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Knowledge-Intensive Firms: Configuration or Community?

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Summary

This thesis is a study into the nature of knowledge-intensive firm defined here as professional service firms providing tailored services to corporate clients and relying heavily on the problem solving capacity of their employees. This thesis attempts to strike a balance between a straightforward and overtly empirical piece of work which presupposes the meaning of knowledge work and an abstract contribution which questions, explores and attempts to reframe our understanding of the prevailing concept of knowledge work and of the knowledge-intensive firm. Three exceptionally successful contemporary firms are studied as potential exemplars of this seemingly new organisational form. The cases are examined from three overlapping and integrated perspectives. First, a structure and design perspective is adopted. The existing literature on the structure and design of these firms is examined and developed into an ideal type (Weber, 1978) which is subsequently used in the interviewing of employees. A more processual/contextual/alternative perspective on knowledge work is then adopted and combined with the related concept of community is applied to the study of the three cases. Finally, drawing on the historical case of early Irish monasticism, a premodern knowledge-intensive institutional form, the sense of the interrelationship between structure and community is elaborated upon and, along with some peculiarly monastic angles, applied to the three cases. The overall conclusion is that contemporary KIFs represent “*plural forms*” (Jeffrey, 1991) in the sense that they use different internal and external control mechanism simultaneously for the same function. While the operations of these firms are complex and unusual, the claim of a new paradigm of management underpinning these firms is rejected.

Abbreviations

KIF:	Knowledge-intensive firm
PSF:	Professional service firm

Introduction

Background and Purpose

This thesis is an exploration of the management, design and function of professional service knowledge-intensive firms. It is a topical issue in that it is centrally linked to the current preoccupation with the need to encourage and develop creativity and innovation within organisations in the face of increasing environmental complexity and uncertainty (Senge, 1990; Nonaka, 1991). This concern is most clearly seen in the rapidly expanding literature on the topic of knowledge management. This pervasive preoccupation presents the development and exploitation of new and useful knowledge as the only true source of sustainable competitive advantage. This, in turn, is repositioning employees as the core asset of organisations on the basis that creativity and innovation ultimately flow from the knowledge of the employees (Pfeffer, 1994). Ten years ago there was a limited literature dealing specifically with the issue of knowledge within organisations. Starting in the mid-1980s a number of authors began writing about knowledge-intensive firms with these firms typically portrayed in a neat, if somewhat stereotypical, manner as professional firms, management consultancies or research centres (Maister, 1985; Starbuck, 1992). These firms were seen as dynamic and highly innovative but rather quirky and unique. In recent years, however, the managerial and organisational studies fields have seen an explosion in interest in knowledge work and its management. All types of organisations must now busy themselves developing, sharing and protecting new and relevant knowledge. Research into knowledge management has flourished at a both theoretical and empirical level. However, two important questions appear to be currently preoccupying the minds of many academics namely, what exactly is knowledge work and why has knowledge work become such a pressing concern for so many organisations in recent years? The intention of this thesis is to address these issues in a partial if possibly elitist way. If one is to try and make some sense of the topic of knowledge work, assuming that there is sense to be made of the topic, then it would appear advisable to return to “basic principles” and examine the narrow sector which

first led to the popularisation of the concept. Interestingly, this small but influential sector, the knowledge-intensive firm (KIF), epitomised by professional service firms such as management consultancies, is now one of the primary drivers behind the inexorable spread of the knowledge management creed (Jeffers, 1997). The exemplars have become the prophets, spreading their own good word - and at a considerable profit!

A study of this narrow segment can be justified at two levels. First, it is suggested that by focusing on a narrowly defined, though crucially influential, segment of the knowledge sector, one may gain insights into the nature of knowledge work. This, in turn, will facilitate an examination of the claim that competing in the new knowledge society requires a new model or paradigm of management (Drucker, 1992; Nonaka, 1994) and that successful KIFs represent such a model. Second, an examination of the core activities of this sector should give some interesting insights into the central question as to why this nebulous concept of knowledge has become such a burning preoccupation and concern of most organisations today. These highly successful firms are deemed to hold “*knowledge*” that other organisations need and desire. The nature of this “*knowledge*” is, however, still far from clear. Bearing these issues in mind this thesis will attempt to address the following research questions:

- 1. Is it meaningful to talk about professional service KIFs as a specific and identifiable category of firm that has emerged in the current period of late modernity?**
- 2. What factors need to be considered in explaining the success of this narrowly defined group of highly successful KIFs?**
- 3. Do the management practices within these firms represent a new paradigm of management?**

This is a challenging area of research, fraught with methodological problems. In addition, conceptual and theoretical developments, while still evolving and highly contested, have raced ahead of empirical work. A number of difficulties present themselves in

undertaking a study into this dynamic and complex topic. First, a decision has to be made as to what to encompass under the terms “*knowledge worker*” or “*knowledge-intensive firm*”. These terms are typically narrowly defined focusing on the high-level brain or gold-collar worker (Handy, 1989) but can be extended to encompass a range of occupations, at all levels of organisations in a wide range of sectors (Stehr, 1994; Blackler, 1995). Similarly, one can narrowly categorise KIFs as professional service firms staffed by highly qualified experts who engage in esoteric problem solving to provide tailored services to corporate clients or alternatively suggest that all organisations are ultimately knowledge-intensive. In this thesis both the knowledge worker and KIFs are narrowly defined. The KIF category is further subdivided and the investigation focused largely on professional service KIFs (defined in chapter 1). The approach adopted is that if one is to find anything distinctive under the knowledge work banner then it should be clearly in evidence within so called exemplars of this new grouping. A second difficulty is that there is no agreement as to how the knowledge used by knowledge workers is different from that used by other categories of workers. The view adopted here and subsequently empirically investigated is that knowledge workers use esoteric technical or theoretical knowledge. This is in keeping with the view expressed by Bell (1973) and others. Third, the context in which knowledge work occurs must be taken into account. As Stehr (1994), drawing on the work of Whitehead (1926), explains:

...it is most difficult, theoretically and empirically, if not impossible, to disentangle either knowledge from the social organization in which it originates since its form and content are affected by the context of its production, or to try to disassociate knowledge from the context of its ‘transmission’ to a particular clientele (1994:170).

Both these contexts will be dealt with in this work through an examination of the knowledge development practices within KIFs and through an examination of their role within the emerging knowledge society. A fourth and more pragmatic difficulty faced in undertaking this research concerned issues of access, confidentiality and availability of interviewees.

The study originally consisted of four case studies. The fourth case, a medical research consultancy, withdrew from the study early on in the interview process citing concerns over client confidentiality. Attempts to gain access to a similar research consultancy also failed on the same basis. The remaining three cases agreed to be part of the study but insisted that client details and identity would not be discussed unless such details were already in the public domain. One of the cases agreed to participate provided the study did not involve any other firm in their industry. From an organisational perspective, one got a sense of a willingness to participate and a genuine interest in the topic under examination. Indeed, all three cases were actively involved in undertaking and reviewing deliberate knowledge management practices and requested formal feedback. This interest was, however, tempered by a concern about exposing the organisation to potentially embarrassing or damaging public scrutiny, endangering their commitment to complete client confidentiality and a dislike of tying up expensive employee time in unproductive activities. Access difficulties led to some of the material that is the focus of this thesis being gathered in a somewhat covert manner. This issue is addressed further in appendix 1. Once access had been agreed and interviewees identified, the author had to arrange interview times directly with the employees concerned. Given the workload and international mobility of these employees across all three firms this proved to be a difficult and extremely frustrating process. In the end the relatively small number of interviews undertaken took three years to complete which, on the positive side gave the study a quasi-longitudinal nature. One particular interviewee rescheduled his interview seven times due to pressure of work. Frequent interruptions to and delays in starting interviews also resulted in the author spending considerable time within the three organisations providing an opportunity to observe employee behaviour. Once the interviewees were underway the author found the interviewees collectively helpful and open, even eager, to talk about their work experiences. A fifth and final difficulty encountered during the fieldwork concerned the density of material uncovered at interview. All key terms needed individual clarification and

translation. Each organisation was also found to use its own unique form of language with unique terms and acronyms. In addition, many of the taken for granted terms and concepts used by both interviewer and interviewees required careful explanation to ensure clarity of comprehension. The complexity and density of the material being addressed was made more complicated by the highly interrelated nature of all of the individual components investigated. While addressed in chapter 2, it is worth emphasising at this stage that the author found it impossible to adequately capture in a one-dimensional diagram the complex, holistic and lattice-like nature of the organisations under examination. The solution offered is a compromise.

This thesis attempts to strike a balance between a straightforward and overtly empirical piece of work which presupposes the meaning of knowledge and a philosophical and abstract contribution which questions, explores and attempts to reframe our understanding of the prevailing concept of knowledge work and the KIF. It will do this in four stages as follows:

(a) by initially adopting a relatively straightforward focus on the structure and design of these organisations (herein referred to as a functionalist perspective). Chapter 1 establishes a broad understanding of the current conceptualisation of knowledge work. At a macro level the chapter critiques the ideology of the information or knowledge society and questions the prevailing view that advanced societies are entering a distinctively new epoch involving a new social, political and economic order. At a micro level, the chapter then examines the development of the service economy focusing on the emergence of and activities of KIFs. The chapter concludes with a review of the current mainstream literature dealing with the classification and categorisation of knowledge workers and of the knowledge they are deemed to use. Remaining with this largely classificatory literature, Chapter 2 undertakes a detailed review and critique of the empirical and conceptual literature addressing the structure and management of KIFs. The literature is integrated into a

broadly based, normative configuration or ideal type (Weber, 1978) that identifies a number of the key features (processes, structures, activities, policies, etc.,) that are typically considered in the design and functioning of KIFs. This framework, supplemented with material from chapters 3 and 4, is used to structure the interviewing across the three case studies.

(b) by then deepening the analysis of KIFs in Chapter 3 by adopting a more processual and contextual perspective on knowledge and subsequently on KIFs and their knowledge workers. Here the generally basic and classificatory literature from chapters 1 and 2 is contrasted with more theoretically sophisticated, though frequently still conceptually limited, contributions on the underlying dynamics of KIFs. Issues of legitimation and community are highlighted for particular attention.

(c) by building on the two previous contributions through an examination of the case of early medieval Irish monasticism (7th to the 11th century). This organisational grouping is presented in chapter 4 as a dynamic and influential premodern community of knowledge workers that was dedicated to the gathering, development, protection, and dissemination of a diverse body of knowledge. The suggestion made in chapter 4, and developed further in chapter 8, is that the structure and function, societal role and communitarian orientations within 8th Century Irish monasteries have a peculiar and remarkable resonance with the management practices and activities of contemporary KIFs. The case is used to highlight the need to fuse these various perspectives in gaining a holistic understanding.

(d) and finally, by applying and analysing the diversity of views presented above to three highly successful contemporary KIFs. Chapters 5 to 7 inclusive present the findings from the three contemporary case studies which are then individually and collectively analysed in chapter 8 around three main overlapping perspectives namely, a structure and design angle, a processual/alternative and community angle and a monastic angle. Chapter 9 concludes the thesis summarising its key

contributions. A brief overview of the research methodology underpinning the thesis and a justification of the choice of the three cases is contained in appendix 1.

Bearing in mind the four broad research questions underpinning this research, the primary purpose of this introduction is to justify an examination of this issue in Ireland – the location of the three case studies and to attempt to clarify the cyclical trajectory of the arguments being developed. The introduction will initially consider the claim that Ireland is becoming an information/knowledge society and examine current government and public policy on this issue. This contemporary perspective will then be supplemented with a range of historical contributions that will suggest that Ireland, in some respects at least, has always been a knowledge society. Drawing on material from the 8th Century AD (Ireland's Golden Age), the argument will be made that Ireland was in the past a distinctive knowledge society. Indeed, the case will be tentatively made that knowledge and learning are and always have been a dominant preoccupation of Irish cultural life. The broad direction of this argument is to suggest a strong level of continuity or at least cyclicity, though not necessarily a progressive one, in the development of the idea of a knowledge society and of the key players in such a society. To develop this claim to cyclicity it is first necessary to consider Ireland's claim to be an emerging contemporary knowledge society.

Contemporary Ireland as a Knowledge Society

In March 1996, during consultations on the preparation of the Forfas (the State policy advisory and co-ordination board for industrial development, science and technology) long-term strategy, the then Minister for Enterprise and Employment, Richard Bruton, announced the establishment of an Information Society Steering Committee. The steering committee was set up to identify the issues associated with the emergence of the Information Society, assess Ireland's preparedness to benefit from the possibilities afforded by the Information Society and identify appropriate strategic responses and actions required to derive maximum

benefits from the Information Society. The Steering made its report to the Minister in December 1996. The report, entitled “*Information Society Ireland, Strategy for Action, Report of Ireland’s Information Society Steering Committee*”, defines an information society as one in which “... *economic and cultural life is critically dependent on information and communication technologies* (p.89). Four dimensions of change are identified as pulling Ireland and other countries towards an Information Society namely:

- An economic dimension with economies developing from an agrarian to an industrial economy and now on to one based on information and knowledge;
- A global dimension with telecommunications facilitating the opening of a global economy and global competition;
- A technological dimension with economic and social changes enabled by advance information and communication technologies; and
- A human dimension, more aspirational in nature, focusing on the need to empower and liberate people at a broad social level.

