; Deetz, 1996; Czarniawska, 1998; Brown, 1992) in which paradigms are or may be irrelevant.

3.2.2 Origins of the Paradigm Incommensurability Issue

The origins of the paradigm incommensurability paradox are summarised in (among others) Arndt (1985) and Scherer and Steinmann (1999). Kuhn (1962) used the term 'paradigm' in his description of the process of scientific discovery. Broadly he described scientists working within any given paradigm as testing hypotheses and solving puzzles within the framework accepted in their community of knowledge. Only when problems could not be solved from that set of assumptions might pressure

build to accept a different framework with different assumptions and using different tools and techniques. Having proved itself a new paradigm might replace a former one and come to be generally accepted by the community. Kuhn thus argued that new knowledge came not from within a paradigm but as a result of a paradigm shift, from one to another paradigm. Such paradigms would not be capable of evaluation one from the other since underlying assumptions had changed. Hassard (1990) argues that for Kuhn this incommensurability reflected the everyday reality of science as more akin to the lifecycle of a political community than to the dictates of formal logic. It also approximates to the ANT view of how scientific knowledge is developed (Latour, 1987).

Arndt (1985) notes that Kuhn used the term paradigm in 21 different ways which he (Arndt) groups into three main categories:

- a complete view of reality or way of seeing;
- metaphors relating to the social organisation of science in terms of different schools of thought; and
- the specific use of instruments in scientific puzzle solving.

He considers that when Burrell and Morgan (1979) adopted the term paradigm and applied it to organisation theory they added an additional meaning: the perspective of the researcher relating to the role of data, theory and values in the research process.

Burrell and Morgan (1979) analysed philosophy and related social theory in terms of two axes: objective and determinist versus subjective and voluntarist; and descriptive (of the status quo) versus subversive (seeking to change it). This yielded a neat two by two matrix of four broad paradigms: functionalism, interpretivism, radical change and radical humanism. Later writers (e.g. Hopper, Powell, 1985; and even to some extent Hassard, 1991) in applying the concept to other fields of management research give the impression that these paradigms are objective reality, clearly structured into four incommensurable pigeon-holes. Burrell and Morgan's (1979) book on the contrary shows a spectrum of philosophical theory on each axis. However, they maintain that the four paradigms are watertight: they are incommensurable in their theoretical and practical approaches to research in so much as criteria from one paradigm cannot be used to judge the quality of work carried out in another. This incommensurability stems from relativism: there are no external criteria with which to judge that one paradigm is 'better' than another. If it is objected that all are

different perspectives on the real world of empirical data, this is seen as applying criteria from the functionalist paradigm to all the others (since for those in parts of the interpretivist and radical change quadrants there is no such thing as data since all is subject to interpretation). Hassard's (1991) practical attempt to use and evaluate the contribution of all four approaches to case studies in an organisation suggests he had a fifth (unidentified) paradigm at work, with which he evaluated and compared the other four (Parker, McHugh, 1991). Once this fifth paradigm has been 'outed', external evaluation thus leads to an infinite regression of paradigms in which each higher meta-perspective is called into question but no ultimate frame of reference exists – unless, as Aquinas argued from the regression of causes, it leads to a proof for the existence of God (Hick, 1964). (A similar subjective regression could be extrapolated from the suggestion that one is only aware of the paradigm one is in when one recognises it, and in so doing, moves oneself outside it (prompted by Layder, 1988).)

The issue of paradigm incommensurability is not dependent on the quality and quantity of paradigms described by Burrell and Morgan. For example, Mathews et al (1999) described four different paradigms identified by Tsoukas (1994) based on the axes of analytic versus synthetic theories and dispersive versus integrative theories and yielding four approaches to the generation of formal knowledge: formism, mechanism, contextualism and organicism. These are also incommensurable.

3.2.3 Applications of Paradigm Incommensurability

Burrell and Morgan's book has been widely applied by management researchers in many subject areas such as entrepreneurship (Heron et al, 1991, 1992; Smith et al, 1989; Savage and Black, 1995), information systems (Hirschheim, Klein, 1989), accounting (Hopper, Powell, 1985), creativity (Rickards, de Cock, 1994) and marketing (Arndt, 1985). Whereas the last two mentioned have made a wider contribution to the debate, many such papers only set out the four paradigms, point out that most research in their discipline has been concentrated in the functionalist quadrant and note that there are other possibilities.

The appeal of paradigm incommensurability lies in the politics of social sciences research. Whereas earlier researchers had sought respectability in trying to make the

social sciences as much like the natural sciences as possible, by the 1960s there were increasing numbers who considered that a different, more interpretive approach was needed. Functionalism was (and, it may be argued, remains) the dominant paradigm such that academic jobs went to those with the accepted approach and prestigious academic journals published only papers which met their functionalist criteria of excellence. By creating the incommensurable pigeon-holes Burrell and Morgan were constructing safe areas for the development of alternative research approaches where researchers could gain recognition for their work on its own terms (Jackson, Carter, 1991; Czarniawska, 1998). Creating such secure zones appears to have succeeded: like the ethnically cleansed regions of former Yugoslavia the persecuted paradigm minorities have not only thrived but have sought to expel all traces of their former oppressors from their territory. These in turn have reacted (e.g. Donaldson, 1998; Pfeffer 1993, trying to reassert the supremacy of the functionalist approach; Schultz and Hatch (1996) argue that Willmott (1990, 1993) is an integrationist from an interpretive perspective) although for many functionalists the question does not arise: those in power do not have to justify their approach.

However, researchers have also found the paradigm apartheid limiting in that Kuhn's paradigm shift is missing (e.g. Gummesson, 1991). Whereas Kuhn's paradigms were consecutive, with each succeeding paradigm ousting its predecessor to become dominant, those of Burrell and Morgan are concurrent, ideally isolated from each other. As Jackson and Carter (1991) point out, individuals may experience a paradigm shift but the paradigms themselves remain. This denies the 'progress' or 'change' in human knowledge which Kuhn described and limits single paradigm research to introspective debates (as described in Alvesson and Skoldberg, 2000, pp 148 – 199 on the subject of postmodernism) or "digging the same hole deeper" (Gummesson, 1991).

3.2.4 Managing Paradigm Incommensurability: four responses

Scherer (1998) identified four positions adopted by researchers in making sense of paradigm incommensurability which he termed isolationist, back to basics, the multiparadigm approach and anything goes. Figure 3.3 lists authors whose work I have categorised below under four similar headings.

3.2.4.1 Isolationism

Isolationists either vigorously defend the purest form of the incommensurability model (e.g. Jackson, Carter, 1991; Layder, 1988) against the positivist foe or they use a single paradigm (e.g. Wolcott, 1994) as if it were the only possible way to proceed. The latter is perhaps the approach most faithful to Burrell and Morgan's concept in that it mirrors exactly the many positivist papers which do not state their assumptions because such assumptions are taken for granted.

Figure 3.3 Four responses to paradigm incommensurability

<table>
<tr><th>Isolationism</th><th>Opposition</th><th>Multi-paradigm approaches: How to have your cake</th><th>Escape Routes</th></tr>
<tr><td>Aggressive:
Jackson, Carter, 1991
Layder, 1988</td><td>Aggressive:
Pfeffer, 1993
Donaldson, 1998</td><td>Brazen:
Platt, 1986
Morgan, 1990
Martin, 1990
Hassard, 1991
Gummeson, 1991
Parker, McHugh, 1991
Lewis, Grimes, 1999</td><td rowspan="3">Power, 1990
Brown, 1992
Kaghan, Phillips, 1998
Czarniawska, 1998
Mathews, White, Long, 1999
Payne, 2000
Alvesson, Skoldberg, 2000</td></tr>
<tr><td rowspan="2">Gentle:
Wolcott, 1994</td><td rowspan="2">Unstated:
By definition, many papers fall into this category.</td><td>Empiricist:
McKinley, Mone, 1991</td></tr>
<tr><td>Alternative theory:
Arndt, 1985
Willmott, 1990, 1993
Hassard 1990
Rickards, de Cock, 1994, 1995
Weaver, Gioia, 1994
Schultz, Hatch, 1996
Deetz, 1996</td></tr>
</table>

3.2.4.2 Opposition

Paradigm incommensurability is similarly not an issue to those whose research is carried out solely within a functionalist framework. Both Pfeffer (1993, described in Scherer, 1998) and Donaldson (1998) express fierce opposition to a multi-paradigm approach, condemning it as counter-productive to the scientific study of social phenomena. In both instances they propose a return to positivist values, a position which has been described as 'integrationist'. There would be seem to be no reason why proponents of another paradigm could not also be integrationists with their own perspective dominant.

3.2.4.3 Multi-paradigm approaches: the Search for Resolution

The main assault on paradigm incommensurability comes from within. Although they are aware of the advantages of paradigm incommensurability, many writers seek to be allowed multiple simultaneous perspectives, to use a bricolage of methods with their theories, and yet to be protected from evaluation by the functionalist hierarchy: to have their cake and eat it.

The most brazen argue for multiple research approaches within the same study despite the different paradigms. Platt (1986) is criticised by Layder (1988) for stating that there is no necessary causal relationship between theory and methods and the tendency to see this link is more ideology about what the relationship ought to be than close historical observation of what actually happened. Morgan (1990), whilst adhering to the match of methods to theory, suggests that the researcher should understand other paradigms even if writing from within and thus open up dialectic between competing perspectives. Martin (1990) acknowledges practical considerations and states that methods are often dictated not by theory but by the availability of resources, the preferences or by the limited skills of the researcher; she advocates tolerance and being a methodological chameleon, working within one mono-method but evaluating the results with the scepticism of a methodological atheist. Hassard (1990) illustrates what this might look like in practice with a case study of four pieces of research, one from each Burrell and Morgan paradigm: he highlights the problems inherent in such an approach but does not therefore find it theoretically invalid. Parker and McHugh (1991) criticise Hassard and other such research, not least because paradigms cannot be changed at will: the four analyses in Hassard's paper are being described by a Hassard No 5 who is sitting apart from them. However, they themselves value an approach unconstrained by paradigm incommensurability since they believe that new and exciting forms of knowledge only emerge when boundaries are transgressed. Yet they consider paradigms are not like spectacles, to be changed when necessary. They state that it is impossible to adopt another paradigm without raising doubts about contamination by residual beliefs and biases of the pre-entry culture and they question why we should assume a stable researcher with one entirely consistent set of beliefs. They conclude that dialogue between paradigms probably happens, is not easy nor complete, but it should be encouraged. Lewis and Grimes (1999) use the term 'metatriangulation' for the process of building theory from multiple paradigms.

One attempt to reconcile the paradigms by relating them to the lifeworld is that of McKinley and Mone (1991). Unlike Donaldson (1998) they do want to keep multiple paradigms but their suggestion of an agreed dictionary of organisational theory terminology to provide a common language for dialogue depends on a single paradigmatic view of the ontological status of empirical data and socially constructed language.

Other attempts to bridge the incommensurability gap have gone back to Kuhn (1962) or looked to other philosophers and started to introduce alternative theories, thus bringing their exponents closer to the radical Escape Routes described below (section 3.2.4.4). In this we might claim to see the process Kuhn described: puzzle solving within the Burrell and Morgan paradigm until a more radical shift takes place, breaking out into a new orthodoxy.

The exploration of Kuhn (Arndt, 1985; Willmott, 1993; Hassard, 1990) shows up the different ways in which Kuhn used the term and how his ideas developed away from strict incommensurability. Hassard (1990) considers that the word *paradigm* has been devalued in organisational theory to mean perspective, theory, discipline, school or method. He states that for Kuhn the everyday reality of science was more akin to the lifecycle of the political community than to the dictates of formal logic. Kuhn's later writing, he says, allows overlaps of meaning and the objective influence of nature so that one paradigm may be better than another and several may co-exist in partial dialogue. Hassard (1990) employs the idea from Wittgenstein that language is both a product of human activity and a producer of meaning and thus of new forms of human action. We have everyday language-games (metalanguage) and other specialist and technical language games. Hassard equates paradigms with language-games: we can indulge in various of these at once. We can be trained into new language-games: not a sudden gestalt switch but established perceptual arrangements which facilitate a transfer of allegiance. The faces/goblets picture shows how two language-games can be straddled at once: once you have seen the second image you can neither go back to just seeing the first nor forget you ever saw it.

There are also attempts to undermine the Burrell and Morgan matrix by showing that the subjective/objective division is not clear cut. Willmott (1990) considers the

theory flawed because the two by two matrix is a structuralist concept, too black and white. Willmott (1993) uses examples from labour process theory, while Mathews et al (1999) cite complexity theory as pointing to not an either/or view of disparate paradigms but a both/and perspective.

Another focus of philosophical challenge to Burrell and Morgan has been the structuration theory of Giddens (Willmott, 1990; Weaver, Gioia, 1994; Rickards, de Cock, 1994). Weaver and Gioia (1994) do assert that you cannot have multiparadigm enquiries with incommensurable paradigms. However, a successful multiparadigm perspective must explain how different theoretical approaches might be related but must do so while a) preserving genuine multiplicity and b) without uncritically embracing the disunifying 'paradigms' paradigm. They consider that Gidden's structurationist metatheory provides a means to honour both calls for a broader, more unified perspective and demands for metatheoretical and theoretical pluralism, without resorting to the 'self-stultifying' incommensurability thesis. Thus a structurationist analysis enables us to give up the idea of impermeable and imperialistic paradigms, whilst yet maintaining distinctive perspectives within organisational inquiry. They contrast seven dichotomies in organisational research (as opposed to Burrell and Morgan's two axes):

- Agency/structure
- Interpretive/structural functional
- Determinism /Voluntarism
- Causation/ Meaning
- Holism/ Individualism
- Object/ Subject
- Description/ Prescription.

Weaver and Gioia (1994) describe structuration as how scholars can invoke different assumptions, pursue different goals, ask different research questions and use different approaches but still be engaged in enquiries with commonalities as well as diversities: whereas paradigm incommensurability is dualism, opposed, structuration is dualities: single positions, processes or entities whose various aspects may be temporarily bracketed. Structure and agency are both needed: full understanding requires two simultaneous viewpoints: a stationary cross-sectional standpoint

reflecting the rules, resources and practices which influence (without determining) the actions of agents at any given time AND a dynamic longitudinal standpoint reflecting the way in which by their actions agents intentionally and unintentionally change the rules and resources of society.

De Cock and Rickards (1994, 1995) consider that Weaver and Gioia (1994) may have too permissive an interpretation of structuration. They argue that structuration theory represents a break with a multiple paradigm mentality at a metatheoretical level yet they also have a sense of frustration similar to Willmott (1990):

> *"Burrell and Morgan's theory exerts an inadvertently repressive force as it denies the possibility of analysis that is much more sensitive to the ambiguous and contradictory nature of social reality than is allowed by its own one dimensional vision of the mutual exclusivity of paradigms."*

Schultz and Hatch (1996) accept the definition of paradigms but propose what they call 'interplay' as a new strategy for engaging multiple paradigms (paradigm crossing). They consider that there have been three such previous strategies:

- Sequential – specific paradigms are complementary rather than exclusive, revealing sequential levels of understanding within an integrated research project - one paradigm informs another.
- Parallel – different paradigms are applied on equal terms rather than sequentially (e.g. Hassard, 1988; Martin, 1990) - emphasises differences and conflicts rather than similarities.
- Bridging – the boundaries separating paradigms are more permeable than thought. Bridges are created by second order theoretical concepts, e.g. structuration (Weaver and Gioia, 1994).

They propose Interplay – the simultaneous recognition of contrasts and connections between paradigms. This assumes the permeability of boundaries and constructs a relationship between the researcher and multiple paradigms. The researcher moves back and forth between paradigms so that multiple views are held in tension: both-and thinking rather than either-or (a position built on by Mathews et al (1999)). The boundaries are broken down to expose what they see as the inherent similarities

between functionalism and interpretivism because Schultz and Hatch see them as both modernist from a postmodernist perspective.

Deetz (1996) accomplishes an interesting move in both banning paradigms and creating non-incommensurable discourses in their place. He finds the Burrell and Morgan paradigms unhelpful, serving to reinforce the dominant position they were created to undermine. He considers that subjectivity and objectivity are not very interesting ways of thinking about research programme differences and he proposes two new dimensions: Local/emergent vs Elite/a priori AND Consensus vs Dissensus. Local/emergent vs Elite/a priori relates to where and how research concepts arise. Are they developed in relationship with organisational members and transformed in the research process or are they brought to the research interaction by the researcher and held static throughout the research process? Consensus vs Dissensus describes the relation of the research to existing social orders (dominant social discourse): is the research a mirror or a lens? Are existing orders treated as natural and unproblematic or are struggle conflict and tensions the natural state? These two axes yield an alternative two-by-two matrix of four discourses (Normative, Interpretive, Critical and Dialogic) but Deetz does not consider these to be paradigms – since they are not incommensurable:

> *"Most researchers and teachers do not cluster around a prototype of each but gather at the crossroads, mix metaphors, borrow lines from other discourses and dodge criticism by co-optation. [They] happily move from one discourse to another without accounting for their own location."*

3.2.4.4 Escape Routes

It is debatable whether to classify Deetz or Schultz and Hatch as multiparadigm protesters or those who have shifted to a new paradigmatic position. The authors listed in figure 3.3 above as seeking an escape route from paradigm incommensurability could be categorised roughly into the postmodern (Power, 1990; Mathews et al, 1999), those influenced by actor-network theory (Brown, 1992; Kaghan, Phillips, 1998; Czarniawska, 1998), and exemplars of reflexivity (Payne, 2000; Alvesson, Skoldberg, 2000).

Power (1990) sets out postmodernism as another paradigm, not one of the four described by Burrell and Morgan. He rejects any particular model and the various ontological commitments perceived to lie at the heart of it because postmodernism is both an assault on unity and a search for instabilities, which espouses rather than tolerates methodological anarchy. Mathews et al (1999) pick up the 'both/and' of Schultz and Hatch (1996) and use complexity theory ("the quantum mechanics of social theory" – there can be a corpuscular as well as a wave theory of light) to question the modernist belief that all events are potentially predictable and controllable. They argue that both the objectivist and subjectivist positions can hold because in a complex adaptive system only short term behaviour is predictable and they conclude that the goal of predictability and control must be abandoned.

Brown (1992) turns to actor-network theory (ANT) for insights into the rational and scientific in conjunction with the social. Science has acquired a privileged status at epistemological and ethical levels leading to a quasi-religious social power. He argues that organisation theory and management have become suffused with scientific imagery (and a degree of uncaring for people that is idealised as controlling and winning unemotionally) and that the alternatives are seen as relativist and weak; scientistic tendencies depend upon a discredited and unsupportable view of science based upon an ideology of representation, whilst relativistic stances in organisation theory are primitive and poorly developed because they systematically ignore the social and organisational characteristics of differing theoretical and methodological positions. However, following Latour (1987), Brown describes science as a paper war; the organisation of persuasion through literary inscription; fact-making as a collective business in which resistance must be overcome or realigned; scientific truth as not the result of just representational activity or just social definitions but the outcome of struggles between competing actor-networks in which the weight of allies, both physical and social, determines outcomes: all are translated into the accepted 'truth'.

Czarniawska (1998) and Kaghan and Phillips (1998) pick up on Latour's (and Burrell's) tower of Babel metaphor. Czarniawska (1998) concludes we need not commensurability but translation not in a strict linguistic sense but in the ANT sense: anything taken from one place and time and put into another – an act which changes both the translator and what is translated; by definition what has been translated is

never the same again; plenty of translation makes the field vibrant and lively, it energises it, rather than putting it to a (commensurate) sleep. Kaghan and Phillips (1998) like others before them go back to Kuhn. They point out that reductionists (positivists) view language as a black box used to transmit accurate information about the world but irreductionists see it as a tool that helps to shape collective meaning. Incommensurability is a practical problem of discourse embedded in a community attempting to act together: it is normal and can be handled pragmatically in different ways. Diversity and disorder are not necessarily weaknesses but an expected result of any serious attempt to capture the attributes of organisational life. Organisation studies is not an immature science simply because it has no dominant paradigm. The world of organisations is complex, inconsistent and ambiguous, and any attempt to gain knowledge will result in inexact and incomplete paradigms and theories. Since no single perspective can answer all worthwhile questions, research done from any single perspective, however well done, will only show a part of the truth.

Payne's (2000) approach is founded on ethics and values. He contends that paradigm theory says that researchers approach their work from a network of implicit and explicit assumptions about ontology and human nature, one of which is ethical values. However, he doubts that researchers can separate their biases, assumptions and values from their research: they may try but it is at best incomplete or quite partial. *"It is presumptuous to believe that researchers, like other human beings, have an elaborate, complete, accessible worldview. Most assumptions and values are only partially complete or understood."* Payne advocates reflexivity as a way to solve the problem: a process or ability for being critical or suspicious about one's own intellectual assumptions for research and theory building.

This view is expounded at far greater length by Alvesson and Skoldberg (2000) who examine empirically based interpretivism, hermeneutics, critical theory and postmodernism before recommending reflexivity as a means of combining a degree of empirical methodology (having allowed that there is no such thing as data since all data are constructions) with a theoretically rigorous approach. Wanting to go further than Gergen and Gergen's focus on language and language use (idem, p245), Alvesson and Skoldberg advocate reflexive interpretation or 'quadri-hermeneutics,' i.e. on four levels: interaction with the empirical material (interview accounts, observations etc), interpretation (underlying meaning), critical interpretation

(ideology, power, social reproduction), and reflection on text production and language use (own text, claims to authority, selectivity of the voices represented in the text). Proficiency in this methodology requires extensive reading and familiarity with different theories: confinement within a paradigm would be too limiting. Metatheories (such as postmodernism and critical theory) problematise the legitimacy of dominant interpretive patterns.

Did anyone (Deetz or Schultz and Hatch, Brown or Kaghan and Phillips, Payne or Alvesson and Skoldberg) make the great escape? I think it depends on the paradigm you started from. From within the paradigm incommensurability paradigm there is no escape. The formation of a new paradigm, be it postmodernism or reflexive interpretation or whatever, only creates another incommensurable box in which you are free to imagine your freedom from other view points, whilst those in other boxes laugh at you from their own view point. And to the aggressive positivist all these alternative view points are defective in so far as they do not take account of the 'real' world. It would appear that once you believe you have escaped and enabled yourself to cross the boundaries, to use the methods and theories you wish to espouse, the reality of your achievement depends on the acceptance of your position by others, what ANT would call the 'powerful allies'.

3.2.5 Issues for the Research Student

The three issues pertinent to this thesis are:

- My position on paradigm incommensurability given the combination of post-positivist take off and ANT landing;
- Whether the eventual research design can be considered coherent in the light of paradigm incommensurability; and
- How the research can be evaluated without a single point of reference.

3.2.5.1 My position

I would contend that I am someone who has experienced a paradigm shift during the course of my doctoral studies, from a functionalist, managerialist perspective to a more subjective and humanist point of view. In other words I believe I have changed whilst recognising that my former perspective still exists and indeed is dominant in the arena in which I work and earn my living, an arena pervaded by the desirability of

control and predictability. Hence my former paradigm is continually rewarded and re-enforced thus marginalising my privately held views. Hassard (1991) describes similar problems in presenting radically different research approaches to client management.

Whereas some might contend that it is possible to adopt a paradigm as Kuhn (1962) describes for Aristoleianism (and then ruthlessly to enforce the consequent language use and methods) or try to gain understanding of several paradigms (e.g. Martin, 1990; Hassard, 1991), I think Payne (2000) is more helpful in seeing the researcher with only partially complete or understood assumptions and values rather than an elaborate, complete, accessible worldview. Former paradigms leave residues: it is difficult entirely to eradicate re-emerging habits and language from the former paradigm (Hassard, 1990: once you have seen the faces, you can still see the goblets).

Deetz (1996) does not find the need to reinforce boundaries and paradigmatic isolationism but his picture of researchers happily moving from one discourse to another without accounting for their own location may be too free for the apprentice to adopt (sounding too much like what Scherer (1998) describes as 'anything goes') and therefore my conscious attempt to work through the processes described by Alvesson and Skoldberg (2000) as a reflexive interpretive methodology may have political and practical advantages. However, the metatheory summarised by Pym (1990): *"I do believe that the elevation of human dignity must be the overriding and continuing concern of any social enquiry,"* is a value-led statement that is central to my research philosophy and one that I do not plan to relinquish academically, professionally or personally.

3.2.5.2 Coherence of the Research Design

The research design outlined at 3.1 above shows an empirically rich progression from a practical problem (the action of project managers on projects) via first a theory and body of knowledge which comes from the mainstream of management studies (Competence) and then reflection and a sensitivity which comes from the sociology of scientific knowledge (ANT) to arrive at a collection of insights which have been generally welcomed by the project management practitioners to whom I have presented them and which will be used in training sessions in one of the organisations

which allowed me to conduct interviews. Had I maintained the post-positivist approach from the outset I would have sampled and analysed the data very differently and the outcome would have been a typical model of project management competency validated by a survey or further interviews.

Given that I do not, and ANT exponents (e.g. Brown (1992), Czarniawska (1998) and Kaghan and Phillips (1998)) do not, espouse the limitations of the incommensurability of paradigms, the problems are reduced of having selected some project managers to interview and conducted the loosely structured (see Appendix 2) interviews from a competency standpoint. They are further reduced by the use of other empirical sources which do set the project manager in the context of the project and the organisation.

ANT studies use a variety of empirical material including secondhand and interpreted documents historical (e.g. Law, 1986) and current (e.g. Law, 2000c), as well as interviews and observation (Law and Singleton, 2000b). These are often conducted as case studies but Law (1997) considers that ANT may no longer be confined to chronological narratives about the growth or decline of networks but "we need to attend to lots of little stories, and then to the patterns that subsist between those stories." Efforts are not made to obtain complete and accurate data, since this cannot be achieved. From an ANT perspective Law (2001) states *"... any method makes links and connections which warrant writing/intervention. It doesn't get at some* final truth. There is no final truth!" and "*On methods, well do what you can is my view.*" I therefore feel that the overall research design has sufficient coherence for an ANT study.

3.2.5.3 How to Evaluate the Research – and an analogy

It is recognised that positivists/ functionalists have formed the academic establishment in social sciences at least until 1980 (Guba and Lincoln, 1994) and probably longer in business schools (Gummesson, 2000). The paradigm incommensurability concept set those not working in the positivist paradigm free because it required them only to satisfy the evaluation of their peers without opening them up to criticism from the orthodoxy. Denzin and Lincoln (1994) list four positivist criteria for disciplined enquiry: internal validity, external validity, reliability and objectivity. They comment that attempts to find parallels within social

constructionist enquiry are suspect. The alternative they offer is authenticity (Guba and Lincoln, 1989):

- ontological authenticity – enlarges personal constructions;
- educative authenticity – leads to improved understanding of the constructions of others;
- catalytic authenticity – stimulates to action; and
- tactical authenticity – empowers action.

These categories lead logically from the quiet development of the researcher outwards towards action by the researcher and others.

Wolcott (1990) takes more account of the process than of the outcome when he argues that validity was originally a concept confined to testing which in a positivist paradigm became applied to research as a whole; in the context of naturalistic enquiry it is not applied with the same meaning. He states that the qualitative researcher's concern is that 'you are not quite getting it right' in describing and interpreting culture and he describes as follows his actions to ensure he does not get it all wrong:

- Talk little, listen a lot
- Record accurately
- Begin writing early (and share drafts with others as you go along)
- Include primary data so readers can see for themselves
- Report fully, including data that does not fit the developing account or its interpretation
- Be candid about personal subjectivity, feelings and reactions but avoid use of judgmental wording
- Seek feedback throughout rather than just at the end
- Try to achieve balance, not of objectivity but of rigorous subjectivity, checking back to the field or to field notes
- Write accurately, checking for coherence and internal consistency.

Wolcott (1990) therefore seeks not validity but *'a quality that points more to identifying critical elements and wringing plausible interpretations from them, something one can pursue without becoming obsessed with finding the right or*

ultimate answer, the correct version, the Truth.' He suggests that the qualitative researcher's equivalent for validity is *understanding*: *'the power to make experience intelligible by applying concepts and categories.'*

I believe it is necessary for me as a researcher to throw off pretensions to being an objective witness trying to establish an objective truth (Haraway, 1997). My own constructions, the constructions of participants and the pre-existing constructions of literary sources have been drawn together and interpreted by me. It is like the situation when an artist paints a portrait of a sitter and the finished work reflects both the artist and the subject. The quality of the likeness depends on the artist's natural and acquired skills of observation and draughtsmanship, learned by apprenticeship or at art college. It depends on the medium used: oil on canvas, acrylic or pastels etc. It depends on the current fashions in portraiture, the intentions of the artist and on social or political pressures (for example, those requiring the artist to make the sitter look somehow 'better'). In the end the quality of the likeness also depends on the person viewing the picture. If the sitter is known to him/her, the artist's and the audience's interpretations of the sitter can be compared for visual and less readily defined characteristics. We ask: "Does it capture the likeness? Does it show the person?" Possibly the portrait may show a side to the sitter which the audience had not recognised before. In time, or if there is no other known likeness or description of the sitter, only the artist's interpretation remains. We ask: "Is the picture competently executed? Does it look as if the sitter was a real person? Is this an interesting picture with something to say about the sitter?"

This is a study based on three projects and twenty some specific project managers. Those who know project managers should be able to evaluate this study in terms of its likeness to project managers as they interpret them. Those who have not worked with project managers can only look for evidence of competent execution and their own intuition that the picture I have painted for them is of real people and has something interesting to say about them.

3.3 The methods used for the collection of empirical material

3.3.1 Summary of the collection methods

Figure 3.4 (page 93) summarises the methods used, their purpose and their strengths and limitations. Each method is examined in more detail in the following sections 3.3.2 to 3.3.5.

3.3.2 The mini-case studies in Argos

In my professional role as Head of Group Internal Audit at Argos plc I personally reviewed several high profile projects over four years in the organisation. Project A was the first and had gone live the week before I took up my post; Project B was one of the last and was not completed until shortly after my departure. I selected them for inclusion in my research because (influenced by Glaser and Strauss, 1967):

Figure 3.4 Methods used to collect empirical material

Method	Purpose	Strengths	Limitations
3.3.2 Mini-case studies in Argos. Project A had no overall project manager. Project B had an experienced consultant project manager.	To understand the role of the project manager in the context of the project and the organisation.	Access to two contrasting projects in the same organisation. Holistic view of project with full access to key players and all documentation, including observation of Project B and an unstructured interview with its project manager, Aaron.	Project A was reviewed after it had failed to deliver the benefits required, whereas Project B was reviewed from initiation until it was close to completion. Perceptions of the researcher as auditor may have coloured the project team's behaviour in my presence. Aaron saw me as an actor and therefore I was subject to his influencing techniques.
3.3.3 Interviews with project managers. Semi-structured on the model of Behavioural Event Interviews (Spencer and Spencer, 1993)	To capture stories of their behaviour as project managers. To find out what they thought were essential characteristics of a good project manager.	Structure allowed me to cover similar ground with everyone within the limited time the project managers could spare me. Meeting a range of project managers in functional organisations with a strong commitment to managing by projects gave me access to a body of experience lacking in my own company. Even if they knew I was an auditor I wasn't their auditor.	I only had the project manager's view of each story. Structure constrained me from following up interesting tangents. Emphasis on 'codable' responses may have constrained the project managers. Project managers' views of their own role may be unchallenged assumptions.

Method	Purpose	Strengths	Limitations
3.3.4 Questionnaire on project managers' backgrounds and their use of the practices described by the AIPM as standards of competent performance in project management. PMs were asked to complete before the interview and their reaction to the questionnaire was discussed in the meeting.	To ensure I collected the same background information on all the project managers interviewed. To ensure I had some indication of the project managers' knowledge and use of technical aspects of project management.	Everyone answered the questionnaire fully. A thumbnail background was therefore obtained for everyone (except Aaron): this supplemented details captured in the interviews. Discussions and responses showed some interesting views on project management standards.	Pilot questionnaire on Aaron was not retained. Getting the questionnaire back in the interview meant I had little time to review it and occasionally found responses I wished I had had time to explore further.
3.3.5 Observation of Wendy and the Y2K projects in Kingfisher and subsequent interview as above.	To understand the role of the project manager in the context of the project and the organisation.	Access to and participation in a project and a programme in its organisational context so that Wendy's stories could be understood from other view points. I only interviewed Wendy after I had left Kingfisher so she had less reason to influence me.	I was Wendy's boss for the latter part of the time I observed her work and I was subject to her influencing techniques.

- They were similar projects: Project A had moved the home delivery warehouse from Nottingham to an old warehouse in Penkridge, the call centre from Milton Keynes to Penkridge and installed a new warehouse management and order and despatch computer system; Project B moved the same operation to a new purpose-built warehouse and installed systems upgrades. Project A therefore had a larger IT and smaller property component and Project B a much larger property focus but simpler IT requirements. Many of the same people were involved in both project teams.
- They had contrasting characteristics: Project A had no overall project manager, Project B had a very experienced professional project manager (the only such project in Argos at that time); Project A had had mixed success, Project B appeared to be progressing smoothly at the time and I remained in contact until its successful go-live – early and under the original budget.

The methods for learning about these projects differed. I was asked to review Project A to see why it had failed to deliver a fully functional IT system and I proceeded by interviewing everyone on the project team and reviewing the documentation (voluminous in some areas, totally missing in others) and thus I reconstructed the story of the project from its initiation to its implementation and the efforts of

warehouse and call centre staff to work around the defective systems (Argos Distributors Ltd, 1994). The Home Delivery team were ready to acknowledge the lack of process in this project and I worked with them on several smaller projects before Project B was initiated. These project reviews did not result in formal audit reports but I did urge them to hire a competent project manager which they eventually did for Project B because of its magnitude and high risk. I reviewed Project B through attendance and observation at the Steering Committee and Project Team meetings, one to one interviews with project team members and review of the project documentation, often in draft so that I could advise them on the final version.

I was able to observe the project manager, Aaron, in meetings and I interviewed him to find out how he was steering this project and what other methods and techniques he had used on previous projects. He also piloted the AIPM questionnaire (see section 3.3.4) for me and offered his comments. I did not interview him using the behavioural event method (3.3.3).

Although internal audit in Argos was not a policing type audit function, undoubtedly the people I worked with viewed me as an auditor and I cannot discount that they may have told me certain things and withheld others because of their perception of me and what consequences my reports might have for them and for the project. Nevertheless I believe the strength of these reviews was the holistic study of the project and, where he existed, the project manager in context.