The report presents the concept of an Information Society as a reality “...*happening here and now*” (p.3). A number of countries, Singapore, Denmark and Malaysia, are identified as ahead in the race to fully realise the benefits of this new global manifestation and the report sets out an action plan to facilitate Ireland in fully participating in the new society. Their strategy for action is based around the five interdependent and mutually supporting pillars of public awareness, the provision of an advanced infrastructure, adequate learning, enterprise and government leadership (1996: 49-50).

Following the publication of the steering committee report, an Information Society Commission was appointed under the aegis of the Department of the Taoiseach (Prime Minister) in May, 1997. The Commission was given responsibility for promoting, co-ordinating and monitoring the implementation of action required from both the governmental and non-governmental sector in the development of an information society in Ireland. The Commission has published one report since its establishment. The report

highlights three issues as requiring special attention namely the provision of low cost broadband telecommunications, the need to address specific skills shortage and the need for effective domestic intellectual property rights legislation. On the business side the report stresses the need to build now on the country's short-term advantages if the opportunities of the information society are to be fully exploited.

The only other recent governmental policy document that makes reference to the concept of an Information Society is the May, 1996 Forfas report "*Shaping our Future: A Strategy for Enterprise in Ireland in the 21st Century*". The report, the current main policy guiding the Irish Government's approach to industrial, scientific and technological development, identifies information-based services as offering the most significant opportunities for Ireland. The Forfas report, mirroring the Information Society Steering Committee report, talks about the history of telecommunications being at a watershed where "...the Industrial Society will be transformed into the Information Society due to the effect of technology on every aspect of life" (1996:221). The core recommendations of the Forfas report, in so far as they relate to the Information Society, focus on the development of a sophisticated, competitive and cheap telecommunications service and the encouragement of its adoption by the business community. The report suggests that this infrastructural approach, coupled with Ireland's relatively low wage rates and young and skilled workforce, will enable the country to become a European Union information/service hub mirroring the role of Singapore in the Far East (1996:226).

In reviewing current Irish Government policy statements on Ireland and its emerging tendency towards an Information Society there is a clear subliminal message running through the contributions. The recurring message is of a golden opportunity not to be missed. Ireland, due to its location as a small island behind an island at the edge of Europe, missed early Roman civilising influences. External political constraints in the form of restrictive protectionist policies imposed on the country were largely responsible for the agricultural revolution having had a minimal impact on the country's then substantial

agricultural potential. The country's significant 19th century industrial base was dismantled by its larger neighbour and this situation, compounded by extensive internal civil strife, saw Ireland missing out on the early industrial revolution. Late industrialisation (mid 1960s) has resulted in a sophisticated modern industrial base (high technology, telecommunications, chemical and pharmaceuticals) which is deemed ideally suited to enable Ireland, for once, to be at the forefront of a reputedly impending revolution, the new Information/Knowledge Society. A technical report by Forbairt, the State science and technology advisory body, entitled "*Ireland: The Digital Age, The Internet*" and published in early 1996, hints at the ability of Ireland to take an early and leading role in this new digital age. To quote from the report:

Ireland has all the raw materials and talent necessary to play a central role in the Digital Age, and in the process initiate an Irish renaissance (1996:10).

A renaissance implies a rebirth, a regaining of past glories but the report fails to shed any light on either the nature or timing of Ireland's past glories. This issue, Ireland's historical legacy, is the subject of the next section

Ireland as a Knowledge Society: Historical Resonances

The focus of this introduction, however, will be Ireland in the early Middle Ages (starting in the late 4th century AD with the arrival of Christianity and Latin writing to Ireland, reaching its zenith in Ireland's "Golden Age" - 8th to 9th century - and largely disappearing by the 12th century). It is suggested here that in this period Ireland became a distinct and unique society by European if not world standards. As classical European civilisation and culture temporarily faded and disintegrated in the face of the decline of the Roman Empire and the so called barbarian onslaught, Ireland, briefly but brilliantly shone out as an intellectual haven. An influx of European ideas and people blended with Ireland's own mythical and pagan civilisation to produce a strange and vigorous reaction. In

particular, during its “*Golden Age*”, it is suggested that Ireland can be regarded as a distinctive knowledge society, albeit an elitist one, centrally revolving around a peculiar mix of ecclesiastical and secular knowledge and learning. It was the unusual and complementary cross fertilisation between the secular and the ecclesiastical, both extremely dedicated to knowledge gathering, preservation and diffusion, that was to lead to Ireland’s then world repute as a centre of learning and knowledge. One writer goes so far as to attribute the saving of civilisation to the Irish arguing that they were largely responsible for preserving and reintroducing Europe’s classical, religious and cultural heritage during the early Middle Ages (Cahill, 1995).

This unique and extremely rich Irish epoch began a gradual decline with the attacks of the Vikings (9th and 10th centuries). This bloody and somewhat destructive period was followed by major church reforms in the 11th and 12th centuries aimed partly at reining in these wayward and excessively independent monastic groups. During this period of necessary church reform there was a move towards conformity with the continental church in terms of structure and behaviour. An Episcopal administrative system replaced the older territorial organisation of the native Irish monastic organisation and new foreign religious orders were introduced (the Benedictine and Cistercian Orders). The native Irish language also largely replaced Latin as the medium of writing, giving knowledge development a more local and native focus. The death knell of the old order was the Anglo-Norman invasion of the 12th-13th centuries which dramatically and irretrievably altered all aspects of Irish life (Kenney, 1968; Martin, 1994; O’Cuiv, 1994; de Paor, 1994).

It should be noted that the focus on the development and decline of Ireland’s Golden Age is not to suggest that a concern with knowledge and learning ceased at the end of this period. Rather the suggestion is that the distinctive secular and religious nature of the knowledge being gathered, its relative concentration and its global diversity underwent a distinct change as this period came to a close. A case could be made that subsequent periods of Irish history were as unique as Ireland’s Golden Age particularly if one focuses on artistic

and literary knowledge and achievements. Indeed, throughout Irish history there has always been an interest in gathering, codifying, disseminating and evolving knowledge, historical, cultural, artistic, scientific or otherwise. Time and space constraints, however, restrict the author's consideration to an all too brief focus on Ireland's Golden Age.

The suggestion being made here is that current policy discussions as to the likelihood of and action necessary for Ireland to become an Information/Knowledge Society must be viewed in historical terms. Current efforts can be seen as an attempt to regain previous glory, replacing Ireland's past fame as a "*land of saints and scholars*" with contemporary fame as the "*intelligent island of Europe*", full of young knowledge workers. While the contemporary preoccupation with information and communication technologies somewhat differentiates this current period from Ireland's Golden Age, the centrality of knowledge and learning and the importance of an elite group playing a central role in mediating access to and interpreting knowledge in both these periods would encourage one to adopt a cyclical perspective on the issue.

Conclusion

As the literature on the reputed emergence of a new knowledge society and newly configured knowledge-intensive firms is reviewed in this thesis one will come across numerous claims as to a radical new epoch and dramatic new paradigms of management and managerial concerns. One of the purposes of this introduction has been to examine Ireland's current claim to becoming a new knowledge society. An examination of current public policy on this issue reveals a non-problematical perspective on the topic based on a linear and progressive trajectory of development. Of particular importance is the revolution in information and communication technologies and its role in the development and diffusion of information and knowledge. This introduction has problematised this simplistic perspective by suggesting that current developments need to be seen in more cyclical terms. Ireland was once a distinctive knowledge society and this thesis will argue that lessons can be learned from adopting an historical perspective on the issue.

The flowering of Irish monasticism during Ireland's Golden Age provides an unusual and unique perspective on a distinctive knowledge society of the early Middle Ages. Through the efforts of initially two but ultimately one influential, though fragmented, elite group, the monastic orders, substantial strides were made in gathering, codifying and developing knowledge and, through learning schools, in re-establishing intellectual developments throughout Europe. While Ireland was not unique in its religious and educational practices during the early Middle Ages, it is regarded as one of the most effective such centres (Bieler, 1966:VII). This somewhat archaic, pre-Benedictine blend of Celtic monasticism flourished in a complex situation of mutual benefits and obligations. It was a structure that lasted for almost seven centuries and, even in collapse, exerted a considerable influence on the subsequent development of new religious practices within the country. The nature, dynamic and seeming contradictions of this unusually successful and internationally focused set of monastic communities and their extended social network will be explored further in chapter 4.

Chapter 1: The Knowledge Society and Knowledge Work

Introduction

The purpose of this chapter is to establish a firm understanding of the current conceptualisations of the concept of a knowledge society, of a knowledge industry and, more specifically of knowledge-intensive firms (KIFs) and their knowledge work(ers). The analysis starts at the macro, societal level with a consideration of a knowledge society. Various theories of the information/knowledge society will be examined with the intention of establishing some clarity over the prevailing meaning of the term and to consider the reasons for the largely ahistorical nature of the literature. The chapter then adopts a more micro perspective, focusing the analysis at the industry and organisational level. It will examine the nature of the knowledge industry and the development and nature of professional service firms (PSF) within this new society. It will focus on one specific type of PSF - the KIF. The final section of this chapter will critically examine the concept of the knowledge worker. The nature and functions of, and the conditions and institutional setting for knowledge-based occupations will be considered. Particular attention will be paid to the various attempts in the mainstream literature to classify and categorise the types of knowledge reputedly used by knowledge workers. This material will be supplemented, in chapter 3, with a range of processual and 'alternative' perspectives on knowledge work.

An Introduction to the New Information/Knowledge Society

A wide and diverse range of commentators have all heralded the coming of a new age (Galbraith, 1967; Drucker, 1993, 1997; Toffler, 1980; Naisbitt, 1984; Handy, 1989; Miles et al., 1997). This new age has been variously referred to as the wired society, the networked society, the digital age, the information age or more commonly the new information or knowledge society. These ongoing transitions have befuddled theorists resulting in many commentators abandoning any pretence of theory (Harvey, 1990:173). While a wide range of frequently conflicting theoretical interpretations have been put

forward as to the nature and direction of these contemporary changes (Bell, 1973; Toffler, 1980; Piore and Sabel, 1984; Harvey, 1990; Rosenau, 1992; Kumar, 1995; Webster, 1995), the significant and commonly shared point among the majority of these works is that:

...something is going on: economic, ecological, personal, social and cultural uncertainties are being experienced on an unprecedented scale. Institutional frameworks and individual cognitions are being stretched to, and perhaps beyond, the limits of their capabilities
(Blackler et al., 1993:857).

In addition, from an organisational perspective, most commentators tend to emphasise the key roles of creativity, innovation and knowledge in organisations and to suggest that these factors are only attainable through people who, in turn, are now seen as the key assets of any organisation. The search for sustainable competitive advantage is increasingly turning to the issue of the exercise of “... *specialist knowledge and competencies, or the management of organizational competencies*” (Blackler, 1995:1022). This type of knowledge is seen as essential to the successful functioning of new organisational forms based on networks, partnerships or contractual arrangements - the post-modern organisational form (Blackler, 1995:1027). Drucker predicts that the productivity of knowledge and knowledge workers will become the decisive competitive factor in the developed world and will force managers to adopt radically new management practices (1997: 22-24).

While debates around the new information/knowledge society and its associated knowledge workers have spawned a sizeable literature, much of it is excessively simplistic, narrowly focused and largely uncritical. The concept of an information/knowledge society, however, remains both attractive to and popular with politicians, academic and the public in general. There is now, however, a coherent and critical body of international research emerging in this area which suggests that there are three key motivations driving research into knowledge work:

- (a) knowledge work is seen as providing a growing proportion of (quality) employment in advanced industrial economies, yet little is known about the sector;
- (b) knowledge work currently constitutes a sizeable employment category but is generally perceived as having a capacity for greatly improved productivity levels; and
- (c) an understanding of how knowledge workers (and their loosely structured networks) function and how they can be effectively managed is seen as a crucial element in the increasingly heated debate over the possible nature, management and impact of a post-bureaucratic future (Reed, 1996).

To try and make sense of this complex and increasingly popular topic (if one can judge popularity on the basis of the increasing number of new books, journal articles and academic and practitioner conferences on the issue) we must first consider the ideological underpinnings of the new information/knowledge society.

The Dominant Ideology of an Information/Knowledge Society

Before examining the nature of the knowledge industry and knowledge work itself it is worth trying to clarify the theoretical underpinnings of the idea of an information/knowledge society and to consider the validity of these theories. While acknowledging Goethe's observation that there is no standpoint within an epoch to view an epoch, the material below will attempt to capture the zeitgeist of the ongoing debate as to the nature and future of the so-called information society. For the purposes of this thesis the term "*information society*" and "*knowledge society*" will be treated as synonymous. It is possible to differentiate between the two, an information society being concerned with the technological production, processing and transmission of large amounts of data while a knowledge society is concerned with the centrality of objective knowledge in contemporary society (Stehr, 1994). However, this line of argument (which has a parallel debate as to the

difference between information and knowledge) is presented here as too simplistic and largely unhelpful. Information and knowledge are different yet essentially interrelated.

The concept of an information society is an ideology in terms of its prediction of a radically new social order brought about through rapid advances in information technology (Kumar, 1995). The term “*ideology*” is used here to refer to a “...*road map of reality*” (Slack, 1987:2) which, in the case of the information/knowledge society, is seen by some as an instrument of domination and repression to be struggled against and by others as a fundamental and vital part of social life (Slack, 1987). Stehr (1994) sees the idea of a knowledge society as a social theory of modern society designed to capture the growing and contradictory societal consequences of science and technology. This social change manifests itself primarily in terms of a shift away from an economy based on material inputs to one based primarily on symbolic or knowledge-based inputs. He sees this development process as largely evolutionary emerging out of the heady optimism of the early 1960s in the face of seemingly unstoppable scientific and technological progress - the gradual ‘scientification’ (a form of enlightenment) of human life. Stehr suggests that all human action is knowledge-based and that knowledge has always had a function in social life. What differentiates contemporary knowledge at least within the context of “*high income economies*” is, according to Stehr, the penetration of scientific knowledge into all spheres of life. Scientific knowledge is now seen as the engine of much of the dynamics of economic activity. This new concern with knowledge-based inputs raises to new heights the role of certain occupational groups that mediate access to this knowledge. This new combination of factors of production is resulting in a new structure and organisation of economic activity. Stehr identifies Lane (1966:650) as one of the first authors to employ the term “*knowledgeable society*”. Lane’s contribution, along with the early works of Drucker (1969) and Bell (1973), brought to the fore the rising social, political and economic importance of scientific knowledge. The seminal work of Daniel Bell, *The Coming of Post-Industrial Society* (1973), represents one of the most influential and

enduring contributions to date on the analyses and the directions of structural change and organisational developments in advanced western societies (Reed, 1991). It also constitutes one of the main conceptual foundations for the literature on the information society and knowledge work. His work can be considered a speculative one - a social forecast about a change in the social framework of western society (Bell, 1973:9). His central thesis was that the next thirty to fifty years would see the emergence of a post-industrial society in which theoretical knowledge would play a strong central role. Bell operationalises his notion of post-industrial society in terms of five specific dimensions or components (p.14) with the axial principle being the centrality of theoretical knowledge as the source of innovation and policy formation. The heart of this new post-industrial society, for the present at least, is seen as the profit driven business corporation.

While rationality is the key feature of Bell's vision, of equal importance are the guardians of the faith, the new knowledge elite - Bell's engineers of the post-industrial system. While Bell sees the role of the politician as the ultimate decider of major social change, the post-industrial society will heighten the role of the knowledge elite. He explains:

The members of this new technocratic elite, with their new techniques of decision-making (systems analysis, linear programming, and programme budgeting) have now become essential to the formulation and analysis of decisions on which political judgements have to be made, if not to the wielding of power. It is in this broad sense that the spread of education, research, and administration has created a new constituency - the technical and professional intelligencia (Bell, 1973:342).

This new temporary, technocratic elite represents the stereotypical conceptualisation of the new knowledge worker.

Bell's work is a central component of the so-called "*dominant ideology*" (Slack, 1987) of the information society that has emerged in recent years. This ideology presents a simple,

linear and evolutionary typology with the information society replacing industrial society just as it, in turn, replaced agrarian society. The focus is strongly technological, concentrating on the dramatic impact of advanced information and communication technologies allied to the growing importance of and acceleration in the rate of distribution of hard information exchange. Unlimited and continual information growth is predicted leading automatically to unlimited and continual growth in knowledge. Local control will be facilitated and democracy will expand in tandem with increased individual freedom and mobility (Martin, 1978; Toffler, 1980; Masuda, 1981; Stonier, 1983; Castells, 1989). This upbeat, upskilling and utopian vision of a new peaceful, democratic, leisure society, pushed out by the information industry itself, found a receptive global audience. It quickly spawned its gurus such as Toffler (1980) and Naisbitt (1984) who played a key role in its rapid and successful dissemination (Kumar, 1995). Once the positive image of the information society had been disseminated and accepted by the masses its numerous negative aspects were largely ignored.

As an indication of its influence, Bell's work has been widely criticised. These criticisms can be equally levelled against many of the more popular contributions on this topic. Blackler et al (1993), drawing on the work of Kumar (1978), Robins and Webster (1989), Poster (1990) and Smart (1992), summarise a number of the key failings in Bell's work, namely:

1. the crude technological determinism implied in his work;
2. the ideological conservatism and utopian idealism of his central message;
3. inadequate consideration of the imperative of capital appropriation and accumulation which lay behind the commodification of knowledge and technological rationalization; and
4. inadequate consideration of the politics of socio-technical innovation.

Despite these theoretical weaknesses, Bell's contribution has remained an influential one. In this regard the various failings listed above are possibly best seen as strengths of his work

and reasons for its enduring popularity. A key contribution of Bell was his prediction of the emergence of new forms of organisations substantially different from the centralised and specialised bureaucracies of the past. More importantly, as Blackler et al., (1993) emphasise, “...his idea that knowledge is a quantifiable economic resource, and his analysis of the importance of elite knowledge workers have undoubtedly been, and remain influential” (1993:853).

The Information/Knowledge Society: Criticising the Dominant Ideology

The upbeat dominant ideology of the information/knowledge society is being increasingly undermined academically in the face of critical assessment. Criticisms of the ideology of the information society have been “...voluminous, sharp and largely persuasive” (Kumar, 1995:17). In many respects these criticisms are largely a repeat of the criticisms levelled against the idea of Bell’s post-industrial society. Kumar (1995:17) regards this as unsurprising given that the concept of an information society emerged from the earlier work on a post-industrial society and that both share a number of common analytical features and writers. The primary criticism levelled against the ideology of the information society is its short-sighted historical perspective. Grandiose claims of a radically new principle or direction in society, particularly in work organisations, fall in the face of a critical historical analysis. Current trends, while novel, can be seen as a continuation of the control revolution started in the late nineteenth century (Beniger, 1986) or simply Taylorism with computers (Robbins and Webster, 1987). The technology enables control to be applied into previously untouched areas of economic activity. Kumar (1995) is highly sceptical about the concept of an information society and he rejects its claim to represent a new social order. He sees, at present at least, no new principle or direction in society but rather clear evidence of continuity within existing patterns of the capitalist political and economic framework. The complexity and expense of IT make it the preserve of governments and large private

corporations. They have developed this technology to serve their own needs and bar the lucky few, the benefits of the information revolution are nowhere in sight (Kumar, 1995:33).

Kumar calls this particular phase of evolution within capitalism “*informational capitalism*”, a form of capitalism that may appear very different from previous forms but in reality remains firmly fixed within the confines of the old order (Kumar, 1995:154). Within informational capitalism, organisations can be globally dispersed in complex information networks but the information flows are still controlled centrally. The compression of time and space by the new technology has enhanced the speed, scope and flexibility of the system but, in turn, has rendered it “*...more vulnerable through a tendency to amplify relatively minor disturbances into major crises*” (Kumar, 1995:155).

Within the post-industrial/flexible accumulation field, one of the few early contributions with a strong historical and somewhat non-linear orientation is the work of Piore and Sabel (1984). Their concept of “*flexible specialisation*” represents a depoliticised (at least from a Marxist viewpoint) and more technological and managerial perspective on neo-fordism (Palloix, 1986). While embracing technological progress, the work has an eye to history arguing for the development of craft-like work practices of the past to maximise the potential of the new technology. Dawson and Webb (1989) explain:

Their ‘flexible specialisation’ thesis is essentially prescriptive, on the one hand advocating the need to create craft-like workers in order to make effective use of the technical capabilities of IT, and hence to overcome the relatively poor economic performance of industries in the West, and on the other hand the need to recreate a sense of purpose and dignity for labour. (1989:222)

Criticisms, both conceptual and empirical, of Piore and Sabel’s (1984) thesis are numerous (see Smith, 1989; Whitaker, 1992; Hyman, 1988; Dawson and Webb, 1989). They include the difficulty in developing coherent theoretical interpretations from the notion of flexible specialisation due to its breadth and oversimplified nature. This criticism in effect

discourages consideration of the historical grounding of contemporary practices. Their work has also been criticised for its neglect of the social relations of production in explaining capitalism, the false dichotomy of extremes (craft versus mass production) created by the thesis, its reliance on the questionable domination of Fordism/Taylorism and their lack of evidence in support of a move towards flexible specialization and in support of its potential (and of technology per se) to promote more flexible production. Of primary interest to this thesis is Piore and Sabel's implicit acknowledgement of the value of the knowledge, skills and expertise of small scale co-operative and craft-like operations of the early 19th century to the contemporary period, a rare historical perspective within this general literature. One potential reason for this somewhat non-linear and historical perspective may be the focus of this work on the manufacturing as opposed to the service sector (Stanworth, 1998:51). One could postulate that manufacturing is deemed to have a history while the service sector is seen as newly emergent and ahistorical.

A major criticism of the ideology of an information society is its weak theoretical underpinning. Webster's (1995) sceptical approach to the information society provides some interesting insights into the extremely divergent views on the issue of the information society. He divides writers on the topic into two categories. The first are those who see recent times as symptomatic of a major turning point in social development (Bell, 1973; Piore and Sabel, 1984; Castells, 1989; Poster, 1990; Crook et al, 1992). The second category are those who place emphasis on the informatisation of long-established principles and practices (Aglietta, 1979; Habermas, 1989; Harvey, 1990; Giddens, 1994). While Webster notes that not all of these writers are comfortable with the term "*information society*" or agree on the salient features of the informational domain, they are clearly held together by their common, though diverse, concern with information in a contemporary world (1995:4). Webster raises the issue of the variety of different ways its defenders define the information society. He identifies five definitional dimensions of the information society: - *technological; economic; occupational; spatial; and cultural* – and critiques each

dimension. Webster finds that particular theorists tend to focus on one of these dimensions despite their closely interrelated nature. The five defining criteria of the information society identified by Webster, though initially appearing robust, “...are in truth, vague and imprecise, incapable on their own of establishing whether or not an ‘information society’ has arrived or will arrive at some time in the future” (Webster, 1995:29). Webster concludes that in the extensive and burgeoning literature concerned with the “information age” there is little agreement about its major characteristics and its significance other than that, minimally, “information” has achieved a special pertinence in the contemporary world (1995:2). Overall he concludes that there is little theoretical underpinning for the idea of an information society. While rejecting, at this juncture, the radical propositions of a new information society, Webster argues strongly, like Kumar, for the idea of the “informationalisation of life”. This view, while affording a new dramatic and pervasive role for information, does so within a framework with strong historical antecedents and continuities (Webster, 1995:217).

A further criticism of the ideology of the information society concerns the excessive emphasis placed on quantifiable, codified, digital information. This quantitative bias provides a narrow and unrealistic view of information ignoring completely issues of meaning and value (Roszak, 1986; Qvortrup, 1987; Marvin, 1987; Webster, 1995). A third related area of criticism of the ideology of the information society is its claims regarding the upgrading of the knowledge content of existing work and of the gradual expansion and eventual numerical predominance of the knowledge sector of the economy. Webster (1995) argues that it is still too early to assess the current trends in employment. He particularly questions the predicted emergence of a new service class of knowledge workers using high levels of technical skill and theoretical knowledge and of the emergence of universities and research centres as the ‘powerhouses’ of modern society. Kumar suggests that reports of the rapid growth in the knowledge stratum has been exaggerated by the growth of credentialism and the inflation of job labels (Kumar, 1995:25). While the service sector has expanded

rapidly in most advanced economies, the bulk of this growth has been in the lower levels of the tertiary economy, particularly front-line food and retail workers, health service employees and routine information workers (Kumar, 1995:27). Many of these categories of workers are structured and managed under bureaucratic/fordist work principles (McGrath and Houlihan, 1998). These trends have also been accompanied by a decline in the number of middle managers and highly skilled middle level technical employees which, one could argue, represents a serious decline in knowledge work.