3.3.3 The interviews with project managers

3.3.3.1 Rationale for the interview method without criterion sampling

A traditional approach to identifying the behaviour of competent project managers would be to take a theoretically derived personal competency model building on the work of expert writers and attempt to validate or repudiate it in the field. A pure grounded theory approach would start with the data without reference to the theory. Like Alvesson and Skoldberg (2000) I have rejected grounded theory *per se*, first because it is virtually impossible to come to anything without previous exposure to theory or data, and second because the degree of naïve objectivity which that implies is unrealistic.

Nevertheless a totally free-form process-free approach to gathering empirical material and analysing it was unwise if I was to apply rigour to the research. Using and adapting well-tried methods from competency research has, I would argue, allowed me to order the work methodically but has not prevented me from challenging the process reflexively. The following survey of methods which have been used in competency research shows that the decision to interview and the interview structure used were initially a reasonable method to obtain empirical material for the study and did not over-constrain the subsequent analysis and interpretation.

The prior research conducted into competence is predominantly positivist and post-positivist and as such has used a combination of quantitative and qualitative techniques. However, if I was to understand what project managers did and why, the kind of data required would appear to demand a qualitative approach to its initial collection (as Boyatzis, 1982; 1998) rather than the purely quantitative questionnaire studies of McGrath et al (1995) and Smith D et al (1989).

Behavioural events interviews (BEI) are a hybrid qualitative/ quantitative method used for eliciting examples of individuals' behaviour for the purposes of identifying competencies. Competencies in this context are defined as the underlying characteristics of a person which are causally related to effective or superior performance (Hooghiemstra, 1992). The BEI is used both in a research context to build up a picture of competencies in a role as evidenced by a sample of interviewees doing the job and in a practical context in recruitment to sift applicants for that job (Hay Management Consultants, 1995).

According to Spencer et al (1994), McClelland developed the Behavioural Event Interview technique combining Flanagan's (1954) critical incident method and the thematic apperception test which McClelland had developed for motivation studies (Winter and McClelland, 1978; Tomkins, 1947). Flanagan (1954) describes the development of critical incident testing: *"a set of procedures for collecting direct observations of human behaviour in a way such as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles."* An incident is *"any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act."* To be critical it *"must occur in a situation where the purpose or*

intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effects." Flanagan's work grew out of the Aviation Psychology Program of the USAAF in the second world war looking at why some pilots did not succeed in learning to fly or in bombing targets. After the war Flanagan used it in job analysis to counter lists of "all the desirable traits of human beings" and substitute specific requirements. Where CIT differed from BEI is that CIT used the reports of observers not the individuals themselves.

In the BEI the subject is asked to think of several important on-the-job events which turned out well or poorly and describe them in detail: what led up to it, who was involved, what did you think about, feel, want to happen in the situation, what did you do, what was the outcome? Transcripts are scored using CAVE: Content Analysis of Verbatim Explanation, another method which McClelland adapted from his research into motivation (Zullow et al, 1988).

As Gonczi et al (1990) describe, there are many techniques available for the identification of competencies. Some of them rely on a group of practitioners or experts, others on individual interviews. An alternative, used by Schroder (1989), is direct observation of subjects, either in real or simulated settings (such as assessment centres).

However, Boyatzis' large and well known study of manager competence (1982) drew on data from BEIs which he thought were most useful in determining skill-level competencies, but not necessarily enough to infer motive, trait, self-image or social role competencies. For these Boyatzis used a Picture Story Exercise and Learning Style Inventory tests and focus groups to identify characteristics distinguishing effective or superior performers from others. He sent a job element inventory and list of job elements to all focus group members to provide information on managers' perceptions of how an effective manager would act.

Leonard et al (1996) used seven instruments: a demographics questionnaire; a personal orientation questionnaire; a role preference questionnaire; an adaptive style questionnaire; a skill assessment questionnaire; a learning skills profile; and a BEI. Only the last three instruments revealed the differences they sought between average and high performing project managers at NASA. However, Spencer and Spencer

(1993) elaborate to show that the BEI is the essential tool and the others provide only corroborative evidence. I therefore chose to use BEIs supplemented by the questionnaires described in section 3.3.4.

Gonczi et al (1990) consider this method to have advantages in that it concentrates on the performance of the person and can identify specific attributes including distinguishing expert from moderate performance and documenting this so that others could be trained to develop the same skills and attributes. The disadvantage is the time-consuming nature of the method. However, the advantage was that I could learn and practise the techniques with experts and get a quality check on my data collection and analysis by comparing notes with other researchers (such as Owen Gadeken) and written accounts (such as Boyatzis, 1998; Spencer and Spencer, 1993; Gadeken, 2000). The time-consuming methods used were also offset to some extent by the small sample size recommended: Spencer and Spencer (1993) considered (as did Hooghiemstra, 1992) that a criterion sample of 20 behavioural event interviews with job holders should be sufficient to establish the competencies involved.

Using the BEI technique meant that I had to have training from Hay. This covered the interviewing using a pre-established model or to elicit new competencies but not the coding. I also conducted some practice BEIs on some internal auditors to improve my technique. My prompt sheet for BEIs is shown at Appendix 2.

I taped both the practice runs and the subsequent interviews and also took some brief notes. I began by asking some general questions about the person, their background, how they became a project manager. These answers were to set them at ease and were not recorded (as Boyatzis, 1998) but brief notes were written up afterwards. The interviews lasted between one and two hours. With the tape running I asked each project manager to describe in as much detail as possible a number of situations s/he had encountered on one or more projects with a bias towards those which s/he felt had gone well but including some situations which had gone badly. For each situation the project manager was prompted to recall what s/he had wanted to achieve, what s/he had said, done, thought and felt and what had happened. The aim was to collect three such situations, two positive and one negative, but sometimes I achieved more. At the end I asked the project manager to describe the characteristics or behaviours they thought were typical of a good project manager, and to illustrate them with

examples from their own behaviour.

The Boyatzis/Hay method is based around identifying not just adequately competent project managers but high performing project managers so that behaviours of each can be compared and the differentiating behaviours can be defined. Spencer et al (1994) recommended the use of criterion samples: "comparison of people clearly successful in jobs or life outcomes of interest with persons less successful" (as defined by the researcher) in order to identify those characteristics associated with success.

There are two issues here:

- Is it possible to define the criteria for effective and superlative performance *and if so,*
- How do you define the criteria for effective and superlative performance of a project manager?

Spencer and Spencer (1993) believe that it is possible to establish such criteria and suggest the researcher can use hard data, supervisor nominations, peer ratings, subordinate ratings or customer ratings. They suggest that using more than one criteria should enhance reliability. They state that ideally each job study sample should include at least 20 subjects: twelve superior and eight average performers. "This number permits simple statistical tests of hypotheses about competencies (such as *t*-tests, chi-square, ANOVA or Discriminant Function Analysis of the difference of the mean level of competence shown by superior versus average subjects." (Spencer and Spencer, 1993).

Although hard data may be available for some jobs, it is not easy to obtain for project managers because the success or otherwise of projects may only in part be down to the effectiveness of the project manager: there may be too many other factors involved (Wateridge, 1996; Baker et al, 1988). It can also be difficult to obtain where the work involves very long projects and the project manager has changed perhaps several times (Morris and Hough, 1987). In addition organisations may not wish to admit to having projects which did not satisfy objective success criteria.

Supervisor nominations based on perceived performance may be flawed. As Cook

(1995) pointed out, the appraisal of bosses may not be unbiased: "performance ratings are *contaminated* and the contamination is *invisible.*" He saw four problems with using subjective performance or appraisal ratings as criteria: biases, politicking, impression management, and undeserved reputation. Boyatzis (1982) found few organisations prepared to divide managers into low, medium and high performers and had to make do with average and high performers (as did Leonard et al (1996) and Gadeken (1991)). Alimo-Metcalfe (1995) has shown that 360° feedback (boss, peer, subordinate and customer ratings) can be considered reliable (although the bosses' ratings are the least reliable) but in the absence of an instrument and mindful of the time and cost involved in 360° feedback, this would not have been an option for me. Furthermore, the project managers in the study were drawn from several different organisations. In the end I decided that criterion sampling was not necessary to my revised research design as I was no longer looking for excellent project mangers but at how professional project managers work.

3.3.3.2 Selection of the project managers interviewed

My own organisation at the start of the research had many projects and so-called project managers but they were untrained other than some short courses on the use of Microsoft Project software – which they generally did not use. I wanted to talk with project managers whose employers had a clear understanding of project management and the expectation that projects would be managed professionally. However, I wanted the organisations to be similar to my own in that they were organised functionally and the projects undertaken were multi-disciplinary.

Using my contacts in internal audit and project management I approached Exemplary Bank plc who introduced me to my first five project managers. They met my criteria because they had a performance improvement department which included a group of project managers and a project support office. They had already created their own project management methodology which had been published widely outside the project management group and was backed up by training and the expectation that it would be used – as it had been for several major projects. I realised then that this was the ideal setting for my research because Exemplary was so similar to my own company as a functional organisation (albeit it in a different industry) but it already had the wide-spread acceptance and use of project management which we lacked.

I began conducting behavioural event interviews in Exemplary before I had identified other potential organisations and I was thus able to recruit further participants in the light of my growing insight into where I would find the most useful data. In each case I approached a senior person in the organisation who nominated project managers most of whom agreed to be interviewed. My request at this stage followed the requirements of the BEI method: I asked for a number of project managers, all competent but some excellent. As I was going to interview them myself I did not ask the nominator which was which until after I had completed the interviews. This distinction, based on nominators' ratings, troubled me even more after I interviewed the project managers at Illustrious Bank plc and realised how much greater was their experience and expertise as an organisation in project management compared to Exemplary Bank. How could an excellent project manager in the opinion of Exemplary Bank be ranked alongside an excellent project manager from Illustrious Bank? Not easily, as Boyatzis himself had recognised (1982).

I had originally intended to recruit 20 project managers and then make up the numbers of excellent ones so that I had a criterion sample as required by Spencer and Spencer (1993). However, by the time I had conducted 19 interviews I had too many doubts about using the nominators' ratings to distinguish the best from the rest and my coding of the stories indicated that I had constructed no new codes after the sixteenth interview. But at the end of 1998 I left Kingfisher plc where I had worked closely with a very effective project manager, Wendy. She had worked first for others (and I had been reviewing the project) and then for a few months for me as a programme manager. She finally gave me an interview so that I had notes and observations giving a holistic view of the project and programme and her activities in context.

3.3.3.3 Strengths and Limitations

As I had planned, the interviews gave me access to professional project managers in functional organisations with a strong commitment to managing by projects – something lacking in my own company. I was also largely freed from preconceptions about my motives in asking questions and tape recording answers because even those who knew I was an auditor knew I wasn't their auditor.

BEI is a well known approach to competency modelling and the positive aspects of

using it are that it provides structure to the interviewing process but is open-ended enough to yield a wealth of material including personal insights because it consists of loosely directed narrative which I could analyse in different ways. The structure enabled me to cover similar ground with everyone within the limited time the project managers could spare. My impression was that the interviewees enjoyed reflecting on their work and sharing some of their victories (perhaps less so their defeats).

There were, however, a number of limitations. Foremost I only had the project manager's view of each story and each organisation and I could not talk to other actors who had been involved. Similarly the project managers' views of their own role could not be corroborated within their organisations except by inference in Exemplary and Illustrious where I interviewed larger numbers of project managers.

Use of the BEI method as it was taught by Hay required me to concentrate on covering the structural issues (not free to follow wherever the interviewee led) and to coach the interviewees to give responses in an acceptable (codable) manner. Mostly this just meant discouraging the interviewee from speculating on the nature of project management except at the end of the session in favour of telling me what happened, what s/he thought and what s/he did about it on a specific occasion. But in particular I was taught to insist on the use of 'I' rather than 'we' (or clarification as to the interviewee's own contribution). I tried to enforce this as in the following example with Quentin, an old hand at competency interviews:

Quentin:

We actually understood the make up of let's say a month's delay and that was totally new.

Sarah:

And that was you yourself who saw and understood these things?

Quentin:

Yes.

Sarah (accusingly):

You said 'we' there.

Quentin:

Yes, it's a long time since I've done a competency interview. I've got out of the habit of saying 'I'.

Later (section 4.7) I analysed the I/we issue and discussed it with several interviewees. It led to some interesting insights into the role of the project manager.

The Quentin example also shows that interviewees learn how to 'do' BEIs. Quentin's organisation (also Henry's and John's) uses the technique to assess competency so promotion might depend on BEI stories – a powerful incentive to become skilled in their narration and to tell the researcher what s/he wants to hear.

BEI depends on the interviewee's ability to talk honestly and openly about him/herself in a rigidly prescribed manner with details. Two project managers (Gary and Ken) found the interview more difficult in that they found it hard to identify critical incidents or to describe events in their work.

Gary (selecting a new critical incident):
The development phase went particularly well.
Sarah:
Can you pick on any particular events during that development phase of release three where you were personally involved and you felt that you made a good contribution, particularly effective?
Gary:
I can't think of any. I can't think of anything I personally did.
Gary was warmly recommended by Fiona's employers and I believe his inability to describe his successes could have been the result of organisational, occupational or recent work differences rather than lack of competence *per se*. Possibly there are some firms which have many cross-functional meetings and lots of interaction, while others have or need fewer such meetings: managers who worked in the latter would not necessarily have had so many meetings to describe or the practice in presenting themselves. Possibly some project managers tend to operationalise projects and thus find it harder to describe their now every day activities as anything significant and out of the ordinary (which is why Spencer and Spencer (1993) used job function analysis with them). BEI is an American technique and perhaps American managers find it easier to talk about themselves and their achievements than their British counterparts. Gadeken (1991) had found differences between UK and US project managers but had not questioned whether the BEI method itself favoured either

nationality.

On a practical level BEI is a very time consuming and hence costly method of collecting material (after each interview of at least one and a half hours, typing the transcript takes about three hours for a skilled audio typist (who needs the right vocabulary), and the initial analysis of the code takes at least eight hours including listening again to the tape). However, this is its advantage over other methods as the transcript can be analysed and interpreted in different ways.

3.3.4 The contribution from the questionnaires

I wanted some background information on the project managers interviewed (age, gender, level of education generally and in project management, plus duration and type of experience). I have often found that when interviewing people I forget to ask them the questions I want to ask everyone unless I have them written down – and then the interview can sound like an interrogation. So I planned to give each person a data sheet to complete at the interview.

Spencer and Spencer (1993) note that it is sometimes necessary to elicit information not offered by subjects in a BEI on tasks which a superior performer performs well but seldom thinks consciously of (such as completing the paperwork correctly). They recommend a technique called job function/task analysis for this, an expert appraisal of the critical elements of the job. For a project manager these critical elements have been defined broadly by PMI in the PMBok (1996) and converted into a performance standard by the AIPM (Crawford, 2001). Using them as the basis of a questionnaire I hoped to confirm the project management practices used by the participants. Crawford (2001) who developed a similar questionnaire to gather self assessment data against each of its ninety-four Performance Criteria, notes: "This questionnaire has subsequently been substantially adopted as the basis for a Self Assessment Grid used by the Australian Institute of Project Management in connection with their Project Management registration process."

The AIPM Standards denote three levels of project management expertise, known as levels four, five and six. Level four is a project team member, level five is a project manager of a smaller project or sub-project manager in a larger project, level six is

the manager of a major project (involving many disciplines and many companies). Since I did not want to have three separate questionnaires I combined the elements of both levels five and six as the basis for the questionnaire because those standards are intended for project managers. My estimate from the interviews with participants is that my decision was justified: most were level five, some worked at level six but no one was working at level four.

The questionnaire and the summarised responses are shown in Appendix 1.

I asked the respondents to record on a Likert-type scale whether each statement described what s/he did in managing a project *almost always*, *usually*, *sometimes*, *occasionally*, *hardly ever*, or was *not relevant to my job*. Thus participants were not asked to assess how well they performed, only how frequently. I subsequently transcribed this data to various spreadsheets and I used the computer summaries to identify answers with individual participants so that I could analyse areas of high or low self-reported use of project management techniques.

Perhaps because the questionnaires were sent out with the interview confirmation with a request to collect them at the interview, everyone answered it fully. This meant that I had a thumbnail background sketch for everyone (except Aaron whose pilot questionnaire I did not retain). This supplemented details captured in the interviews and in notes made at the time. The discussions and responses showed some interesting views on project management standards. I would like to have asked better follow up questions but getting the questionnaire back in the interview meant I had little time to review it.

3.3.5 The final Case Study: observation and interview

At the end of 1998 I left Kingfisher plc where I had worked closely with a very effective project manager, Wendy. She had worked first for others on the Y2K project in one subsidiary (and I had been reviewing the project) and then for a few months for me as a programme manager for the Group response to Y2K. She finally gave me an interview and questionnaire to add to the notes and observations I had made giving a holistic view of the project and programme and her activities in context.

Once again my purpose was to understand the role of the project manager in the context of the project and the organisation. At this stage, however, I was able to discuss issues arising from my transcripts and their interpretation and to explore the I/we debate with her. I also had 18 months of evidence based on interviews with Wendy and others, review of her documentation, and observation of her conduct in Steering Committee and project team meetings. I realised that Wendy was a very powerful operator and I am sure she worked on me as she did on the other managers we dealt with. For that reason I put off the interview until after I had left the organisation so that she would have less reason to influence me.

3.4 The process of sorting, reflection and interpretation

3.4.1 The Sorting and Ordering

In the classic Hay method interview transcripts are scored using a form of content analysis. The analysts then produce a model in the form of a code book describing the competencies predictive of job performance. It defines each competency and the criteria for scoring it and provides examples from BEIs of when the competency is present or not. This model can be used for selection, training, performance appraisal and career planning. A fuller explanation with worked examples is now available in Boyatzis (1998).

Although I had decided not to construct a classic competency model I used a software tool called HyperResearch to capture the themes and behaviours I identified from the interviews. The first stage was to transcribe them. I was too slow myself but I was able to get a secretary from my company to help. She typed the first version and I then listened to the tapes and corrected and amended as necessary.

Then began the long process of reading, listening and re-reading the transcripts: identifying themes and codes. I coded the easier material first: the type of projects the participants had worked on, and the incidence of 'I' and 'we' terminology in interviews.

The Hay method as I had been taught it was very rigid and did not permit coding a behaviour unless it was clear from the language used that the person had personally

done it and was talking about a real event not an espoused theory (Argyris, 1989) of what s/he thought would be appropriate behaviour. According to the Hay method, to do this the person had to use the past tense of the verb and say 'I' not 'we'. I had several discussions with participants about this 'rule' and why they sometimes preferred to say 'we'. Using the software I counted the 'I' and 'we' uses and indexed them, finding in the process some interesting diversity among the project managers which I then followed up in the transcripts. This use of language became a central factor in my dissatisfaction with the BEI approach. It is discussed further in chapter 4.

Another easier analysis was to record and order the characteristics the project managers thought attributable to excellent project managers. The Hay methodology uses this to elicit further examples of behavioural events to supplement the major stories. I realised I could also analyse these as the participants' own constructs of excellence in their occupation and compare their interpretation with my own.

But the real meat was the identification of 'behaviours' and 'activities'. I started to code the former strictly according to Hay rules. Yet as I began this analysis I found myself having to reject stories and interpretations which I felt were worth categorising. Eventually I re-coded every transcript, noting those 'activities' which the participants described themselves or other project managers doing and collecting the most relevant stories for further reflection.

I then reviewed the codes for inconsistencies, duplication, and other untidiness. It is easy when coding sporadically over several weeks to create new codes which are substantially the same as existing ones. Reports of two or more codes were displayed on screen or printed off for reading and I then decided whether or not to re-code. This had the effect of sweeping up several infrequently coded categories and grouping them with other codes. I checked my codes for saturation (Glaser and Strauss, 1967) by noting how soon I ceased to create new codes. I did not have a fellow researcher to check coding consistency (Boyatzis, 1998) but as I had had a gap of over six months between coding the first and second halves of the material I compared my own codings, re-read the transcripts and where necessary re-assigned behaviours found only in the first or only in the second half.

I experimented with clustering the codes, an analysis which I have retained, but only to structure the descriptions and with a health warning: it is too easy to treat each code as a punctualisation (Law, 1992) of the activity described, much as a statistical count of the codes would do. Boyatzis (1998) also gave clearer guidance on coding which I wished I had had earlier but which showed that my technique was similar to his teams'. But in this process it is easy to lose sight of the underlying stories and their possible different interpretations. As I was not attempting to create a competency model I found I used the codes as a kind of index to trace my way back quickly into a story. The next stage was to read and re-read the stories around the coded sections and attempt to draw out themes, patterns and understanding.

Whereas a traditional analysis might seek to reify the codes, my efforts were only sorting and indexing so that I could find stories, examples and quotations again easily. Whatever codes, themes, clusters and areas are the products of my interpretation: conditioned by my familiarity with the principles of project management, the concerns of competency models and my background in industry and life in general. To challenge these assumptions I needed to awaken my sensitivity – a process informed by ANT. However, the process increased my familiarity with the stories themselves and I found a compelling theme emerging.

If it is true (as per Lee and Brown, 1994) that any sequence of human or non human actions can be encoded into the ANT moments of translation (problematisation, interessement, enrolment, mobilisation and dissidence), perhaps I should not have been surprised that I began to see that much of what the project managers talked about corresponded to these moments. My final interpretation of the evidence in chapter 5 has been organised according to themes inspired by ANT.

3.4.2 Feedback from practitioners and other validation

As I was not going to produce a classic competency model I did not intend to validate it as if it were a scientific theory. However, I did want to evaluate my findings and look for confirmation that I was not getting it all wrong (Wolcott, 1990). Figure 3.5 evaluates my methods following Wolcott's (1990) prescription. Where I feel I could have done more was mainly in getting more feedback early enough, particularly from the project managers interviewed.

I had discussed my findings with practitioners as I progressed but I had not shown the more interpretive drafts to anyone until I completed all the writing for the first time. I sent the first draft of Chapter 5 (my interpreted portrait of project managers) to all the original participants and to some competent practitioners to see whether it stood the test of overall authenticity (did it look like the sitter? Section 3.2.5.3) and I asked them in lay terms to assess with me the extent to which it enlarged personal constructions (ontological authenticity) led to improved understanding of the

Figure 3.5: Actions to evaluate the qualitative research process

Wolcott (1990)	My actions
Talk little, listen a lot	My workplace observations revolved around asking questions and listening to the answers. The tape transcripts show that I asked relatively few questions: I encouraged the project managers to talk at length. On review it seems I prompted relatively little for BEI compliance. I usually became engrossed in the stories and tended to allow the project managers to tell them with little interruption.
Record accurately	Taping and transcribing the interviews allowed me to re-visit them again and again, listening to the voices as much as reading or hearing the words.
Begin writing early (and share drafts with others as you go along)	I began the transcription and ordering work while I was still interviewing but I did not send transcripts back to the participants for comment. I showed some early analysis to colleagues at work and to another APM member who showed an interest and received useful feedback. Later (Blackburn 2000, 2001) I presented papers to APM and PMI conferences.
Include primary data so readers can see for themselves	Chapter 4 includes extensive quotations from the transcripts although I am aware that I am the one who has chosen the quotations – and in the process silenced the rest of the transcripts (Gergen, 1999).
Report fully, including data that does not fit the developing account or its interpretation	The analysis in figure 4.4 which lists all the codes for activities and characteristics shows both the ones that correspond and those that do not.
Be candid about personal subjectivity, feelings and reactions but avoid use of judgmental wording	My own position is stated in section 1.6 from the perspective of knowledge of and involvement in project management; and in sections 3.1 deals with the changes in my approach over the course of this research.
Seek feedback throughout rather than just at the end	I sought feedback too late: I sent an early draft of chapter 5 to all the participants and to a number of very experienced project management practitioners. A sample of replies is included in full in Appendix 5.
Try to achieve balance, not of objectivity but of rigorous subjectivity, checking back to the field or to field notes	I have worked systematically with the material, using codes and clusters but checking back continually to the transcripts, trying to place the stories quoted within their original context.
Write accurately, checking for coherence and internal consistency.	The coding and the computer files made the cross-referencing easier and again I kept going back to the interviews to check consistency.

constructions of others (educative authenticity) stimulated management action (catalytic authenticity) and empowered action (tactical authenticity) (Guba and Lincoln, 1989). Four of the replies from practitioners are shown in Appendix 4. Of the original participants only Wendy responded.

I also compared my findings with those of Gadeken (2000) to see to what extent they were similar to his competency model of US and UK military project managers.

3.5 Chapter Summary

In this chapter I have set out my research design and shown that the early direction has not detracted from the overall usefulness of the empirical material to provide insights into what project managers do to build the actor-networks we call projects. I have explored the paradox of paradigm incommensurability and concluded that it had a useful function providing sheltered accommodation for non functionalist research in a less open-minded age but its rigidity made it as much a prison as a refuge: Payne's (2000) emphasis on uncertainty and partially complete or understood assumptions and values rather than an elaborate, complete, accessible worldview is more congenial. I have described the methods I used to collect empirical evidence and the strengths and weaknesses of each; and the methods I used to organise the material so that I could return to it again and again to ensure that my interpretation had not become too abstract.

Wolcott (1990) counsels the neophyte researcher to go long on description and analysis and short on interpretation. Chapter 4 sets out an analysis of the empirical material using the techniques acquired from the competency approach but also informed by ANT. Chapter 5 reflects on emergent themes prompted mainly by ANT. Chapter 6 relates the analysis and themes back to other studies and to the professional and practitioner literature and draws conclusions and implications for management.

* * *

The Suit: an allegorical story

A woman goes into an upmarket store to buy a suit. She is in her thirties and has just been promoted at work on account of her effective performance. She's ambitious and she likes to impress her predominantly male colleagues and superiors at work although at home she prefers casual dress. She buys a business suit: jacket and skirt with a leather belt. It is expensive, smart, a classic that won't date. She is very pleased with her choice.

One month later. She reads in *Retail Week* that this store's brand is aimed at women aged 55 and over. She is indignant – and worried: what does wearing this suit say about her? Is it the real her? But it is too late. She continues to wear the suit for work, choosing it particularly for meetings with directors and other influential men, hoping it will contribute to their perception of her as serious and worth listening to.

Three years later. The suit has worn well. From the traditional view point it still looks expensive, smart, a classic that hasn't dated. But the woman has changed, put on weight. The suit is too tight and restricting for her. Her work environment has gone casual. She feels uncomfortable, out of place in a formal suit. She can't quite bring herself to send it to Oxfam so she hangs it in the back of the wardrobe. But she takes off the belt and wears it with her new chinos and casual shirt.[1]

1. For a discussion of symbolism and organisational dress see, e.g. Rafaeli et al, 1997, and Pratt et al, 1997. I think this story is not a scam, nor a tragedy (Downing, 1999) but a quest for integrity with a metamorphosis when a still useful part of the suit is assimilated into a new, more appropriate outfit.

CHAPTER 4:

RESEARCH FINDINGS: DESCRIPTIONS AND QUOTATIONS

"The analyst does not need to know more than [the storytellers]; he has only to begin at any point, by recording what each actor says of the others."

Bruno Latour, *The Pasteurisation of France, 1993, p10*

* * *

4.0 Introduction

This chapter presents the material gathered from the Argos and Kingfisher projects, the behavioural event interviews and the questionnaire. I have put the emphasis more on description than interpretation (following Wolcott, 1994, p48) to give the reader the opportunity to track my interpretation whilst recognising that the selection of items is in itself interpretation. Quotations are numbered throughout by section to aid cross referencing here and in chapters 5 and 6.

Section 4.1 covers the projects reviewed at Argos plc including the interview with Aaron, the project manager, and the project reviewed at Kingfisher plc including the interview with Wendy. Section 4.2 introduces the other project managers and their organisations. Section 4.3 summarises the types of project work described by them. In section 4.4 the behaviour of the project managers as they described it in answer to the questionnaire is analysed, looking for evidence of conformance with professional standards in project management and noting where the project managers think they diverge. Section 4.5 describes the project managers' own view of themselves, drawing together the characteristics which they thought a competent project manager should exhibit. In the longest section, 4.6, what project managers do is described as far as possible in their own words, grouped in a simple conceptual framework and in clusters of behaviours which I considered related. Section 4.7 discusses the use of 'I' and 'we' by the project managers interviewed and section 4.8 concludes and summarises the chapter. This chapter looks at each element of the empirical material separately: Chapter 5 will look at it holistically and extend the interpretation.

4.1 The Argos and Kingfisher Projects and their project managers

4.1.1 The Nottingham to Penkridge Warehouse Move and Software Project

Argos plc owned a home delivery service for bulky items which it could not hold as stock in its catalogue showrooms. Since July 1990 inventory management had been operated by Exel Logistics from an Exel depot in Nottingham using Exel's software while ordering and delivery booking were operated by Argos from the head office in Milton Keynes.

In June 1993 the operation was moved from Nottingham to an existing Argos warehouse at Penkridge in Staffordshire. The project included the introduction of a new computer system and the bringing in-house and relocation of a centralised telebooking/customer service call centre in addition to the physical warehouse move. Although stock and operations were transferred on time, neither the computer system nor its users were ready for full implementation, customer and order data were lost on conversion and over the next three months the inability of the warehouse system to record stock movements accurately resulted in large numbers of customer calls overloading the inexperienced staff in the call centre. An investigation was commissioned (Argos, 1994) in which I reconstructed the story of the project from its (patchy) documentation and from interviews with the key actors. Only the warehouse move is recounted here for comparison with the Acton Gate move (section 4.1.2) which had a much smaller software component.

Key actors in the project came from Argos, Exel and JDA Software. Within Argos there were several distinct groups: the Argos Direct management including the Logistics Manager, the Distribution Division management, the Property department which resourced and maintained warehouses, and the IT department which resourced and maintained hardware and software apart from the systems provided by Exel. Finance, Buying and Retail were interested because their systems interfaced with the Argos Direct operations. There was also a small group of telesales clerks whose jobs would go when the call centre was relocated to Penkridge. Exel actors included the management team, the warehouse operatives at Nottingham and their replacements at Penkridge and their IT organisation. JDA had a sales team and a project development team. Each company had at least one person designated project manager, but only for that part of the project in which s/he was technically expert. Exel had the expertise to provide overall project management but this was not a discipline recognised in Argos

whose separate divisions allied to prevent an outsourced provider or any of their own people exerting authority outside the normal operational hierarchy. The prevailing view in Argos was to distrust suppliers, particularly of intangible services, and the project story contains examples of poor communication, multiple agendas and refusal to buy in expertise greater than that of Argos management, or refusal to pay JDA to manage the software development.

The overall project was envisaged from late 1990 and formed part of a strategic plan to streamline the customer ordering and delivery booking operations, and to provide additional distribution capacity to meet growing demand. It was necessary to move operations from Nottingham because the warehouse there was too small and the lease expired in July 1993. The lease expiry date became a fixed point in the project requiring all the physical and software developments to be completed by this date, although as Exel did not have a new tenant for the warehouse, occupancy could have been extended for a short period to enable the problems to be resolved.

Since they were not involved with the overall Distribution strategy Exel did not want the Home Delivery warehouse at Penkridge. They considered that the Daventry warehouse would be more suitable from a location point of view and that the space allocated at Penkridge was too small since they had provided space analysis for the project. By December 1993 the new warehouse was operating at twice the specified capacity and extra stock was held at the Daventry warehouse. The extra volume in addition to extra work (including manual handling of goods, delays in processing) increased the labour costs. Penkridge was planned to be open no more than twelve hours per day: at the start of operations and in the run up to Christmas 1993 it was working round the clock. This fundamental miscalculation was blamed on each party by the other: Exel management stated that Argos had changed the number of items and stock levels during the project making calculation more difficult.

Timing of the move, including building alterations at Penkridge, was achieved according to plan. This part of the project had clearly defined objectives and there was evidence of plans, schedules, meetings and correspondence documenting the progress. The Argos Direct Logistics Manager was appointed soon enough for him to take charge of the Argos side: his tasks were to manage the building works; to recruit the Argos staff to be based at Penkridge; and to plan and co-ordinate the physical

movement of the stock. Yet there were operational problems before the Penkridge operations started.

The stock was moved over on a timely basis, clearing Nottingham on the target date. However, an unquantified amount of stock stood at Penkridge in trailers before it could be put away because there was insufficient racking (provided by Argos Property) and the Goods In side of the JDA system was not working as specified. This was compounded by Argos IT department's decision to reduce the number of PCs and terminals ordered and to use cheaper (and slower) printers.

Exel had prepared operating guides for the warehouse and systems room but they were prevented by the system from operating as planned. Goods In had been installed four weeks before the warehouse started picking. Exel did not feedback to Argos any problems with the system in that time. Yet from the second day after go-live they did not use the Goods In system as specified. During the first week a problem with the location occupied flag made the system inoperable and therefore Exel unloaded vehicles, put stock away manually and then updated the system. Thus Exel kept the stock moving but at the expense of corrupting the stock masterfile so that no one knew what stock was where.

When the system had been corrected the news was not passed on to Exel management. They were not predisposed to like the JDA system which they considered replaced a reliable Exel system and by then much confidence in the new system had been lost. So Exel continued manual put away and corruption of the stock masterfile for several days. Finally the warehouse was shut for three days while all stock was located, counted and the stock masterfile reconstructed.

Most of the problems encountered in the establishment of the new call booking and customer services operation at Penkridge can be related to two factors. Foremost was the loss of experienced personnel from Nottingham and Milton Keynes who were not enrolled in the project to replace them with new agents in Penkridge and so their experience was not used to assist the new Customer Services Manager at Penkridge. The second factor was the JDA computer system which was too slow to support the customer services operation. The situation was exacerbated by the higher than expected sales volumes and the problems arising from faulty conversion of existing

customer orders. Customers jammed the switchboard wanting to know where their sofas had got to while the agents waited minutes for screens to refresh with information that no one trusted.

Despite all these problems the irreversible change to a new location and a new computer system was accomplished, on time, but at more than double the originally budgeted cost: years later it still had not met originally specified expectations. My report noted the unco-ordinated self-interest with which the various actors conducted themselves and recommended the adoption of project management procedures and an experienced project manager to co-ordinate future projects of similar magnitude.

4.1.2 The Penkridge to Acton Gate Warehouse Move and Software Project

I worked closely with Argos Direct management between 1993 and 1997. In that time they had had a number of smaller projects to improve the software and physical operations – and several problems with co-ordination of the interested parties. The managing director finally agreed that they needed project management expertise and in 1995 he hired an experienced person to manage the next warehouse move. The lease at Penkridge would expire in April 1997 and even if it were extendable the old warehouse was too small for the rapidly growing Argos Direct operation. The opportunity would be taken to make other changes and improvements but the main cost of the project would be to build a new warehouse from scratch, fit it out and transfer the operation.

The software support was now in-house but the other actors within Argos and Exel were mostly the same as in 1993. Full blown project management was still not an accepted mode of operation but a project initiation document had been created and approved. Then the Argos Direct project manager elect withdrew from the job. The managing director contacted Persistent Consultants plc and hired Aaron as the first professional, multi-disciplined, project manager to work at Argos.

His first action, having been briefed by the managing director, was to talk to all interested actors, including internal audit. From these conversations he rapidly established what they expected to contribute and the large degree of autonomy with which Property department and IT in particular expected to act. Property had project

managed the design and build of several warehouses and had set the timescale for this project. Aaron was delighted because the Property deadlines (which no one had challenged) were extremely generous and allowed no one else access to the new warehouse until Property's contractors had finished. He also discovered that Property kept costs down by allowing little or no input from the ultimate users as to the design of the warehouse.

Projects in Argos were co-ordinated by means of a regular meeting of all parties chaired by the Sponsor (in this case the managing director) – which is perhaps why people often confused the Sponsor and Project Manager roles. Aaron experienced one of these, sitting quietly in observation, and went back to his one to one meetings with key actors. He lost no time in creating both a Project Plan and a Project Management Plan which he presented to the next project meeting. The former took all the tasks which each team member was responsible for and showed them in one document with estimates of duration, deadlines for completion and their interdependencies. These were fairly few at the outset because the timescales were generous. The Project Management Plan established the governance of the project: the roles of the sponsor, the project manager, the regular meetings, the mechanisms for changes in requirements and the monitoring and reporting arrangements. Aaron monitored and documented progress fortnightly using three spreadsheets:

- Tasks started and forecast to remain on schedule;
- Tasks likely to overrun; and
- Tasks likely to start late.

He visited the task owners in person, asking them to look ahead at least two weeks and he documented the actions planned to bring tasks back on schedule or mitigate the effects of unrecoverable slippages. Presenting these forms by exception at the project meetings gave a much clearer focus to proceedings.

Then two external actors intervened: the Acton Trussell Action Group and the Penkridge landlord.

The new warehouse is only five miles from Penkridge on a greenfield site in a triangle formed by junction 16 of the M6. Backing on to the motorway were three

small houses. The owners had not succeeded in opposing planning permission or getting compensation and the construction was proceeding. The extra traffic involved affected the residents of the nearby village of Acton Trussell. The home owners recruited them to the protest, which aimed to reduce the working hours on the construction and to restrict to fewer hours the terms of the operating licence needed to run a fleet of heavy goods vehicles. This would have rendered the building too late and the operations non-viable.

Aaron brought the Argos PR manager into the team to create a counter-alliance of the Penkridge workers (whose jobs would be lost if the depot was not viable) and other members of the local community outside Acton Trussell. She organised meetings with the protesters, exhibitions, the production of a regular newsletter, site visits. Distribution managers engaged the O licence granting authorities in discussions. An independent audit of vehicle maintenance showed them that Argos was a very safe operator. Thus Argos was translated from a disturber of the rural idyll to an essential employer keeping the local communities alive.

Argos legal department reported that the landlord at Penkridge required Argos to make good the considerable dilapidations before the lease expiry date or face a substantial penalty. The warehouse had been so neglected that the work would take three months. Property did not believe the transfer of operation could be brought forward: Aaron did. He used project scheduling techniques to increase the amount of parallel working, allowing others into the warehouse before Property had finished with it. Property needed much persuading, including going over their heads to the Board, but eventually the warehouse was live three months early with significant savings. And Aaron had converted Argos to project management.

4.1.3 The Kingfisher Y2K Programme

Kingfisher was a very loose conglomerate of retail and support businesses in which those at the centre did not command the operating companies. However, Y2K required projects in each company with enough commonality to ensure that the city could be honestly reassured that Kingfisher was well prepared. Wendy commented that *"everybody starts a year 2000 project without knowing everything about year 2000 and what will happen or exactly how to run this particular project."* [4.1.3.1] In

B&Q she had pulled together information on every system and process from everyone she could contact and documented every detail.

The sponsor of the group project was approaching retirement. In the usual manner in the group the only central resource was a manager charged with reporting on the progress of the projects in each operating company. Companies like B&Q with professional project managers were ahead of smaller ones which lacked direction and resources. The manager had been provided with coaching in project management and had created various plans, risk logs, task lists – similar to those Aaron had used – but it was difficult to give the smaller companies any sense of urgency. When this manager resigned, Wendy was appointed to manage the group project.

Extensive documentation already existed but Wendy rapidly visited every company and confirmed her understanding with the management: *"I identified that although there was a fair amount of process in place there wasn't proper sign off, and proper processes in place which enabled people to know exactly where they were."* [4.1.3.2] *"I suppose I am aware of who's in charge and if you want to get something done you focus on them but I'm not sure it's totally conscious actually... I like getting the relationships right because it's very powerful to get relationships right because you can achieve so much if the people are with you and like you and want to work with you."*[4.1.3.3]

She soon found that the sponsor was not a source of power: *"I thought he was a waste of space. I mean, luckily I didn't have to work with him for more than a very short time but one could see he wasn't much point in bothering with because he wouldn't be effective."* [4.1.3.4] She recounted with relish how she had caused the sponsor to be publicly admonished by the chief executive because he had not made a key decision to replace the software in a subsidiary and had not allowed her entry to assess a recent acquisition. However, I did observe her shepherding the sponsor towards decisions, developing other allies to allow her entry where he would not, and presenting him with faits accomplis. She visited one problem supplier which he had failed to challenge, where she checked their lack of progress and wrote a report which led to the sacking of both the finance director and the IT director when Kingfisher told the managing director it was not satisfied.

Wendy could afford to demolish her sponsor because his replacement had just arrived and had urged her appointment during the hand over period. *"I watched him in the first meeting he was in, and he just sat and listened in the first steering group, he didn't do anything so one couldn't assess but one had the impression that he was watching and waiting and learning and then my following meetings with him seemed to indicate that he was very effective and he knew the year 2000 was a problem and needed something doing about it."* [4.1.3.5] She never humiliated the new sponsor in public; she provided him with facts and figures in formats he preferred. However, she pushed him to present what she wanted to the main board and she used his name to open doors. The corporate culture had not changed but she found the operating companies very receptive to authoritative requests from the centre: she said it saved them reinventing the wheel. Yet she also worked closely with the other project managers, getting each to take the lead in different aspects of the project, listening to them with respect and keeping the co-ordinating meetings to a minimum.

4.2 The project managers and their organisations

Figure 4.1 Project managers by organisation

Company Code Name/ *Real Name*	Project Manager Code Name
Persistent Consultants plc/ *Argos plc*	Aaron
Exemplary Bank plc	Alice
Exemplary Bank plc	Betty
Exemplary Bank plc	Colin
Exemplary Bank plc	Dave
Exemplary Bank plc	Edward
Illustrious Bank plc	Lawrence
Illustrious Bank plc	Mike
Illustrious Bank plc	Nick
Illustrious Bank plc	Owen
Illustrious Bank plc	Peter
Illustrious Bank plc	Robert
Wondrous Building Society/ Aspirant Consultants Ltd	Gary
Aspirant Consultants Ltd/ Judicious Insurance Ltd	Fiona
Dynamic Consultants plc	Ken
Dynamic Consultants plc	Simon
Dynamic Consultants plc	Ian
Transport Engineers Limited	Quentin
Transport Engineers Limited	Henry
Transport Engineers Limited	John
Magnificent Consultants plc/ *Kingfisher plc*	Wendy

Since interviews with twenty one professional project managers are substantial providers of empirical material for this study I shall introduce them as individuals and in the context of the organisations where they were working and summarise data from

the questionnaires they completed and from the interviews. To provide the complete confidentiality I promised participants, their names and those of their organisations are all pseudonyms apart from Argos and Kingfisher which were my employers. All the firms were organised functionally rather than by project or matrix management.

Since project managers work within the context (the purpose, structure, culture and project management methodology) of a given organisation, a brief description is given of each company (other than Argos and Kingfisher) before giving a thumb-nail sketch of each project manager.

4.2.1 The Organisations

Exemplary Bank plc

Exemplary had a head office in a provincial city and an extensive high street branch network. To the outsider it appeared large, rich and self confident. It had recently acquired a building society, Regional and Quiet, and merged its operations with its own. Contact was with the head of the performance improvement unit after introduction from the head of internal audit. Alice, Betty, Colin, Dave and Edward were all employed in a project management department which was attached to a performance improvement unit within Exemplary. The bank was a corporate member of Association for Project Management (APM) and had a project management methodology which was well documented and had been promulgated to people outside the project management team with presentations, training and wallet cards. Project managers were seconded to projects anywhere within the Bank and tended to have a variety of backgrounds.

Illustrious Bank plc

Lawrence, Mike, Nick, Owen, Peter and Robert were employed by Illustrious Bank plc which had been formed from the merger of two high street banks. It had large offices in a number of provincial cities as well as several buildings in the city of London. All of the project managers worked in a project management department (based on different sites) but they had come from different traditions arising from their original, parent organisations. Lawrence, Nick, Owen and Peter had come from Maternal Bank plc; Mike and Robert from Paternal. As Robert expressed it:

"Paternal itself didn't have very strong project management methodologies at all.

There was one in IS, I don't think it was very strong. Maternal had a PM methodology [but] what we did have in Paternal was a very strong business study methodology." [4.2.1.1]

Mike and Robert were more technically IT oriented, particularly Mike (Robert had a business analysis background) whereas the others were IT literate but approached project management from a general business perspective.

I had seen the Maternal project management methodology from before the merger. It had been extensively documented and promoted to people throughout the bank with presentations, training courses and a variety of handbooks and reminders. They were and are corporate members of the APM.

Transport Engineers Limited

A public sector organisation, TEL was part of the TE Group which built, maintained and operated a mass transit system in the UK. It has corporate membership of the APM. The engineering division which handled the first two of these activities was organised entirely on project lines with teams formed for specific projects, although those involved would include clients and others from the operating division, contractors and external firms as well as internal engineers. However, the projects described had more than technical elements. They included interaction via the operators with the travelling public and directly with public bodies such as local councils and architectural heritage authorities. None of the three project managers interviewed was narrowly technical.

TEL had an extensively documented project management methodology based on PRINCE with a high degree of formality (particularly form filling and authorisation processes on which two of the respondents commented adversely). This methodology did not appear to be known outside the engineering division.

Wondrous Building Society/ Aspirant Consultants Ltd/ Judicious Insurance Ltd

Wondrous was a large building society with a highly impressive head office in the south of England. Gary, at Wondrous, was recommended by Aspirant Consultants who also recommended one of their own consultants, Fiona, who was then working on a project at Judicious Insurance.

Aspirant was an independent project management specialist consultancy. Corporate members of the APM, they contacted me after some correspondence on the PMNet newsgroup on the internet.

Judicious was a Lloyds insurance broker firm, based in the city of London, part of a larger insurance group. It had undergone extensive reorganisation and appeared to have no indigenous project management tradition. Fiona talked to me about projects there and also those in other companies where she had been an engineer.

Dynamic Consultants plc

Ken, Simon and Ian all worked for Dynamic, a fast growing project management specialist consultancy with numerous clients in financial services and a degree of IT bias in the consultants working for them. They are corporate members of the APM. The Dynamic Chief Executive had contacted me after some correspondence on the PMNet newsgroup on the internet. The firm had its own project management framework which was attractively packaged and refreshingly short. As well as running projects on behalf of clients Dynamic was keen to sell its methodology and provide training and mentoring to internal project managers.

I had contact with Simon and to a lesser extent Ken when Dynamic was providing project support to my own then employers. Ian I only met during his interview. The projects they talked about were wide ranging and not limited to IT.

Magnificent Consultants plc/ Kingfisher plc

Wendy was an employee of Magnificent, an IT systems and consultancy firm which was publicly listed and mature at some thirty years old. I had previously worked with Magnificent personnel at another retailer and had viewed them with great respect for their professionalism in systems development and project management.

Wendy was working as Year 2000 Programme Manager at B&Q and later worked for me as Group Year 2000 Programme Manager. I interviewed her after I had left the Group. Dynamic Consultants had conducted some project audit work in B&Q and commented on the informality outside IT.

Persistent Consultants plc/ Argos plc

Persistent Consultants is a large management, systems and technology consulting firm, which was established in the 1950s and now operates in more than 20 countries. Aaron was hired to work as a project manager at Argos when a new permanent hire withdrew at the last minute.

4.2.2 The individual project managers

A total of twenty one project managers provided me with material for this study: Aaron at Argos whose work I observed, whom I interviewed and who piloted the questionnaire; nineteen project managers who completed questionnaires and behavioural event interviews; and Wendy from Kingfisher whose work I observed and who completed a questionnaire and behavioural event interview.

The following summary is taken from the questionnaires and therefore excludes Aaron. The majority of the sixteen men and four women were aged from 30 to 39 (11) and from 40 to 49 (8). There was one project manager less than 30 (Colin). In terms of years of work experience, the participants were generally highly experienced project managers. Only two (Simon and Edward) had worked in the field for less than four years. The majority of participants were working in the financial services sector but their projects ranged very widely both there and in other types of organisation. Even for those projects with an emphasis on IT or construction the project managers' responsibilities extended into the business and were far from exclusively technical. Nine project managers had no professional qualifications or memberships. The remaining eleven held twenty five professional qualifications and memberships between them from sixteen different bodies. Only two of the participants were members of the Association for Project Management. This reinforces the impression of business project management as an "accidental profession" into which people move from many different functions. The respondents varied greatly in their highest level of education and formal qualifications. This does not appear to be a function of their age: there were people with fewer formal qualifications at both ends of the age range.

The following sketches are taken from responses to the personal background questions on the questionnaire (Appendix 1) and notes made at the time of the interview.

Aaron Argos plc/Persistent Consultants

Aaron was about 30 and had worked for Persistent in project management for four years. He had an engineering degree and had worked in production management before becoming a project manager.

Alice Exemplary Bank plc

Alice, age 28, had been a project manager between four and seven years. She was educated to Masters level with a diploma in Marketing. Alice described events in a project about providing integration training after a merger and a project setting up centres of excellence for sales training. These were the result of having been seconded from the project and performance improvement department to the human resources function for two years. She commented that the questionnaire appeared slanted towards centrally controlled processes. She thought that transfer of improvements to future projects was done in the company but not formally documented. She stated that she did not understand the use of the term *scope management*.

Betty Exemplary Bank plc

Betty, age 38, had been a project manager between four and seven years. She was educated to HND level, but she also had a diploma in Management Services and she was an Associate of the Chartered Institute of Banking. She described events in a project to integrate 200 branches after a merger and a branch best practice programme.

Colin Exemplary Bank plc

Colin, age 28, had been a project manager between eight and ten years. He was educated to Masters level. He described events in projects reviewing the direct marketing service.

Dave Exemplary Bank plc

Dave did not give his age but I estimated he was around 48. He had been a project manager for over 11 years, and he was educated to Bachelor level. Prior to project management his background had been in systems, internal audit and performance reviews. He described events in a project providing a new company car scheme and a corporate procurement review plus the integration of an off shore company.

Edward Exemplary Bank plc

Edward was age 38 and had been a project manager between one and three years. He was educated to Masters level with chartered engineer qualifications in civil and structural engineering. He described a post project review and other incidents from the integration of a general insurance business after a merger. That he was still learning the job came through on a number of occasions, for example his describing the use of company project methodology more distantly than other interviewees and how he hadn't done a stakeholder analysis before working there.

Fiona Aspirant Consultants Ltd/ Judicious Insurance Ltd

Fiona, age 37, had been a project manager for over eleven years. She was educated to Masters level in Project Management but her original background had been in chemical engineering. Fiona turned out to be the only interviewee from Aspirant as the other one dropped out. She described events in a series of projects to build and ship enormous chemical plants and several projects in financial services, particularly insurance. She commented that the questionnaire did not reflect the autonomy of the project manager as she saw it: it kept referring to a higher project authority but she considered that the project manager was mostly on his/her own. Some the questions she found difficult to answer because the things asked about were almost automatic and done on auto-pilot. She also found the questions unclear, the sentences too long and the jargon interpretable in different ways.

Fiona was a tremendously enthusiastic person who carried on talking for over an hour after the interview finished and the tape ran out. She drew vivid word pictures of her interactions with people and the process of moving heavy plant across north London at three miles an hour and buying champagne and sandwiches in Tesco's to feed the metropolitan police.

Gary Wondrous Building Society/ Aspirant Consultants Ltd

Gary, age 44, had been a project manager for over eleven years. He was educated to bachelor level with a membership of the Institute of Bankers and the British Computer Society. He was nominated by a consultant from Aspirant which had worked with him on his project. He described his involvement in one large project replacing the core systems of his company. He commented that the culture of the company precluded some of the activities in the questionnaire. I found Gary the only

project manager in the study who was boring to listen to. He in turn found it difficult to give me any detail of what he did. I assume he had operationalised project management activity to the point where it was indescribable to him.

Henry Transport Engineers Limited

Henry, age 37, had been a project manager for over eleven years. He was educated to bachelor level and was a member of the APM (not by examination). He gave me some very detailed project responsibility/ task tables. Henry found the questionnaire rational – which possibly reflects the detailed and highly documented approach of his organisation. He was a warm and personable individual whose descriptions of project work included some tricky political situations with external bodies. Henry described events in two projects where he had to close off transport to carry out improvements and replacements and reopen them to passengers and a third where he installed radios in trains. Outside the interview we discussed the emphasis in his organisation on risk management. Before the Kings Cross fire had alerted everyone they had not been very risk aware. After that the emphasis had been on fire prevention but this was now under control and they had identified flooding as the highest priority risk. As a result they were carrying out urgent repairs and renewals on two lines despite this meaning that lines had to be shut for long periods. Much of their work is very time critical as it is done in a tight time window over night.

Ian Dynamic Consultants plc

Ian, age 42, had been a project manager for over eleven years. He was educated to O levels. He proved a very warm and enthusiastic person to talk to. His projects described included an inventory audit of PC hardware and software, developing a fuel forecasting system, developing a timesheet system, implementing a help desk and mentoring or coaching another project manager. He had by far the highest I to we ratio in the sample (section 4.7). After the taped interview Ian told me about a Steering Committee which did not want all the plans, budgets, reports etc of a well managed project. He insisted they put in writing that they did not want these things before he would take the project any further.

John Transport Engineers Limited

John, age 33, had been a project manager for between four and seven years. He was educated to bachelor level, an incorporated engineer, an associate of the Royal

Aeronautical Society and a member of the APM (not by examination). He described a project to design and build a transport museum, and a bridge refurbishment. John commented on the questionnaire that too many items were actually multiple questions, making it difficult for him or me to know which part of the question he was answering. He described the language as "pernicious gobbledegook" and said he had to guess what was being asked in most cases. He also queried the use of the term *higher project authorities*, echoing the point made by Fiona.

Ken **Dynamic Consultants plc**

Ken, age 53, had been a project manager for over eleven years. He was educated to masters level with qualifications as a chartered engineer, in accountancy and finance, as a CISA (computer auditor) and he had membership of the British Computer Society. Ken described building project management proposals, developing an advanced project management course and developing an international project management methodology handbook. To a lesser extent than Gary he found it hard to describe what he did in his work.

Lawrence **Illustrious Bank plc**

Lawrence, age 39, had been a project manager for between four and seven years. He was educated to HND level and a member of the Chartered Institute of Bankers. He had come from the Maternal Bank parent before the merger. Lawrence described a project to close down an acquired operation and transfer the business, and another to close down a building (the one we were in) and transfer the staff elsewhere. He commented that the questionnaire appeared to have been written by an academic rather than a practitioner.

Mike **Illustrious Bank plc**

Mike, age 41, had been a project manager for between four and seven years. He was educated to bachelor level and an associate of the Chartered Institute of Bankers. He came from the Paternal Bank parent before the merger. Mike described a project to automate a manual process (cheque book printing and distribution) and a long term information systems project.

Nick **Illustrious Bank plc**

Nick, age 33, had been a project manager for between eight and ten years. He was

educated to bachelor level with a banking diploma and was an associate of the Chartered Institute of Bankers. He came from the Maternal Bank parent before the merger. Nick described a merger programme and planning for business integration, performance improvement and providing insurance underwriting. His only comment on the questionnaire was that the human resources management questions were probably less pertinent to him but he did not explain why he thought that.

Owen **Illustrious Bank plc**

Owen, age 34, had been a project manager for between four and seven years. He was educated to O level. He came from the Maternal Bank parent before the merger. He described a project to introduce and market a new credit card, the Bank's preparation for EMU and the selection of software. He explained how he had become a project manager with so few formal qualifications. When he left school he had worked as a clerk for the British Shoe Corporation. His work included doing a store manpower survey. He saw an opportunity and recommended the establishment of his next job, writing store procedures which led in turn to an EPOS (electronic point of sale) project. From there he moved to a major credit card company and thence to Maternal Bank plc.

Peter **Illustrious Bank plc**

Peter, age 42, had been a project manager for over eleven years. He was educated to A level standard with additional vocational qualifications. He came from the Maternal Bank parent before the merger and had been adversely affected by it. He described projects to create an electronic purse card and introduce smart card technology.

Quentin **Transport Engineers Limited**

Quentin, age 36, had been a project manager for between four and seven years. He was educated to bachelor level and was currently working on his Masters in Transport Policy and Management. He was also a member of the Chartered Institute of Transport, the Institute of Electrical and Electronic Engineers and the APM (not by examination). He described several events from a project to replace escalators.

Robert **Illustrious Bank plc**

Robert, age 43, had been a project manager for over eleven years. He was educated to

masters level and was a chartered engineer, a European engineer and a member of the British Computer Society. He came from the Paternal Bank parent before the merger. Robert marked six of the question blocks on the questionnaire as 'not relevant to my job'. He wrote all over the questionnaire, first of all objecting that it was capable of multiple interpretations. He also had problems with *higher project authorities*: recognised they exist because *'most projects are started as sub-projects within a programme'* but *'most project managers have to take decisions as some people are often political and indecisive'*. He said he would seek their approval only for sensitive issues. He also considered that a project manager had to establish procedures, not just have them provided by the company. His detailed notes indicated that he did not agree with the AIPM standards list in how it described the project management work carried out. He believed his company's methodology was better but stated that ISO 9000 and TickIT are *'a big waste of money usually'*. Robert described developing some technical software, a banking system, a joint premises strategy, a message switch and a new phone system. A charming and political animal, he kept asking to speak with the tape off and afterwards he took me to lunch and tried to find out my role in the political situation in his company post the merger.

Simon **Dynamic Consultants plc**

Simon, age 37, had been a project manager for between one and three years. He was educated to masters level, with both an MBA (from a prestigious university) and an MSc (not in project management). Simon described installing a timesheet package, rescuing a financial service software project and providing training in project skills and methodology. He had worked at the supervisory level on a project for Kingfisher and I felt I knew his work. Since the interview he has been made a director of his company.

Wendy **Magnificent Consultants plc/ Kingfisher plc**

Wendy, age 45, had been a project manager for between four and seven years. She was educated to bachelor level. Wendy described an insurance software project and the programme management of the Kingfisher Y2K preparation (which I observed first hand). She commented on the questionnaire that her answers reflect a reasonable sized project: she would adopt more informality for small projects. Wendy is a lively enthusiastic person, full of energy and incredibly well organised in her family life (she has four teenage children and works in several locations, none near home).

4.3 The projects described

Work on a very wide range of projects, 60 in total, was described in the interviews (Appendix 3, table 3.1). Most of them were unique in the sample. Each individual described between one and five projects. The projects are listed in Figure 4.2 where they have been categorised into those with predominantly physical deliverables (8), predominantly software (17), organisational change (21), training (8) and performance improvement (6). Inevitably these categories overlap considerably.

Figure 4.2 The Projects described in the interviews

Project described	Number of occurrences	Project described	Number of occurrences
Physical Deliverables		**Software Deliverables**	
Build part of new phone system	1	Automate manual process	1
Build and ship large plant	1	Credit card provision	1
Refurbishing a bridge	1	Complex technical software	1
Replace escalators	1	Develop banking system	1
Install radios in transport	1	Develop financial transfer process	1
Introducing smart card technology	1	Develop fuel forecasting system	1
Design and build a transport museum	1	Develop insurance tax software	1
Message switch for bank	1	Develop timesheet system	1
	8	Electronic purse card	1
Organisational Deliverables		Install timesheet package	1
Create centre of sales excellence	1	Long term IS project	1
Close an acquisition and transfer the business	1	Prepare for EMU	1
Close and reopen transport	2	Replace key customer system	1
Close building and transfer staff	1	Rescue financial services software project	1
Company car scheme	1	Selecting software	1
Establish two new departments	1	Telephone banking including software	1
Implementing business integration	3	Y2K programme	1
Implement help desk	1		17
Joint premises strategy	1	**Training Deliverables**	
Manufacturing change programme	1	Skills transfer of BPR method	2
Marketing initiative	3	Training in PM skills and methods	1
Merger programme	1	Training for business integration	1
Planning for business integration	2	Develop advanced PM course	1
Provide insurance underwriting	1	Develop project method	1
Recruiting temps tax efficiently	1	International PM handbook	1
	21	Mentoring another PM	1
Performance Improvement and Information Gathering			8
Performance improvement	3		
Corporate procurement review	1		
Build project management proposal	1		
Audit of PC hardware and software	1		
	6		

The projects can also be divided into those carried out for an external client (such as building and shipping a large oxygen plant, or developing a timesheet system); those

carried out by a projects division for an internal client (such as replacing escalators, or moving people from one office to another); and those done by members of the organisation to take the organisation forward (such as implementing a business integration, or creating a centre of sales excellence). In the first two instances the project manager was more likely to be a specialist; in the last s/he was more likely to be a generalist and closely aligned with operational management.

4.4 The Questionnaire and the AIPM Standards

I asked each participant before the interview (so that feedback on the questionnaire could be given and received when we met in person) to complete a questionnaire in which they had to tick one of six boxes beside 94 statements from the AIPM (Australian Institute of Project Management) standards to indicate whether the project manager activity described was something they did always, never or some shade in between. There was also a seventh box to tick if the project manager felt that the statement was completely irrelevant to the way s/he managed projects. The questionnaire is described in section 3.3.4 and a summary of all the responses is given in Appendix 1.

Overall the project managers agreed that they followed the AIPM standards fairly closely: 40.4% of answers were *Always*, and 27.0% were *Nearly always*. Only 3.9% of answers were *Seldom* and 1.8% were *Never*. This was despite the participants not being members of the PMI or AIPM: only two of them were individual members of the APM which has a rather different approach to standards (see section 2.1 above). It suggests that the project managers interviewed had enrolled in the project management point of view: one which is remarkably consistent from one organisation to another once the organisation has adopted the approach.

The conformance reported here is mostly supported by the topics discussed in the interviews: they talked a lot about the orderly creation of project processes and structures, usually well documented, and about communicating with and influencing others. With such agreement there may be more benefit in reviewing the exceptions than the majority view. These are the 5.7% of *Seldom* and *Never* answers but also the 4.3% *Completely irrelevant to the way I manage projects* responses.

Most of the *Seldom* and *Never* answers were contributed by Gary (19), Lawrence

(18), Colin (17) and Alice (11) and most relate to identifying, documenting and passing on to 'higher project authorities' the learning from the project management area in which they have generally agreed to a high level of conformance. Robert (35), Edward (17) and Colin (13) also answered *Completely irrelevant to the way I manage projects*, particularly with reference to the learning but also to financial completion (tidying up the actual spend against budget and evaluating quantifiably the benefits delivered) and to procurement. In their organisations (and in others of my acquaintance) financial completion was often overlooked in the desire to move on to the next project – and to avoid the embarrassment of raking over over-spends and delays. A full financial evaluation may be completed by the finance department, supposedly to ensure accuracy and objectivity. Procurement was not part of the remit for many of the project managers interviewed and their replies reflect their low level of involvement. I suspect that it would have been more of an issue if the companies had been organised around the projects.

Robert was the most extreme and had more to add. He told me that his problem was with the term *higher project authorities* – he worked essentially independently and only sought approval for sensitive issues. He also considered that a project manager had to establish procedures, not just have them provided by the company. In this respect he reflected the functionally oriented organisation he worked for and the way many of the participants described themselves creating processes, procedures and structures as part of the way they established projects. Robert was not alone in rejecting the role of *higher project authorities:* Fiona also commented that the questionnaire did not reflect the autonomy of the project manager although she did not mark irrelevant on her questionnaire.

The problem with any questionnaire is that it only collects data on the questions asked, not the unasked questions, the other activities you did not ask about. The questionnaire shows the participants broadly in agreement with AIPM, a professional project management body, about the activities which they performed in their jobs. This placing of themselves in alignment with the professional body provides them with an ally more influential than themselves but may not be an accurate account of their activities in practice.

4.5 How the Project Managers saw themselves

Part of the BEI technique involves asking interviewees to list characteristics which they consider to be essential to a high performing member of their profession. The interviewer then proceeds to draw out more behavioural events from their own work which the interviewee considers illustrate the characteristic.

A complete table of the characteristics named by the participants can be seen at Appendix 3, Table 3.2. They are also listed in Figure 4.4 where I have grouped them as far as I could in the same clusters as the coded activities (see section 4.6). The twenty project managers contributed between five and sixteen characteristics each, totalling 194 examples of 64 characteristics. It is a long list and table 3.2 (Appendix 3) shows that the nineteen most frequently mentioned characteristics made up only 59% of the whole. All of these were mentioned by three or more project managers.

Overall the composite picture which the project managers subscribe to is of a self-confident, self reliant individual who makes a good impression, attacks the task with drive and sticks at it in adverse circumstances, learning from experience. Owen expressed the last as *"I think he's got, or she's got, a track record that has blemishes on. I think they have to have tasted the bitter taste of defeat, or have a bloody nose or been in one or two scrapes."* [4.5.1]

Personal qualities associated with orderliness seemed important – such as adopting a structured approach and having a clear idea of where the project was going, coupled with a range of practical skills in oral and written communication, chairing meetings, managing costs, making decisions:

"When I left this person they were behaving in what I would term a proper project management way, in that they were being a project manager even to their project manager and they were behaving with good decision making qualities, knowing how to run a meeting, understanding the importance of body language, understanding the importance of planning a project, and understanding the importance of project status and how people react to them." Ian [4.5.2]

This appears closely linked to items of project management "philosophy" (so titled by one of the participants): the shared ideas and concepts of project managers which

includes the technical knowledge areas which they acknowledged in response to the questionnaire (section 4.4) but is broader, encompassing a commitment to achieving the task, even if this requires heroic effort, and a need to satisfy the needs of the business. Ken commented: *"He's got to be able to see potential pitfalls ahead, and plan for them and make, and think of ways round them, so you've got to have some insight."* [4.5.3]

Project managers were expected to have expert knowledge of project management techniques and knowledge of the project area but they also espoused breadth of knowledge without being an expert in the areas in which other project team members managed. They argued that specialist knowledge is not relevant since the project manager manages the project processes: other project resources manage the content.

There was much emphasis on politics and networking (in the traditional sense). The project managers considered themselves highly politically aware and described a range of characteristics and behaviours for dealing with stakeholders, both at the top and at every level in the organisation, including understanding and motivating people. They knew that they had to create project systems for communication, not just rely on pre-existing structures and processes.

"You need to be able to set up communication paths between yourself and the project sponsor and various other people involved with the project. It is very important in any project to have good communication and you need to set up a reporting structure such that you are reporting on a regular basis to the project sponsor and to everyone else involved in the project so that everyone's fully aware of what the status of the project is at a given point in time." Ken [4.5.4]

Aaron told me that you need to know who holds the power in a customer's organisation (not always the person with the obvious title) and strike up a one to one relationship. Wherever a number of people from his consultancy were acting for the client he tried to set up a structured customer relationship with hierarchical rules: people he interacted with, people his subordinates interacted with and he might appoint his boss to get to know his contact's boss. When a problem occurred he could get either his boss or his subordinates to test the waters first and if necessary he could distance himself from their proposal and go in and make another suggestion.

The picture the project managers described of their ideal type was thus heroic, action-oriented, knowledgeable and streetwise. Even things that went wrong were seen as evidence of experience, the duelling scars of a macho profession. They were the movers and shakers, the keystones of their projects, holding the different forces in play in balance, constantly nudging each plate to keep it spinning.

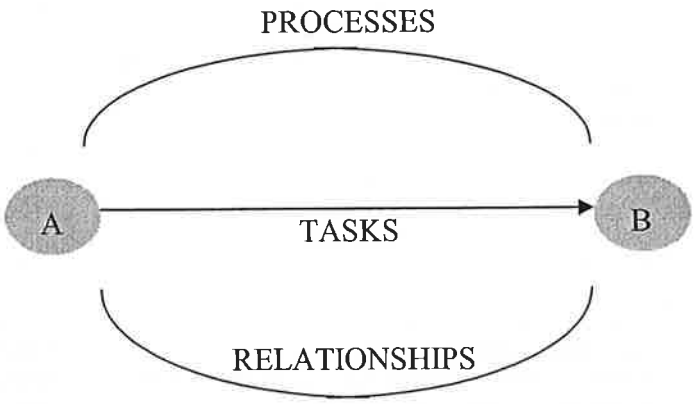
Yet there were exceptions, characteristics mentioned infrequently and seemingly at odds with some of the others. Ian (who was very forthright and outspoken in his manner) stressed the importance to him of ethical values in terms of "*someone who's fairly focused in what they're going to think is right and wrong*" and was the only person to say he expected a good project manager to have a life outside the job: "*I would hate a project manager to come in and sort of say well yes, I do project management and that's what I live for. So someone who's got other interests and can speak to a wide audience.*" [4.5.5]. Betty and Fiona talked about valuing individuals: which Fiona said was a quality of "*some kind of caring... but focused.*" Robert summarised it as needing a balance between task and people. However he added that he thought that might mean you were looking for superman.