In summary, despite a substantial literature, the debate as to the presence and nature of the information/knowledge society remains inconclusive and contested. Many of its foundation theories present excessively simplistic linear trajectories that do not hold up in the face of critical analysis. Under these circumstances how can one explain the enduring popularity of the concept? One possible reason is the high ideological serviceability of the concept. As in the case of post-industrialism, the information/knowledge society has become a portmanteau concept (Blackler et al., 1993:853) capable of capturing many of the contemporary diversity of ideas and upheavals. It has also assumed the status of a political and business buzzword tripping easily off the lips of politicians and industrialists alike. The tone is conservative and utopian and its simplicity, linearity and strong technological and future orientation offer strong public appeal. It offers advanced economies a clear, clean and attractive trajectory of development. For less advanced economies or those in recession it holds out the potential to leapfrog ahead based primarily on technological developments. Just as important, and largely by implication, the literature holds out a bleak future for those economies that get left behind. There is, however, an increasing realisation that it is no longer sufficient to regard and analyse the “*knowledge society*” as a singular, objective entity or simply in terms of the economic importance of commodifiable, theoretical knowledge but also in terms of “...*established and emerging areas of uncertainty...on the nature of such uncertainties, how they are recognized and negotiated and, above all, on the demands they are making on individual, organizational and institutional knowledge*”

(Blackler et al. 1993:857). For the moment at least, the numerous opposing tendencies and massive potentialities implicit in current conceptualisations of the information/knowledge society will require the fullness of time before a final statement on the matter can be made. At present, all we can say is that current conceptualisations of the information/knowledge society, while largely ahistorical, contain strong elements of historical continuity with modernity and the capitalist system and confirms the growing prevalence and importance of the “*informationalisation of life*” (Webster, 1995). This *informationalisation of life*, primarily associated with the increasing use and pervasiveness of advanced information and communications technology, has had, and will continue to have, a huge impact on our lives. We are experiencing a particular type of information revolution but one that, for the present at least, does not appear to constitute a new social order. On the positive side, the concept of a knowledge society does capture the idea of a complex and simultaneous coalescing of advanced information and communication technologies, of the increasing irrelevance of time, distance and place, of a growing concern with knowledge-based inputs, of the increasing importance of symbolic economic activity and a general increase in indeterminacy (Stehr, 1994:158). These interrelated changes together establish the broad context for the subsequent investigation into the development of a knowledge industry and the arrival and nature of KIFs in the remainder of this chapter and chapter 2.

The Knowledge Industry, the Knowledge-Intensive Firm and Knowledge Work

The previous section introduced and explored the general concept of a knowledge society. The theoretic view offered was one of the gradual informationalisation of capitalism (Kumar, 1995) and highlighted the relatively new and growing concern with intellectual or knowledge-based inputs, the growing importance of non-material and symbolic inputs and outputs. These tendencies, aided by a general increase in indeterminacy, have raised to new heights the influence and role of occupations that mediate access to this knowledge

(Blackler et al., 1993, Stehr, 1994). These new occupations (the stereotypical knowledge workers) and their organisational bases (KIFs) are the focus of the remainder of this chapter. The idea of a knowledge industry fits in neatly with the “new service class thesis” (Reed, 1996) which is a continuation of the upbeat predictions of Drucker (1969, 1993), Bell (1973) and Naisbitt (1984). In all the mainstream literature the knowledge industry and the knowledge worker is presented as a manifestation of late modernity (Reed, 1996), a term developed to capture the uncertainty of contemporary changes as we approach a new millennium. This view will, however, be challenged in chapter 9. Within this ahistorical literature, the basic building blocks or standard bearers of the new knowledge industry are the knowledge-intensive organisations. This group is typically categorised as the heart of the knowledge industry (Berry and Oakley, 1993; Morris and Empson, 1998) and its core employees as knowledge workers.

To aid a more structured analysis of KIFs a number of authors have developed broad typologies. However, an analysis of this literature reveals a somewhat confused picture. Maister (1982) talks about “professional service firms” as an overall category encompassing law, consulting, investment, banking, accountancy, architecture engineering and “others” (p. 15). Winch and Schneider (1993) talk about knowledge-based organisations (KBOs) as a narrow subset of the rapidly growing business service sector. Within this sector they include accountants, lawyers, architects, advertising practitioners and management consultants (p.293). They differentiate KBOs from other production and service firms (hotels, banks, estate agents, publishing houses and artistic and academic groupings) using three criteria: the expertise of their staff as their sole trading asset; the standardized intangibility of their services; and their tendency to trade independently with corporate clients (p.923-4). Berry and Oakley (1993) use the term “knowledge industry” (p.12) to encompass a narrow segment of the knowledge economy. In their view management consultancy is the archetype knowledge industry. They separate knowledge industries from other service industries such as facilitator services (e.g. estate agents) and those deploying fixed (e.g. airlines and hotels)

and liquid assets (e.g. banks). Within the knowledge industry category they then differentiate between those which transfer knowledge and expertise (e.g. consultants) and those which do not (e.g. law and architecture). Ekstedt (1990), mentioned in Alvesson (1995a), regards KIFs as an overall category which he then breaks down into two sub-categories both of which share a concern with individual competence. In 'pure knowledge companies' knowledge is deemed to reside primarily with the individual even though it may be "*...partially institutionalized and localized at the organizational level in the form of collective frames of reference (cultures), systematized methods of work, manuals, etc.*" (Alvesson, 1995a:7). In high technology companies, on the other hand, knowledge and innovation are primarily embodied and subsequently transmitted through products and technologies. The orientation of this thesis is towards the relatively narrow pure knowledge company categorisation. Finally, a similar though expanded categorisation is presented by Lowendahl (1997:21) who talks about three general types of organisations, namely labour-intensive, capital intensive and knowledge-intensive. She subdivides knowledge-intensive organisations into a further three types: (a) professional service (e.g. consulting), (b) non-professional service (e.g. gourmet restaurants, schools) and (c) products (e.g. computer software). Using this typology, this study is primarily concerned with professional service KIFs but, through its consideration of a software development firm that also engages in consulting activities, also has something to say about product KIFs. In the remainder of this thesis the term KIF, unless otherwise explained or defined, is intended to apply to a professional service KIF.

Reed (1996) provides a useful class-based overview of the emergence of knowledge workers which integrates well with the literature on the information society reviewed earlier. He adopts a class fragmentation view focusing on the changing relationship between expertise, professional power and organisational control within 'post industrial' capitalist societies and on the impact of this dynamic on class formation. Expert groups are seen as playing a central role in mediating and dealing with the growing organisational uncertainty

and complexity that typifies late modernity. Late modernity calls for the development of systems of expert knowledge and control that facilitate organisations to reflect back on themselves (Kumar, 1995; Reed, 1996). While there has been huge growth within the expert division of labour, the growth has been uneven focusing primarily on professional and consultancy services. Reed identifies three major groupings within the broad expert division of labour:

- (a) the established liberal, independent professionals;
- (b) the organisational/managerial professionals; and
- (c) the entrepreneurial professional or knowledge worker.

The third and most recent category, the *knowledge workers*, is linked with the emergence of knowledge-intensive industries (Starbuck 1992) which is, in turn, linked with the vital importance of the management of uncertainty and complexity in sustaining and maintaining competitive success within the global political economy. In 'late modernity', a period typified by high levels of political, economic and cultural uncertainty, the knowledge workers have been the most successful of the three expert groups (Reed, 1996). These knowledge workers feed off corporate capitalism for work and status relying on highly specialised, esoteric, portable and intangible knowledge for legitimation. They defend and enhance their expertise through relying on a "...*sophisticated combination of theoretical knowledge, analytical tools and tacit judgmental skills that are very difficult, but not impossible, to standardize, replicate and incorporate within formalized organizational routines*" (Reed, 1996:585). This group "...*design, implement and evaluate the informational, symbolic and communication control systems through which a much more reflexive and flexible form of capital accumulation becomes established on a global scale*" (Reed, 1996:589). Reed suggests that knowledge workers tend to be found in very specific domains such as research and development, professional/business and information services where, as Reed explains, "...*there is an economic premium on uniqueness, innovation and*

expertise directed to the future value, rather than immediate payoff, of knowledge creation and development" (1996:586).

There are two immediate limitations to Reed's work. First, Reed's perspective, while historical in orientation, clearly contains itself within a modernist context. His concern is with "*modern expertise*" (p.576). Drawing on the work of Derber et al. (1990) and Giddens (1994), Reed suggests that in traditional societies claims to expertise were based on and protected by "*...arcane custom and practice as the institutional repositories of valued and trusted collective wisdom*" (1996:576). Expertise in modern society is presented as more reliant on "*...objective, impersonal and codified knowledge*" (Reed, 1996:576). In this way the knowledge worker is seen largely as a creation of late modernity and it is the "*...putative universality, codifiability, neutrality and mobility of modern expertise that sets it apart from the localism, particularism and stability characteristic of traditional expertise*" (Reed, 1996:576). The author intends to take issue with this view in chapters 4, 8 and 9 when examining the role and activities of early Irish monasticism.

The second limitation of Reed's work concerns his somewhat stereotypical portrayal of knowledge workers. The image that he presents is of a highly educated and select group of employees using a sophisticated combination of theoretical knowledge, analytical tools and tacit judgmental skills to solve complex problems. While this is an attractive viewpoint and in keeping with the popularist "*gold collar*" or "*symbolic analyst*" image (Handy, 1989), an analysis of the knowledge worker literature reveals a level of ambiguity over description and definitions of knowledge workers. Sinclair and Collins (1992) found a range of subtle differences in the working definitions used to describe knowledge work and knowledge workers which, in turn, revealed a number of contradictions in both their analysis and predictions. Drucker (1993) highlights the importance of diversity in knowledge, skills, responsibility, social status and pay. Kelley (1990) emphasises their problem solving abilities, creativity and intelligence. Alvesson (1995a) and Hedberg (1990), like Reed (1996), focus on the problem solving abilities of the employees. Reich (1991) focuses on

high pay and problem solving (research, product design, fabrication), problem identification (marketing, advertising, customer consulting), and brokerage (financing, searching, contracting) skills. Based on this diversity of views Sinclair and Collins are drawn to the viewpoint that many of the academics promoting the notion of the knowledge worker are simply portraying their own perceptions of themselves. They suggest that the current vague and dubious notions about knowledge work have led to an exaggeration of the extent of the growth of knowledge work and resulted in a high level of elitism attaching to the term. They go on to suggest that the current elitist notion of knowledge work may lead not to an increase in productivity or competitiveness but to an escalation of organisational politics (1992:12). A related point is made by Alvesson (1998:20) when he suggests that knowledge work, when viewed as a social process (obscuring uncertainty and creating legitimacy), can lead to ignorance and uncritical attitudes.

KIFs are the organisational homes of these elite knowledge workers. KIFs tend to be staffed by professional or "professionalised" graduate or postgraduate level employees and typically trade independently with corporate clients (Winch and Schneider, 1993). While the reputation and resource base of some of these firms is both considerable and important, their employees are, ultimately, their main asset and their only long term source of sustainable competitive advantage (Winch and Schneider, 1992; Alvesson, 1995a). In Maister's words, these firms are "... *the ultimate embodiment of that familiar phrase 'our assets are our people'*" (1982:15). The tentative suggestion made here, as argued by Maister (1982) and Liedtka et al. (1997), is that these firms represent tomorrow's business. The problems they face and the manner of their operation is regarded as significantly different from most organisations (Maister, 1982:15). They offer a model for larger more hierarchical organisations as they struggle to become leaner, quicker and more flexible (Liedtka et al., 1997:47; Lowendahl, 1997:159) and to develop and integrate collective knowledge and collaborate to turn that knowledge into customer value.

Descriptions of these KIFs vary but, drawing on and integrating the views of a number of authors (Sveiby and Lloyd, 1987; Starbuck, 1992; Stehr, 1994; Alvesson, 1995a; Lowendahl, 1997), the following issues and features tend to be emphasised:

1. Esoteric knowledge and/or valuable expertise predominate.
2. The typical product is knowledge and not some technical artefact and as such the execution of the job is identical with the consumption of its outcome.
3. Knowledge is primarily based in the employees but also in physical and intangible forms within the firm (routines and cultures).
4. High dependence on highly educated and professionalised human capital.
5. Core employees exhibit high loyalty but expose the firm to considerable vulnerability if they leave the firm.
6. High concern with customisation and creativity in solving problems.
7. High interdependence on the part of practitioners and between practitioners and their clients.
8. High levels of individual autonomy and discretionary effort by the experts delivering the service.
9. Legitimation is primarily obtained from their clientele and they derive and defend their claim to expertise by virtue of their standing in a wider community of experts.
10. They typically act as mediators between knowledge producers and knowledge users but this mediation process, reflecting the problematic nature of knowledge, is an active and transformative one involving the selective interpretation of knowledge by experts. Knowledge is used but rarely is it left intact in transmitting it to clients.

Much of the debate as to the distinctive nature of KIFs centres on the problematic assumptions made about the knowledge base of these firms and it is to this issue that we now turn. It is worth stating at this stage that the intention of this piece of research is not to

review and critique the cognitive science and philosophy of science literatures on the nature of knowledge, but to analyse the conceptualisation of the term “*knowledge*” as used within the narrow literature on KIFs. Specifically, the question will be asked as to whether the term “*knowledge*”, as used within the title ‘knowledge work’ or ‘knowledge-intensive firm’, is adequately encapsulated by the prevailing viewpoint of esoteric expertise (Starbuck, 1992) or the application of theoretical knowledge, analytical tools and tacit judgmental skills to solve complex problems (Reed, 1996). As will be seen there is little agreement as to what constitutes knowledge work or what separates knowledge work from other forms of work. The literature also reveals further confusion over the scope of the term which can range from narrowly conceptualised formal theoretical knowledge to the extremely broad notions of “...*cultural, interpersonal, somatic and other forms of tacit knowledge together with creative skills and talent*” (Alvesson, 1993:1001). The implications of this epistemological turmoil, an unexpected situation given the emergent, undeveloped and contested nature of the field, will be addressed later.

The management literature is replete with attempts to establish mutually exclusive and definitive typologies of knowledge. Hoerem et al. (1996:119) cite a number of examples namely, articulated versus non-articulated knowledge (Itami, 1987), thematized or non-thematized knowledge (von Krogh and Roos, 1993), embedded versus migratory knowledge (Badaracco, 1991), explicitness versus tacitness (Polanyi, 1966), transferable knowledge (Winter, 1987). Hoerem et al. (1996) suggest that a common finding from all such studies is that mutually exclusive and clear-cut categories of knowledge do not exist. This said, they then go on to develop their own four fold categorisation of scarce knowledge, knowledge about others’ knowledge, behavioural knowledge and task-oriented knowledge (1996: 121-124).

Turning initially to the literature on knowledge workers, most writers see Bell’s (1973, 1978) rational-cognitive perspective on knowledge as continuing to dominate much of the popular literature on knowledge work. Bell defines knowledge as:

...that which is objectively known, an intellectual property, attached to a name or a group of names and certified by copyright or some other form of recognition (e.g. publication). ...knowledge is part of the social overhead investment of society; it is a coherent statement, presented in a book, article, or even a computer program, written down or recorded at some point for transmission, and subject to some rough count (1973:176).

Drucker's work on the knowledge society appears to have been strongly influenced by Bell's contribution. He sees a clear shift occurring in the relationship between knowledge and wealth creation in contemporary capitalism. The late 20th and 21st century will see the domination of "*knowledge being applied to knowledge itself*" which would encompass Bell's wider conception of theoretical knowledge. As Drucker explains:

'Knowledge' as normally considered by the 'intellectual' is something very different from 'knowledge' in the context of a knowledge economy' or of 'knowledge work'. For the 'intellectual', knowledge is what is in a book. But as long as it is in a book, it is only 'information' if not mere 'data'. Only when a man (sic) applies the information to do something does it become knowledge (1978:80)

A similar, though slightly more nebulous view on knowledge is presented by Sveiby and Lloyd (1987). They talk about 'know-how', which they define as value-added information. They see know-how embedded in people's brains and as such it is both mobile and heterogeneous. They identify two main types of know-how, the capital resource that drives the know-how company:

1. **Professional Know-how:** the core knowledge of the company which "*...in the lab it is scientific and engineering creativity...; in the circus it is the art of the clown; in book publishing it is talent spotting and project management*" (Sveiby and Lloyd, 1987:23).

2. **Managerial Know-how**: defined by Sveiby and Lloyd as “...*the ability to preserve and enhance the company’s value*” (1987:23). There is no one overriding requirement or area of expertise.

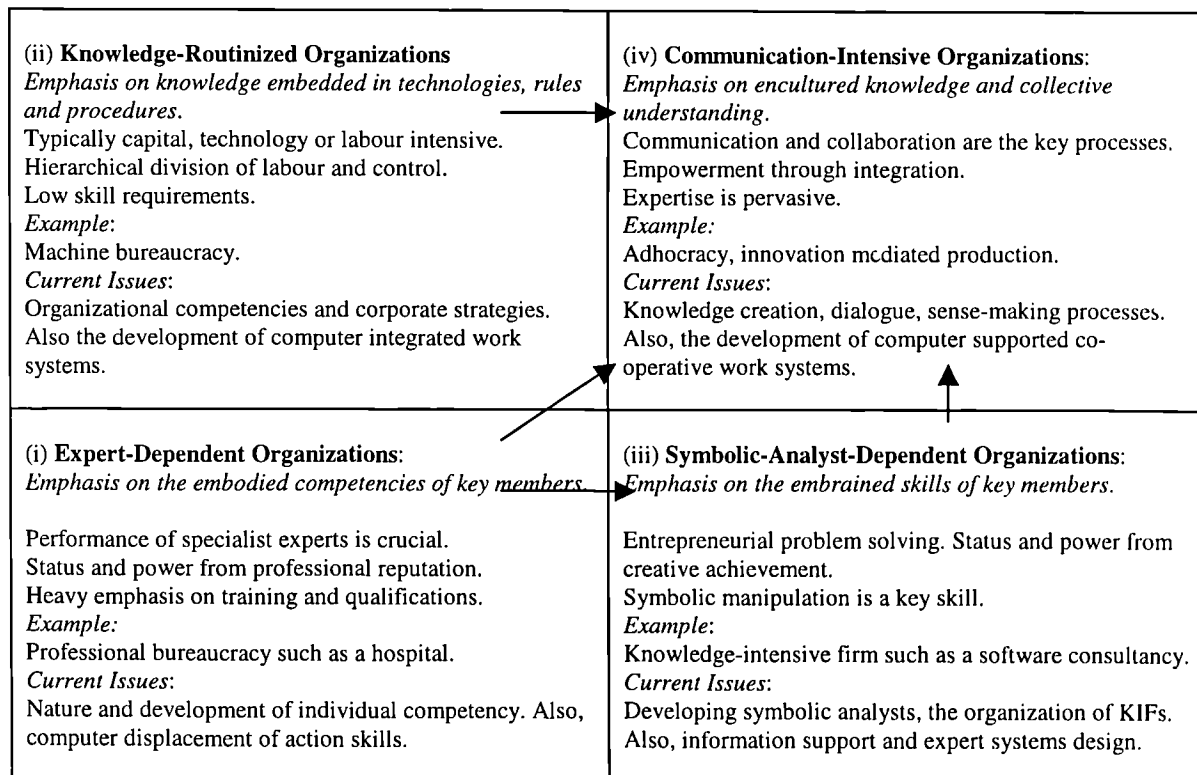
Within this conventional orthodoxy on knowledge work and its classification, Blackler (1995) presents a useful integrating framework identifying common types of knowledge and associated types of knowledge-intensive firms. While he subsequently highlights the limitations of his ideas and proposes an alternative perspective (which will be reviewed in chapter 3) his work provides an excellent integrating device for much of the literature reviewed so far and a useful starting point in loosening one’s conceptualisation of knowledge work. Drawing on the extensive literature on organisational learning, Blackler identifies five images of knowledge: *embrained*, *embodied*, *encultured*, *embedded* and *encoded*.

1. *Embrained knowledge* is abstract knowledge dependent on conceptual skills and cognitive abilities of the employee- *know-what*. Blackler argues that this type of knowledge has enjoyed a privileged status within Western culture and refers to Argyris and Schon (1978) and Senge (1990) as the best known theorists within this category.
2. *Embodied knowledge* is practical competencies and skills of the individual. It is partially explicit and action oriented. Blackler (1995) describes this category through reference to Scribner’s (1986) description of “*practical thinking*” where successful problem solving depends more on an intimate knowledge of the situation rather than abstract rules.
3. *Encultured knowledge* refers “...*to the process of achieving shared understandings*” (Blackler, 1996:1024) and is closely related to the process of socialization and acculturation. It has a collective orientation and is best typified by the work by Orr (1990).

4. *Embedded knowledge* is a form of collective knowledge which resides in the systemic routines, procedures and technologies of organisations. The work of Henderson and Clark (1990) and their distinction between the knowledge of specialist elements in an organisation (component knowledge) and knowledge about how such elements interact (architectural knowledge) would fall under this category (Blackler, 1995:1025);
5. *Encoded knowledge* is information conveyed by means of signs and symbols and typically occurs in books, manuals and codes of practice (Zuboff, 1988).

Blackler suggests that one of these knowledge types will dominate within an organisation depending upon the nature of its core activity. Using two dimensions, the relative importance of individual or collective contributions and the unfamiliarity or familiarity of the types of problems they face, he identifies four common types of knowledge based organisations - figure 1.1.

Figure 1.1 Organisations and Knowledge Types.



(Source: Blackler, 1995: 1030)

Blackler suggests that recent commentaries on the emerging significance of knowledge work, particularly the work of Bell (1973), Reich (1991) and Drucker (1993), suggest a growing shift in interest and emphasis from embodied and embedded knowledge to knowledge which is embrained, encultured and encoded. These types of knowledge are seen as essential in the successful functioning of new organisational forms based on networks, partnerships or contractual arrangements - the post-modern organisational form (Blackler, 1995:1027). The arrows in the figure 1.1 indicate these predicted trends.

While no empirical validation has been carried out on the scheme presented in figure 1.1, Blackler admits that a number of recent studies, particular those relating to the impact that new forms of encoded knowledge have had on organisations, have largely undermined the taken-for-granted assumptions about the nature of knowledge held by most contemporary studies of knowledge based organisations. These five images of knowledge as brains, bodies, symbols, routines and dialogue are all highly interrelated and are used by Blackler to emphasise the complex range of issues that any discussion of knowledge within organisations must address (Blackler, 1995:1026). His point is that the current elitist conceptions of knowledge are misleading as all workers in all organisations use knowledge in their daily activities and so can validly be called knowledge workers. In his view knowledge is “... *multi-faceted and complex, being both situated and abstract, implicit and explicit, distributed and individual, physical and mental, developing and static*” (Blackler, 1995:1032-1033). Chapter 3 will return to and review a range of contributions, including further work by Blackler, on this more complex, processual and distributed view of knowledge and knowledge work.

Conclusions

This chapter commenced with a discussion on the growing emphasis on creativity, innovation and knowledge within contemporary organisations. It was suggested that the focus or context of much of this debate concerns the inevitable emergence of an information

or knowledge society. A cross-section of the literature on the information/knowledge society was examined and it was suggested that while distinct changes or tendencies can be discerned which appear to make this current epoch different from past periods these developments do have strong continuity with the existing capitalist system. The term “*informational capitalism*” (Kumar, 1995) was deemed an appropriate title, capturing the current preoccupations with uncertainty, the symbolic economy, advanced information and communication technologies, the growing irrelevance of time, distance and place and a focus on knowledge as opposed to craft or capital-based means of production. This new context is deemed to require new organisational forms and a new style of management, both of which appear to be present within a specific category of organisation called the KIF.

A deliberately narrow view of a KIF as a professional service firm, typically staffed by highly educated experts and providing non-standardised and tailored services to corporate clients was presented in this chapter. Tendencies towards an information or knowledge society have facilitated these firms adopting a more strategically important and central role in the functioning of advanced economies. It was suggested that perceptions as to the nature of these firms are still strongly influenced by earlier preoccupations with theoretical and rational-cognitive knowledge (Bell, 1973). An examination of the early literature on KIFs and their knowledge workers reveals a simplistic and ahistorical picture. These firms and their knowledge workers are seen as manifestations of late modernity (Reed, 1996), a period of complexity, growing doubt and uncertainty. Within the literature there is an obvious attempt to stabilise a complex and nebulous topic through the use of simple classifications and categorisations of KIFs and a concentration on their objective knowledge or expertise (Winch and Schneider, 1993; Berry and Oakley, 1993; Morris and Empson, 1998). The literature is normative, analytical and largely positive. Chapter 2 will remain with this basic classification-oriented literature by focusing on the structure and function of these KIFs. A more complex and contested view on the nature and use of

knowledge within KIFs and of the role of KIFs in general will be reviewed and critiqued in chapter 3.

Despite the obvious limitations of much of the existing literature on KIFs, the concept remains a popular one. As was argued earlier with the concept of an information or knowledge society, one can see how the idea of a KIF has also become a portmanteau concept. KIFs have assumed buzzword status. Alvesson (1995a:7) talks about the high level of prestige associated with the term. Organisations like being classified as KIFs and on this basis Alvesson suggests that the term is in frequent usage not for its ability to describe important phenomena but because it sounds good. As our understanding of knowledge and knowledge work expands, the boundaries of the KIF category become increasingly obscure (Starbuck, 1993:889). Indeed, it is increasingly accepted that all organisations and staff at all levels within all organisations use knowledge and so, to some extent, can be considered knowledge-intensive. However, the suggestion in this thesis is that there is still value in exploring KIFs as a small, heterogeneous and increasingly influential stratum. The variety and complexity of their work should throw some light on the need for different types of knowledge and on necessary knowledge development processes. In addition, if, as Drucker and others have predicted, the great management task of this century will be to develop a new paradigm of management to make knowledge work productive, then these new practices should be in evidence in some coherent manner within this select grouping of KIFs. It is to this specific issue, the structural design of and management practices within KIFs, that the next chapter will address itself.

Chapter 2: The Design and Management of Knowledge-Intensive Firms

Introduction

The purpose of this chapter is to build upon the material from chapter 1 and present a concise literature integration on what one ought to expect to find in terms of structure, design and management practice within a successful KIF. The literature integration will be presented as a broadly based, normative configuration or framework. The framework is conceptualised as a crude ideal type (Weber, 1978) and will be used to identify a number of the key features (processes, structures, activities, policies, etc.,) that are typically considered in the design and functioning of successful KIFs. The framework will be used to initially question the extent to which the management practices within professional service KIFs represent a coherent set of practices and, in turn, a new paradigm of management. The subsequent empirical component of this thesis, the three case studies, is based on the premise that if one can find three highly successful KIFs then one ought to find within them the dimensions and characteristics predicted by the literature. The literature reviewed here primarily consists of empirical studies (mainly case studies) of KIFs. Some of the literature extends beyond the narrow view of KIFs adopted here (e.g. Sveiby and Lloyd, 1987; Nonaka, 1994) but these works are included due to their frequent citing and central concern with knowledge work. Where there is an absence of empirical literature, reference is made to conceptual or speculative works and these are identified as such in the text. One general feature of both sub-categories of the literature reviewed here is its annoying tendency to shift between a descriptive and normative terminology.