The project managers' own view of their characteristics, skills and behaviours is combined with my analysis and interpretation of their stories in section 4.6 and in chapter 5.

4.6 Activities and Behaviours described by the project managers

All the codes, themes, clusters and areas that I describe are the product of my interpretation in this initial effort to process the interview transcripts so that I could find stories, examples and quotations again easily. This was the first point at which I borrowed a conceptual framework (the 'hamburger model') to help in the ordering process – a simple model of change management which I can attribute only to a management development adviser and friend, Rob Hamblin. Figure 4.3 illustrates the idea that getting from an original to an altered state (A to B) does not only involve the tasks which must be gone through but requires attention to the processes involved and the relationships between the people involved.

Figure 4.3 Elements of the Change Process



In this section I have attempted to draw on all the material, not just the activities and behaviours which I catalogued from the BEIs. Figure 4.4 shows that I could match up the activities they talked about with the participants' own view of what makes a good project manager: a process not just of matching code names but of re-reading and comparing the stories and descriptions. However, there was also a long list of personal attributes which I could not pigeon-hole so neatly. To some extent these are described in section 4.5 above.

In the following sections groups of stories are described, illustrated and commented upon. The lengthy quotations are given to allow the reader to draw his/her own perspective on the project managers at work to complement the descriptions which I have provided (Wolcott, 1990). The language I have used is coloured by the terminology of Actor-Network Theory, particularly that of Callon (1986).

Figure 4.4 Grouping of the coded and clustered behaviours and activities with the most frequently cited characteristics

Activities and Behaviours (*25 most frequently described – see Appendix 3, table 3.4)	**Characteristics (*25 most frequently described – see Appendix 3, table 3.2)**
PROCESSES: Section 4.6.1	
Project management techniques Creates project structure* Creates project processes* Knowledge of and uses PM techniques* Manages risks and acts to minimise* Manages TCQ* Documents plans and activities* Scopes project* Creates project proposal Estimates time and resources Change management Introduces new techniques Sets quantifiable targets	**Project management techniques** Structured approach* Communication creates system* Knowledge of PM techniques* Manages costs* Risk awareness Well organised Understands project management philosophy

Activities and Behaviours (*25 most frequently described – see Appendix 3, table 3.4)	**Characteristics (*25 most frequently described – see Appendix 3, table 3.2)**
Seeks information for monitoring	
PROCESSES/ RELATIONSHIPS: Section 4.6.2	
Politics and communications Appraises political situation* Explores all viewpoints Involves and includes the right people* Gains powerful allies and seeks support from the top* Gets high level approval* Influences without authority* Keeps sponsor informed* Works to overcome resistance* Uses network to get information* Identifies stakeholders and manages external relationships* Manages expectations and manipulates client* Resolves conflicts* Lobbies behind the scenes Seeks clarity of vision Satisfies clients Justifies project activities Channel for escalating issues Makes presentations to business Applies pressure Negotiates with line Helicopter view of project	**Politics and communications** Vision of goal and process* Managing stakeholders needs* Influencing skill* Know when what to escalate* Communication oral* Communication written Aware business fit* Authoritative* Politically aware Manages expectations Resolves conflict Builds relationships Gets support from the top Manages people with no authority
TASKS: Section 4.6.3	
Implementing Manages team directly Committed to success and ensures things get done* Hands on in crisis and to ensure things get done Proposes solutions for problems On the move Co-ordinates activities Conducts PIR Reports progress Monitors	**Implementing** Commitment to making it happen* Hands on in crisis* Anticipates problems and acts* Reacts quickly Calm in crisis Good decision making* Pushes for resources
Knowledge of the business Knowledge of and ensures fit with business	**Knowledge of the business** Knowledge of project areas* Wide knowledge not expert* Limits data input to self Understands roles contributing to project
RELATIONSHIPS: Section 4.6.4	
Working through Colleagues Maintains morale* Celebrates milestones and achievements* Obtains resources and appreciates others' contributions* Understands individuals and looks after project staff* Gives honest feedback Sells decisions to the team Runs team meetings Co-ordinates PMs Facilitates workshops Procurement contracts Hires, transfers or fires staff	**Working through Colleagues** Team management* Motivating people* Dealing with people at all levels* Sociable* Leadership* Objectivity of perspective* Understand people's motives* Values individuals Balances tasks and people Chairing meetings
Developmental Coaches other, less experienced, PMs* Learns from mistakes* Educates line in PM Helps others plan	**Developmental** Open to learn from experience* Develops others

Activities and Behaviours (*25 most frequently described – see Appendix 3, table 3.4)	Characteristics (*25 most frequently described – see Appendix 3, table 3.2)
Enables others to shine Teaches techniques to team Stands back lets others work	
OTHER: Section 4.5 above	
	Personal attributes Adaptable and flexible* Charisma Logical analytical mind Resilience Self confidence Intelligent Presentable Energetic Enthusiastic Ethical values Experienced in different cultures Has a life outside PM Mature responsible Questioning Rigorous Self motivated Sense of humour Successful PM track record Task driven Tenacity

4.6.1 Processes: Project Management Techniques

4.6.1.1 Creates structure/ Structured approach

"When I got involved, I went to the first task force meeting and it was very clear to me that there wasn't enough structure to the project."

Dave [4.6.1.1]

To a project manager structure in a project has a clear meaning: there should be a sponsor, a steering committee, a project manager and a project team. There may also be other stakeholders with an interest in the outcome of the project. Each actor should know clearly what s/he or they are responsible for delivering and there should not be any overlap or confusion between them. This is often expressed as *'a single point of contact'* or *'single point responsibility'*. If this structure does not already exist the project manager has to create it. The language used often emphasises the centring of the project, *'drawing together'* and *'pulling together'*.

"It was very, very fragmented, totally unstructured, so I was brought on board by the

sponsor of the smart card project: 'I want you to pull all of this together, put together a project structure, put together a clear project definition, terms of reference, project team etc.'... I had to pull together all of the key people in the organisation and really start to determine what the clear roles and responsibilities were for everybody."

Peter [4.6.1.2]

The project structures are linked closely with the project processes.

"My initial task was to go and scope the breadth of the programme which I did through consultation with a number of our managing directors. Out of that I then produced terms of reference which would be a standard task that one would do for a project and I encouraged them to set up a steering committee which I sit on and to introduce regular reporting. So by default, I've managed to introduce a number of standard project management practices, although I perhaps haven't badged them as a project management bible."

Nick [4.6.1.3]

Since individuals are made responsible for tasks, the structure therefore also includes the tasks which make up the deliverable. These need to be clearly defined (in a terms of reference document if not in other project plans and papers) but there is an emphasis on simplicity. Projects are so far reaching and full of uncertainty: project managers try to simplify (*problematise* (Callon, 1986) or *punctualise* (Law, 1992)) the project tasks and structures in order both to control the inanimate and to enrol the other actors in their story.

"My personal contribution was probably structure and clarity of thinking and making sure that the way we were going through at the end was not so complex."

Colin [4.6.1.4]

"I was helped on this by the lady who'd helped me on the car project to develop a list of tasks and we came up with well over a thousand to be done in two to three months. And I said: 'No, can't handle that,' so we broke it down into five subprojects and I remember going to the second task force and saying, 'Here's the structure, what do you reckon, who is going to head up those five projects? I want single point responsibility, they report and we set up a progress mechanism, fortnightly reports,

to us. We'll summarise and feed back to you.' I think the thing desperately needed that structuring. If they'd been allowed to carry on with their ten or twelve groups and their other random plans it would have never succeeded."

Dave [4.6.1.5]

The legitimacy to do this is attributed to the sponsor, drawing on the established hierarchy of the organisation and the degree to which this includes recognised project structures. The more widely understood in the organisation how projects are supposed to work (the more the organisation is enrolled in the professional project management network) the easier this should be for the project manager. However, the project manager needs to enrol team members over whom s/he has no positional power. The method adopted appears to vary between telling them and asking them to volunteer.

"So I put up the slide, which showed all the deliverables, and I said, 'These are vesting day critical. These are post vesting day,' and I had areas that could be made responsibilities but without names, and I said, 'Does that make sense to you all round the table?' and they said yes. And I said, 'Right, here's the first one, who's going to own up to this one?' And they were all a bit taken aback. Went round the room, went down the list, people were allocated responsibility. We had a quite a bit of sharp debate between the two directors, where responsibility lay and I stressed that I wanted one person responsible for each bit, single point responsibility."

Edward [4.6.1.6]

Within the bank steering committees are something that people are quite comfortable with. What is important is to understand the role of that steering committee. I produced a note which summarised the responsibilities of the steering committee members, stakeholders of the project, the project manager and other such parties, which I then discussed with the sponsor, which he agreed with. I then issued it to the other people I wanted on the steering committee, obtained their agreement to that, hey presto, there's the steering committee."

Nick [4.6.1.7]

The documented terms of reference serve to lock the contributors in to the project manager's project network, reinforced by any pressure that can be derived from the

organisation's hierarchical network. Robert, below, shares his calculations in a situation where he had to protect another less experienced project manager.

"My problem was: how do I get these people to work together? How do I set an agenda that they will feel is acceptable to them in terms of the initial contract what we are going to provide? How do I not over expose our person? So what I actually did was propose a steering committee, working party where in fact they all sat on it at the 'Head of' level. I interviewed them all individually; I wrote a terms of reference which was the common view, and then basically said we'd walk through it at the meeting. I chaired the meeting, even though some of them really didn't want me to, but I did it anyway." Robert [4.6.1.8]

4.6.1.2 Creates project processes/ creates communication system

"My background in project management teaches me to ensure that you have a process in place, and my personality is strong enough to be able to impose that." Nick [4.6.1.9]

The project managers talked constantly about creating project processes. These are the tools and activities needed to run the project, as opposed to activities which deliver the project outputs. The key processes are scoping the project, documenting plans and activities, and creation of a communication system. Whereas an operational manager may inherit processes such as order raising, invoice passing etc, a project manager has to re-create the project processes for each new project. Furthermore, in repetitive operational tasks the activities may not have to be documented because they are happening as they always do and everyone who needs to know about them is already involved. Line managers contributing to a project may therefore resent the documenting and reporting processes needed to manage a project. A project manager makes life easier for everyone if s/he sets up easily completed project processes or collects data orally him/herself and collates it on behalf of others.

"There was already a project group and there had been a project manager who had moved on to pastures new so I was taking over the reins, for a project which had been in inception for about three months, but had got to just about the end of business requirements definition. Though the business requirements were largely

complete, they weren't fully documented, so one of my early tasks was to ensure that the two key strands of the project, were fully documented and I obtained sign off to those detailed business requirements."

Nick [4.6.1.10]

"I established a mechanism whereby I would undertake a project team meeting so that I was fully furnished with the information. That would precede a one to one briefing with the project sponsor which would then take place shortly before the steering committee meeting at which the sponsor had to deliver a project progress report."

Lawrence [4.6.1.11]

Owen summarises the way the project manager used these techniques to progress the project:

"We introduced standard team meetings, and standard team meeting agendas, which I was responsible for putting together. ... There were probably eight or nine different business areas involved in this each of which was running to its own little activity list. I drew all that together, created a master plan and then actually measured their progress at these weekly team meetings. This is what you should have done, have you? This is what I want you to do next week. ... They reacted to me personally and I was immediately acknowledged as somebody who'd been in projects before just by introducing things like structured tasks and activities and milestones."

Owen, Illustrious Bank [4.6.1.12]

The project manager gets people involved (interessement) by talking to them, seducing them one at a time before meeting with all together (see Alice, below) when, miraculously, they all know what is expected of them and what they expect of each other. The terms of reference for the project or the committee or a project plan are used to punctualise the processes and enrol the actors. Other project tools and techniques can be brought in such as Gantt charts, PERT charts, issues logs. For small projects many of these are commonsense tools and require little specialist knowledge. However, they are owned by the project manager: how many householders would pick up the plumber's tools and bend a pipe themselves? Once the project manager has the plans and charts in his/her hands s/he has the means to

order the struggle to maintain the project as a network.

"I spoke to, I think, all of the individuals themselves about that last meeting before they actually came to the meeting and because I knew it was the last meeting, that extra degree of preparation went into it making sure people understood what they needed to do before the meeting and that different people at the meeting had different sessions....I actually just set up the whole reporting process in terms of a written report and an update on a Gantt chart. I set up a standard Gantt chart layout for everybody to adhere to and the process of where they send it, who's going to collate it and put it together, when it gets there. As a process it actually worked very well."

Alice [4.6.1.13]

"I felt that it would be useful in the short term to have weekly reporting, and I was able to introduce that into the conversation in such a way that it almost seemed to them that it was their idea."

Nick [4.6.1.14]

Henry describes influencing external stakeholders much as Aaron did at Acton Trussell (section 4.1.2):

"This project was essentially a soft project without any building works. It was a transport closure project. I and the team identified a lot of stakeholders. And I put together a [communication] plan based on discussions with them and the plan was basically a spreadsheet showing who were the main people we need to contact as a result of the closures, from MPs, local authorities, right down to the man in the street, station staff, Railtrack, people in that order. We had something in the order of 30 different types of audiences including local traders. With the team I discussed what messages we wanted to get across, and then I formulated what we needed to do in terms of road shows, briefings to councils, when letters need to go off to local MPs to decide what needs to happen and I structured it in the form of a project plan, something which people who were working with me on the communications group were not familiar with, because they're used to press office people, they're used to reacting to things. I was trying to plan things, put it on a bit of paper and make it simple for them."

Henry [4.6.1.15]

Despite the emphasis on documentation of plans and keeping written records of the project progress and changes to the scope, the project managers reduced paperwork where it was not helpful:

"I actually like the project management services change control procedure, but I don't like it enough to use it all. I like the fact that it requires us to do impact assessments on changes, I like that, I think it's a good idea, brilliant discipline. So I use that, project change note, brilliant. I use project manager's instructions which are also in there... but I've been left in the stupid situation where according to the procedures maybe one of my design team, comes along with a change note and says: 'This is a change we are recommending on the project.' Good idea, you sign off the change note. The procedure says I am now supposed to copy what this man has written on his change note on to a project managers instruction, give it back to him, say I'm now instructing you to do what you asked me if you could do in the first place. Great, this is really good this, great paperchase."

Ken [4.6.1.16]

"We have a thing called a master project plan, which determines that there is a procedure, what levels of responsibility, authority and all the rest of it: it's about two inches thick on an average project and it's never been flavour of the month with project managers here. Most of it is either contents sheets or appendices and things like that, the real meat of it comes to about 12 pages. On this particular project I had people who were all staff members apart from the planner who was an agency guy and I thought, well, they're all staff members, they're all very familiar with how to run projects, because we're project based. And I said to them: 'We don't need that, why don't you all put down on a bit of paper what tasks you are going to do?'"

Henry [4.6.1.17]

4.6.1.3 Knowledge of project management techniques/ introduces new techniques (including examples of specific techniques)

The ability to move in and take a project by the scruff of the neck depends on knowledge of project management techniques (which may be completely unknown to non-project managers in operational line roles) and the confidence to just do it. To draw on project manager professionalism as an ally the project manager also has to display his/her knowledge of project manager techniques and introduce the language

to others. Most of the examples here overlap with the practical examples of creating structure and processes. Simon is referring to his organisation's project management methodology:

"I'd be surprised if you'd deviated from it, even if you didn't know you were following it. There are techniques in there which you wouldn't necessarily introduce immediately, earned value analysis, depending on the environment you are, you know there's peer group reviews and quality circle all that stuff, whether you'll introduce that immediately. So you don't go wham bam there you are let's do it all at once, you select, you pick and select and you gradually take them up the learning curve."

Simon [4.6.1.18]

Simon believed that the penalties for not using project management techniques were severe:

"The project in terms of the software company was also being run in a complete shambles: there was no single source of documentation for any of the clients anywhere, no single source of specification, no single source for promises, no single source for minutes of meetings, promises which we'd made, so my task was to get a hit team together to go through every filing cabinet, every drawer and recreate a project history, for each of the clients, and that was then used as the history of the project, and it actually ended up in barrister's chambers and I was again involved in that. Basically we sued them".

Simon [4.6.1.19]

The project managers also talked about using specific project management techniques: minimising risks, quantifiable target setting, monitoring, change control, and cost management.

Risk was discussed in two ways by the project managers: either in terms of risk assessment and planning or in terms of contingency action – not necessarily pre-planned. The planning techniques enable the project manager to "*look down the river*" (Owen, 4.6.1.21) and identify future risks.

"The project manager needs to get into action and document all those risks and make

sure he has understood what the risks are, get as much input contribution from other people as well as to what the risks might be. So I developed a risk matrix for the project I was doing. For every risk that we identified we developed contingency plans and I think it is important that any project manager should know how to do that, be able to have that vision to see ahead, to be aware of that."

Ken [4.6.1.20]

"There was an IT person from Paternal bank securities who was running the project and who had planned to implement in March this year and was happily ploughing ahead and getting people to do various things for him. I came along and had a look down the river as it were and determined that there would not be a LAN network in place to support this system going live in the timescale that he wanted, or not a functional one, which immediately introduced an interdependency between the piece of work and what he wanted to do."

Owen [4.6.1.21]

Setting quantifiable targets is part of the scientific management background to project management: even when the project is 'soft' in nature. The project managers used hard figures where needed, particularly with regard to managing costs but also used softer measures and success criteria to get more meaningful control and measurement.

"The person who was working on this with me and I had sat down before going to Pilotown and agreed on the criteria we needed to measure against, whether this was successful, whether we needed to change things in time for the 2nd August etc. So we had, if you like, a series of things we wanted to test out, and also success criteria to say was it good or not."

Betty [4.6.1.22]

"We decided that to actually use the hard figures approach probably wasn't going to tell anything at all and I had a thought that we should really go and ask, so survey customer satisfaction, get the comments back and do another one once I felt the milestone had been met. The project did that and I think it was the first time we'd had a softer approach to measuring and we found that it told us as much as we needed to know. We found that they spent less time, we found they were happy. Irrespective of the time aspect, whether they were happy or not was one of the big benefits. So I put

that down as one of the challenges I had on that project was measuring intangible benefits."

Fiona [4.6.1.23]

Managing costs involves establishing budgets, monitoring spend and controlling it. Pinto (1996) refers to project managers and accountants having acrimonious relationships. The project managers here seemed committed to the importance of managing costs which required getting good financial data – not easy in a functionally organised company – and working with the accountants.

"What I didn't want was information which was four weeks, eight weeks out of date. It had to be real time information, the week that that report left the office. It was really more me defining what we needed and on the cost side actually telling them, this is what we are going to get. The other thing I was keen not to do obviously was increase expenditure because there wasn't a chance of getting any more money."

Quentin [4.6.1.24]

"The way I managed the costs during the project was to track it on a month by month basis, as to how much we were spending in terms of total cost and that had to include things like flights, and travel time and so on, meetings. And had to take account of where we had got up to in the project and how much extra work we thought there was to do, when we got to the point that I recognised that there was some extra work to complete I then had another meeting with the project sponsor and discussed it thoroughly with him, made him aware of it and said: 'Look this is how far we've got, this is the spend to date, it looks as though if we are going to do a good job we're going to spend this bit extra, but we believe that you'll still get extremely good value for money at the end of the day.' So we did actually overrun I think by about 10% in the end but that was acceptable. On the other hand I kept the monitoring going throughout so we knew exactly where we were on the project."

Ken [4.6.1.25]

Sometimes the usual processes were not up to monitoring project costs and other, private, systems were brought to bear. Aaron found he needed his own mechanisms to forecast and record costs ahead of the operational accounts which did not support project costing. He kept records of hours booked and treated the costs *'as if I was*

running the budget at home.'

"I kept going to them saying, 'Look, as competent project managers, I cannot believe that a project manager doesn't know how much has been spent. I cannot believe that a project manager does not know that when work changes there's cost associated with it and does not look at his costs and say: 'I know this needs extra work, where is the impact?' Or looks at the costs and says: 'Oh, the costs have gone up, where's the work?'. I couldn't believe that people could do that. Four months later, I'm only just getting what I asked for then. I know I asked for it, because I ultimately asked for it in writing."

John [4.6.1.26]

Projects need *monitoring* if they are to be kept on track or in ANT terms if the temporary actor-network is to be maintained. This includes both reporting and general reinforcement of the temporary structure, the network. Asking people to report on progress keeps them bound into the project manager's plan.

"The information obviously was shared because it was discussed at meetings and it was the starting point of a recovery plan for the project. But the thing for me was recognising it in the early stages before it got out of hand or unmanageable and that was really the area for me that I thought really worked well, where I could actually see early on where the problems were arising and actually decide whether we deal with it now or whether it would actually go away because of other events."

Quentin [4.6.1.27]

"You know you can be rigorous about big things but [you need to be rigorous]even down to the minutest detail as to what milestone you have and haven't done and is it the same as you told me last week, and the week before, because you often find that things that people said were complete the week before, well obviously you know as well as I do, that they start putting time to it again."

Simon [4.6.1.28]

4.6.2 Processes/Relationships: Politics and Communications

The project managers also talked endlessly about communicating with and influencing people. The politics faced by the project manager is not simply the need to manage upwards. Stakeholders in projects sit at all levels within and outside the

organisation. Project management techniques include processes for identifying and managing stakeholders and often the establishment and maintenance of a personal relationship is what holds the project on course.

Nick summed it up neatly:

"This particular project is pretty straight forward as far as I'm concerned, but then most projects are, if you introduce standard project management disciplines. Where it's more complex is where you get into political issues when you're dealing with the much more senior folk, who perhaps play to different agendas." [4.6.2.1]

4.6.2.1 Appraises political situation

The project managers weighed up what was going on, made themselves aware of others' agendas and tried to influence the outcome.

The first step for the project manager is to gain a general idea of what is going on. Some project managers seemed to have a sixth sense for this; some had processes to find it out; whilst others needed to ask explicitly on an ad hoc basis.

"I identified the key players within that strategy, whom we needed to convince and also the method of communicating."

Lawrence [4.6.2.2]

"The first project I did here for Latimers was to be involved in setting the strategy for how Latimers should do the final consultation with the syndicates. Bearing in mind that whatever the project came up with as a figure the syndicates were responsible to pay part and that would be passed onto the supporting partners, therefore, this was an extremely sensitive issue. Although the figures would not change, Latimers felt very strongly and I suggested to them that what we needed was an extremely robust process, such that all syndicates felt equal and had equal opportunity of the right to reply."

Fiona [4.6.2.3]

"We have a Public Affairs unit that goes to all the transport and liaison meetings with all the boroughs as a regular process. Transport Engineers Group is represented there, and the feedback they gave me before we embarked on these

briefing sessions, was 'Be prepared for a rough ride from Camden, Islington, Merton. You'll get a positive from the City, Southwark, Enfield, and Barnet.'"

Henry [4.6.2.4]

"A project I'm just kicking off at the moment, I think there is a problem with sponsorship because the personnel manager who we've got sponsoring it doesn't see that she's got group wide responsibility, because she is responsible for retail, one side of the personnel side. I realised that this was a problem, I had written some terms of reference, I could sense the uncertainty, so I basically said to her, 'We've got to sort this, are you going to be sponsor? How are you going to cover the group side?' And I think she's basically agreed that yes she will be sponsor and she will have to take responsibility to talk to the group policy manager, and her boss to clarify things on a group basis. I reckon that I've learnt from experience that you must clarify the sponsor's remit and tolerance and acceptance of what they are doing, because I've seen occasions where the sponsor hasn't done that, so as soon as I saw that, a red light was flashing and I reacted to it."

Dave [4.6.2.5]

"I think the politics were there but they were at a very high level. The whole finance thing was in EB a complete political morass, half the people weren't going forward, they were reorganising it, the team wasn't talking to each other, I think there was flap going on in finance probably. I had to be quite attuned to draw out what I could from finance by understanding the politics."

Edward [4.6.2.6]

"What I did was go around and speak to the various stake holders, so Head of Collections and Recoveries, which is a personal lending department based down in Eastbourne, Head of Integration and Operations for card services, the Head of Card Services Eastbourne who in fact runs all the Illustrious card operation, Head of Human Resources for cards, the Head of Human Resources for personal lending: it became very obvious that they really mistrusted each other at the top. They had completely different agendas from Premises, only reason that they were being forced to talk to each other at all, they really didn't want to at all, was that they have a large number of shared premises."

Robert [4.6.2.7]

The next stage is to identify what each individual or group wants to gain and where their power lies.

"Again we had the sponsorship sorted out and the terms of reference and again we had some consultants involved, but, although I got on with the purchasing manager pretty well on a day to day basis, I think he rapidly began to realise that the outcome of the project wasn't going to suit him and there was much more politics involved. This was a project looking at procurement which had been dealt with fairly parochially on a smaller basis for the central, the main commodities and never really looked at on a global basis, on a group wide basis, so there were some politics there and this procurement manager, had never really looked at things on a group wide basis. I would argue that his objective when he initiated the project and project managed it along with me, was to get himself that job, and he didn't get it."

Dave [4.6.2.8]

"[The Tourist Board] had been basically nobbled by the tourist attractions who were saying: 'You can't close Mainline Station July to October because it will affect the tourist trade. We want you to do something as Transport Engineers Group. We will sue you if you close...' And they came to us and said, 'You must provide something specifically for the tourist attractions, otherwise you might be in court, and we will give you a lot of grief in the future.'"

Henry [4.6.2.9]

The final step is to attempt to influence the outcome. This can be done in several ways. The people pursuing their own ends rather than the project can be challenged. However, this is a risky strategy for a project manager who is outranked by the many line managers who become involved in high profile projects. The alternative is escalation to a higher authority within the firm's normal hierarchy. This can be done either formally, using a more powerful director with direct influence where required, or informally, using the project manager's influential contacts.

Edward recognised problems in the finance function (4.6.2.6), used a challenge and, having got some progress, was quick to consolidate his position by registering the outcome with internal audit and a director.

"I opened the meeting by saying 'Finance has been restructured. The project is

moving forward. I think we all know that there are problems in the finance area on the project. I am not going to hide from that.' I said, 'This isn't a recrimination or a blame meeting. We want you to understand what has to be done for vesting day.' So I put up the slide, which showed all the deliverables, and I had areas of responsibilities but without names. We went round the table and allocated responsibility and we had a quite a bit of sharp debate between the two directors, where responsibility lay and I stressed that I wanted one person responsible for each bit, single point responsibility, I didn't want to fudge, it was this person or that person, and they agreed. I wrote the minutes of that meeting up, in fact I wrote the output on the overhead projector and that formed the minutes of the meeting and I issued that straight away to Audit and to the other director and that was a turning point in the finance project."

Edward [4.6.2.10]

Fiona and Lawrence also used the direct assertive statement, even though the target was a director in each case, but backed it up with a threat that the project would be delayed.

"The project director did not want this consultation as part of his project. So he sub-contracted this responsibility to the Head of Strategy in Latimers, who was babysitting and overseeing this project because he was quite a well known, liked person among the extremely senior people in Latimers who needed to know what was going on. So I arrived at this very difficult, what seemed to me very strange, project organisation. This guy didn't really want it, that guy had delegated it, these two never spoke and I had an interface with the person who had been delegated to look after consultation , but when I first arrived he didn't want to know, it was like 'You get on with it.' Great! First thing we have to determine is strategy, and he says 'Just go and do it.' Basically I had to be extremely firm, probably quite, well extremely assertive was the word, I would just say' If you won't meet me tomorrow at 10 o'clock, I cannot progress.'"

Fiona [4.6.2.11]

"I arranged a meeting with the finance director for the whole of Maternal Bank, and we sat down for half an hour, and I just talked him through where the project was at. I was attempting to find out his priorities in terms of the appointment of that individual, because rather than approaching it in the way of saying we need, why

haven't you established somebody, the different approach was adopted, a) because of the seniority, b) because he would be influenced by factors that I just wouldn't be aware of in his environment, but the real objective was to let him be aware of the impact that the delay in appointment was causing our project. I like to think that it influenced him. We didn't wait for too much longer after that I'm pleased to say."

Lawrence [4.6.2.12]

The other approach was escalation, which Dave (whilst claiming he did not need to confront anyone) handled formally, while Edward, Henry and Mike used a more informal approach via another powerful player. The autonomy with which the project managers acted is evident.

"And I felt perfectly able to say to the purchasing manager, I think best practice here is X, Y and Z, and be very confident of my ground and I don't think your people are doing it. I was so confident that, in the end, I didn't confront him head on, I basically went to Jim [my boss] and it was sorted at a political, a higher level."

Dave [4.6.2.13]

"Round about April, I went to the sponsor and said, 'I don't want to tread on the finance director's toes but, I think we need to. We are just going to have to call a meeting and I don't think people understand how finance detracts from operations. I don't think finance are delivering. We are just going to have to have a crisis meeting.' So he said, 'Fine.' I said, 'I'd like you to come.' And he said, 'I'm confident you can do it.' I was a bit nervous, because I knew that this was a crunch meeting, and if I failed I would then have to call in the sponsor. He said to me, 'You can use my name as authority as far as you like. You can even use a device: you can go out of the meeting and say you've rung me up and come back with a decision.' I thought it was very nice of him to offer that, I didn't think of that. So I thanked him for that and went into the meeting."

Edward [4.6.2.14]

"The chairman of the Trust said, 'I think your directors are a bunch of whatever, unrepeatable,' and I just sort of had to leave it there and I said, 'Well, I'm sorry you take that sort of view, but we will be going ahead and issuing our own press statement and we would love to do it with your consent so we can put joint logos in it because we want to move forward together.' But he just went totally out of his pram

and I'm afraid I have a very low opinion of him after that conversation. On putting the phone down to him, I felt a bit shaken, physically I was shaken, because somebody that eminent, to say all that I felt rather worried, so I went for a walk round the block and then I phoned up David Smith who's our development director and repeated verbatim the conversation. This is where power politics comes in because he said, 'Thank you for telling me, I shall ring him straight away.' We got what we wanted: we got a joint press statement, a press release out."

Henry [4.6.2.15]

"I explained why we needed this person: the director didn't need too much convincing. Our Personnel people were trying to threaten me with the big guns and assuming that eventually I would lose my nerve – they weren't aware of the team dynamics of the fact that I used to work with this director. About 15 years ago, we were quite good friends. I would think nothing of wandering into his office, even though again he is perhaps one of the top five people in the bank, and I know that he would give me time because he would know that I would not have disturbed him unless I needed to speak to him. Again I think I probably ran this one through virtually single handed. I had tacit approval of my boss who wasn't really bothered in that it was my problem."

Mike [4.6.2.16]

4.6.2.2 Helicopter view of project, Seeks clarity of vision, Vision of goal and process

Having a clear overview of the project (which might have to be sought out) was considered very important by participants. As Alice said: *"[You need] a clear view at the beginning of where you're trying to get to and then a process to get there."* [4.6.2.17] Edward, Colin and Ken agreed. Ken stressed the need to simplify and problematise the project.

"That's another thing that a project manager must do that's really important, that's clarity of vision at the beginning. You're so clear, and I was trying to do that with the finance bit, I took control of it."

Edward [4.6.2.18]

"I was sort of asked to undertake the project, and I suppose my first thing was saying I'm not starting anything until I really understand what you're trying to do, or what you want."

Colin [4.6.2.19]

"I think you're able to stand back, so I think that's a very important quality, that sense of being able to appreciate the wider aspects. Being able to summarise projects, being able to take the technical details of the project, put it into a paragraph."

Ken [4.6.2.20]

Ian and Owen recalled the effort involved in arriving at a clear and commonly understood view of the task both within the team and with multiple stakeholders.

"Once I remember sitting them down and I said to them, there was a team of about 10: 'How long does it take to audit a PC?' 'Twenty minutes,' they said. For some unknown reason, and I like to feel it was instinct, I said, 'How long does it take to audit a PC.' 'Twenty minutes,' they said. When I'd asked them 10 times, one of them said, 'Well, we say it takes twenty minutes, but it takes forty minutes really.' And that gave me a clue to why the whole thing was going wrong. And why the plan didn't seem right, but they were constantly overrunning audits in departments, running out of time, telling the people they'd come back, rescheduling, the whole thing was getting very mixed."

Ian [4.6.2.21]

"I managed the process of defining the requirements definition, I organised and facilitated a number of workshops between Maternal Bank and the AF people to hammer out some things that were still not clear and basically made sure that we got to where we needed to be before we could commit to doing anything."

Owen [4.6.2.22]

4.6.2.3 Explores all viewpoints

The project manager has to find out where each stakeholder is coming from so as to be able to take account of that in the project and be prepared to overcome resistance. They would effect this either through one to one meetings or in groups – which was riskier unless, like Colin and Nick, below, you had warmed them up with one to ones

first. Betty described using a 'primed' branch manager to speak for the retail division thus implying that the division supported the project.

"The first thing I had to do was to get around and meet the personalities. This project was enormous ... But I made it a high priority to go round and meet all the people. I had to very quickly understand what was going on in the project. I then had to get to grips with the personalities because this was an interactive process. None of these people was going to work for me, but they all had to do work to support the process I was going to put in place."

Fiona [4.6.2.23]

"I saw them all individually at first. I think I saw one or two of them twice in fact. I then picked off the most senior person, played the ideas through with him, got him to buy into that, got him to then convene what in fact became our steering committee. And that's a tactic I use quite a lot. Interview people, document things, pick the key player, get him on your side, convene a group meeting."

Nick [4.6.2.24]

"It was fairly evident from standing at the top that no-one was saying exactly what they meant. I had talked directly to each of the executive managers and probably knew where each was coming from prior to the meeting, and so I stopped and said, 'Well can I just clarify what I think you're all saying,' and I laid out and clarified that and they said, 'OK we'll agree to that.' People were holding back and not saying exactly what they meant and it was a case of having to break through that and say: 'This is what I think it is,' I felt fairly safe in doing that because I had discussed some of the issues with most of the managers that were around the table. But it worked because I knew the people around the table and had had discussions with them all separately."

Colin [4.6.2.25]

Colin managed a meeting to discuss the viewpoints and then gave the consensus a solidity by using a high visibility technique which documented the final agreement as it was made.

"It began by running through the agenda, what we were going to do, that effectively

we were going to outline the options which were open and that we were going to then see if there were any options that they wanted, whether they wanted to add any options, then see whether they had any options that, from a quick poll around the table we could say, 'It's not going to apply.' Bring out political or practical reasons so that we could rule those out straight away then get down to the final options. Make sure that everyone clearly understood those options then we would have a discussion, outline what it meant, discussion around the table about the criteria for and against, to get a feel for it. Having gone through each of those on that basis then we used the meta-planning red dot system of actually getting each of them to come up and put votes against each option. So giving people three red dots and they can come and stick them on the board, and vote in that way."