The chapter will loosely address the topic of knowledge management, a term typically used to encompass the integrated development, introduction and maintenance of the necessary organisational and technological infrastructure aimed at identifying, managing, sharing and exploiting all of an organisation's explicit and implicit information and knowledge assets. A central limitation of many approaches to the concept of knowledge management is that they focus narrowly on technology or on a "knowledge subsystem", one

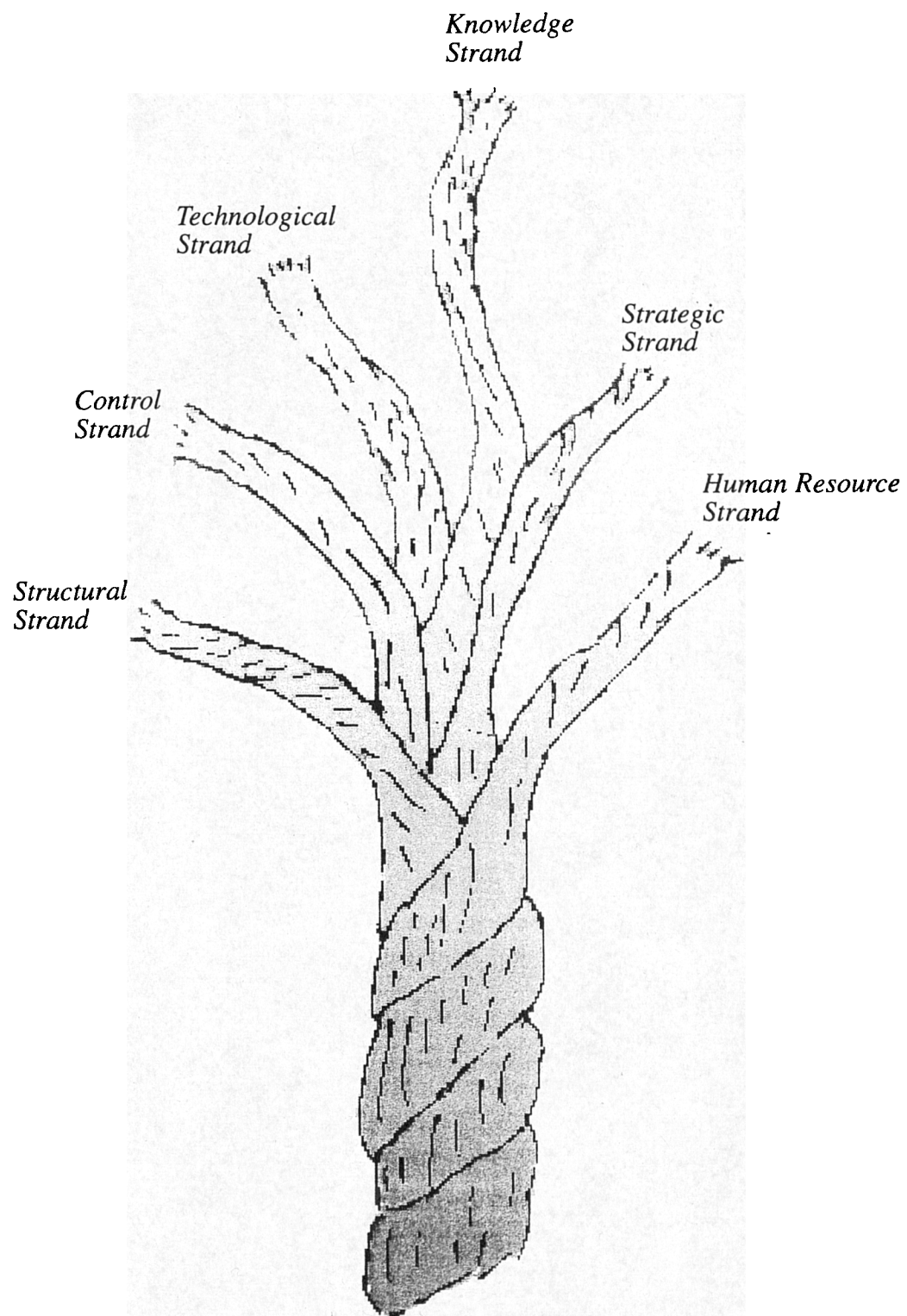
which can overlay the existing management system within the organisation (for example see Wiig, 1993). The approach to knowledge management put forward here is that it must be an intrinsic and central part of the organisational design fabric if it is to be successful. It is suggested here that as KIFs (narrowly defined) primarily rely on the knowledge base of their employees as their principal source of economic rent and sustainable competitive advantage, then their knowledge management practices should effectively encapsulate the totality of management practices within these firms. All management activity ought to be ultimately directed at the acquisition, development, protection, sharing and exploitation of knowledge within these firms.

Reviewing the Mainstream Literature – The Design and Management of Knowledge-Intensive Firms

Focusing on the mainstream literature on KIFs one finds that the literature is relatively fragmented, non-cumulative and typically focusing on one or two specific issues. Some authors have developed more cumulative contributions (Mintzberg, 1979; Maister, 1982, 1985; Sveiby and Lloyd, 1987; Winch and Schneider, 1993; Starbuck, 1992, 1993; Sadler and Milner, 1993; Nonaka, 1994; Alvesson, 1995a; Liedtka et al., 1997; Lownedahl, 1997) but the author found these individually incomplete, though offering good potential for integration. An immediate problem encountered in this research was the question of how one can best represent on paper the highly dynamic, fluid and interrelated set of management practices that typify KIFs. Indeed, many of the issues identified in the literature exhibited almost holographic characteristics. The compromise adopted here, albeit an imperfect one, was to group the material reviewed under six interrelated headings or strands. The six strands were not predetermined headings but were found by the author to be headings or central themes that recurred consistently while reviewing the literature. The representation is drawn from two sources. First, Tichy's (1982) notion of a strategic rope was chosen in terms of its ability to portray the interrelated nature of the five elements. It

also highlights the importance of weaving the five strands together in the correct manner and the fragile nature of the entity if one or more of the strands becomes unravelled. One modification that was made to Tichy's conceptualisation was to represent the knowledge strand as a dominant central strand around which the other strands were intertwined. The rationale behind this representation is that the knowledge of the firm is deemed to be its main defining feature with the other design features being there to direct, facilitate and support that knowledge. The representational inspiration for this view came from the second influence namely the design of high-tension underground electricity cables. These cables contain a solid central core of copper or aluminium to minimise resistance to electricity flows. As a solid cable is not structurally strong, it tends to be surrounded by a number of interwoven cables providing structural strength and protection to the main conduit and occasionally providing subsidiary functions such as the provision of an earth. On this basis, KIFs are initially represented as a central core through which knowledge flows in a distributed manner. This solid core is surrounded by a number of supporting strands providing structural strength, protection and other technically relevant support functions. Figure 2.1 provides a visual representation of the model and a description of each strand follows.

Figure 2.1 The Six Strands of the Knowledge Intensive Firm



(Source: The author)

The Structural Strand

Turning first to the structural strand all the main authors reviewed agree that a KIF is primarily an organic structure. Starbuck (1993), Winch and Schneider, (1993) and Liedtka et al. (1997) suggest that KIFs are simply operating adhocracies (Mintzberg, 1979) although they do seem to exhibit wide variation within this broad configuration. Mintzberg (1979) defines an operating adhocracy as an organisation that innovates and solves problems directly on behalf of its clients. These structures typically involve multidisciplinary teams of experts working for a client under contract as in think-tank consulting firms, creative advertising agencies or manufacturers of engineering prototypes or in a quasi contractual relationship as in a film-making agency or theatre company (Mintzberg, 1979:436). An adhocracy relies on the application of sophisticated expertise to innovate. It must “...*hire and give power to experts - professionals whose knowledge and skills have been highly developed in training programs*” (Mintzberg, 1979:434). These experts must amalgamate their efforts, typically in the form of multidisciplinary teams formed around a specific project.

Mintzberg’s configuration of an operating adhocracy provides an excellent overview of the formal structural arrangements that exist within a KIF. He does touch on issues of management practice highlighting the need for high levels of empowerment, the importance of informal communication, the strong emphasis on training and the limited impact on behaviour of the non-regulating and unsophisticated technology. However, ultimately the strength of his work is primarily limited to a consideration of formal structural arrangement. While formal structure is important within KIFs, as operating adhocracies, they often lack the bricks and mortar visibility of traditional organisations with their presence focusing more on “...*human relations, shared values and attitudes, network and collaborative arrangements between people inside and outside the company*” (Sveiby and Lloyd, 1987:55). These more informal issues are considered later in this chapter.

Quinn et al. (1996) attempt to extend consideration of the structural form of KIFs by identifying four new forms of flat, decentralised, highly responsive, customer focused organisational structures that excel at leveraging professional intellect. They see these new organisational forms as facilitating reorganisation around intellect with firms requiring a mixture of these new forms along with more traditional hierarchical structures. The four forms are as follows:

1. the **Infinitely Flat Organisation**: such as a brokerage firm with intellect flowing primarily from a central core to independent nodes who interact with the customer;
2. the **Inverted Organisation**: such a hospital with core intellect and customer contact residing at the nodes and the centre supporting largely independent nodes;
3. the **Starburst Organisation**: such as movie studios and venture capital firms with regular spin-off firms. Core intellect and customisation reside at both the centre and at the new nodes; and
4. the **Spider's Web Organisation**: such as securities exchanges, diagnostic teams or research groups with core intellect highly dispersed at peripheral nodes but effective customisation being achieved through project structures which force the nodes to interact collaboratively.

The Spider's Web form most effectively meets the stereotypical conceptualisation of the KIF. The web form is presented as a true network, with nodes often operating independently and collaborating temporarily when necessary to tap the knowledge of other nodes to solve a particularly complex project. There is no clear hierarchy or order-giving centre. Quinn et al (1996) hint at the historical legacy of this structural form. They suggest that it has existed for centuries among universities and scientists or within trading groups but has been overlooked by the mass production era with its concern for stability, predictability and control. This latter agenda was most usefully served through the hierarchical model of the

military and the religious (Quinn et al. 1996:21). This structure is not, however, without its problems as experts dawdle over their favoured specialist solutions and dispersed responsibility makes accountability and the assigning of credit for intellectual contributions difficult. In addition, cross-competition and extreme information/trivia overload can hinder productivity and inhibit knowledge sharing (Quinn et al., 1996:22).

On a similar theme, Miles et al. (1997) predict the emergence of the cellular form of organisation in the operation of highly innovative knowledge businesses. Unlike Quinn et al. (1996), Miles et al. ignore the long history of the cell structure (see Burrell, 1997:70-65 and his discussion of revolutionary and terrorist cell structures). They incorrectly identify this structural form as a new form of structure, a linear progression on from the earlier matrix and network forms. The cells of this organisational form are identified as self-managing teams or autonomous business units that combine an unusually high degree of independence and interdependence. These firms excel at knowledge creation and sharing and at keeping the firm's total knowledge assets more fully utilised (p.17). Miles et al. do not envisage a total evolution towards the cellular form but see this form as inevitable in situations of continuous learning and innovation. The implementation of the cellular form requires management to face a number of key challenges and adopt a new philosophy that invests heavily in human capabilities, allows high levels of self-governance and a new equitable system of profit-sharing (Miles et al. 1997:17-18).

A further complicating view on the structure of KIFs can be seen in the work of Alvesson (1995a). He suggests that at an objectivistic or functionalistic level his case study, Enator, complies closely with Mintzberg's (1979) description of an adhocracy. However, he qualifies this view by suggesting that he identifies important signs of three other of Mintzberg's configurations (the simple structure, the professional bureaucracy and the divisional form) at work in Enator (1995a:91). He resolves this seeming multidimensional ambiguity by adopting a view of structure as a symbolic system (Smircich, 1983) where structure is seen as a system of shared meaning. Enator's structure is clearly flexible and

adaptive and it has the ability to show different faces to different groups as requirements demand (Alvesson, 1995a:109).

Within the broadly flexible superstructures that typify KIFs, Sveiby and Lloyd (1987), Starbuck (1993), Nonaka (1994) and Liedtka et al., (1997) all emphasise the crucial importance of overlapping, ad-hoc teams or task forces in the effective running of these operations. In one of Starbuck's case studies all work within the firm was carried out using overlapping, ad-hoc task forces of legal specialists. He quotes one of the partners interviewed: "*Task forces are the essence of expertise. Critical. Life and death*" (Starbuck, 1993:909). Liedtka et al., (1997), in their study of three leading US KIFs, saw teamwork as the central asset of these firms. While they identified individual technical expertise as a precondition, in their view "*...the collective wisdom of their multidisciplinary teams sets them apart*" (1997:53).

Turning to the issue of hierarchy within KIFs, Maister (1982) refers to the tendency of the professionalised staff of these firms to be structured into three professional layers (senior, manager and junior). He refers to these as "*...the finders, the minders and the grinders*" (1982:16). He sees intermediate levels as rare and suggests that non-professional support staff tend to be placed at the bottom of the pyramid. Sveiby and Lloyd (1987) are alone in addressing the need for careful selection and training of clerical staff. Alvesson (1995a), in his case study, identified three formal hierarchical grades but also the emergence of a growing number of informal management and leadership positions. He discusses how, in the early years of the firm, the founders played a key role in de-emphasising status and weakening the feeling of a tall hierarchy (1995a:89).

Given the dominance of the "professionalised" core it is not surprising that partnership is the preferred legal form of organisation among KIFs (Maister, 1982, Sveiby and Lloyd, 1987). This legal form of structure is favoured as it is flexible and dynamic and allows some form of employee ownership. This bias towards partnership may be a reflection

of the tendency of the literature to focus on traditional professional organisations many of whom are legally constrained from considering any other legal form other than partnership.

In light of high levels of decentralisation to the expert staff and generally low levels of formalisation within KIFs, co-ordination is primarily achieved through mutual adjustment (Mintzberg, 1979; Alvesson, 1995a). As part of this mutual adjustment process Sveiby and Lloyd (1987) identify the widespread use of digital and personal communication networks and see these as representing the life blood of KIFs. Reinforcing this view, Hedberg presents KIFs as:

...led through ideas and managed by words. Vision, business ideas, symbolism, meaning, speeches, words, and small talk are important building blocks of knowledge-intensive firms (1990:4, quoted in Alvesson, 1995a:344).

To summarise, at a structural level, the literature describes KIFs as an organic form with strong tendencies to lean towards Mintzberg's adhocracy design. There is a strong focus on the use of overlapping teams or taskforces in undertaking the normal daily work. The hierarchy is deemed to be small, as one would expect in an organic form, with the core knowledge workers organised into three grades. The partnership form is the preferred legal form of ownership. Co-ordination is primarily achieved through mutual adjustment. KIFs also engage in extensive internal networking and tend to have an elaborate extended external network.

The Strategic Strand

The strategic focus of KIFs revolve around the acquisition, creation, exploitation and accumulation of new knowledge which is of value to a customer or to the KIF itself if it is engaged in production (Nonaka, 1994). A KIF may focus on one or a number of these knowledge creation activities depending upon where it sees its own particular distinctive competence (Berry and Oakley, 1993). In addition, a normal feature of highly successful

KIFs is their active drive to innovate because, as Starbuck argues “...*staying on top requires staying out in front*” (1993:900). Within the literature a number of specific strategically oriented issues emerged:

(a) Unusual and Incoherent Strategic Development:

Mintzberg (1979) suggests that operating adhocracies engage in a limited form of action planning. This view is developed in subsequent work by Mintzberg and McHugh (1985). Their “*grass roots model*” suggests that adhocracies, while highly innovative, have great difficulty in achieving focused direction. Their strategic development is, initially at least, spontaneous, much like the growth of weeds in a garden. Managing this process is mainly confined to supporting this spontaneous and occasionally unexpected process through the provision of suitable structures, ideologies and broad strategic guidelines.

Winch and Schneider (1993) see strategic management as essential for KIFs but problematic to implement due to difficulties in predicting workflow and cashflow, the resistance of creative professionals to having formal planning imposed upon them and the creative drives of the partners which can downplay the importance of financial success, growth and market share as key strategic drivers. In this regard, Starbuck (1992) identifies two main themes for interpreting the apparently unusual or incoherent strategic development of KIFs. First, KIFs’ strategic developments tend to appear highly erratic due, primarily, to their complex input-output system for knowledge that makes the development of coherent, long-term strategies difficult. (Starbuck, 1992:733). Second, while most KIFs try to diversify to some extent, they must carefully monitor both the number of customers they service and the range of products or services they offer. A large number of service offerings can seriously undermine a KIF’s perceived credibility in the market place. In addition, excessive numbers of clients can erode important ties with long-standing clients while too few customers can lead to a risk of unethical behaviour as customer dissatisfaction is avoided at all costs (Starbuck, 1992: 733). Finally, Lowendahl (1997) mentions how idle professionals very quickly develop their own strategic ideas and direction that may not be in keeping with those

of the firm. She likens the management process of keeping them in line as equivalent to herding wild cats (1997:62).

(b) Growth Strategies:

Sveiby and Lloyd (1987) argue that KIFs must grow or stagnate and die. They identify three basic strategies for growth within KIFs companies. Organic growth is the most natural and safest of the strategies and involves the recruitment of more professionals to meet rising demand for its existing type of services. It can, however, be a slow process and can lead to control problems. Growth by merger and acquisition is driven by the desires for maximum growth of market value. While potentially viable and enabling rapid growth, mergers and acquisitions of KIFs are full of professional and managerial problems and can lead to a neglect of their core knowledge. Combining capital and knowhow represents a third growth strategy. While capital finance is often an essential feature of all KIFs, serious problems can arise in finding the ideal balance between the representatives of knowledge and of capital.

Reflecting the tendency towards organic growth in KIFs, Maister (1982) identifies the firm's crucial promotion incentive, linked to its organisational structure (project types and target utilisation) and turnover rate as the main determinates of the growth rate. Failure to grow at the required rate typically results in an "*unbalanced factory*" (Maister, 1982:22) which will damage its economic structure. Rapid growth can be achieved through improving the quality of its junior recruits, increasing the level of formal training and professional development programmes thereby shortening the apprenticeship process, bringing in experienced professionals directly into the mid-ranks of the company, or modifying the project team structure. Maister notes that some KIFs, typically the most prestigious in the industry, tend to grow at a less than optimal rate due to very high turnover rates, an issue addressed under the HR strand.

The final issue connected with growth is the associated issue of competition. Where there is high growth, competition should increase. Maister (1982) suggests that quality professionals are attracted to KIFs for reasons of professional challenge, development and variety. In turn, firms engaging in this type of work need to attract the best professionals. An unusual twist in this context is that increased competition may push a KIF down the route of cost saving. This can most easily be achieved by engaging in similar projects reducing personal and financial costs. As Maister explains the “...*firm thus makes its most money by ‘leading the market’: selling a service with reproducible, standardizable elements at a fully customized price*” (1982:26). This can, however, cause motivational problems for experienced staff who dislike repetition and routine. Maister suggests that one solution to this problem is to make greater use of juniors but, as discussed already, this will have a knock-on impact on the economic and organisational structure of the firm which, if ignored, could result in organisational decline.

(c) Faddish Tendencies:

While KIFs tend to focus on a fairly narrow area of knowledge/expertise this specialisation tends to shift with market trends (Starbuck, 1992, 1993). This faddish tendency is further accentuated by a concern for billable hours and a concern to “...*stay on the cutting edge of rapid technological and social change*” (Starbuck, 1992:725). This faddish tendency is not necessarily a problem if the KIF can turn the fads into opportunities.

(d) Marketing:

The marketing function of KIFs is included under this strand in that it is primarily aimed at highlighting the core knowledge and abilities of the firm and thus achieving its strategic goals. Alvesson (1995a) identifies the marketing activity within KIFs as particularly problematical due to a range of factors. The service they provide is non-tangible and not easily demonstrated. The exchange can be viewed as a social process between the

buyer and seller with the potential for high variation in quality depending upon the subjective experience of the client who participates extensively in the production of the service. In addition, both production and consumption take place simultaneously 'in the field'. These unusual features require a broad approach to marketing that becomes an automatic and constant aspect of the employees' work. Alvesson (1995a:274-7) highlights the key activities of building up good relations with clients and the development and exploitation of a good social network. He regards advertising as of minor importance and suggests that each assignment is treated as a marketing device for future assignments. Ultimately, KIFs aim to develop a long-term relationship based on trust. While trust is ultimately developed through ongoing work relationships it can be fostered through the development of a corporate image. This external image can be fostered through annual reports, recruitment advertisements giving impressions of growth and success, a high profile client base, publishing books containing success stories and the associated development of a 'club-feeling' among clients reinforced through unusual social activities (Alvesson, 1995a:281). Internal marketing within KIFs is carried out through the firms' culture emphasising a high concern for the client and a quality service. This, in turn, integrates with a range of human resource issues.

To summarise, the literature suggests that KIFs are centred around the acquisition, creation, exploitation and accumulation of new knowledge. The peculiar and uncertain nature of their business typically results in limited strategic planning and in unusual and incoherent strategy development. Innovation is given a high strategic priority. KIFs grow rapidly both organically and, to a lesser extent, through acquisitions. Competition is typically responded to by standardisation of output with a view to reducing costs. Service offerings tend to be faddish in that they closely reflect shifts in market tastes.

The Knowledge Strand

The centrality of knowledge in the design and functioning of KIFs is a dominant and recurring theme. The thorny epistemological issue of the type and nature of knowledge used within KIFs was addressed earlier in chapter 1 and will be returned to in chapter 3. The purpose of this section is not to go over the arguments made in chapter 1 again but to complement this investigation by identifying the main issues thrown up in the literature concerning knowledge creation, utilisation and protection practices within KIFs. In this regard six issues were identified namely:

(a) Focused Knowledge:

Leaving aside the debate as to the type(s) of knowledge that ought to be present within a KIF, Sveiby and Lloyd (1987) emphasise the need for “focused know-how”. In their view, the competitive advantage of a KIF lies in its development and maintenance of a core knowledge - something they do better than anyone else. As mentioned above when looking at the issues of growth and competition, KIFs can easily diversify their knowledge base too much but also run high risks from having too few topical foci (Starbuck, 1992:733).

(b) The Creative Context:

While individuals are the root of knowledge creation, self-managing and cross-functional teams aid the process through the building of mutual trust and shared implicit perspectives. The conceptualisation of shared experience is achieved through the face-to-face communication of development staff in overlapping functions involving a high level of redundancy of information and the use of figurative language and symbolism (Nonaka, 1994). This “rugby-style” approach (Nonaka, 1994), while carrying the potential risk of confusion over responsibilities, tends to aid knowledge sharing and conversion and “...create and realise concepts quickly and flexibly in an integral fashion” (Nonaka, 1994:26). Liedtka et al. (1997) identified the need for adequate time for innovation and

found their cases resisting the obsession with maximising 'billable hours' that often characterised their competitors (1997:54). Von Krogh et al. (1997:467) expand on this issue by talking about the need to create a 'space' within a firm dedicated to knowledge creation. This space is facilitated by a conducive architecture and set of behavioural rules, a suspension of time pressure, a dynamic mix of functional expertise and cultural diversity and the provision of innovative tools for visual communication. Its primary purpose is to *"...make participants in knowledge creation utilize and leverage their personal experience, as well as to relieve themselves of the heavy burden of past experience"* (Von Krogh et al. 1997:476). The related roles of a supportive corporate culture and an enabling technological infrastructure in establishing this creative context are addressed elsewhere in this chapter.

(c) Knowledge Development:

Knowledge is the pivot around which KIFs rotate. It determines an employee's status and power within the organisation. The main knowledge development strategy within KIFs is internal education and training, both formal and informal. This issue will be explored in greater detail under the HR Strand. In-house R&D is positively encouraged and paid study leave is often available to staff. Many KIFs have specific know-how development programmes and staff are actively encouraged to engage in publishable research, stimulating their minds and raising the public profile of the company (Sveiby and Lloyd, 1987). Berry and Oakley (1994) found that most consultants in their study gained their knowledge through client practice which was then disseminated by means of in-house sharing (databases of methodologies, case studies, formal training and informal networking). They found the process by which this valuable practical knowledge is created rather unclear. They also refer to consultants gaining knowledge through linkages with academic institutions but suggest that there would appear to be an extremely tenuous connection between the practical knowledge that the consultants value and sell and the "discourse knowledge" developed by academics.

Boland and Tenkasi (1995) identify KIFs as composed of a number of expert knowledge groups or “communities of knowing” (p.351). In their view, new complex knowledge and innovation is produced when there is effective communication both within (perspective making) and between (perspective taking) these various open system communities. While the traditional ‘conduit model of communications’ is adequate for knowledge production within a well developed community (perspective making), Boland and Tenkasi (1995) call for the additional development of what they call a ‘language game model of communications’ if new communities of knowing are to be formed (effective perspective taking). This latter approach views communication as a form of a language game in which local narrative and reflexivity predominate and challenge any prevailing logic. The development of new knowledge becomes an issue within and between communities. Both communications approaches are deemed important in developing strong perspectives within communities. Communities are deemed to need an isolated conversation space to develop strong perspectives punctuated by opportunities for interaction between communities. They need flexible and media rich mechanisms through which perspectives can be commonly explained and shared both within, and more importantly between communities. Ongoing feedback on anomalies and errors is also vital in encouraging a willingness to change one’s perspective. Finally, they are deemed to require a level of freedom from competitive pressures to allow new perspectives to develop (Boland and Tenkasi, 1995:355/6). The implications of this view for the design of electronic communications systems is developed under the technology strand.