Colin [4.6.2.26]

4.6.2.4 Involves the right people

Not all stakeholders are strong by virtue of their position in the organisation but they can resist the project. The project manager needs to enrol the stakeholders, not least the key experts: the project manager is not a specialist and s/he needs their contribution to the project.

"There were also a number of other stake holders in the project, who were outside of that and so I thought right at the start, I've got to understand and make clear what their expectations were, what I thought I could deliver, what the scope was. So to do that I arranged a scoping meeting between the key stakeholders and then talked individually virtually to all of them. Out of that I put together an agenda for that meeting as to where I thought the budget was coming from, what the issues were on the table, and what level of scope we ought to be going into those and basically then help out. I chaired that meeting, that stakeholders' meeting and ran them through what they want, ask them what their priorities were, and got agreement around the table for those priorities and therefore that set the scope for the budget."

Colin [4.6.2.27]

"I had to pull together the right people. It was more difficult for me then, because I'd never worked with cards before, because I'm a project manager first and foremost with management services background, I'm not a banker or a card person so I had a very steep learning curve to work out what the card industry's all about, how our card operations were structured. So I made a key contact within card services. He

was a strategist who also knows all about cards. I'm a great believer in using all of the experts within the business, go to all the appropriate areas, if I want a finance guy I'll get a finance guy, I want a card guy etc. I won't try and dabble in those things, that's why we pay all these people."

Peter [4.6.2.28]

4.6.2.5 Gains powerful allies and Influences without authority

Operating in an environment where s/he has no line authority I initially expected to find plenty of examples of project managers using persuasive influencing skills. But project managers appeared to go for whatever authority they could get although they did not shirk working a large organisation one to one where influencing was needed. They told me far more instances where they had looked for someone with power, got them on their side and then used their authority to impress upon others what was needed for the good of the project. Where resistance was met the project manager would try to go round the blocking manager and win over his or her superior – even up to main board directors. But the first port of call is their own boss, who by definition has more positional power in the hierarchy.

"I spoke to my boss about [the resource shortage] and what we agreed to do, what I was saying was basically to call more people into this project because I couldn't achieve what there was to do. We couldn't possibly do it on our own. So I got that commitment from him."

Alice [4.6.2.29]

"I also spoke to the sponsor, and I'd also spoken to the steering group on my thoughts on what was coming out of the end of the project, and I agreed with the sponsor that the directors, that he would recommend that that director took on that chunk and that director took on that chunk so I did that as well. I also rang up internal audit. I checked with them whether they were looking for anything and whether that was the way they would do it. And they said yes, it was very similar to the way they had done things in the past and so they were happy about that."

Edward [4.6.2.30]

"The sponsor had told me that the project was the priority, that gave me the mandate to tell [the person resisting] that the project was the priority and then I sat down and worked out with her a plan to produce what I wanted ... So their rules are – you can't

do it; my rule is – I will get it done. I went to see the finance director and explained it was in the interests of his department to co-operate since this was a business issue that was sponsored."

Nick [4.6.2.31]

4.6.2.6 Keeps sponsor informed

An active sponsor can be mobilised (Callon, 1986) to speak and act on behalf of the project. This does need a good briefing from the project manager:

"The progress report itself would take a number of forms. There would be a summary report that he would submit in bullet form to the steering committee without the verbiage, and there would also be a backing briefing for him to give the details should it be required. It would be accompanied with a brief but comprehensive appendices should he want more information, so that I projected an image of a) being in control and b) being able to effectively communicate whilst c) allowing him to go in extremely confident to any meeting that he wanted to go into."

Lawrence [4.6.2.32]

4.6.2.7 Works to overcome resistance

Success in establishing the project is like turning it into a new black box, the unquestioning acceptance that this is how it is. The techniques adopted varied between psyching out the person resisting and producing facts and logical arguments to win them over. Peter made a point of going drinking with someone who might otherwise give him a hard time. Henry in contrast seemed to prefer logic and data. Lawrence explained the project while Mike ground them down.

"Relationships between Jim and I: sometimes he can come and talk to me and he's as nice as nine pence, other times he's a real swine, and I just can't be arsed with people like that because you don't know where you are with them and it really cheeses you off. Anyway, Monday night down in London, I knew Chris, my line manager, was going for a drink with Jim, so I thought right, I'll meet for a drink with Jim, and he likes a pint. So anyway I met with Chris and Jim and then Chris says, 'I'll have to go shortly,' and I says to Jim, 'You're not going are you, Jim?' He says, 'Oh no.' I said, 'Why don't we have a few drinks?' So we're in this wine bar, I said to Jim, 'Do you fancy going to a pub?' He says, 'Good idea, let's go.' So we spent the next two hours together, you know, and break down all the barriers and I saw

another side of Jim and Jim saw another side of me, and we didn't talk that much about work. We talked about some of the problems indirectly, but not specifically, you know. And we had a really good night, and, this is before we had a few pints, we're having another steering committee the next day, I said to Jim, 'The last, the time before last, Jim, I got a rough ride in Steering. He said, 'Yes, that was IS really.' I said, 'Yes. I'm not going to get a load of shit tomorrow, am I?' He says, 'Oh no.'"

Peter [4.6.2.33]

"They reacted initially very hostile, in terms of 'You're taking away a direct service to the city for us.' I had information from the transport planning people. Transport planners provide us with a lot of tables showing the number of people that travel between X and Y at these times of the day on these particular lines. So I was able to put up graphs with lines on it of the routes, showing the number of people who travelled from X to Y including the forms of transport, so I could slip this on an overhead and give them a handout and actually say, 'If you were going to Station A or that particular area you could change at Interstation, get on to the Blue line,' and you can see the numbers involved on the Blue Line and we show the capacity as well, there are alternative routes there."

Henry [4.6.2.34]

"I conducted a meeting with them to actually tell them about the project and explain why we were going to do it, and its importance and I explained that we wanted them to contribute extensively to it and be involved and explained it's a project we're all going to get something good out of and that they would probably find that they would enjoy it and improve their knowledge and expertise as a result of it."

Lawrence [4.6.2.35]

"I annoyed people, I ground them down until eventually I think they were taking the path of least resistance."

Mike [4.6.2.36]

4.6.2.8 Uses network to get information

'Network' here refers to networks in the everyday sense of personal contacts. Sometimes the official channels were not enough to keep the project manager informed as to what was going on. They used whatever contacts they had to trace the

lines of influence within and outside the networks in the ANT sense.

"A person who in fact, before the restructure was head of money transmission at the bank, had a reputation as a real rottweiller, had a reputation for chewing people up and I'd seen him be very unpleasant to other people on a continuous basis. So, I knew I was going to do some consultancy work for this chap, and it was things that were politically sensitive, so how did I handle it? Well, first of all, I made some contacts with people to find out more about him, what made him tick."

Robert [4.6.2.37]

4.6.2.9 Manages external relationships

The project managers talked relatively little about external relationships. Several had external suppliers: Fiona had to negotiate with the police to transport large loads, while Henry considered members of the public – his customers' customers. Nick preferred to outsource the detailed negotiations to a specialist. The project managers mainly dealt with internal contacts who in turn dealt with the external relationships. This contrasts with the PMBoK/AIPM emphasis on procurement as a major area of project management. It may be in some industries but it was not for most of these project managers.

"I contributed a lot of time listening to quite boring conversations in order to maintain that relationship. I contributed running to the Tescos up the road and getting sandwiches so that the guys would have something to eat on the way to Tilbury which isn't very far from North London, but it is when you're going two miles an hour. I would always make a point of going with them, at 6 o'clock on a Sunday morning, if it was a very large load. I would also run to Tesco, buy the police and the haulier sandwiches, and all that jazz, and on the biggest load out, the one that was ten double deckers, when it was actually delivered to Tilbury I was there with four bottles of champagne and we all had a glass each – those little things made all the difference."

Fiona [4.6.2.38]

4.6.3 Tasks: Implementing and Knowing about the business

The project managers talked far less about managing their team and delivering specific elements of the project than they had about processes and relationships.

Managing the team refers to commanding the project team, taking charge. In a sense the project managers did this all the time; in another sense it was rare because they concentrated on managing the people who were not reports to them rather than those who were. Their preference was for Nick's approach: *"It's showing people why their role is important, why their contribution is important, making them feel good I guess, cornering them into a position where they can't say no."* [4.6.3.1]

Having taken on a project the project managers showed immense commitment to its success and expressed anger and disappointment when they were unable to deliver. Several referred to long working hours and huge amounts of travelling: the face to face meetings were very important to their style. Putting so much into the projects themselves they resented lack of commitment in others and were prepared to tell them so. There was an intense sense of personal ownership: Nick expressed this when he emphasised that he made his own decisions, the interference of others in his project was not tolerated: this was not just the internal auditors but even the sponsor. Similarly Ian had not met his own expectations for himself:

"I felt slightly disappointed in myself, and if I may explain why. I believe that a project manager should always be watching. I felt especially on that project that a lot of my time should have been not working, but looking out. I knew it was a difficult project, I knew these sort of things would be happening, I knew the sort of things involved. I guessed that if it did come from that quarter it would have done. And it caught me slightly on the hop."

[4.6.3.2]

Project management is about co-ordinating the efforts of others. But there are times when the project manager has to roll up his/her sleeves and take direct action to ensure the task is accomplished. The examples were rare but all show the project manager getting the project out of an impasse. As Wendy said: *"I'll put in as many hours as it takes to make something happen when I want it to happen, basically."* [4.6.3.3]

Although the project manager is a co-ordinator, not a do-er, occasionally there were examples of their intervening personally to propose solutions to problems. On the whole they seemed relaxed with such suggestions coming from the team or stakeholders rather than themselves. Several examples were where the project

manager had decided to short cut the prescribed project management methodology in order to speed up the project.

"I could not be convinced by the times that were historically taken to install escalators that there was a real need for it to take that long."

Quentin [4.6.3.4]

"And I said, 'No, what we will do is we will run it down the peninsula but non stop,' and I suggested from my experience down there that (you have to know the area really) going the direct way they were going, because of the traffic levels it would take five minutes, going two and a half miles round the peninsula would take equally five minutes but it would be non stop and it would achieve the objective of stopping outside the station and seem shorter to passengers."

Henry [4.6.3.5]

One advantage of using in-house project managers like Alice, Betty, Robert, Fiona (in her earlier days) over bought in consultants like Aaron, Simon and Wendy, should be knowledge of the business: its technical aspects, its people, its politics. The knowledge was so much taken for granted it was seldom discussed.

"The contractor had been talking to our banking area who had said each branch had to have this particular document, personalised with the branch address on and everything else. We were going to supply, I think it was 20 of these documents to the branches, ended up in a box about this size. And the contractor would just accept that, but then I pointed out that in a small branch that was probably about 20 years supply. So it's things like that the contractor would not have been able to pick up on where I was providing direction, providing some of the practical business ideas."

Betty [4.6.3.6]

4.6.4 Relationships: Working through Colleagues and Developmental Activities

The key themes in working through colleagues, i.e. managing the team rather than managing the sponsor, were understanding individuals, appreciating others' contributions, keeping morale up and celebrating achievements.

There were many tales of long hours, tight deadlines and the need to keep the direct

team motivated. Slave driving was not Robert's preferred style. Aaron also referred to the need to schedule holidays as well as tasks. However, spending time and money celebrating the achievement of milestones or the delivery of the final project was considered part of the project method in some companies, but in others the project manager would budget covertly for celebrations.

"I worked in one area in an organisation which was just purely fear management. The general manager was alcoholic, was more or less drunk all the time. It was run by operations people who were really quite sadistic, actively liked causing people pain. Two people, not in my team I hasten to add, had mental breakdowns. So the problem I had there was we had a very high work load, people potentially very demotivated, how did I keep my team motivated? In this sort of situation, doing all the sort of process and role stuff gets you absolutely nowhere. These people were animals. I thought to myself, what power position do I have against them, what have I got that they need? I realised that my only key was they really didn't really understand software engineering. Their backgrounds were operational and they understood responding to things, they didn't understand planning at all. So I had to set it up in a way where effectively all the control came under me, where it was set up such that people I got on board to do it, and the people I took under my wing to do it, internally from this particular area, were protected from the flak. It actually worked quite well. I managed to wangle it so we got offices which were away from their main premises."

Robert [4.6.4.1]

As Owen put it: *"one of the things I will always strive to achieve whenever I put budgets for a project together is some travel and subsistence that allows me to recognise people's efforts."* [4.6.4.2]

"It's part of the method, that you should always celebrate success in the project because they are unusual events that do cause people to work long hours and do extraordinary things, and I think they deserve reward. Traditionally at EB, we don't reward project managers apart from giving them another job. I try to either allow for it in the budget at the beginning, or tell the sponsor at the beginning that we will be doing this at the end so he doesn't say no."

Edward [4.6.4.3]

Robert applied creative thinking to one problem team member:

"There are certain technical people who are just amazingly productive, and maybe 20, 30 times of other people. We had one particular chap who was quite eccentric, probably, almost a genius, I would suggest, really incredibly bright, who was a very, very difficult person, and he started upsetting the rest of the team. So what I did was, and he was, because he was so bright, he was really quite a difficult person to negotiate with, because he could see everything, and I was extremely blunt with him, I said, 'Look you're very unhappy, aren't you?' He said, 'I really don't like working with this bunch of silly people.' So I suggested, 'You don't like these people, but you do enjoy the work, don't you? Why don't you work nights? When they go home why don't you come in, you can have the whole machine to yourself, the whole development environment, I'll give you absolute power to do everything.' He loved it. He was out of other people's hair, but he was actually even more productive, it was probably got up to 30 to 40 times more than one normal person and we actually got it done ahead of time."

Robert [4.6.4.4]

Learning from projects was an area which the questionnaire suggested was not well developed in the methods and behaviours of the project managers. However, they talked about it relatively frequently. The discrepancy may be explained if the project methods used did not specify capturing learning formally (as Betty's example below) whereas the project managers themselves were keen to learn from their mistakes (as Edward).

"I'd made some notes from talking to the staff and Alan and I sat down and had a general discussion and I fed further comments into Alan and Alan put together a post project report, which said these were the learning points. This is what went well, this is what didn't go quite so well, this is what we think we ought to do. I took that to the next steering group for the retail integration project and reported back on how things had gone. It was a very honest session and out of that the steering group again came up with other suggestions for improvement which I was then able to take back and with Alan and liaising with people we were able to agree a different approach."

Betty [4.6.4.5]

"The other thing was, this was a learning point for me: if you change the operational side of the company there is always a finance knock on effect, and I just hadn't appreciated how enormous it could be".

Edward [4.6.4.6]

There were two sorts of coaching and mentoring described. Ian, in particular had had jobs where part of his remit was to train and develop someone to become a project manager. Others, such as Owen, coached whoever, wherever as was needed to promote his current project.

"I started questioning him about budgets underneath him and how he was viewing him, and the woolly answers I was getting showed me that there weren't proper status reports coming back, that there weren't proper plans. I took him through a rather tough role play: I'm the boss asking you how your projects are going and chinking that armour where they didn't have plans, well how do you know that, what about this. After about 15 minutes he said, 'Stop please, I've got the message.' Another way is that, and this is something that I could only show him after a period of time and get him to understand and see is that I never sat in his chair, so I never took his position of power, of authority in his own office, even when he wasn't there, I would never sit in his chair, I would never use his phone without asking him."

Ian [4.6.4.7]

"We didn't get off to a very good start, because I wanted structure, control, stuff which he wasn't bothered about. We had an interesting discussion during which I won the day through proving the value of it. I said, 'You don't want this plan but I'm going to do it anyway. If you actually want to see what I've done at any point over the next three months, come to me and you can see it.' Within three weeks he said, 'Didn't somebody say they were going to do such and such?' I said, 'Here's the value of having minutes and recording actions.' From that moment on that became an established norm on any meeting he did."

Owen [4.6.4.8]

4.7 The I/we issue

There was one code which was not a behaviour but which I collected and reviewed

because it not only pointed up the problems in the Hay coding criteria but led to some interesting conversations with the project managers: the use of 'I' or 'we' in descriptions. It was strongly instrumental in a) my decision to look beyond the Hay method which was forming an artificial barrier to understanding what project managers did; and b) my growing awareness that project managers appeared to think in terms of networks and in some instances they even saw the network as an extension of themselves.

Under strict Hay rules you must not code a story, however interesting, in which the storyteller used 'we' instead of 'I'. When you are using the Hay method as a recruitment tool this is a very wise precaution. During practice interviews and subsequently applying the technique in my job I found that candidates might present a story of impressive achievement at face value but when asked to explain in detail what precisely they themselves had contributed to this glorious outcome it seemed that they had merely been in the company of those who had achieved it.

However, when I challenged the project managers in the research interviews I found that 'we' could have different meanings. It very often literally referred to the project team as a whole; sometimes it disguised 'I' perhaps to avoid drawing too much attention to the project manager's driving the project forward; sometimes it was just a habit. 'We' could be used to give the impression of a collective decision that the project manager seemed uncomfortable claiming as their own but appeared to have had considerable influence on.

"We started off with medium size [project team meetings], then it got huge because everybody wanted to come to the meeting. Then we tried to cut it down, I'm saying we now because it was done as a joint decision, i.e. I found it unmanageable and so did the rest of the team because when meetings get overlarge it is so difficult. So we tried to as a team keep the essential people at the project team meetings and then to invite people as required."

Alice [4.7.1]

"Talking to her we found out that she had had a superb education....[we provided training for her] *And if you want the I's, I taught her Microsoft Project."*

Simon [4.7.2]

Robert and Wendy looked for explanations and rationalisations. Robert saw his use of we as manipulative ("people don't get upset") whereas Wendy saw it as egoism or a punctualisation of the project network into the project manager ("I just think of them as me").

"I always tend to say 'we' because it's much more politically acceptable and people don't get upset. It's a very hard habit to break. If I say 'we' it'll be 'I', okay?... I don't use the word I, or very rarely, because it often alienates people far too much. You want to buy them in, you don't want to push them out. You might only do that if you have a situation where you want to, if you've got no time at all and just have to be directive, but it's always better to buy people in if you can."

Robert [4.7.3]

Sarah (to Wendy):
You said 'we' then, was it your idea?
Wendy:
"It was actually my idea but, I had the idea but someone else implemented it for me. You know it's also about how you think about things. And it's probably irrelevant to this but if you look at Belbin tests, I came out – my chief thing – was as a shaper (and the next was as a resource investigator, everything else was a bit low). But it says something in the description which may apply: shapers are more likely to see their teams as extensions of their own egos. The 'we' is probably I just think of them as me." [4.7.4]

I used the software tool to count everyone's use of 'I' and 'we' and came up with a ratio of 'I' to 'we' for each person. There was a wide variation between Ian who used 'I' 8.57 times more frequently than he said 'we' and Henry who used 'we' 1.18 times more often than he said 'I'. There were only two project managers who were high 'we' users: Gary and Henry. Everyone else used 'I' more than 'we': the highest after Ian being Wendy (5.24), Nick (4.23), Robert (3.72), and John (3.67). So much for Robert's comment that he didn't use the word 'I' [4.7.3].

Latour (1988, p121 and 133) noted that the use of the first person plural could be seen as identifying oneself with an active group, like the groups (hygienists, surgeons and army doctors) in his account of Pasteur. The groups the project managers

identified with were their projects. Although they were explaining their work to me, an outsider, they more often referred to their companies in the third person rather than the first person plural. However, they also described good project managers in the second or third person (he is determined to complete on time, you have to consider all the stakeholders, etc) and they did not talk about the project management profession as if they were active members. They were too focused on immediate delivery to have much time for their professional body – although they used it to provide operational management with a project management language.

I am indebted to Rodney Turner for observations relating I/we usage to the relationship between the project manager and the project network.

4.8 Chapter Summary

In this chapter I have reviewed in some detail the interview transcripts, the questionnaire responses and the notes I had made on the three projects which I had observed. The selection of illustrations and the categories into which I have structured them are my interpretations based on recurring themes from the material and project management practice as described by its professional bodies.

In chapter 5 what project managers do is further interpreted in terms of Actor-Network Theory and in chapter 6 it is compared to the project management literature and other studies of project managers.

CHAPTER 5:

AN ACTOR-NETWORK PERSPECTIVE ON THE WORK OF PROJECT MANAGERS

"...the argument has been compressed into an abstract form in which it smells more of the lamp than of the field. All military writing does, worse luck."

T.E. Lawrence, *The Seven Pillars of Wisdom (1969 edition, page 202)*

* * *

5.0 Introduction

In this chapter the interpretation of the stories of project management is a product of reflection using the language and concepts developed mainly by Callon, Latour and Law. This is not a rigid process since ANT is not an orthodoxy or a theory in the functionalist sense (Actor Network Resource 2.1, 2000) but a sensitivity (Law, Singleton, 2000c) which provides a collection of insights that Alvesson and Skoldberg (2000, p45) consider may be a bridge between the detail of the actors' world and reflexive interpretation. The aim is to look at the familiar from a different perspective.

Section 5.1 describes what project managers do in terms drawn from Actor-Network Theory, predominantly the early work in this genre, thus illustrating the moments of translation (Callon, 1986). In subsequent sections themes are explored which draw on both early and later concepts from ANT. Section 5.2 considers who the actors are in a project and how the project managers combine humans and non-humans to promote the project further. Section 5.3 looks at how project managers make the project actor-network irreversible (or rather, temporarily stable) using material embodiment not just human relationships. No actor-network can continue without maintenance, continual re-performance to minimise the falling away and so section 5.4 is concerned with performing and re-performing networks. Section 5.5 looks at the processes of centring and simplifying and how project managers reinforce the obligatory passage points in a large project. Section 5.6 examines the use of heroic

metaphors for project management and considers how the project managers talked about themselves. Section 5.7 develops some alternative metaphors for understanding project managers. Section 5.8 is the chapter summary.

Quotations in Chapter 5 are referenced to where they appear in previous chapters.

5.1 Understanding Project Managers in classic ANT terms

Heitger and Sutter (1990) defined projects as *"social systems that are established in order to carry through tasks that normally cannot be realised by the standard organisation"*. The concept of actor-networks: heterogeneous, processes rather than structures, temporary and precarious (Law, 1992; 1997; 1999), based in the sociology of translation (Callon, 1980) and the study of power (Callon, 1986) – was seemingly made for the understanding of projects and their management. Even ANT's apparently perverse (Collins and Yearly, 1992) inclusion of the non-human is understood by some in project management – as Adams and Barnt (1988) expressed it:

> *"Project management was designed to provide sustained, intensified, and integrated management of complex ventures and to pull together a combination of human and non human resources into a temporary organisation to achieve a specified purpose."*

Sub-sections 5.1.1 to 5.1.5 use Callon's (1986) moments of translation to interpret the descriptions of project managers at work.

5.1.1 Problematisation

Problematisation — "This is what you want to be." (Michael, 1996)

The first moment of translation is *problematisation* (Callon, 1986): seeking to become indispensable to other actors by defining who is involved and presenting their interests as being subject to obstacles and problems but served by the would-be central actor's proposed action. Callon's three researchers (Callon, 1986) set out what they saw as the interests of the fishermen, scientific colleagues and of the scallops. All the obstacles to their attainment could be overcome by studying the way in which scallop larvae anchor themselves (the researchers' interest). This study and its

research team became an *obligatory passage point* for all parties.

In project management terms the project manager and sponsor define the stakeholders [as Colin does, 4.6.2.27] and the desired outcomes of the project and its problems (risks) [Ken, 4.6.1.20] and suggest that these would be resolved if the actors negotiated the obligatory passage point of the project manager and his/her project plan[1]. This process is often documented in a project initiation paper (Bonke and Winch, 2000).

When first introduced to the project the project manager has three tasks: to problematise the vision of project and its deliverables, to establish a project management structure and to institute project processes. As Alice said: *"[You need] a clear view at the beginning of where you're trying to get to and then a process to get there."* [4.6.2.17]

Robert [4.6.1.8] saw his task as getting people to work together and he began by interviewing them all individually. At the point of documenting the terms of reference he took charge of the views of everyone and translated them to what he claimed was "the common view". However, since he met with each person alone, no one could dispute that what he had synthesised represented a common view.

Wherever possible the project manager problematises or scopes the project in his/her own terms [Edward, 4.6.2.10]. Even those, like Aaron, brought in late to a project, went first to the sponsor and then to other stakeholders to find out not only what each individual or group wanted but also what they could offer in terms of resources, skills and power-bases.

Networks beyond the obvious actors in the project may be tapped for information or for ways of bringing pressure to bear on a difficult sponsor or resource provider [Fiona, 4.6.1.11]. After the one to one meetings the project manager can attempt to consolidate consensus via group meetings such as steering committees and project teams and workshops [Owen, 4.6.2.22]. The problematisation is now well documented (usually in the project plan, perhaps supplemented by a requirements

[1] Despite designating it here 'his/her' it is always 'the' project plan, never 'my' or 'our'. See Section 5.3.

definition) but each element has been translated by the project manager so that all can be integrated, and sign-off is demanded ("in blood") to enable the project to proceed, as Wendy describes [5.1.1.1]:

"I identified that although there was a fair amount of process in place there wasn't proper sign off, and proper processes in place which enabled people to know exactly where they were. So basically I put in proper processes: you do a detailed sign off document which is signed off... "

Nick [4.6.1.10] expressed disgust at projects running for three months and being *"not fully documented"*.

5.1.2 Interessement

Interessement — "We are the ones who can help you to become that." (Michael, 1996)

The second moment of translation is *interessement* (Callon, 1986): a series of processes by which allies are locked into the roles proposed for them (although the moments or strategies (Law, 1992) should not be seen as a linear chronological progression (Callon, 1986)). To interest other actors is to build devices which can be placed between them and all others (Latin: *inter-esse*) who wish to identify their roles and responsibilities differently. It may literally be to interest them but often it is to identify their interests and show how they are better served by the project than by alternative networks.

The project managers got people interested by listening to them and talking to them [Fiona, 4.6.2.3], seducing them one at a time [Alice, 4.6.1.13] before meeting with all together when, in performance, they all know what is expected of them and what they expect of each other. Nick explained [4.6.2.24] how he saw them all once or twice individually at first, then persuaded the most senior person to head up the steering committee before convening the first meeting at which all was agreed as he had hoped.

Interesting other actors often requires the project manager to displace him/herself (Latour, 1993a, p59) in order to step into the path of an interest group and appear to champion their cause. Aaron seized on the concerns of the Property team (to get the

dilapidations done before the lease terminated) such that they now found it in their interest to support the more rapid implementation they had previously rejected.

Throughout the life of the project the project manager surveys the organisation [Ian, 4.8.3.2], both that which is within the project-network and outside it, looking for powerful allies, and knowledge and processes that may be black-boxed (Latour, 1987), taken for granted and made reversible only with a huge counter-effort. Any potential ally (even those normally avoided, like internal audit in Edward's example [4.6.2.30]) is made interested in the project and drawn into seeing the project manager as the person who can deliver it.

5.1.3 Enrolment

Enrolment — "Grant your obedience by your own consent." (Michael, 1996)

If successful, interessement achieves *enrolment* (Callon, 1986) into one or more alliances: the devices whereby a set of interrelated roles is defined and attributed to actors who accept them. Callon (1986) suggests that a variety of methods may be used including solicitation, seduction, negotiation, threat, even physical force (as with placing the scallops in sacks). Black boxes of accepted facts are brought out and stacked up.

Project managers draw up and document an overall management plan for the project: defining key milestones, reporting lines, documentation required, meeting frequencies — and fitting the parts together to make one integrated project management plan (with a generous amount of detail) as Henry did when he closed down a railway line [4.6.1.15]. Where project resources were drawn from the functional departments of an organisation the project managers sought to increase their identification with the project which implies a loosening of ties with the line manager.

Usually concurrently with his/her problematisation of the deliverables and the key tasks the project manager establishes the necessary structure and processes to support the project [Peter, 4.6.1.2]. For a project manager project structure means: there should be a sponsor, a steering committee, a project manager and a project team [Nick, 4.6.1.3]. Each actor should know clearly what s/he or they are responsible for delivering and there should not be any overlap or confusion between them. This is

often expressed as 'a single point of contact' or 'single point accountability/ responsibility' [Dave, 4.6.1.5].

The project managers maintained this normative stance even when it did not describe what was happening from the point of view of other actors: for example, project team members in Argos emphasised the collective responsibility of their team meetings yet Aaron worked to create a 'normal' project structure supported by allies in audit and among the directors. Behind accountable individuals there were also other actors not consulted even if they had someone claiming to speak for them: Henry's tourists, the Penkridge workforce, and others consulted only when their dissidence threatened the project, such as the residents of Acton Trussell.

In an organisation unfamiliar with projects the sponsor, steering committee, project management structures do not already exist and the project manager has to create them [Henry, 4.6.1.15]. The project manager has to convince the sponsor or other line managers with influence in the routine organisation that this structure is necessary. Where a project management methodology has already been adopted by the organisation the project manager has a black box to build on: people are less likely to question the need for the accepted project structure: *"Within the bank steering committees are something that people are quite comfortable with."* [Nick, 4.6.1.7]. If there is no project management methodology the project manager starts to build the black box on this project and may reinforce it in subsequent projects – perhaps by also trying to gain acceptance for project management methods more generally [Wendy, 1.0.2; Simon, 4.6.1.18]. To protect the structure of each project, however, even in a favourable environment, the project manager will document in the project management plan who occupies which position [Edward, 4.6.1.6].

It appears that gaining acceptance of project structure may be marginally easier than instituting project processes. The project manager has a clear picture of what s/he wants [Nick, 4.6.1.9]. Project processes are the tools and activities needed to run the project, such as meeting schedules, reporting requirements and deadlines, as opposed to activities which deliver the project outputs, such as designing and building and testing. Whereas an operational manager may inherit processes such as order raising, invoice passing etc, a project manager also has to re-create the project processes for each new project [Owen, 4.6.1.12]. In routine operational tasks the activities may not

have to be documented because they are happening as they always do and everyone who needs to know about them is already involved. Line managers contributing to a project may therefore resent the documenting and reporting processes needed to manage a project [Simon, 4.6.1.19]. The project managers made life easier for everyone by setting up easily completed project processes or collecting data orally him/herself and collating it on behalf of others, thus re-inforcing the centrality of his/her position. The project processes, too, get documented in the project management plan.

The project managers continued to enrol the team members from functional departments and increase their distance from their line manager [Robert, 4.6.4.1]. Lawrence [4.6.2.35] attracted his team by suggesting that they would *"get something good out of it... enjoy it and improve their knowledge and experience as a result."* Aaron also sought to enrol the other residents of Acton Trussell and surrounding villages, separating them from the Action Group which claimed to represent local interests: the Argos development team used meetings, exhibitions, a newsletter and the threat that jobs would be lost in the area if the warehouse could not operate as planned.

Whereas it may be difficult to enrol the remote actors to the project-network the project managers had an easier time with full time project staff. A project manager may be able to recruit them directly and order their efforts through the normal hierarchical processes of target setting, performance measurement, appraisal and reward – all of which are black boxed in the organisation. But a stronger enrolment is sought and obtained through exhortation to work hard for the project followed by celebration of achievements [Edward, 4.6.4.3]. This is not normal in most functional organisations and the project managers had to manipulate the budgets, hiding away celebration funds as Owen [4.6.4.2] describes: *"one of the things I will always strive to achieve whenever I put budgets for a project together is some travel and subsistence that allows me to recognise people's efforts."*

5.1.4 Mobilisation

Mobilisation — "Tell everyone what you are achieving through this programme."

The fourth moment of translation is *mobilisation* (Callon, 1986) of allies. Those the

actor is dealing with directly are only representatives of other networks of people and other resources, spokesmen for them. They form a chain of intermediaries which allow the project manager to act at distance, to effect changes and to claim to represent everyone affected. By an interesting coincidence the same term, 'mobilisation' was used in the fourth edition of the APM BoK (1996: 3.10), although it has been omitted in the latest version (2000). In the project team and on the steering group there are those who represent various end users of the project deliverables and suppliers of project resources. Outside there will be other stakeholders, other actors seeking to exert influence on the project (Bonke and Winch, 2000).

Nick [4.6.2.1] considered that most projects were pretty straightforward if you introduced standard project management processes: it was the political issues and the more senior management that made things more complicated. The politics at the top of large companies is complex and some sponsors may have been allocated a project rather than have commissioned it with a high degree of personal commitment [Dave, 4.8.2.6]. But the senior players, especially the project sponsor, can be mobilised and turned to advantage. They can be persuaded to speak and act on behalf of the project. To quote Edward: *"I also spoke to the sponsor, and I'd also spoken to the steering group on my thoughts on what was coming out of the end of the project, and I agreed with the sponsor, that he would recommend that that director took on that chunk and that director took on that chunk"* [4.6.2.30].

So the project manager creates processes which provide the sponsor with good information (which may not be the same as comprehensive information) which allows him/her to look good and speak confidently at Steering Committees or Board meetings. Lawrence [4.6.2.32] described how he supported his sponsor with a summary report to present and further details to answer any queries which they might raise. This gave his sponsor confidence and made the sponsor look good in front of the steering committee – and Lawrence look good in the eyes of his sponsor.

5.1.5 Dissidence and betrayal

At this point with the actors enrolled and the sponsor and other directors mobilised, a constraining network of relationships has been built. Law (1992) emphasises the fragility of actor-networks: the project could fall apart at any moment – as Ian noted with regret [4.6.3.2]. Dissidence and controversy may arise — "*all the manifestations by which the representivity of the spokesman is questioned, discussed, negotiated,*

rejected etc." (Callon, 1986). The project manager has to maintain the network and maintain the project plan, monitoring for slippage in time, cost and quality as John describes [4.6.1.26] but also for underlying slippage in commitment [Simon, 4.6.1.28], breakdown in representation and ultimately betrayal ("traduction/trahison", Law, 1997).

Dissidence in organisations less familiar with project management discipline (such as Argos and Kingfisher) often took the form of rejecting project management processes as 'bureaucracy gone mad'. The project managers here had a harder job to persuade them that this was the most effective way to manage a project. Aaron and Wendy both described gaining acceptance for a process by persuading one group to try it and then showing its effectiveness to others. On one occasion a team leader only agreed to draw up a project plan because there would be another similar project next year and if he did so he would be able to use it again – not entirely true but it did produce the plan required.

Throughout the project the processes of monitoring and reporting are repeated at regular intervals thus re-inforcing the neural paths. A project as opposed to its deliverables is intangible and needs constant maintenance. For example, Owen [4.6.1.12] pestered his team weekly with what they should have done and what they still had to do. The more the project manager can persuade people that 'this is the way we manage this project,' 'it was our idea to do it this way,' the greater the strength of the project network [Nick, 4.6.1.14]. Maintenance work took its toll on the project managers who worked long hours and travelled great distances [Wendy, 4.6.3.3], trying to meet people face to face where they could have greater impact, and listening out across the strands for dissidence.

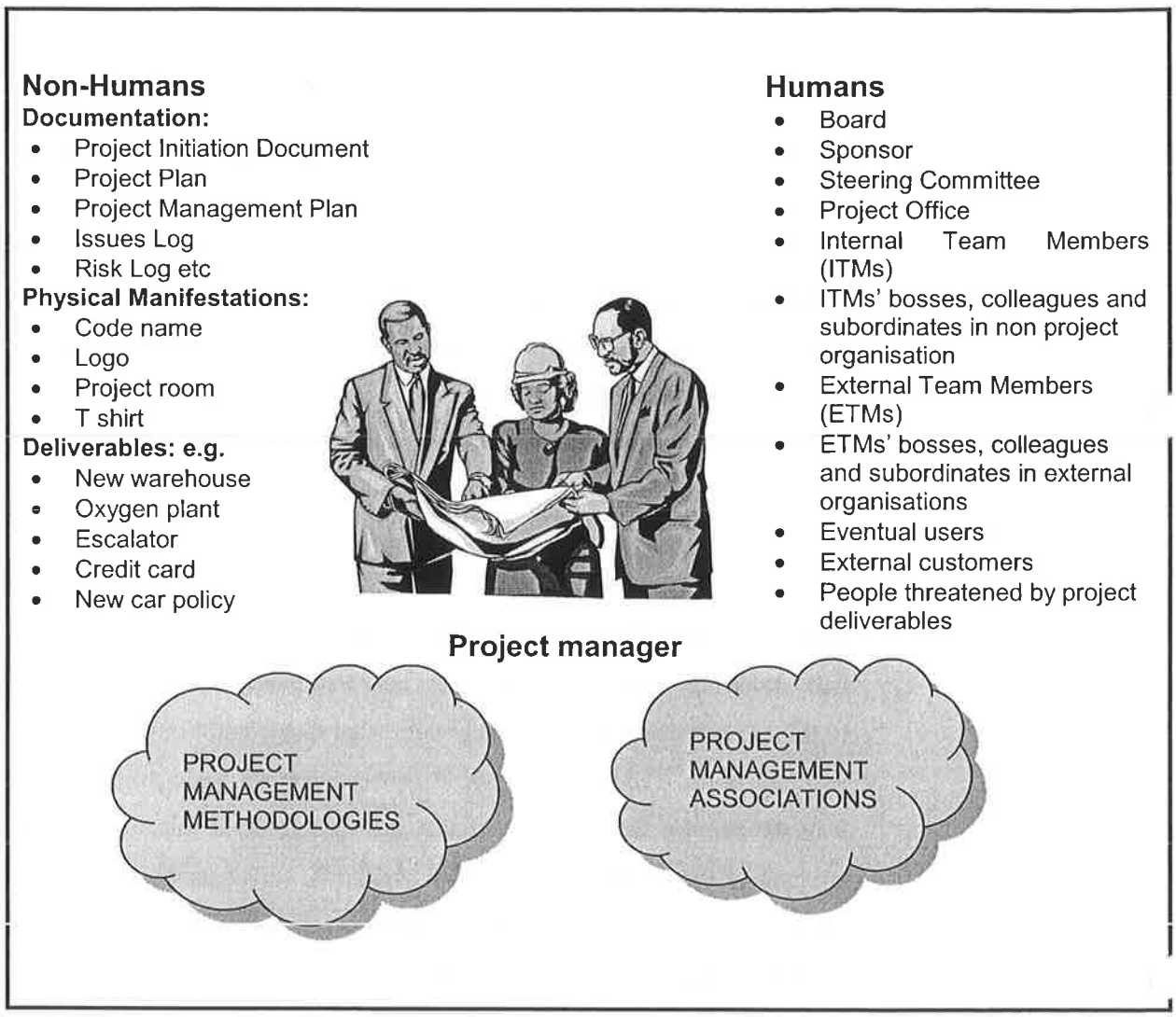
However, it should be remembered that the project managers were not striving for the irreversibility of the project organisation and they planned for it to come to an end, often attended by launch of the deliverables, final meetings, post project reviews, and celebratory drinks.

5.2 Who are the actors?

ANT describes the working of multiple actors in a network, controversially including non-human actors (Callon, 1986). It also describes the overlay of one network (in

these cases, a project) over others already existing (the formal and informal relationships in the organisation).

Figure 5.1 The Actors in a Project



In the context of the research (figure 5.1) the other human actors with whom the project managers were working included individuals and recognised groups: there were project team members [Robert, 4.6.4.4], project sponsors [Edward, 4.6.2.14], project steering groups [Henry, 4.6.1.7], people who would have to use the project deliverables on completion [Robert, 1.0.3], people who would be inconvenienced by the project [Henry, 4.6.2.9] the directors of the organisation [Lawrence, 4.6.2.12] and any others who could be described as project stakeholders [Colin, 4.6.2.27].

The project teams were composed of people engaged full time on the projects and

others who were full time for only a short period or part-time on the project whilst retaining line responsibilities. The former could identify more closely with the network that was the current project; the latter were to a greater or lesser extent still part of their normal operational and functional network and had to be enrolled repeatedly in the project-network by the project manager [Nick, 4.6.3.1].

The project sponsor is the person who is purchasing the project deliverables on behalf of the organisation. When there are a number of cross functional interests involved there is often also a project steering committee. The composition and constitution of these elements of the project structure was of key importance to the project managers because in-fighting and factions could pull the project apart, countering the project manager's efforts to draw it all together [Colin, 4.6.2.27].

Given the powerful position of the directors in the organisation the project managers were very aware of the need to establish positive relationships with them whether they had influence on the project team members or would be recipients of the delivered outcome [Lawrence, 4.6.2.12]. Other less direct actors would be the employees of those directors who would receive training and other communication to enable them to use the project deliverables [Fiona, 4.6.2.3]. There are also external actors such as the police who escorted Fiona's oxygen plant to Tilbury docks [4.6.2.38], the contractors with whom Betty debated document supplies [4.6.3.6], and the local councillors to whom Henry had to explain line closures [4.6.2.4].

Identifying and managing interested parties – stakeholders – is an activity well recognised in project management literature (e.g. Cleland, 1988b; Turner, 1993 pp 52 – 74) and the stakeholders included are widely extended away from the project organisation into the society within which the deliverable is to operate. The activity has also been reviewed from an ANT perspective (Bonke and Winch, 2000), again with a wide range of stakeholders although without specific reference to the non-human actors. In these interviews remote users were seldom mentioned: not the users of Peter's smart card [4.6.2.28] nor the customers in Betty's branches. The tourists (who would be affected by line closures) were not part of Henry's original planning [4.6.2.9]and he did not recognise the legitimacy with which the Tourist Board claimed to represent them. Defining the boundary of the project-network too narrowly on the one hand simplifies the work of the project manager and on the other

opens up a risk of invisible others working to undermine the project – partly because they do not know it exists.

ANT's contribution is to extend the courtesy title of stakeholder to non-human actors. Most prominent are the project deliverables: innovations, new creations, predominantly tangible. If we accept that it is possible and desirable to entertain the idea that the project deliverables can themselves be seen as actors (Law, 1992) then they too can influence the cohesion or break up of the project. A project is initiated to deliver tangible objects (e.g. a retail warehouse) and less tangible ones (e.g. a home delivery process) with tangible elements (call centres, warehouse, vehicles, stock etc). Each tangible element here exerts influence on future decisions: the height of the building affects the height of the racking; the capacity of vehicles affects delivery scheduling. Earlier decisions are only reversible if vehicles and other tangibles can be scrapped and new ones purchased. Quentin described the difference to his installation projects depending on the type of escalator he was installing: those built on site from many small parts and those which are supplied in very large modules. The choice of escalator affected how the project work was scheduled but was in turn constrained by the physical space available in the station, not only in the concrete shaft where the finished escalator would fit but in storage areas and size of access tunnels. The time taken to complete the installation was an inconvenience to station staff and passengers. Railway management feared that passengers, translated from their normal journeys, would find alternative routes and never return.

The project also has to create itself and maintain itself for the time needed to effect delivery. Constructed of a number of actors from different groups inside and outside the organisation, the project craves embodiment: a code name, a project room, a logo, t-shirts – these are peripherals – the core is the project documentation, offspring of the methodology which connects it to the larger network of professional project management: allies of the project manager. The documented plans and charts are actors created by the project manager, which have strength drawn from their life as texts (Gergen, 1999, p80), separate from him/her.

A key process to be established is the use of the project plan and/or the project manager as an obligatory passage point (see section 5.1.1) through which all other actors and project information have to pass [Owen, 4.6.1.12; Alice, 4.6.1.13].

Although Linde and Linderoth (2000) see the plan as an obligatory passage point, I believe the project manager positions him/herself at the centre, the hub of the project with the plan as his/her key ally. As Owen said [4.6.1.12]: *"I drew all that together, created a master plan and then actually measured their progress at these weekly team meetings... I ended up with control of the master plan."* Quentin similarly: *"I could actually see early on where the problems were arising and actually decide whether we deal with it now or whether it would actually go away because of other events."* A project manager who finds that something is going on in his/her project that s/he does not know about is angry with others for their dissidence and with him/herself for failing to read the network, to feel the vibrations on the strands of the web, to act in time – as for example Nick [4.6.3.2]: *"I felt slightly disappointed in myself, and if I may explain why. I believe that a project manager should always be watching. ... I knew it was a difficult project, I knew these sort of things would be happening.... And it caught me slightly on the hop."*

Inasmuch as ANT has a methodology it is recommended that the researcher should 'follow the actors' (Latour, 1993a) interested in the network. It is also sometimes debated how far this should extend (Law and Singleton, 2000c) since interconnectivity would eventually link everything to everything else. All ANT studies stop short of this. Yet ANT recognises the influence of invisible others, present in the performance of the project whilst not being present physically (Law and Singleton, 2000a). In this instance the PMI or APM may be present for the project manager: the accumulated experience of project managers simplified into accepted methods for performing a project.

Delegation in ANT terminology is a process in which a set of actors works on behalf of another or others, as essential to projects as it is to creating actor-networks. Delegates are sometimes referred to as durable entities, immutable mobiles: relatively unchanging actors which act at a distance like the Portuguese warships in India (Law, 1986). Like all ANT entities they can be human or non-human or hybrids of the two. In larger projects the project managers described using team leaders to manage sub-projects within the larger project. Wendy had this structure in her Y2K programme – and was sometimes betrayed by their lack of project management professionalism: the untrained could not be relied upon to be clones of the more senior project manager, acting as s/he would have done. Some organisations (e.g. RAC Motoring

Services, Exel plc) use software that attempts to impose professional project management practices on all project managers in the organisation. The software provides standard templates for every project eventuality and is simultaneously available to project managers, project teams and the project support office. Nick [4.6.1.3] created something similar: "*I've introduced templates for terms of reference, for a process by which we are considering the options which we'll then introduce. So by default, I've managed to introduce a number of standard project management practices, although I perhaps haven't badged them as a project management bible.*"

However, ANT warns that such systems may not be the unifying factors their promulgators intend (Law, 1992; Law, Singleton, 2000c). Complexity and heterogeneity cannot be eradicated and therefore are to be studied and tolerated (Hetherington, 1999; Mol, 1999). Actors translate centralising systems into local variants or betray them entirely, rejecting their use. Law (1992) describes the Zimbabwean bush pump which has one concept – to provide clean water – and is designed to be made of so many different materials that no two pumps are the same except that all pump water. The project management plans, project plans, project initiation documents etc required by project management best practice (see Appendix 1) are different in each organisation and in each project: for example, Henry created new forms to replace those his organisation required [4.6.1.17] and Aaron used his own spreadsheets to supplement MS project software; many project managers in Argos and Kingfisher used no formal project methods.

5.3 Material embodiment: the antidote to reversibility?

Projects themselves are recognised by project managers as temporary organisations but they need to deliver outcomes whose permanence is measured in years. Much of early ANT is concerned with the acceptance of new scientific ideas to the extent that they become the orthodoxy (Latour, 1987) and their effects are irreversible. This becomes the case when they are reflected in other processes such as the law (e.g. food hygiene laws which reflect scientific knowledge of micro-organisms) and in material embodiments (e.g. the standard gauge of railways which dictates the dimensions of rolling stock, railway bridges, and reputedly solid fuel booster rockets).

At any time there is a struggle going on between the project manager trying to deliver

the required outcome and others whose interests are not aligned, although the project formed by excluding the hierarchical organisation is actually formed from it (Lee, Stenner, 1999). The project manager needs to be able to build the existence of the project around some tangible actors which supply the substance that human relationships lack. Not least of these is investment: the more money and time an organisation has invested in project the more loathe it is to abandon it – the escalation of commitment (Drummond, 1996)

As described in section 5.2 the project deliverables and the project documentation are tangible actors which embody the project (Law, 1992). We can see the impact on a project of a piece of equipment, such as Quentin's escalators [4.6.3.4] (whose technology and consequent method of installation affects the disruption to others in the course of the project), Fiona's chemical oxygen plant (which requires manufacturing and quality assurance processes as well as taking down all the street furniture between the factory and Tilbury docks [4.6.2.38]), or a piece of software like Gary's retail system as opposed to intangibles such as Nick's merger programme and planning for business integration, or Dave's integration of an offshore company (all described briefly in section 4.2.2).

However, even building a tangible prototype does not guarantee success (Latour, 1996). The professional project manager relies on standard documentation which in turn represents the combined wisdom of other professional project managers that this is the way to run a project. Each process, structure or milestone that the project manager commits to paper gains its own existence (Gergen, 1999 p 80). The project managers did not refer to 'my project' or 'my project plan' although they clearly described their own part in writing the latter. 'Our' was not used either: projects and plans were referred to impersonally ('the project,' 'the project plan'), reifying the independent existence of the project and the project plan apart from the actors who are enrolled in the one and by the other.

Brown and Capdevila (1999) have commented that in the end the destiny of all networks is the return of equilibrium, of undifferentiated matter, of increasing entropy such that no network is permanently irreversible. They note that many of the best ANT project stories (Aramis, the electric car, the TSR2 aircraft) are of failures but also that failures are the only stories with a well-defined end: 'they lived happily

ever after' is less of a conclusion than 'in the end they died'. Often it is just a question of the point in time at which the project was reviewed.

5.4 Re-performance: Improving the odds on irreversibility

The project management experience is further reflected in the later ANT emphasis on performance. This is not the 'performance' of competence standards but a dramatic enactment. Law and Singleton (2000b) describe the process of building a network as a performance. Successful performances cannot be built out of nothing. Raw materials have to be put and held in place; allies have to be cajoled, seduced, bought or forced to play the roles allocated to them. It is not enough to pick them off one by one: to pick any off you have to have most of the others already lined up — *"they all have to perform together and if they don't, if any one bunch of actors goes off script then the network holding all the others in place is also disrupted and they are in danger of going native."* (Law and Singleton, 2000b) This is similar to the descriptions from Alice [4.6.1.13] and Nick [4.6.2.24] of working the organisation one to one before performing their agreement in a group meeting and requiring sign off (like Spira's (1998) Audit Committees).

The effort to construct a counter-network takes the same order of resources that went into the accepted original: the more people buying into it the more you have to buy off (Law and Singleton, 2000b). Therefore performances are difficult to put on unless they build on networks already in place. It would therefore seem likely that managing projects takes more effort in functional organisations without a pre-formed understanding of project management than in project based organisations. Aaron and Wendy respectively had more difficulty in Argos and Kingfisher (which knew little of project management) than project managers such as Betty, Dave and Edward (whose Bank was more advanced in using project management methods) but they in turn had a harder time than Nick, Owen, Peter and Robert (whose Bank used project management techniques for a wide range of mainstream projects).

All the project managers, however, described monitoring the projects, chasing progress, meeting face to face with stakeholders to persuade them and ensuring attendance at project team meetings, constantly reminding them what the project was expected to deliver. Their chief allies were the project documents again, although some also described using the sponsor, the contributor's boss or internal audit to

bring contributors back into line. Project meetings were held in public arenas (as opposed to the one to one meetings where the project managers made an effort to meet stakeholders on their own territory) and the preparation was meticulous: rooms were set up, invitations sent, lines of argument rehearsed. Summaries of face to face interviews were drawn up and presented as the common view, the approval of sponsors and key directors was stressed and commonly accepted ideas such as meeting time and budget targets were used to encourage compliance. The weight of the meeting was used to demonstrate to individual dissidents that the project was what the organisation wanted, what the directors wanted, what their peers supported – so they should accept the inevitable and consider the benefits they would accrue from the project's outcome.

What is re-performed in every project with a professional project manager is project management itself. "An idea never moves of its own accord" (Latour, 1993a, p16). The repetition of structure and processes from project to project, organisation to organisation, reinforces the acceptability of managing change and innovation through project management techniques, using a trained project manager.

5.5 Centring and Managerialism

ANT writers are suspicious of managerialism (e.g. Latour, 1999): its creation of heroes, centring on the attributes of one controlling person (Law, 1996). They stress that the actor is the effect of the network as much as the network is the translation of the actor. Latour (1993a) describes Pasteur (with his followers) as placing himself so as to be swept up by the hygienist movement and eventually claimed as the man who revolutionised French medicine and public health.

Latour (1993a, p42) distinguishes two mechanisms at work: the first is how groups within and outside an organisation come together to support a project; the second is how they and we (and probably the project manager) attribute the success of the first to the intervention of a project manager. Latour does not deny the agency of the individual but he wants to know how that actor leverages his own actions to draw together so many others: what does Pasteur the man do as opposed to what is attributed to Pasteur the hero?

There is tension here between ANT's desire to de-centre and fragment unities and the project managers' desire to simplify, centre and manage projects. ANT writers often describe failures, where projects could not be held together (e.g. Callon, 1986; Latour, 1996; Law, 2000c) but less often successful ventures (e.g. Law, 1986; Latour, 1993a, Callon, 1999). Brown and Capdevila (1999) suggest the issue is one of time: *"the march of universal time (toward entropy), the beat of local time (cut out against the universal structure) and the roll of narrative time (as it tries to represent the entire operation."*

Time, together with cost and quality, is one of the three management areas traditionally associated with project management. The project managers created their own time, punctuated by deadlines and milestones, measured in effort-days, so that time passed with reference to internal project events, placing the measurement of time as another device between the project team members and the rest of the organisation. Brown and Capdevila (1999) also suggest that one of the effects of translation is to fold time and space, as it were to create a short cut, a clearly defined path, so that the organisation moves from A to B, from project initiation to completion that it is persuaded it cannot choose but follow.

Callon (1986) used the term *obligatory passage point* to describe a location in a network through which other actors are obliged to pass. This implies that it contributes to the ordering of the network and is in some sense the centre of the network. Latour (1996) used the terms *centre of calculation* (a location in a network where entities in the network are represented in a manner which allows them to be summarised, compared and contrasted) and *centre of translation* (a location in a network where entities in the network may be displaced or arrayed in accordance with strategic aims). All are considered roughly equivalent (Law, 2000). Latour (1993a) likened it to a general enticing the enemy to fight on a battleground of his rather than their choosing.

There are several candidates for these locations in a project: the project manager, the steering group, the project sponsor, the project plan and the project support office. The project managers interviewed saw themselves in the role [Ken, 4.5.3; Owen, 4.6.1.12; Alice, 4.6.1.13], although the project plan might fulfil it, as described in section 5.1.1. The steering group [Nick, 4.6.1.7], the project sponsor [Edward,

4.8.2.14] are part of the structure established by the project manager but are more effective if also assimilated into the organisation's routine structure. Possibly the centre of a project-network is a hybrid (an association between two or more entities that are heterogeneous, human and non-human (Latour, 1993)): the project manager and the project plan together.

None of the project managers interviewed discussed the role of the Project Support Office but where I have seen one in action I would see it as another actor making a bid to be the obligatory passage point. It is also the corporate guardian of what Law and Singleton (2000a) called "projectness". It controls the methodology in use and demands to be copied on all the documentation. S/he who controls the Project Support Office has a Panoptikon of great power with which to monitor all the projects in an organisation much as Law (1996) described a project plan and Owen [4.6.1.21]described using his plan: *" I came along and had a look down the river as it were and determined that there would not be a LAN network in place to support this system going live in the timescale that he wanted."*

5.6 Heroism and Project Management

Perhaps if there is any one factor which has contributed to the heroic myth of the project manager it is his/her willingness to do anything to deliver the project, even breaking the rules of the functional organisation (Gadeken, 2000). None of the project managers I interviewed advocated actually working outside the law or regulations (although Gadeken (2000) illustrates how far a project manager will go: *"If something is not prohibited by law or regulation or can be waivered, and it will benefit your project, then do it! Push the system until it cries out in pain to get what is needed to make your project successful!"*).

Thus we see Robert allowing a programmer to work all night so that he doesn't interact negatively with other team members; Owen [4.6.4.2] creating a false travel and subsistence budget to provide funds for celebrating milestones; and Fiona feeding sandwiches to the police as well as the hauliers and buying them champagne to celebrate moving plant the size of ten double decker buses. Coupled with the long hours and long distances project managers described as they lobbied other actors, these stories build and reinforce the picture of the project manager as hero, bringing

in the impossible on time, on cost and as specified. Robert talking about the qualities required in a project manager even said: "So you're really asking for a superman."

Gergen (1999) explains the importance of language to the performance of ontology. The project managers interviewed talked about themselves as heroes, emphasising the success stories (and having to be persuaded to share stories of times when things did not go right on projects, often only producing them as victories snatched from the jaws of disaster). Like Latour's (1993a, p121, p133) Pasteurians the project managers referred to themselves and their project teams as 'we' to signify an active group (see section 4.7). Other key phrases are *Single point accountability* and *Drawing things together*. They use both expressions frequently.

Single point accountability [Simon, 4.6.1.5] means that each human actor in a project should be held individually accountable for the tasks allocated to him/her. It arises from the project manager's urge to simplify the complexity in the project and to delegate responsibility without loss of control to the centre, the project manager. It is documented in the project plan and project management plan and reinforced at project meetings and in progress chasing.

Drawing things together, sometimes *Pulling things together,* is at the heart of project management [Peter, 4.6.1.2, 4.6.2.28; Robert, 4.6.1.8]. It is T E Lawrence's (1969/1935) declaration of himself as hero and project manager: *"I drew these tides of men into my hands and wrote my will across the sky in stars."* Unlike other players such as the tourists in London [Henry, 4.6.2.9] (or the scallops in St Brieuc Bay (Callon, 1986)), the project manager knows what s/he is doing. While other actors have their own aims and move blindly towards them, the project manager sees the web of fine relationships between the many shifting actors and acts with empowered purpose [Henry, 4.6.1.15; Quentin, 4.6.1.27]. Latour (1993a) likens the obligatory passage point/path to Ariadne's thread – which she laid herself to escape the labyrinth – in contrast to Macdonald's princess (1996) following her great great grandmother's silver thread through the mountains, where the thread was laid for her. The project managers both follow the obligatory path laid down by project management tools and techniques and create their own path for all on the project to follow [Lawrence, 4.6.2.12; Fiona, 4.6.2.23]. Thamhain (2000) recognised this when he described the effective project manager as "usually a social architect who

understands the interaction of organisational and behavioural variables and can foster a climate of active participation and minimal dysfunctional conflict."

The project managers explained to me how they read the networks [Colin, 4.6.2.25], located the centres of translation other than their own [Robert 4.6.2.37, 4.6.4.1] and how they struggled to perform reiterative processes that gave temporary structure to the system [Alice, 4.6.1.13]. In their own language these were stories of identifying people who were causing trouble [Peter, 4.6.2.33], of using relationships from previous projects to apply pressure from the highest ranks of the company [Robert, 4.6.2.37], of creating project plans and reporting formats and meeting regularly with the direct team and all the other contributors [Owen, 4.6.1.12]. They avoided complex technical terms and tried to simplify project processes [Henry, 4.6.1.15]. Perhaps that is why line managers I talked with in Argos and Kingfisher seem to regard project management as "just commonsense." The visible tools are deceptively simple: the undocumented ones are where the sophistication lies.

5.7 After heroes: new metaphors for project management

The project manager's aim is to establish a temporary social and work organisation which can translate the project deliverable irreversibly from an idea into physical embodiment. Since this temporary network by definition will exist outside the operational structure of a functionally oriented organisation (and may also be temporary within a larger project-based firm) there will be tension between the project and its organisation to control the heterogeneous elements involved. Adding a project manager to a project (not uncommon: organisations I have worked in did not know how early they should formally initiate a project, and the project manager was often brought in late, as Aaron was at Argos and Wendy at Kingfisher) is like introducing a sheep dog to a field full of wandering sheep: s/he comes with a sense of purpose, a desire to create order, a greater insight into where everyone should be going – the last derived from the shepherd's instructions. The sheep dog is also limited by the capabilities of the other actors: they are sheep not performing horses. But let us not take the analogy too far: the project manager does not need to be instructed by whistles at frequent intervals (several commented here on the minimal involvement of 'higher project authorities') and like the latest fire-and-forget missiles the project manager comes with an in-board guidance system.

The in-board guidance system on a fire-and-forget missile is the project manager's competence. Each project manager is the effect of an actor-network of all the human and non-human elements which go to make up that competence. So the knowledge of project management tools and techniques is built upon and enhanced by the managerial skills (such as running meetings, conducting appraisals), personal skills (listening, questioning etc) and learning skills (reflecting, planning, doing and more reflecting (as per Schön, 1983; 1987)). But the project manager is also competent by virtue of his/her participation in the network of project management professionalism, a counterweight to operational management practice (Eraut, 1994) which strengthens the resolve and provides the tools and techniques which are the non-human elements of the actor-network.

The project manager knows how to bring the project-network into existence and has learned formal tools and techniques which enable him/her to establish temporary structures and to institute processes, together with the tacit knowledge of how to read the network and how to respond to disturbances in the relationships. It is as if we were looking into a deep pool. At first it seems that the humans swimming in it are clumsy, splashing around. Then we see someone who swims purposefully, who understands and uses the currents and flows to his/her advantage: s/he belongs there, it is his/her element. So the lesson of Latour's (1993a) study of Pasteur is that there is as much success to be gained from jumping on a band wagon that happens to be going your way as trying to build your own wagon train. Placing yourself in the way of lobby groups with their own momentum will allow you to move forward: taking the reins and imparting a slight curve will translate the momentum in the direction you wish to travel.

What this study has not shown, was not equipped to show, is where the motivation comes from to draw tides of men into your hands. Perhaps as Antonacopoulou and FitzGerald (1997) suggest, it is a desire for excellence. Project management may be an "accidental profession" but managing projects appears addictive. Project managers manage one project after another. They are professional politicians in every respect except achieving promotion for themselves. Only one of the project maangers interviewed has to my knowledge been promoted to a line role. I speculate that this could be because they are not in the right place in the hierarchy to be considered or because they are not seeking to make things happen for themselves but for the

customer – however that is defined.

One of Gadeken's (2000) project managers appears to have at least a partial awareness of how he reads the threads and plays the game:
"Whatever happened, I would just look for a way around it. It was just – it just became a game actually, of trying to unravel all the pressure groups."

5.8 Chapter Summary

Latour (1993a, p42) in his examination of the influence exerted by Pasteur on French life distinguishes two mechanisms: the first is how a whole country becomes interested in what happens in Pasteur's laboratory; the second is how responsibility for their altered understanding of disease becomes attributed to one man.

Section 5.1 inspired by early ANT studies explored the first mechanism whereby the project managers enrolled their organisation and its suppliers in projects of change and innovation. The contribution of the documented project plan, project management plan and requirements specification (and all the other project management documentation) was in reifying the project (material embodiment of its structures and processes) and providing the project manager with the means to survey any part of the project from a distance and take corrective action.

Subsequent sections explored concepts from later ANT writing, particularly the tension between centring and de-centring, the actor drawing things together and the network fragmenting them, the forces drawn together but capable of tearing the network apart. The significance of the project manager's efforts but the realisation that s/he is mobilising greater forces both within the organisation and outside it. The invisible others present when the project manager is at work are the project management methodologies (knowledge) and the project management bodies. It was argued that each professionally managed project re-performs Project Management and thus moves the idea from one project to another, from one organisation to another.

Chapter 6 will summarise the contribution of this study to knowledge and link back to strands in project management literature, before looking at the potential for further research and the implications for management.

CHAPTER 6:

CONCLUSIONS AND IMPLICATIONS FOR MANAGEMENT

"A crowd may move a mountain; a single man cannot. If therefore, we say of a man that he has moved a mountain, it is because he has been credited with (or has appropriated) the work of the crowd he claimed to command but that he also followed."

Bruno Latour, *The Pasteurisation of France, (1993 edition, p22)*

* * *

6.0 Introduction

This final chapter draws together the conclusions of the research. Section 6.1 summarises the overall contribution to knowledge including its practical application. Section 6.2 summarises the research approach in ANT terminology. In section 6.3 the picture of the project manager that emerges is referred back to four strands in the academic and professional project management literature: the project manager as a factor in project success, the lists of project management characteristics drawn up by experts, the issues of professionalism and two empirical studies of project managers. Section 6.4 describes the implications for project managers and employers of project managers. The limitations of this study are acknowledged in section 6.5. Section 6.6 reviews the potential for further research arising from this study. The final section, 6.7, contains the chapter summary and conclusions.

Quotations in Chapter 6 are referenced to where they appear in previous chapters.

6.1 Contribution

This study makes contributions to knowledge in three key areas, two theoretical and one with practical application:

- It is a novel application of sociological theory (ANT) to project management: involving the use of non-human elements and other people to strengthen human networks and human abilities. This perspective reunites the technological and heroic strands of project management literature: the management of projects as a methodology versus the personal efforts of the project manager. It affirms that both are needed.
- It is a novel application of sociological theory (ANT) to competence theory: competence is seen as the temporary effect of a heterogeneous network rather than a more or less static attribute possessed by an individual.
- The findings can be used practically in the development of project managers.

6.1.1 Contribution to Project Management Theory

The study contributes to the project management literature by taking the theoretical approach of actor-network theory which has been little used previously in the study of professional project managers; and using it to present an interpretive examination of project managers (in functional as opposed to project-based organisations) and how they contribute to the management of projects.

My aim was to explore what a project manager does when managing a project. At the outset I was looking for the knowledge, skills and attributes that enabled the heroic project manager *"to pull together a combination of human and non human resources into a temporary organisation to achieve a specified purpose."* (Adams and Barnt, 1988). Looking at this from an actor-network perspective is not to deny the agency of the individual in favour of vectors between an extensive range of human and non-human actors but to question how the project managers I encountered had placed themselves at the centre of the projects they described and gained the consent and recognition of others: *"Did they do anything that was decisive?... What precisely did they do on their own?"* (Latour, 1993a)

The findings suggest that much of what the project managers did was the application of simple processes, embodied in standardised documentation, that reinforced their application of simple interpersonal techniques which they had developed to overcome other weaknesses in their ability to influence others – mainly the lack of hierarchical power within a functional organisation.

To see the success of a project manager as mainly down to interpersonal skills would lionise them as heroes and discredit the contribution of project management techniques. This study has shown that the project managers interviewed and observed used their project management techniques to draw others into the project and enrol them, placing the standard structures and processes between them and the everyday routines of the operational organisation.

6.1.2 Contribution to Competence Theory

Although ANT writers have discussed competence (e.g. Law, 1996) in their own terminology, there has not been any dialogue with either the main stream schools of competence theory (e.g. Gonczi et al, 1990 and Spencer & Spencer, 1993) or the interpretative contributors such as Sandberg (2000). The development of project management as a profession is a perspective which has tended to concentrate attention on the knowledge, skills and attributes of the project manager. The research into competence and professional behaviour would mostly support this perspective. However, the sociology of translation (Callon, 1986), ANT, sees competence in its entirety as the temporary effect of a heterogeneous network rather than a more or less static attribute possessed by an individual.

The contribution of many extended networks of heterogeneous actors to each actor's ability to enrol others gives a different perspective on what it is to be capable, showing it to be a temporary state, context-bound and interdependent on other people, present and not present, and on a wide variety of technology, often limited by natural forces outside much of human control, such as the temperature, bacteria and abnormal cells. To paraphrase the Athenian sage (who applied the concept to happiness) "Call no man competent unless he has carried his ability down to the grave in the fullness of power." This interdependence between the individual and the context suggests that the causes of success are not the individual's motives, traits, values, attitudes, knowledge and skills (Boyatzis, 1982) alone. There may be congruence, however, with Sandberg (2000) in that a deeper understanding of the context and interdependencies of the other actors involved may better inform the more effective actor.

6.1.3 Practical Application of the Research

I have already (Appendix 4D) had a request from one of the organisations whose project managers contributed to the study to use the findings as part of the training and development of their project managers. Studies which identify successful attributes or behaviours have been used to create 'Hints and Tips' but these without implementation in context are unlikely to increase success rates because they do not address the way in which practitioners learn and may not be adaptable to different contexts. From the findings here I envisage creating learning materials which will act as prompts for project management practitioners to identify their own critical incidents and to reflect upon them. Forming a habit of reflection and practical application of 'small things' (Law, 2001; Parsloe1995/1999) either in conjunction with using self-coaching tools or a coach-mentor is more likely to reinforce the learning in context. For those whose learning preference is theoretical there may also be value in exposing them to some of the language of the sociology of translation (Appendix 4C, for example) in that it may aid their reflection and subsequent practice.

6.2 A Summary of the Research in Actor-Network Theory terms

Use of literature from three different disciplines, although very much in the spirit of the Henley DBA, required me to explore in chapter 3 the legitimacy of a multi-paradigm approach to the research design. I was reassured by Law (2001) that ANT utilises "... any method [which] *makes* links and connections which warrant writing/intervention," and welcomes "lots of little stories ... and ... the patterns that subsist between those stories." (Law, 1997). Latour (1999) says we have to learn from actors themselves "not only what they do but how and why they do it." I concluded with Payne (2000) that expecting an elaborate, complete and accessible world view over-simplifies the position and that in practice the researcher is more likely to have only partially complete or understood assumptions and values.

As described in chapter 3, I began by reviewing two similar projects in the same retail organisation, one in which factional groups impeded progress in the absence of a single project manager, and a second where those same factional groups were drawn together by an experienced professional project manager, which suggested that the

project manager had made a difference. Since competence studies review either the knowledge, skills and attributes (Gonczi et al, 1990) or the behaviour of individuals (Boyatzis, 1982) or both (Finn, 1993), which enable them to succeed, the research into the competence of project managers was the starting point for the main study (e.g. Crawford 2000; Gadeken, 2000). Twenty project managers were interviewed individually using the critical incident/behavioural event approach (Flanagan, 1954; Boyatzis, 1982) to focus the conversation on events where they felt they had achieved success or encountered problems in their recent projects. They were also asked to identify characteristics they considered important for project managers. A final project, managed by the last interviewee, was also reviewed in its entirety by observation, interviews with participants and review of their documentation.

"Expert knowledge," which the project manager displays, of what in these organisations were simple tools and techniques of project management, marks the project manager out as someone who knows what to do, someone to trust. Its value is recognised more if the other actors are already familiar with it. Each professionally managed project in an organisation re-performs project management and strengthens it as an ally for future projects. In the case of Aaron the achievement of building and commissioning a warehouse below forecast cost and in an accelerated time scale that no one had believed possible demonstrated what the impotent advocates of project management in Argos had previously only described: tangible benefits of managing projects this way. Moving the battle to his preferred terrain Aaron showed that project management was more effective than a consensual team and go-it-alone specialists. The discipline has subsequently been embraced with enthusiasm.

Latour (1993a, p60) described the similar way in which the followers of Pasteur used the hygienist movement to promote their own scientific approach to disease (*original emphasis*):

> *"The Pasteurians* place *themselves in relation to those forces of hygiene that I have described, but do so in a very special way: they go out to meet them, then move in the same direction, then, pretending to direct them, deflect them very slightly by adding an element that is crucial for them, namely the laboratory."*

6.3 Comparison to project management literature

The language of ANT is unfamiliar to project managers and therefore in this section the picture of them that emerges is referred back to project management writing. The key comparators in the literature are:

- those who identified common project success factors (Morris and Hough, 1987; Pinto and Slevin, 1988a; Baker et al, 1988; Wateridge, 1996) (Section 6.3.1);
- those who identified project manager qualities from experts (Andersen et al, 1987; Turner, 1993; Rees et al, 1996; Pettersen, 1991; Jessen, 1992) (Section 6.3.2);
- those who looked at professionalism (Eraut, 1994; Eraut and Cole, 1993; Schön, 1983) (Section 6.3.3); and
- those who gathered qualitative empirical data from project managers (Gadeken, 2000; Buchanan and Boddy, 1992) (Section 6.3.4)

6.3.1 The project manager's contribution to common project success factors

The three most commonly cited project success factors identified by Morris and Hough (1987), Pinto and Slevin (1988a), Baker et al (1988) and Wateridge (1996) were the characteristics of the project leader, communication and monitoring, and feedback on progress (Crawford, 2000). This study confirms that project managers spend much of their time communicating with people at all levels and they use personal interaction as well as formal processes to monitor progress. Crawford (2000) identified 24 project success factors and concluded that "with the possible exception of Organisational Support, Organisational Structure and Team Selection" all the factors came back to competences exhibited by the project manager.

This study would seem to support her argument that these three factors are also open to project manager influence. The project managers did not wait for organisational support to be thrust upon them but went out to find it. They worked hard at creating and building upon organisational support: identifying key actors and using leverage [Edward, 4.6.2.14], or failing that, attempting persuasion [Lawrence, 4.6.2.12]. Similarly, the project managers created their own project structure [Nick, 4.6.1.3], building upon organisational standards and practices [Nick, 4.6.1.7]. Although they might have to work with whoever was allocated to the project outside their direct control, the project managers interviewed put a huge effort into selecting and

maintaining their direct teams and again used leverage to get the "best" people assigned and the poor performers removed [Mike, 4.6.2.16].

6.3.2 Project manager qualities derived by experts

Direct comparison to the lists of project manager qualities drawn up by experts is not possible because qualities, like attributes, are too static a way of describing what project managers do. Actions which might indicate Andersen's et al (1987) list of project manager qualities (see chapter 2, section 2.3) can all be found in this study but their list does not include any reference to the social architect and builder of networks. Examples from this study would support most elements of Jessen's (1992) model but give little backing to others, particularly creativity, innovation and new ways of thinking – a quality which according to Cullen and Gadeken (1990) is not considered as important for project managers as it is for line managers. Again Jessen does not mention the ability to build a social organisation. Pettersen (1991) has the fullest list of project manager qualities: he does not identify the political or networking building behaviours but he does list interpersonal influence, persuasion and negotiation and a quality which he calls ascendancy. This confirms Boyatzis' (1982) suspicion that lists of qualities derived by experts may innocently become espoused theories of idealised behaviour and miss actual behaviours exhibited by practitioners.

6.3.3 Professionalism

In addition to specific expert knowledge (Duncan, 1995), Eraut (1994) defined professionalism in terms of professional values: legal (working within the law and regulations), professional (relationships with clients and other professionals), organisational (relationships with colleagues, staff, customers and the general public), personal (individual beliefs and behaviours). Whitley (1989) stated that professional membership implies a group of like-minded allies, and an economic closed shop. Law and Singleton (2000a) describe it as an alternative actor-network to that of the employing organisation.

The answers to the AIPM Standards questionnaire (Section 4.4) indicate a high level of acceptance and possibly use of project management techniques and expertise. Overall two-thirds of participants agreed that they followed the AIPM standards

always or nearly always. However, individual membership of specifically project management professional bodies was low (section 4.2.2): only two of the project managers were members of the APM and nine had no professional qualifications or memberships. The remaining eleven held twenty five professional qualifications and memberships between them from seventeen different bodies (Appendix 1) only some of which include project management in their core syllabus. This reinforces the picture of project management as an "accidental profession" into which people move from many different functions and prompts the question: How is it that they show such agreement on project management practice when they have come from such different backgrounds?

Most of the project managers were members of the organisations in which they were working: Wendy, Simon, Ken, Ian and Fiona were consultants working in client organisations. All showed an awareness of the organisational values of where they were working. Personal values were expressed particularly with regard to working conditions and the treatment of people. Aaron told me that the project manager should plan to do the project in a nine to five day and the way to achieve that is to get people themselves thinking through what the key tasks are and if necessary discarding some of the lower level things: he rejected the long hours culture. Robert [4.6.4.1] made several points about the kind of management style and organisation he rejected including over-work, arrogance, autocratic style and fear management. *"These people were animals."*

Ian [4.6.4.7] showed a deference and respect for a line manager he was coaching which contrasts with the instrumental way other project managers [e.g. Edward, 4.6.2.30] talked about directors and other powerful people: *"I never sat in his chair, so I never took his position of power, of authority in his own office, even when he wasn't there. I would never sit in his chair. I would never use his phone without asking him."*

Schön (1983, 1987) saw professional practice as based on knowing in action (acquired tacit knowledge) and reflection (ability to learn through and within practice) and rejected technical rationality, the belief which has underpinned professional education — that the essence of being a professional is to solve problems using specialist knowledge. The comments of the project managers

regarding the AIPM Standards questionnaire (section 4.4) were ambivalent on knowing in action. Lawrence and others commented that the questions seemed 'academic' and remote from reality but more than half of them saw knowledge of project management techniques as an important attribute in appointing a project manager (Appendix 3, table 3.2) Yet in support of Schön's reflection, although the questionnaire showed that formal learning processes (such as project completion reviews) were some of the elements least used, individual project managers gave several descriptions of how they learned from experience and reflection (e.g. Owen [4.5.1], Edward [4.6.4.6]) and five of them said that learning from experience was a desirable characteristic of a good project manager.

What emerged clearly from the interviews was the impression of belonging to a professional network outside the formal employing organisation (Law and Singleton (2000a) describe it as an alternative actor-network), even though membership of project management professional bodies was so low. The participants identified strongly with being a project manager: *"I'm a project manager first and foremost with management services background, I'm not a banker or a card person."* (Peter [4.6.2.28]) It was their job title for ten of them but it was an ally for all of them: a set of assumptions, a black box (Latour, 1987) which underpinned their methods of working.

6.3.4 Comparison with two other empirical studies

Two predominantly qualitative studies stand out from the literature: Gadeken's competency based studies (1986, 1989, 1991, 2000) of professional project managers in a traditional engineering environment and Buchanan and Boddy's research (1992) with change agents in a variety of non traditional contexts. The findings here both support those of Gadeken and Buchanan and Boddy and show that the ANT perspective can add to the picture.

Gadeken used the BEI methodology and was trying to distinguish the most highly competent project managers from the others. He concluded that the emphasis in project management has shifted from the technical to the leadership competencies. The present study supports the eight behavioural clusters he lists (Gadeken, 2000) (figure 6.1). Gadeken (2000) considers only two of these to be distinguishing

behaviours of the best project managers: *Strongly committed to a clear mission* and *Thrives on relationships and influence.*

Figure 6.1 Examples of Gadeken's (2000) behaviours observed in this study

Gadeken (2000)	Examples here
Strongly committed to a clear mission	Alice [4.6.2.17]
A long term and big picture perspective	Ken [4.6.2.20]
Systematic and innovative thinking (with the emphasis on understanding a complex and rapidly changing network rather than blue-sky creativity)	Ian [4.6.2.21]
Find and empower the best people	Robert [4.6.4.1]
Selective in involvement in project issues	Peter [4.6.2.28]
Focus on external stakeholders (since the NASA project managers are working in a project-based organisation, these are the clients and other parties interested in the outcome of the project)	Colin [4.6.2.27];
Thrives on relationships and influence	Edward [4.6.2.30]
Proactively gather information and insist on results	Ken [4.6.1.25].

What this research adds to Gadeken's portrait is another way of looking at the technical competencies from which he considers the emphasis has shifted. The project manager has project management knowledge and techniques from the project management network s/he can draw on which re-inforce and magnify competent behaviours from within: the two feed off each other. Following project management best practice s/he defines a clear mission [Edward, 4.6.2.18] and to this adds a personal ownership akin to a quest (Gadeken, 2000). The formal process of planning and the use of software allows the project manager to look into the future (Law and Singleton, 2000a), to "look down the river" (Owen [4.6.1.21]), taking the longer term and big picture perspective [Ken, 4.6.2.20]. Project management courses teach stakeholder analysis and management: this re-inforces the political skills that thrive on relationships and influence.

Buchanan and Boddy (1992) used audio diary transcripts kept by eight change agents (effectively senior managers, not professional project managers) managing major change projects to explore the expertise of the change agent. They identified fifteen competencies (a mixture of attributes and behaviours) in five clusters (figure 6.2) which did not include the traditional project management technical skills which they and their participants considered less important. However, this could be because the participants were not project managers or had not been trained or worked in project management.

Again this study has examples which support all the Buchanan and Boddy (1992) competencies. However, although the project managers' stories included *flexibility in responding to changes outside their control* and *tolerance of ambiguity*, for these project managers these were risks and issues which they had to get back under control before further control was lost [Quentin, 4.6.1.27]. *Clarity in specifying goals* is recognisable in people in both studies but Buchanan and Boddy (1992, p92) – perhaps because their change agents were senior managers running their own projects – do not comment at this point on the problematisation of others' goals which is observable from an ANT perspective.

Figure 6.2 Examples of Buchanan and Boddy's (1992) competencies observed in this study

Buchanan and Boddy (1992)	Examples here
Goals	
1. Sensitivity to top management	Fiona [4.6.2.11]
2. Clarity in specifying goals	Colin [4.6.2.19]
3. Flexibility in responding to changes outside their control	Quentin [4.6.1.27]
Roles	
4. Team building (including stakeholders as well as reports)	Colin [4.6.2.27]
5. Networking skills	Peter [4.6.2.28]
6. Tolerance of ambiguity	Fiona [4.6.1.23]
Communication	
7. Communication skills to inform colleagues of need for changes in project goals and tasks	Henry [4.6.2.34]
8. Interpersonal skills – a wide range	Nick [4.6.2.24] (listening, probing etc) Edward [4.6.2.10] (managing meetings)
9. Personal enthusiasm in expressing plans and ideas	Henry [4.6.3.5]
10. Motivating others	Robert [4.6.4.4]
Negotiation	
11. Selling plans and ideas to others by creating a desirable and challenging vision of the future	Lawrence [4.6.2.35]
12. Negotiating for resources, procedure changes, to resolve conflict	Mike [4.6.2.16]
Managing Up	
13. Political Awareness	Colin [4.6.2.25] Fiona [4.6.2.3]
14. Influencing skills, gaining commitment from potential sceptics and resisters	Fiona [4.6.2.23] Robert [4.6.1.8]
15. Helicopter perspective	Alice [4.6.2.17] Ken [4.6.2.20]

Buchanan and Boddy (1992) considered the competencies unremarkable because they had identified other behaviours (which they did not include as competencies) which they call *backstaging* (pp 82 – 83) to distinguish them from the public activities described or *manipulating structures, manipulating relationships and manipulating language* (p130) – for example, the leverage gained from working the organisational

systems, the exploitation of personal relationships, and the choice of language used to defined the project influencing its acceptability. All these behaviours were openly and extensively discussed by the project managers in this study and by those interviewed by Gadeken (2000).

6.4 Implications for project managers and their employers

6.4.1 Project Management in functional organisations

In management, if success is observed, there is an urge to analyse its antecedents in the hope that further success may be achieved. *"An idea cannot move of its own accord"* (Latour, 1993a) but project management is gaining practitioners and the number of firms in which it is accepted is increasing.

The functional organisation is a pre-existing network which has its own obligatory passage points and transactions to maintain its preferred pathways (Callon, 1986; Law, 1996). The project manager has to function within this context whilst constructing an actor network which delivers the requirements and re-performs the project management – what Buchanan and Boddy (1992) refer to as control of context, content and process. The recruitment by professional bodies of new project managers working on new projects in new organisations and their starting to work in a project management framework continually re-inforces the project management paradigm.

I observed this in the difference between on the one hand the retail organisations in which I was working between 1989 and 1997, where project management was counter to the prevailing organisational structures and processes, and on the other the retail banking organisations in which many of the project managers I interviewed operated. People working in functional roles (as opposed to project management) in the retail banks had already been exposed to the language and processes of project management [Nick, 4.6.1.7]. They had already accepted the black box that this was the way to manage change, even if they did not do this themselves. They expected the project managers to operate in this way. In contrast their counterparts in the three retail organisations I was familiar with were unfamiliar with the language of project management and regarded it and its practitioners with suspicion. Many otherwise competent senior managers and directors told me that project management was just

bureaucracy and was not applicable to the change projects they were undertaking in the company. A few did not recognise their non-routine activities as projects.

6.4.2 Implications for project managers

The following three observations are suggested for consideration by project managers.

Use of the tools and techniques of project management appears to be core to managing projects, even where acceptance of the principles is low. On the one hand stakeholders may be impressed by the confidence that comes from knowing how to do it [Owen, 4.6.1.12] but they may also reject what they are not comfortable with [Nick, 4.6.1.7]. The professional project manager working with operational line management will find his/her earlier encounters more difficult until the language and the concepts it expresses are accepted.

Political awareness was high. The identification and use of potential and actual allies, perhaps by positioning oneself as representing them (and being accepted as such by them), offering them inducements or threats, getting them to speak or act for you: these manipulative behaviours were employed effectively by the project managers interviewed.

There are many alliances available within the organisation and between the project manager and suppliers and customers directly interested in the project. The project manager also has the support sometimes of an internal Project Office or group of project managers and always, if required, of professional associations of project managers. Such bodies add to the public debate that project management techniques are needed/ are not needed/ are not the only factors needed to deliver successful projects. Although only two of the project managers interviewed had individual membership of the APM, most of their companies had corporate membership.

6.4.3 Implications for employers of project managers

The following observations are suggested for consideration by the employers of project managers.

Knowledge of project management techniques appears to be a key factor and this can be provided by training courses. However, using project management techniques is a matter of re-creating the project structures and processes with each project. A common language and a growing familiarity with project management among operational management can be built up by having a project management champion in the firm, even if a Project Office would be overkill. Project management like any process needs the visible and tangible support of senior management if it is to be respected and used by the rest of the organisation. Corporate membership of a project management body sends a message to the firm's project managers and line managers (and provides access to further opportunities for gaining technical knowledge and reflecting with other professionals: it re-inforces the wider perspective).

How the project managers interviewed were trained is outside the scope of this study (see section 6.6) but training in "social architecture" (Thamhain, 2000) is best provided in context, from an experienced operator and using reflective learning techniques. The resources for the less experienced to work alongside the more experienced project manager need to be built in. This is not to learn how to use project management tools: it is learning how to problematise, interest, enrol and mobilise other actors. Abbey National (Appendix 4D) is using this study to inform their graduate trainees about the skills and behaviours needed in project managers.

6.5 Limitations of this study

Deetz (1996) stated that the output of every piece of research is limited by its methodological perspective and is to that extent partial, one-sided and unfinished. The output of this piece of research is a description of actions taken by a number of trained and experienced project managers working in organisations in the UK which other than for specific projects were organised along functional lines. Any generalisations to untrained and inexperienced project managers, working outside the UK and/or in project-based organisations would be unwarranted. The description has not been elevated to claim that it is a theory and it has not been evaluated by further testing although it has been presented for the scrutiny of professional project managers (Blackburn, 2000, 2001,2002 and see Appendix 4) who commented in writing and in conversation on the likeness of the portrait to their own observations.

In hindsight I consider the collection of empirical evidence attempted too great a breadth, covering several organisations, but insufficient depth in that for most of the projects only the project managers' stories were recorded. Using the BEI method placed constraints in the line of questioning that was followed and I later wished I had recorded the preliminary discussions (contraindicated by Boyatzis, 1998) so that I had a better understanding of how the people interviewed had come to be project managers and how they had learned their project management knowledge and network building know how.

Although all the organisational contexts were functional, I did not explore the differences between them as retailers, banks, insurance companies or transport providers, or even as one organisational culture to another. In this sense I was blinded to the context by its diversity and did not fully explore the interaction between the project and the host organisation as recommended by Partington (1997).

Had I followed the methodology used for competency studies by Spencer and Spencer (1993) and Boyatzis (1982, 1998) I would also have distinguished between the project managers on the basis of their competence as perceived by their managers. Again, I was blind to this diversity and did not as noted above explore the knowledge component within it other than to check out their near universal practice of well recognised project management activities (section 4.4).

There is no escape from researcher bias and at the macro level I confess to being one of the impotent advocates of project management in Argos prior to the Acton Gate project. In terms of coding and condensing the stories of project managers the entire process is my interpretation. That interpretation was informed by my review of the literature of project management, competence and Actor-Network Theory. I tried to ensure coding rigour by defining the codes and re-defining them only after extensive re-reading of the transcripts, and going back to the transcripts to confirm any groupings or clusters that I made based on the code titles. Despite these efforts, I have only been an individual researcher and I have not had the resources of a team to check and replicate my coding. However, I did compare my early and later coding for discrepancies and made adjustments accordingly. I also used the codes as indices so that when I interpreted the actions of the project managers I could follow the stories

back into the longer narratives. Finally I requested feedback from the interviewees and from other professional project managers.

6.6 Potential for further research

The potential for further research is centred around the organisational context of the projects; the educational, training and development backgrounds which have allowed project managers to develop the manner in which they are described as working; and the need for ethnographical study of completed projects not based solely on the criterion of failure.

Given the parameters here of functional organisations in the UK, there is scope to repeat this type of study in other cultures and in multi-national projects and organisations, and in project-based organisations.

The responses to the AIPM questionnaires (section 4.4) show a remarkable degree of consistency of understanding of project management practice between people trained in different organisations, of differing ages and backgrounds, only two of whom were members of a professional project management association. There is potential to research whether that picture of consistency is accurate (as ANT studies often show greater heterogeneity than management imagines (e.g. Law and Singleton, 2000a)) and also to gain a better understanding of how project managers arrive at their shared knowledge and know how, i.e. by education, training, experience or whatever.

There have been many case studies of projects that failed – and by definition they were conducted after the event. This study has mainly gathered success stories, in both past and current projects, but has covered breadth at the expense of depth. It would be interesting to confirm or modify its findings based on preferably one or more ethnographic case studies where interviews with many actors in the project-network were an adjunct to observation of a strong and experienced project manager working on a current project where the outcome is assumed positive but is as yet unknown or where there is a general consensus of a successfully delivered project – in effect repeating the Acton Gate study in the light of this research. It has been suggested to me (Ward, Appendix 4) that a similar study of programme managers would be valuable to practitioners.

Should one wish to go further, beyond observation to action research (bearing in mind that all observation affects the observed, but to embark upon research with an intention to create change is substantively different), it would be instructive to explore the effect on project managers of making them aware of the way they and others manage projects. Project managers appear to be aware of the project as something very similar to a transient actor-network held in temporary balance: how far are they aware that they are aware and that there is a language in another discipline to describe their approach? Had I responsibility for the education of project managers in my organisation, I would wish to share with the experienced and most competent the "moments of translation" and other concepts from early ANT and review with them the difference this language made to their understanding and practical actions.

6.7 Chapter Summary and Conclusions

This chapter has reviewed the contribution of the study to project management literature in terms of describing what a project manager does in ANT terminology and comparing it to the prior understanding of project manager behaviour in the literature. There appears to be some divergence between lists of project manager characteristics drawn up by experts (Andersen et al, 1987; Turner, 1993; Rees et al, 1996; Pettersen, 1991; Jessen, 1992) and the behaviours reported here. However there is also some convergence with the common project success factors (influenced by project manager actions) summarised in Crawford's quantitative study (2000). Most striking is the similarity of findings with Gadeken (2000) and Buchanan and Boddy (1992), to which, however, the ANT perspective has added some insights around the relationship between technical knowledge and political skills.

The implications for management have been to emphasise the need to consider, whether as employer or project manager, context and process as well as content in delivering a project. An individual's knowledge and skills can be increased by training but additional support for project management within an organisation provides a stronger ally for each project because it can result in readier acceptance of the project structures and processes.

The limitations of the study in its collection of evidence and the difficulties of working alone have been acknowledged and the potential for further research has been identified.

Latour (1993a, p42) in his examination of the influence exerted by Pasteur on French life distinguishes two mechanisms: the first is how a whole country becomes interested in what happens in Pasteur's laboratory; the second is how responsibility for their altered understanding of disease becomes attributed to one man.

In the management of projects there are similar mechanisms to be distinguished from each other: how the organisation places its trust in a project to deliver innovation; and how it places reliance on one project manager to create that project. Project managers place themselves at the centre of their project stories: they are the heroes with the knowledge and experience you can trust. Yet their performances depend on choreographing the contributions of heterogeneous actors, enrolling them into the dance, away from the steady march of operational roles. What is placed between the contributors and their operational roles is project management itself (what Law and Singleton (2000a) call 'projectness'): a discipline which has spread from engineering and aims to become accepted as the way to manage all types of innovation in all organisations.

Whereas project management methodologies emphasise the right structures and processes to follow and competence studies look within the individual to explain ability to act in terms of knowledge, skills and attitudes, often only outwardly visible as behaviours, ANT looks at the human and non-human actors and alliances which the individual draws together and mobilises to perform a temporary social organisation. This perspective emphasises interplay between the project manager and the methodology; the power of project manager tools to place and keep the project manager at the centre of the project; and the need for constant re-inforcement to keep the project organisation together as well as the project on track. In one sense it is a move away from the project manager as hero; in another it emphasises way the project manager performs the project, creates and recreates it like the steps of a dance.

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APPENDIX 1:

QUESTIONNAIRE ON PROJECT MANAGEMENT PRACTICE

This is the questionnaire which was completed by the project managers prior to the interviews. The actual responses are summarised by listing the number of responses in each box.

This questionnaire is drawn from the Australian National Standards for project management. It consists of a number of statements about managing projects. Beside each statement is a row of boxes numbered 1 to 7. Each box corresponds to the degree of relevance of that statement to your work as measured by how often you would do it in practice:

1 I **always** do this when managing a project
2 I **nearly always** do this when managing a project
3 I **sometimes** do this when managing a project
4 I **occasionally** do this when managing a project
5 I **seldom** do this when managing a project
6 I **never** do this when managing a project
7 This is **completely irrelevant** to the way I manage projects

Please would you tick in the box which most closely describes the way you actually work.

1. Integrating Projects

A Implement integration of the nine functions of project management

		❶	❷	❸	❹	❺	❻	❼
1	Project stakeholders are identified with guidance of higher project authorities to determine the influence of others on achievement of project outcomes	9	8	3				
2	The requirements of all project management functions are reviewed, with guidance of higher project authorities and other relevant stakeholders, to determine achievable project objectives	12	4	2		1		1
3	The project plan is developed based on requirements of project sub-plans, agreed by higher project authority and implemented as the basis for project management	12	3	3		2		
4	Designated project control mechanisms are implemented to accommodate change throughout the project life cycle	11	6	2	1			

B Co-ordinate internal and external environments

		❶	❷	❸	❹	❺	❻	❼
1	The project is managed within established internal working environment to ensure work is conducted effectively throughout the project life cycle	9	6	4	1			
2	Established links are maintained to align project objectives with organisation objectives throughout the project life cycle	9	5	5	1			
3	Where necessary, higher authority assistance is sought to resolve conflicts between achievement of project objectives and accommodation of requirements of other levels of management within the organisation	13	4	3				

C Implement project activities throughout life cycle

		❶	❷	❸	❹	❺	❻	❼
1	Agreed project phases, approval points and review points are implemented to accommodate all project management functions requirements	11	6	1	1			1
2	Progress is reported in relation to established project baselines to provide a measure of performance throughout all phases of the project life cycle	10	6	3		1		
3	Established finalisation plans, procedures and activities are implemented to ensure final outcomes of project phases and of the overall project meet agree project objectives	9	6	4	1			
4	Integration management issues and recommended improvements are identified, documented and passed on to higher project authority for application in future projects	5	7	5	2	1		

2. Managing Project Scope

A Conduct project authorisation activities

		❶	❷	❸	❹	❺	❻	❼
1	Project authorisation is confirmed with higher authority as the basis for future project management activity and commitment of resources and effort.	18		2				

B Conduct project scope definition activities

		❶	❷	❸	❹	❺	❻	❼
1	Project objectives, deliverables, constraints and principal work activities are identified, with guidance of higher project authorities as the basis for agreement between the project team and the client	14	5	1				
2	Designated measurable project benefits and outcomes are established to enable quantified evaluation of project performance	6	7	5	2			
3	Scope management plans are developed and implemented to ensure clarity of understanding and ongoing management of project scope	10	4	2	1	1		2

C Guide application of scope controls

		❶	❷	❸	❹	❺	❻	❼
1	Agreed scope management procedures and processes are implemented to form the basis of ongoing scope management	8	6	2	3		1	
2	The impact of scope changes is managed within established time, cost and quality constraints to meet project objectives	10	5	2	1	1		1
3	Progress is reviewed and results recorded to assess the effectiveness of scope management procedures	2	7	2	1	3	3	2
4	Scope management issues and recommended improvements are identified, documented and passed on to higher project authority for application in future projects.	5	4	4	1	5	2	1

3. Managing Project Time

A Determine project schedule

		❶	❷	❸	❹	❺	❻	❼
1	The duration and effort, sequence and dependencies of tasks are determined, from the output of scope definition, with input from stakeholders and guidance of higher project authorities as the basis for the project schedule	13	6	1				
2	Established time management methods, techniques and tools are selected and used to determine preferred schedule, time management plans, resource allocation and financial requirements	5	10	2	1	1	1	
3	Agreement to the schedule is obtained from higher project authority and communication to stakeholders to provide the basis for measurement of progress	15	4	1				

B Implement project schedule

		❶	❷	❸	❹	❺	❻	❼
1	Mechanisms are implemented and used to measure, record and report progress of activities in relation to the agreed schedule and plans	15	5					
2	Ongoing analysis of options is conducted to identify variances and forecast the impact of changes on the schedule	8	4	5	2	1		
3	Progress is reviewed throughout the project life cycle and agreed schedule changes are implemented to ensure consistency with changing scope, objectives and constraints related to time and resource availability	11	6	2		1		
4	Responses to perceived, potential or actual schedule changes are developed, agreed by higher project authority, and implemented to maintain project objectives	8	5	4	1	1		1

C Assess time management outcomes

		❶	❷	❸	❹	❺	❻	❼
1	Project outcomes are reviewed to determine the effectiveness of time management activities	4	6	3	4	2		1
2	Time management issues and recommended improvements are identified, documented and passed on to higher project authority for application in future projects.	4	5	2	2	3	3	1

4. Managing Project Cost

A Determine project costs

	❶	❷	❸	❹	❺	❻	❼
1	11	3	3	1	2		
2	15	2	3				
3	9	4	4	1	2		

1 Resource requirements for individual tasks are determined, with input from stakeholders and guidance of higher project authorities, to provide a basis for attributing expenditure

2 Project costs are estimated to enable budgets to be developed and agreed cost management processes implemented at an appropriate level throughout the project life cycle

3 Cost management plans are developed and implemented to ensure clarity of understanding and ongoing management of project finances

B Monitor and control project costs

	❶	❷	❸	❹	❺	❻	❼
1	11	4	1	2	1	1	
2	8	3	4	3	1	1	
3	11	2	3	2	2		

1 Agreed financial management procedures and processes are implemented to monitor actual expenditure and to control costs

2 Cost analysis methods and tools are selected and used to identify cost variations, evaluate options and recommend actions to higher project authority

3 Agreed actions are implemented, monitored and modified to maintain financial and overall project objectives throughout the project life cycle

C Conduct financial completion activities

	❶	❷	❸	❹	❺	❻	❼
1	6	4	3	2	1	1	3
2	2	7	6	3		1	1
3	9	5			3	2	1

1 Activities are conducted to signify financial completion

2 Project outcomes are reviewed to determine the effectiveness of cost management processes and procedures

3 Cost management issues and recommended improvements are identified, documented and passed on to higher project authority for application in future projects.

5. Managing Project Quality

A Determine quality requirements

	❶	❷	❸	❹	❺	❻	❼
1	7	5	5	2	1		
2	2	6	7	3	2		
3	7	6	3	3	1		
4	6	6	4	3	1		

1 Quality objectives, standards and levels are determined, with input from stakeholders and guidance of higher project authorities, to establish the basis for quality outcomes

2 Established quality management methods, techniques and tools are selected and used to determine preferred mix of quality, capability, cost and time

3 Quality criteria are identified, agreed with higher project authority and communicated to stakeholders to ensure clarity of understanding and achievement of quality and overall project objectives

4 Agreed quality requirements are included in project plans and implemented as basis for performance measurement

B Implement quality assurance

	❶	❷	❸	❹	❺	❻	❼
1	4	9	4	1	1		1
2	6	7	3	1	2		1
3	1	9	5	1	1	3	1
4	3	3	8	1	2	1	2

1 Results of project activities and product performance are measured and documented throughout the project life cycle to determine compliance with agreed quality standards

2 Causes of unsatisfactory results are identified, in consultation with the client, and appropriate actions are commended to higher project authority to enable continuous improvement in quality outcomes.

3 Inspections of quality processes and quality control results are conducted to determine compliance of quality standards to overall quality objectives

4 A quality management system is maintained to enable effective recording and communication of quality issues and outcomes to higher project authority and stakeholders

C Implement project quality improvements

	❶	❷	❸	❹	❺	❻	❼
1	6	5	5	2	2		
2	4	5	5	3	2		1
3	4	8	2	3	2	1	

1 Processes are reviewed and agreed changes implemented continually throughout the project life cycle to ensure continuous improvement of quality.

2 Project outcomes are reviewed against performance criteria to determine the effectiveness of quality management processes and procedures

3 Lessons learned and recommended improvements are identified, documented and passed on to higher project authority for application in future projects.

6. Managing Project Human Resources

A Implement HRM planning activities

		❶	❷	❸	❹	❺	❻	❼
1	Resource requirements for individual tasks are determined, with input from stakeholders and guidance from higher project authorities, to provide a basis for determining project staffing levels and competencies	15	2	2				1
2	Project organisation and structure designated by higher authority is established to align individual and group competencies with project tasks	12	6	2				
3	Staff are allocated to and within the project or reallocated within the organisation as directed by higher project authority to meet competency requirements throughout the project life cycle	9	8	2	1			
4	HRM methods, techniques and tools are used to implement HRM procedures and HRM plans to ensure clarity of understanding and ongoing human resource management	4	7	4	3		1	1

B Implement staff training and development

		❶	❷	❸	❹	❺	❻	❼
1	Designated staff responsibilities, authority and personal performance measurement criteria are communicated to ensure clarity of understanding of the work and to provide a basis for ongoing assessment	7	5	7	1			
2	Ongoing development and training of project team members is identified, planned approved by higher authority and implemented to achieve HRM and overall project objectives	2	8	6	4			
3	Individuals' performance is measured against agreed criteria and actions are initiated to overcome shortfalls in performance and encourage career progression	9	5	2	2	1		1

C Guide the project team

		❶	❷	❸	❹	❺	❻	❼
1	Processes to promote continuous improvement of staff are implemented and actions taken to improve staff and overall project effectiveness	4	7	6	3			
2	Internal and external influences on individual and team performance and morale are monitored and reported to higher project authority if necessary for remedial action	9	5	4			1	1
3	Established procedures for interpersonal communication counselling and conflict resolution are implemented to maintain a positive working environment	8	3	5	3		1	
4	Inter-project and intra-project conflict is identified and managed to minimise impact on achievement of project objectives	14	5	1				
5	HRM management issues and recommended improvements are identified, documented and passed on to higher project authority for application in future projects	5	7	Q	1	1	2	

7. Managing Project Communications

A Implement communications planning processes

		❶	❷	❸	❹	❺	❻	❼
1	Information requirements are identified, documented and analysed, with input from stakeholders and guidance of higher project authorities, as the basis for communications planning	10	6	4				
2	Agreed communications management plans are implemented within established communications networks to ensure clarity of understanding and achievement of project objectives throughout the project life cycle	9	10		1			
3	Designated project management information system, structure and procedures are implemented and maintained to ensure that quality, validity, timeliness and integrity of information and communication	7	7	4				2

B Guide application of information management

		❶	❷	❸	❹	❺	❻	❼
1	The generation, gathering, storage, retrieval, analysis and dissemination of information by project staff and stakeholders is managed within established systems and procedures to aid decision making processes throughout the project life cycle	6	11	2	1			
2	Designated information validation processes are monitored and controlled, and agreed modifications implemented to optimise quality and accuracy of data	5	8	4	2			1

C Implement project reporting processes

		❶	❷	❸	❹	❺	❻	❼
1	Agreed communication networks between project, client and other stakeholders are implemented and maintained to ensure effective communication at appropriate levels throughout the project life cycle	15	5					
2	Communication and information management systems problems are identified, reported to higher project authorities, and agreed remedial actions are implemented to ensure project objectives are met	12	5	2	1			
3	Customer relationships are maintained within established guidelines to ensure clarity of understanding of objectives and to reduce conflict throughout the project life cycle	11	6	2	1			

D Assess communications management outcomes

		❶	❷	❸	❹	❺	❻	❼
1	Finalisation activities are conducted to ensure agreed ownership of and responsibility for information is achieved	6	6	4	2			2
2	Project outcomes are reviewed to determine the effectiveness of management information and communications processes and procedures	3	6	8	2			1
3	Lessons learned and recommended improvements are identified, documented and passed on to higher project authority for application in future projects	5	4	6	3		1	1

8. Managing Project Risk

A Determine project risk events

		❶	❷	❸	❹	❺	❻	❼
1	Potential, perceived and actual risk events are identified, documented and analysed, in consultation with appropriate stakeholders and guidance of higher project authorities, as the basis for risk management planning	13	5	2				
2	Established risk management techniques and tools are used to analyse risk events, assess options and recommend preferred risk approaches to higher project authority for approval	12	4	3			1	
3	Plans are developed, agreed with stakeholders and communicated to ensure clarity of understanding and ongoing management of risk factors	11	6	3				
4	Designated risk management processes and procedures are implemented to enable effective management and communication of risk events, responses and results to higher project authorities and other stakeholders	9	7	4				

B Monitor and control project risk

		❶	❷	❸	❹	❺	❻	❼
1	Project is managed in accordance with established project and risk management plans to ensure common approach to achievement of objectives	11	3	5				1
2	Progress is monitored against project plans to identify variances and recommend responses to higher project authority for remedial action	11	7	1	1			
3	Agreed risk responses are implemented and plans modified to reflect changing project objectives in an environment of uncertainty	11	5	2	2			

C Assess risk management outcomes

		❶	❷	❸	❹	❺	❻	❼
1	Project outcomes are reviewed to determine effectiveness of risk management processes and procedures	2	7	2	8	1		
2	Risk issues and recommended improvements are identified, documented and passes on to higher project authority for application in future projects	3	5	5	4	2	1	

9. Managing Project Procurement

A Determine procurement requirements

		❶	❷	❸	❹	❺	❻	❼
1	Resource requirements for individual tasks are determined, with input from stakeholders and guidance from higher project authorities, to provide a basis for determining project staffing levels and competencies	9	7	2	1			1
2	Agreed procurement management plans and strategies are implemented and maintained to ensure clarity of understanding between stakeholders and achievement of project objectives	6	4	5	2	1		2

B Establish agreed procurement processes

		❶	❷	❸	❹	❺	❻	❼
1	Information is obtained from established sources capable of fulfilling procurement requirements to determine the extent to which project objectives can be met	8	9	1	1	1		1
2	Established selection processes and selection criteria are implemented and communicated to stakeholders and prospective contractors to ensure fair competition	9	5	3	1			2
3	Approvals are obtained from higher project authority to enable formal discussions to be conducted	9	5	2		3		1

		❶	❷	❸	❹	❺	❻	❼
C	Conduct procurement process activities							
1	Agreed proposals are communicated to prospective contractors to ensure clarity of understanding of project objectives	9	6	1	2			2
2	Responses are evaluated and preferred contractors are selected in accordance with current legal requirements and agreed selection processes	10	6	2				2
3	Negotiations are conducted with preferred contractor, with guidance of higher project authority if necessary, to agree contract terms and conditions, establish common goals and minimise uncertainty	9	6	2				3
D	Implement contract							
1	Established procurement plans are implemented, and modified with higher project authority approval, to ensure common approach to achievement of objectives	8	6	1	2	1		2
2	Progress is reviewed and agreed changes are managed to ensure timely completion of tasks, resolution of conflicts and achievement of project objectives within the legal framework of the contract	9	5	2	1	1		2
3	Procurement management problems are identified, reported to higher project authorities, and agreed remedial actions are implemented to ensure project objectives are met	12	3	1	1	1		2
E	Manage contract finalisation procedures							
1	Finalisation activities are conducted to ensure contract deliverables met contractual requirements	11	4	2	1			2
2	Project outcomes are reviewed to determine the effectiveness of procurement processes and procedures	4	7	4	2	1		2
3	Lessons learned and recommended improvements are identified, documented and passed on to higher project authority for application in future projects	5	3	6	1	2		2

Information about you.

In order to analyse the answers to this questionnaire it would be helpful to have some information on your background. This data will be held confidentially and will not be used for any purpose other than this research.

The actual information supplied by the respondents is added here.

Job Title: Senior Project Manager (5), Project Manager(4), Consultant (2), Project Manager/Consultant (1), Senior Consultant/Project Manager (2), Manager Process Improvement (1), Manager Group Procurement Projects (1), Manager Group Projects (1), Programme Manager (1), Senior Supervising Engineer (1), Principal Consultant (1).

In what industrial sector is your organisation?
(Please tick one)

Financial Services, banking, insurance	12
Transportation	3
Retail and Wholesale	0
National Government	0
Local Government	0
Manufacturing	0
Construction, mining, petroleum	0
Utilities	0
Information systems*	4
Education and training	0
Other/Multiple	1
	20

*Four PMs from systems development.

Level of education
(Tick all which apply)

GCSE, O levels, CSEs	19
A Levels	15
Vocational qualification	2
HND	4
BSc, BA, or other bachelor degree	14
MSc in Project Management	1
Other masters degree including MBA	8
Doctorate	0
Other (please list) DMS	1

Project Management work experience:
(Please tick one)

Less than 1 year	0
1 to 3 years	2
4 to 7 years	8
8 to 10 years	2
11 years or more	8

Age: less than 30: 1; 30 to 39: 11; 40 to 49: 8.

Sex: 4 Female, 16 Male

Professional Qualifications
Please list your professional qualifications in full (not just abbreviations), whether they are in Project Management or in any other field.

Diploma in Marketing (1)
Diploma of Military Operational Analysis (1)
Associate Chartered Institute of Bankers (5)
Institute of Management Services Diploma (1)
Institution of Civil Engineers (1)
Institution of Structural Engineers (1)
British Computer Society (3)
MAPM (2)
Chartered Engineer (3)
Incorporated Engineer (1)
European Engineer (FEANI) (1)
Associate Member of the Royal Aeronautical Society (1)
Chartered Institute of Transport (1)
Higher TEC in Electrical/Electronic Engineering (1)
Certified Diploma in Accounting and Finance (1)
Certified Information Systems Auditor (1)
None (7)

APPENDIX 2:

STRUCTURE FOLLOWED IN BEHAVIOURAL EVENT INTERVIEWS

(based on Spencer and Spencer, 1993)

Name of Subject:

Organisation:

Contact No:

Date: **Tape No.s**

Prompts

1. **Introduction and Explanation** (5 - 10 minutes, inc. career path)
   Introduce self.
   Explain purpose: what it takes to do your job
   Confidentiality of responses
   Permission to tape record

2. **Career path**
   Education
   Work experience

3. **Job Responsibilities** (5 - 10 minutes)
   Title
   Who he reports to
   Who reports to him
   Major tasks - what do you do on a project?

4. **Behavioural Events**
   2 or 3 each of positive and negative events
   What was the situation? What led up to it?
   Who was involved?
   What did you think, feel, want to do in this situation?
   What did you actually do or say?
   What was the outcome? What happened?

5. **Characteristics needed to do the job**
   What characteristics, knowledge, skills or abilities do you think are needed to do your job?
   If you were recruiting someone to do your job, what would you look for?

6. **Conclusion and summary**
   Thank you for time and information
   Emphasise confidentiality
   Offer summary of findings at some stage in the future

APPENDIX 3:

TABULATED CODINGS

The following tables detail the coding data from the behavioural event interviews in terms of the *Projects* from which event descriptions were drawn, the *Characteristics* of excellent project managers which the interviewees described, and the *Activities* they described.

3.1 Projects Described, listed by Project Manager

Project/ Project Manager	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Code frequency
Audit of PC hardware software									1												1
Automate manual process													1								1
Build and ship large plant						1															1
Build project mangt proposals											1										1
Centre of sales excellence	1																				1
Close acquistn Transfer business												1									1
Close and reopen transport								2													2
Close building Transfer staff												1									1
Company car scheme				1																	1
Complex technical software																		1			1
Corporate procurement review				1																	1
Credit card provision															1						1
Design build transport museum										1											1
Develop advanced PM course											1										1
Develop banking system																		1			1
Develop fuel forecasting system									1												1
Develop insurance tax software																				1	1
Develop project method		1																			1
Develop timesheet system									1												1
Electronic purse card																1					1
Establish two new departments						1															1
Financial transfer process						1															1
Implementing business integration		1		1	1																3
Implement helpdesk									1												1
Install radios in transport								1													1
Install timesheet package																			1		1
International PM handbook											1										1
Introduce smartcard technonology																1					1
Joint premises strategy																		1			1
Long term IS project													1								1
Manufacturing change programme						1															1

Project/ Project Manager	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Code frequency
Marketing initiative		1	2																		3
Mentoring another PM									1												1
Merger programme														1							1
Message switch for bank																		1			1
Part of new phone system																		1			1
Performance improvement		1	2																		3
Planning for business integration		1												1							2
Prepare for EMU															1						1
Provide insurance underwriting														1							1
Recruiting temps tax efficiently				1																	1
Refurbishing a bridge										1											1
Replace escalators																	1				1
Replace key customer system							1														1
Rescue financial service software project																			1		1
Selecting software															1						1
Skills transfer of BPR method				1	1																2
Telephone banking inc software														1							1
Train in PM skills and method																			1		1
Training for business integration	1																				1
Y2K programme																				1	1
	2	5	4	5	2	4	1	3	5	2	3	2	2	4	3	2	1	5	3	2	60

3.2 Characteristics of Project Managers as described by themselves

Listed in descending order of frequency.

Characteristic/ Project Manager	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
structured approach	1	1	1	1	1	1	1		1		1				1	1				1	12
knowledge of PM techniques	1	1	1				1	1	1	1	1	1		1						1	11
motivating people		1	1			1	1				1			1	1	1		1			9
vision of goal and process	1				1	2	1		1	1	1			1							9
communication oral	1	1	1		1	1									1					1	7
aware business fit			1		1			1				1				1			1		6
communication create system			1	1			1	1		1	1										6
Deal with people at all levels		1		2											1	1		1			6
influencing skill	1	1	1											1			1			1	6
commitment to making it happen		1				1						1			1					1	5
Team management		1					1	1		1							1				5
knowledge of project areas											1		1	1			1		1		5
open to learn from experience	1					1			1						1			1			5
managing stakeholders needs			1				2	1													4
adaptable flexible										1				1				1		1	4
anticipates problems and acts				2						1	1										4
leadership											2						1			1	4
objectivity of perspective	1								1	2											4
understand peoples motives	1	1								1				1							4
manages costs											1	1					1				3
hands on in crisis	1			2																	3
sociable									1	1						1					3
authoritative					1	1			1												3
good decision making									1				1	1							3
know when what to escalate		1	1			1															3

Characteristic/ Project Manager	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
self confidence					1				1									1			3
logical analytical mind		1						1						1							3
wide knowledge not expert										1						1		1			3
experience different cultures											1							1			2
politically aware					1											1					2
react quickly	1					1															2
resilience													1	1							2
risk awareness											1				1						2
values individuals		1				1															2
charisma						1												1			2
develops others									1	1											2
intelligent										1				1							2
Limits data input to self													1							1	2
manages expectations			1												1						2
presentable									1									1			2
pushes for resources			2																		2
resolves conflict	1													1							2
well organised												1			1						2
builds relationships														1							1
understand roles contributing				1																	1
balances tasks and people																		1			1
calm in crisis					1																1
chairing meetings									1												1
communication written			1																		1
energetic																					1
enthusiastic																			1		1
ethical values									1												1
get support from top				1																	1
life outside PM									1												1

Characteristic/ Project Manager	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
manage people no authority			1																		1
mature responsible									1												1
questioning												1									1
rigour																			1		1
self motivated																1					1
sense of humour													1								1
successful PM track record											1										1
task driven							1														1
tenacity																			1		1
understanding PM philosophy									1												1
	11	12	14	10	8	12	9	6	16	13	13	6	5	13	9	8	5	10	5	8	194

3.3 Activities Described by Project Managers (grouped by clusters of activities)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
Processes																					
Project Management techniques																					
creating project process	6	9	2	11	5	2	2	2	1	3	1	5	1	8	10	5		1	1	3	78
creating project structure	2	2	1	7	4	1							1	5	2	3	3	1		1	33
documents plans and activities	2	4	2	2	3	4	4	3	2	3	1	3		4	8	4		1	1	2	53
scoping project	1	2	2	2	1	1		1	1	1						1				1	14
Managing TCQ	2				1	2	1	2	1	2	2	1		3	2		1		1		21
Managing risks		2				2	3	3			4	2	3		3		1				23
Creates project proposal											1			1		1		1			4
estimating time and resources			1						2		1					1					5
change management							1			1		2			1				1		6
Sets quantifiable targets		3		1		2		1									1				8
Knowledge and use of PM techniques	1	3		1	4			1					1	3	1	1	1		4		21
Seeks info for monitoring	1									1		1			1		2		1		7
Introduces new techniques											1	1			1		1		1		5
	15	25	8	24	18	14	11	13	7	11	11	15	6	24	29	16	10	4	10	7	278
Politics and Communications																					
Gains powerful allies	3	2	2	1	2	1		6			1	7	4	10	8	6		8	3	2	66
Appraises political situation	1	4	1	7	9	4	1	4	1			3	1	1		2		4	2		45
Works to overcome resistance	2	1	2	1	1	2	2	3			2	1	4	1	1	2		5			30
Influences without authority	1	3	5		1	6				1		1	1	1	2		3				25
Keeps sponsor informed		1	1	1	2	1	1	2	3		1	1	1	2	1	2			1		21
Seeks clarity of vision			1	1					1				1	1	1					2	8
Manages expectations			5			3		1	2		1	4			3	1	1	1		2	24
Explore all viewpoints	2	1	3		1	1					3			1						1	13
Uses network to get info	4	3	1	5	2	5	3	2		1	8	5			6	2	1	1	4	1	54

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
Involves / includes the right people	9	4	2	2	4	1	1		1	1	6	7	1	5	1	10	1	3		4	63
gets high level approval			5	4			2					1			1			1		2	16
resolves conflicts	6	2	3	2		1		1			2			1	1	1	2	2			24
satisfy clients	1					1		1	1				1				2	1		1	9
lobbies behind the scenes				1		1						2	2	1				2			9
justify project activities	1				2							1		1							4
channel escalating issues	1			1		2		2		1			1								8
makes presentations to business		1		1	2			3							2	1			1	1	12
identifies stakeholders		2	1		1	3	1	4		2		2		1	2		1	3	1	3	27
applies pressure					1					1		3		1	1			3			10
negotiating with line			1			2		1	2			1		2			1				10
helicopter view of project		1		1			1													1	4
	31	25	33	28	28	34	12	30	11	7	24	39	17	29	30	27	12	34	12	20	482
Relationships																					
Working through Colleagues																					
maintains morale	4	2	1		1	4	2				2	4	1	1	1	4	1	2		2	32
obtains resources	3		1		2	2	2	4	1	1	1		1	3		3		1		1	26
sells decisions to the team					1	1			1		1		1	3		1					9
faciliating workshops			4	2	2			1							1						10
Runs team meetings	1	1	1	2	1		1			1			1								9
coordinating PMs	1	1	2				1							1							6
manages team directly									1	1		1				1	3				7
procurement contracts	1	1						1		2			1	1			1		2		10
hire transfer or fire staff						2			1				1				2	2	1		9
Looks after project staff		1	2	1	1	4		2	1					1	1			3			17
Celebrates achievements	1	1			3	2	4					2		1	4	1				2	21
Gives honest feedback		1							2	1	1								1	1	7
	11	8	11	5	10	15	10	8	7	6	5	7	6	11	7	10	7	8	4	6	163

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
Developmental																					
help others plan	1	1	1		2	2						1				2					10
enables others to shine					1							1			1	1					4
educates line in PM						1			1					1	3					1	7
stands back lets others work							1			1											2
teaches techniques to team	1										1								1		3
Coaches less experienced PMs		1		2	1	2			3	3					2	1			4		19
Learns from mistakes	1	2	2		4	3	1	1		1			1	1							17
	3	4	3	2	8	8	2	1	4	5	1	2	1	2	6	4	0	0	5	1	62
Task																					
Implementing																					
conducts PIR	1	1			1									1			1	1		1	7
Ensures things get done	3	3	2			4		3	2		1	1		5	1	1		1	2	3	32
reporting progress	1		1									1		1			1				5
monitoring	1			1	1		2	2		2		1									10
coordinating activities	2	1	1	1				1	1		2		1	1							11
Hands on to ensure done	1			2	1	1		1										1		2	9
Manages team directly									1					1		1	3	1		1	8
Proposes solutions for problems								4	2	3							1	1			11
on the move	1				1					1				1	1		1				6
	10	5	4	4	4	5	2	11	6	6	3	31	1	10	2	2	7	5	2	7	99
Knowledge of the Business																					
Knowledge of business		3				1		2				2									8
	70	70	59	63	68	77	37	65	35	35	44	96	31	76	74	59	36	51	33	41	1092

3.4 Activity Codes in order of Frequency

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total	Cum	Cum%
creating project process	6	9	2	11	5	2	2	2	1	3	1	5	1	8	10	5		1	1	3	78	78	7.14%
Gains powerful allies	3	2	2	1	2	1		6			1	7	4	10	8	6		8	3	2	66	144	13.19%
Involves / includes the right people	9	4	2	2	4	1	1		1	1	6	7	1	5	1	10	1	3		4	63	207	18.96%
Uses network to get info	4	3	1	5	2	5	3	2		1	8	5			6	2	1	1	4	1	54	261	23.90%
documents plans and activities	2	4	2	2	3	4	4	3	2	3	1	3		4	8	4		1	1	2	53	314	28.75%
Appraises political situation	1	4	1	7	9	4	1	4	1			3	1	1		2		4	2		45	359	32.88%
creating project structure	2	2	1	7	4	1							1	5	2	3	3	1		1	33	392	35.90%
maintains morale	4	2	1		1	4	2				2	4	1	1	1	4	1	2		2	32	424	38.83%
Ensures things get done	3	3	2			4		3	2		1	1		5	1	1		1	2	3	32	456	41.76%
Works to overcome resistance	2	1	2	1	1	2	2	3			2	1	4	1	1	2		5			30	486	44.51%
identifies stakeholders		2	1		1	3	1	4		2		2		1	2		1	3	1	3	27	513	46.98%
obtains resources	3		1		2	2	2	4	1	1	1		1	3		3		1		1	26	539	49.36%
Influences without authority	1	3	5		1	6				1		1	1	1	2		3				25	564	51.65%
Manages expectations			5			3		1	2		1	4			3	1	1	1		2	24	588	53.85%
resolves conflicts	6	2	3	2		1		1			2			1	1	1	2	2			24	612	56.04%
Managing risks		2				2	3	3			4	2	3		3		1				23	635	58.15%
Managing TCQ	2				1	2	1	2	1	2	2	1		3	2		1		1		21	656	60.07%
Knowledge and use of PM techniques	1	3		1	4			1					1	3	1	1	1		4		21	677	62.00%
Keeps sponsor informed		1	1	1	2	1	1	2	3		1	1	1	2	1	2			1		21	698	63.92%
Celebrates achievements	1	1			3	2	4					2		1	4	1				2	21	719	65.84%
Coaches less experienced PMs		1		2	1	2			3	3					2	1			4		19	738	67.58%
Looks after project staff		1	2	1	1	4		2	1					1	1			3			17	755	69.14%
Learns from mistakes	1	2	2		4	3	1	1		1			1	1							17	772	70.70%
gets high level approval			5	4			2					1			1			1		2	16	788	72.16%
scoping project	1	2	2	2	1	1		1	1	1						1				1	14	802	73.44%
Explore all viewpoints	2	1	3		1	1					3			1						1	13	815	74.63%

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total	Cum	Cum%
makes presentations to business		1		1	2			3							2	1			1	1	12	827	75.73%
coordinating activities	2	1	1	1				1	1		2		1	1							11	838	76.74%
Proposes solutions for problems								4	2	3							1	1			11	849	77.75%
applies pressure					1					1		3		1	1			3			10	859	78.66%
negotiating with line			1			2		1	2			1		2			1				10	869	79.58%
faciliating workshops			4	2	2			1							1						10	879	80.49%
procurement contracts	1	1						1		2			1	1			1		2		10	889	81.41%
help others plan	1	1	1		2	2						1				2					10	899	82.33%
monitoring	1			1	1		2	2		2		1									10	909	83.24%
satisfy clients	1					1		1	1				1				2	1		1	9	918	84.07%
lobbies behind the scenes				1		1						2	2	1				2			9	927	84.89%
sells decisions to the team					1	1			1		1		1	3		1					9	936	85.71%
Runs team meetings	1	1	1	2	1		1			1			1								9	945	86.54%
hire transfer or fire staff						2			1				1				2	2	1		9	954	87.36%
Hands on to ensure done	1			2	1	1		1										1		2	9	963	88.19%
Sets quantifiable targets		3		1		2		1									1				8	971	88.92%
Seeks clarity of vision			1	1					1				1	1	1					2	8	979	89.65%
channel escalating issues	1			1		2		2		1			1								8	987	90.38%
Manages team directly									1					1		1	3	1		1	8	995	91.12%
Knowledge of business		3				1		2				2									8	1003	91.85%
Seeks info for monitoring	1									1		1			1		2		1		7	1010	92.49%
manages team directly									1	1		1				1	3				7	1017	93.13%
Gives honest feedback		1							2	1	1								1	1	7	1024	93.77%
educates line in PM						1			1					1	3					1	7	1031	94.41%
conducts PIR	1	1			1									1			1	1		1	7	1038	95.05%
change management							1			1		2			1				1		6	1044	95.60%
coordinating PMs	1	1	2				1							1							6	1050	96.15%
on the move	1				1					1				1	1		1				6	1056	96.70%

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total	Cum	Cum%
estimating time and resources			1						2		1					1					5	1061	97.16%
Introduces new techniques											1	1			1		1		1		5	1066	97.62%
reporting progress	1		1									1		1			1				5	1071	98.08%
Creates project proposal											1			1		1		1			4	1075	98.44%
justify project activities	1				2							1		1							4	1079	98.81%
helicopter view of project		1		1			1													1	4	1083	99.18%
enables others to shine					1							1			1	1					4	1087	99.54%
teaches techniques to team	1										1								1		3	1090	99.82%
stands back lets others work							1			1											2	1092	100.00%
	70	70	59	63	68	77	37	65	35	35	44	96	31	76	74	59	36	51	33	41	1092		

3.5 Activities Described by Project Managers (in order of appearance)

The numbers indicate the frequency with which a coded activity was recorded. The table is ordered to show the first occurrence of each activity in the coding. 33 of the 61 codes were constructed from the first interview. No new codes appeared after the eleventh interview.

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
creating project process	6	9	2	11	5	2	2	2	1	3	1	5	1	8	10	5		1	1	3	78
Gains powerful allies	3	2	2	1	2	1		6			1	7	4	10	8	6		8	3	2	66
Involves / includes the right people	9	4	2	2	4	1	1		1	1	6	7	1	5	1	10	1	3		4	63
Uses network to get info	4	3	1	5	2	5	3	2		1	8	5			6	2	1	1	4	1	54
documents plans and activities	2	4	2	2	3	4	4	3	2	3	1	3		4	8	4		1	1	2	53
Appraises political situation	1	4	1	7	9	4	1	4	1			3	1	1		2		4	2		45
creating project structure	2	2	1	7	4	1							1	5	2	3	3	1		1	33
maintains morale	4	2	1		1	4	2				2	4	1	1	1	4	1	2		2	32
Ensures things get done	3	3	2			4		3	2		1	1		5	1	1		1	2	3	32
Works to overcome resistance	2	1	2	1	1	2	2	3			2	1	4	1	1	2		5			30
obtains resources	3		1		2	2	2	4	1	1	1		1	3		3		1		1	26
Influences without authority	1	3	5		1	6				1		1	1	1	2		3				25
resolves conflicts	6	2	3	2		1		1			2			1	1	1	2	2			24
Managing TCQ	2				1	2	1	2	1	2	2	1		3	2		1		1		21
Knowledge and use of PM techniques	1	3		1	4			1					1	3	1	1	1		4		21
Celebrates achievements	1	1			3	2	4					2		1	4	1				2	21
Learns from mistakes	1	2	2		4	3	1	1		1			1	1							17
scoping project	1	2	2	2	1	1		1	1	1						1				1	14
Explore all viewpoints	2	1	3		1	1					3			1						1	13
coordinating activities	2	1	1	1				1	1		2		1	1							11
procurement contracts	1	1						1		2			1	1			1		2		10
help others plan	1	1	1		2	2						1				2					10
monitoring	1			1	1		2	2		2		1									10
satisfy clients	1					1		1	1				1				2	1		1	9

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
Runs team meetings	1	1	1	2	1		1			1			1								9
Hands on to ensure done	1			2	1	1		1										1		2	9
channel escalating issues	1			1		2		2		1			1								8
Seeks info for monitoring	1									1		1			1		2		1		7
conducts PIR	1	1			1									1			1	1		1	7
coordinating PMs	1	1	2				1							1							6
on the move	1				1					1				1	1		1				6
reporting progress	1		1									1		1			1				5
justify project activities	1				2							1		1							4
teaches techniques to team	1										1								1		3
identifies stakeholders		2	1		1	3	1	4		2		2		1	2		1	3	1	3	27
Managing risks		2				2	3	3			4	2	3		3		1				23
Keeps sponsor informed		1	1	1	2	1	1	2	3		1	1	1	2	1	2			1		21
Coaches less experienced PMs		1		2	1	2			3	3					2	1			4		19
Looks after project staff		1	2	1	1	4		2	1					1	1			3			17
makes presentations to business		1		1	2			3							2	1			1	1	12
Sets quantifiable targets		3		1		2		1									1				8
Knowledge of business		3				1		2				2									8
Gives honest feedback		1							2	1	1								1	1	7
helicopter view of project		1		1			1													1	4
Manages expectations			5			3		1	2		1	4			3	1	1	1		2	24
gets high level approval			5	4			2					1			1			1		2	16
negotiating with line			1			2		1	2			1		2			1				10
faciliating workshops			4	2	2			1							1						10
Seeks clarity of vision			1	1					1				1	1	1					2	8
estimating time and resources			1						2		1					1					5
lobbies behind the scenes				1		1						2	2	1				2			9
applies pressure					1					1		3		1	1			3			10

Activities / Project Managers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	W	Total
sells decisions to the team					1	1			1		1		1	3		1					9
enables others to shine					1							1			1	1					4
hire transfer or fire staff						2			1				1				2	2	1		9
educates line in PM						1			1					1	3					1	7
change management							1			1		2			1				1		6
stands back lets others work							1			1											2
Proposes solutions for problems								4	2	3							1	1			11
Manages team directly									2	1		1		1		2	5	1		1	15
Introduces new techniques											1	1			1		1		1		5
Creates project proposal											1			1		1		1			4
	70	70	59	63	69	77	37	65	35	35	44	68	31	76	74	59	35	51	33	41	1092

APPENDIX 4:

FEEDBACK FROM PROJECT MANAGEMENT PRACTITIONERS

A: Pauline Wickens
E-Commerce Project Manager, Dell Financial Services

To: Sarah Blackburn/Lex@Lex Service
cc:

Subject: PM Research

Sarah,

I hope you are well. I finally managed to get from the States - it was so hot!! Anyway I read your paper on the plane and I was very impressed. I'd rather provide you with an general comment on your article, together with my own personal view of what makes an excellent project manager as I don't believe I can add a great deal to your text.

I thought the article was very incisive and there is nothing in it that I fundamentally disagree with. I could completely relate to the content as it touched on a lot of my experience both as a project manager and from watching other project managers in action.

From my own personal experience the following are a list of qualities that all the excellent project managers I have encountered have possessed:

* The power of influencing/stakeholder mobilisation/networking - having allies in powerful places
* Excellent facilitation skills
* Persuasion/negotiation skills
* Excellent project management practices and techniques
* Understanding where people are coming from
* Motivation/leadership qualities - gaining commitment and leading by example
* Ability to do things quickly
* Dependable - gaining trust and confidence from others
* Knowing when to keep your distance
* Hassle people when you have to - but in a nice way!! Getting them to do things that they probably wouldn't do for other people
* Making sure tasks are accepted by people and then keeping on top of them - so to speak - until they complete
* Approachable - people want to tell you things (even when they are bad news)
* It is helpful being female (non threatening) although it can be a disadvantage (male bonding activities)

On the Project Office front, I am a great believer that it can really work. The key thing is that it is seen as an enabling unit and not a prevention unit (putting barriers up to project managers). Providing assistance,

facilitating, offering advice and being a centre of excellence.

I hope this helps - it's not exhaustive but they were the first that came into my head. I'm sorry it's rushed but I'm in meetings all day today and wanted to get something to you.

Keep in touch & take care.

Pauline

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B: Jonathan Ward
Group Chief Executive
Severn Group

To: Sarah Blackburn/Lex@Lex Service
cc:

Subject: Feedback as requested

Hi Sarah,

I found the chapter you sent fascinating! Overall I cannot argue with its conclusions and I whole heartedly support much of the content. May I respectfully offer the following:

Page 2, 5.4 first para. You mention project managers - have you elsewhere linked or separated programme managers. If you have forget this point if not then you could either link them here or propose something for further research.

Page 3 3rd para Wherever..... I don't like the word problematise. It doesn't fit with any other standard word used in PM standards or methodologies and the like. Is this deliberate? If not then a defines or scopes might give clarity. If you altered the word than there would also be links back to the Standish list of why projects fail.

Page 4 2nd para It appears..... Thamhain & Williman(spell??) and Dr Deborah Kezabom (reworked the research) sources of project conflict. More conflicts about how work has to be done rather than what has to be done!

Page 7 I've a feeling that the Machiavellian reference is a little older than 1998 !!

Page 14 Para 5.3 It looks to me as though this subject could be very usefully expanded. May be this is not for you but someone should do it!!!

Page 15 fourth para If you already..... Would this para fit more comfortably following para 2 IT appears..... page 4. At this point you are discussing the use of structure on Page 15 you are talking of relevance to employers - given that a PMO is an employer decision not a PM you could also leave it where it is.

All the comments. Apart from its a GOOD READ!!!

Now the rub any chance of giving me a couple of references

Linde and Linderoth (2000)

Law and Singleton (2000a)

Bonke and Winch (2000) what a lovely name definitely one to be quoted on the conference circuit!!!

Anotonacopoulou & Fitzgerald (1997)

Which one of Lin Crawfords papers are you referring to in para 3 page 12 The most commonly.....

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C: Dr. Gerald M. Mulenburg
Chief, Aeronautics and Spaceflight Hardware Development Division, NASA

To: Sarah Blackburn/Lex@Lex Service
cc: lynn@aipm.com

Subject: Re: Project Managers

Sarah,
Thanks for your comments. I do know Lynn and will be in touch with her about the MBTI of her NASA PM's.

I have now read your draft and am intrigued by your research and find much of your results parallel my findings. I see a lot of parallels between your and my findings.

Even though I am not familiar with Actor-Network Theory I offer some comments about your final chapter as you requested, although they may be confusing or not be appropriate because of my ignorance of ANT.

Your point about project management being a temporary social organization is well made. And, your metaphors are apt about how the actual events (actors?) play out (sheep dog and wandering sheep, hired gun and fire-and-forget missile, swims purposefully, etc.). A key element that is well articulated is the statement, "The project management plan should be distinguished from the project plan."

It was a bit difficult to clearly connect the bullet points in the introduction (each of which appear as equally important) to the content of the separate following sections (of which 5.1 is well developed but the others were more brief). I would suggest making the following sections agree as much as possible with the bullets to help the reader follow easily.

In 5.3, after reading your findings, I was not clear whether you intended to mix the characteristics (a clear sense of mission, understands the business, knowledge of project management techniques, etc.) and behaviors (seeks, explores, creates, etc.) but you may want to consider separating them if it makes sense to do so. Your headings in this section are all behaviors except the first one (A clear sense of mission).

I would like to see MBTI results for your project manager participants if there is anyway possible for you to obtain them. I can send you the forms and you can return them to me for evaluation if you can share them with me.
Jerry

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D: Kenny Wilson
Channel Development Programme Manager
Abbey National

Sarah Blackburn
20 Magna Carta Lane
Wraysbury
Staines
TW19 5AF

23rd October 2000

Dear Sarah,

Thank you for sending in the 'Summary of Findings' from your doctoral research.

Since you last spoke to Anne, she has moved to a new division of Abbey National leading the development of our new independent bank 'Cahoot' and for the past year I have led the projects area.

In Anne's absence I took the liberty of reviewing your findings. I found them to be:

True to life in your characterisation of Project Managers

Insightful in the mind set and thinking of individuals

In-tune with the processing of managers, sponsors and stakeholders

Accurate in how we operate within a rigid operational structure

It makes for an interesting read, to see how my profession is viewed from the perspective you have adopted as Actor – Network.

Thank you for passing this content back to us. I hope you do not mind that I would like to expose this to our new graduate trainees, who would find the thinking helpful as they try to shape their skills and behaviours to be effective within Project Manager roles.

Yours faithfully

Kenny Wilson
Channel Development Programme Manager
Abbey National

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