Starbuck (1992) refers to the way that KIFs can gain new expertise through the purchase of capital goods such as computer software. However, this knowledge is obviously equally obtainable by competitor organisations. Some KIFs recruit experienced staff as a means of gaining immediate new knowledge but this can create socialisation problems (Wiig, 1993). Other KIFs use short-term employment contracts as a means of pushing

responsibility for knowledge development and updating back onto the individual (Maister, 1982).

(d) Preservation of Knowledge:

Within the dedicated KIF literature, a recurring theme is that the knowledge within KIFs is deemed to reside primarily in the brains of the expert staff. On this basis the main strategy for the preservation of knowledge is one of proactive staff retention. This is achieved through partnership structures, employee ownership (shares, options or convertible loans) or profit sharing (Sveiby and Lloyd, 1987:102/3). The primary design consideration should be the apportioning of influence and rewards based on the possession of knowledge and not the possession of financial capital. KIFs also try to “clone” the knowledge of their leaders and key professionals to minimise the potential loss arising from the departure of these individuals (Sveiby and Lloyd, 1987).

Starbuck (1992) refers to the acquisition and protection of ideas and expertise into physical capital, routines, cultural manifestations and social capital. In the short term, KIFs can turn their expertise into concrete capital such as procedures, checklists, and databases. Often, however, this physical capital is harder to protect and retain than the experts that developed them (Starbuck, 1992:726). The development of bureaucratic routines is another way of protecting expertise, drawing benefit from them through ensuring the provision of consistent quality and behaviour, facilitating worker flexibility, geographical dispersion and growth through related activities, products or services (Starbuck, 1992:728). The danger here is that the firm may lose its knowledge intensity as it recruits more support staff (in effect becoming a professional bureaucracy (Mintzberg, 1979)) and that the routines, once established in written or software form, can be easily acquired and imitated outside the firm. Starbuck refers to social capital as the development of long-term relationships between KIFs and their clients. Bonding occurs through repeated interactions. This rainmaker function is typically reserved for those experts with exceptional social skills. It can cause divided

loyalties for the expert but tends to nurture the ties between client and KIF. Success, in terms of retaining long-term clients and not losing experts to clients, hinges on a careful balancing of and fostering of mutual dependencies between the client-relations expert and the technical expert (Starbuck, 1992:733). In the end of the day, however, the literature does appear to acknowledge that the leakage of knowledge from a KIF cannot be stopped and so the best strategy is to constantly create new knowledge thus maintaining one's competitive advantage even in the face of the loss of key staff (Sveiby and Lloyd, 1987).

(e) Sharing and Networking Knowledge:

One of the main problems facing KIFs is the transfer of the huge amount of latent knowledge held individually by its staff. This process is hindered by the inevitable presence of professional jealousy, egoism and rivalry. Quinn et al., (1996) suggest that professionals have a natural reluctance to share knowledge as it is their most precious asset. They cite the initial disappointing experiences of staff use of the new Arthur Andersen ANET knowledge database as typical of this common problem. In the face of employee resistance to engage with ANET senior management were forced to introduce reinforcing behaviours. Quinn et al., explain:

Major changes in incentives and culture were required. To stimulate wider use of the system, senior partners deliberately posted questions into employees' e-mail files each morning to be answered by 10 o'clock and followed up on queries in their own units. Most importantly, participation on ANET began to be considered in all compensation and promotional reviews. Until these and other supporting structural changes achieved cultural modifications, ANET - despite its technological elegance - was less than successful (1996:22).

Sveiby and Lloyd (1987) identify in-house education and on-going feedback sessions as widely used in sharing knowledge but see on-the-job training, whereby juniors learn by

working in a team with the seniors, as the primary vehicle for knowledge transfer. Nonaka (1994) sees the sharing of tacit knowledge as essential for organisational learning and innovation. This is achieved through the development of a certain organisational “mental outlook”, a condition normally achieved through the introduction of self-managing teams formed around Morgan’s (1986) four principles of ‘learning to learn’, ‘requisite variety’, ‘minimal critical specification’, and ‘redundancy of function’ (Nonaka, 1994:23). Liedtka et al. (1997:50) also see the sharing of knowledge and learning as a key feature of success in the KIFs they studied. In the organisations they examined a sense in which all employees were both simultaneously learners and teachers was fostered and this became an accepted part of the culture of these firms.

Brown and Duguid’s (1998:103) conceptual work talks about the need for an “architecture” to spread organisational knowledge. They identify three social strategies for promoting the spread of knowledge between communities of practice. First, “*organisational translators*” are individuals who can frame the knowledge or viewpoint of one community in terms of another community’s perspective making the issue mutually intelligible to the communities involved. Second, “*knowledge brokers*” are those who participate actively in a number of in-firm communities helping the flow of insights and messages between them. Finally, “*boundary objects*” such as contracts, plans, blueprints or interlocking business processes can help seed the border between communities, fostering inter-communal negotiations and agreement. Their views on the role of communications technology in this complex process of sharing organisational knowledge will be explored under the technological strand.

(f) Monitoring and Measuring Knowledge:

The managers of and investors in KIFs, in addition to needing a financial accounting system, also need key indicators of knowledge risk and of changes in the knowledge capital (Sveiby and Lloyd, 1987:75). There is also a need to determine the extent to which the

knowledge created within the organisation is truly worthwhile for the organisation and society” (Nonaka, 1994:26). This process typically involves both quantitative or factual/pragmatic considerations (efficiency, cost, ROI, etc.,) and more qualitative considerations such as “...*opinions about such things as the extent to which the knowledge created is consistent with the organization’s vision and perceptions relating to adventure, romanticism, and aesthetics*” (Nonaka, 1994:26). Sveiby and Lloyd are one of the few contributors who try to develop this theme proposing and operationalising four key indicators that they see as essential to the proper monitoring of knowledge namely (a) the size, growth and quality of the knowhow capital; (b) return on knowhow capital; (c) efficiency and productivity measures; and (d) the knowhow risk.

To summarise the finding of the knowledge strand literature, one is presented with a view of an organisation relying on the development and exploitation of a very narrow and focused body of knowledge. The creative context in which this knowledge development and sharing takes place is one of intelligent and highly motivated employees interacting frequently in a team setting and subsumed within a corporate culture of collegiality and trust. Knowledge development is deliberately fostered through a wide range of formal and informal mechanisms ranging from on-the-job and formal training to links to academic institutions. Knowledge preservation is attempted through the combined use of strategies to retain core staff, the codification and storage of employee tacit knowledge and through the use of legal devices such as patents. Knowledge sharing is achieved through constant member interaction within and between teams. Face-to-face and IT mediated feedback through events such as team briefings, seminars and discussion groups have a key role to play. KIFs are also deemed to constantly monitor the size, growth, quality and return on their knowledge capital.

The Control Strand

Many KIFs are inefficiently controlled and have very high overhead costs (Starbuck, 1993). Starbuck found that both management and control functions within KIFs tended to devolve on those who were willing to accept responsibility for them and often ended up being undertaken by loosely structured committees. Nonaka (1994) also identified the difficulty in achieving and maintaining overall control as a key weakness of knowledge creating companies. At a more specific level the literature threw up the following control issues:

(a) Corporate Culture:

The issue of corporate culture receives a high level of attention throughout the literature on KIFs. At a theoretical level, however, the treatment of the topic is relatively superficial. Alvesson (1995a) identifies two distinct perspectives on corporate culture or organisational culture as he prefers to call it. The first view, drawing on work by Smircich (1983), sees organisational culture as a distinct variable or subsystem existing alongside other objective variables or subsystems such as technology or structure. Culture from this perspective is deemed to have a direct relationship with behaviour and performance.

Alvesson sees some value in this perspective in that culture can:

...denote the values and norms which management and senior members of a company believe in and/or espouse and which they try to inculcate in a systematic manner into the employees in an organization

(Alvesson, 1995a:34).

This view of culture can be seen as a strategy of control (Ray, 1986) but as a strategy it is only partially amenable to management influence and manipulation (Legge, 1995). The second view of culture is that of culture as a symbolic metaphor. Alvesson describes this perspective by suggesting that an organisation is a culture. From this broadly anthropological perspective culture is seen as a fundamental dimension or level of analysis,

which permeates various social actions and institutions being equated with symbolism, meaning and consciousness (Alvesson, 1995a:36). The majority of the literature reviewed in this subsection adopts the former view of culture as a discrete variable. Alvesson's view of culture as a metaphor will be examined later.

Within this variable or sub-system perspective, Sveiby and Lloyd (1987) argue that a strong and well-defined corporate culture is essential for a successful KIF. A strong culture, they suggest, is an ideal form of soft control, giving direction and laying out broad parameters of acceptable and unacceptable behaviour within which the professionals and experts are given free rein to innovate. Starbuck identifies four reasons for a reliance on social norms (and the reward structure) to achieve co-ordination and control within KIFs. They are the experts' sense of their own importance, common values and norms already existing in the employees from years of formal education (akin to university faculty), the independent nature of experts' work; and the instability of their markets result in the need for fluidity and ambiguity (1992:730). This concern with soft controls and an avoidance of excessive formalisation is compatible with, and is reinforced by, the team structure mentioned already and with the high level of emphasis on self-control and empowerment in evidence in the human resource practices identified in the literature.

Maister's (1985) "*one-firm firm model*" provides a good overview of the stereotypical conceptions held of the culture of successful KIFs. He suggests that well managed KIFs stress co-operative teamwork and institutional commitment, grow in a controlled and organic manner, select assignments very carefully, invest heavily in up-dating the company's knowledge resources, have open access to all information and de-emphasise entrepreneurship and internal competition. Starbuck (1993) however, argues that few KIFs resemble Maister's ideal. He points to the difficulties in creating and maintaining distinctive cultures within KIFs due to the strong supra-organisational cultures of the expert staff.

Starbuck (1993) sees a culture of collegiality as a critical success factor in the design of a successful KIF. His study of the US law firm Wachtell suggests that the

company has a distinctive culture typified by openness, excellence, paternalism and the absence of hierarchy. The informality of the firm is exemplified by the open door practice. As Starbuck explains “... *without any privacy, everyone knew what everyone else was doing, which meant that knowledge was shared, making the informality more effective than seminars or luncheons arranged for the dissemination of information*” (1993:908). Similarly, Miles et al. (1997) discuss the need to foster high member ownership within KIFs with a view to reward entrepreneurial behaviour and ultimately to encourage employees to voluntarily invest their intellectual assets with the firm. This is fostered through a concern with self-governance and a new equitable system of profit-sharing (Miles et al. 1997:17-18). Here again one sees evidence of the design lattice of KIFs with the reward system (the HR strand) integrating closely with the control and knowledge strands.

Liedtka et al. (1997) describe the cultural ethos of successful KIFs as a set of interrelating factors. They identify a deep sense of engagement that employees have with the firm, reinforced with a “...*basic belief in putting clients first*” (1997:51). A strong respect for other employees and their opinions is also a recurring cultural theme. This strongly espoused and nurtured sense of “...*collaborative ability and connectedness*” (1997:53) is deemed crucial in allowing the firm to handle client problems of immense complexity in a very efficient manner. Liedtka et al. (1997) and Lowendahl (1997) both highlight the crucial role played by careful client selection in the development of culture within KIFs (1997:55). The best clients are those with the most complex problems and who are willing to invest in leading edge solutions. If the KIF is not attracting the best clients then it is not facing highly complex client problems and will find it difficult to intellectually challenge its experts, attract the best new recruits and push forward intellectual developments within the firm. In this sense, success breeds success.

By way of conclusion, the prevailing view as to the nature and role of organisational culture as a supporting managerial resource or superstructure within KIFs is summarised in the follow quotation from Alvesson:

...corporate culture may be regarded as an overall frame of reference and a reservoir of (rules for) feelings, ideas, and social and emotional ties which have some effect on everyday project work. These ties influence the willingness of individuals to work, providing a slight tinting of their interpretative filters (chiefly in the social aspects of project work), and they help to create the social bonds, both as regards ties between individual employees, and between employees and the company (1995a:194/5).

The sole dissenting opinion on the prevalence of clan-type control within KIFs is provided by Berry and Oakley (1993, 1994) in their study of UK consultancy firms. They saw evidence of clan, market and hierarchy (Ouchi, 1980) control in different companies. This may, however, be more of a reflection of the varied historical backgrounds of their sample of firms (many having emerged from accounting partnerships) and external regulation of much of the management consultancy industry.

(b) Quality and Quality Control:

KIFs place great emphasis on achieving and maintaining extremely high levels of service quality. Successful KIFs tend to have rigorous quality control systems with a strong focus on subsequent follow up and evaluation. Such evaluation is typically carried out by dedicated quality control staff, peer evaluation and review and/or periodic client surveys (Sveiby and Lloyd, 1987:101). The issue of how to measure quality improvement brought about by KIFs remains an ongoing problem. Starbuck (1993:914) also refers to a driving concern with quality within KIFs which, coupled with high responsibility for all staff, is achieved on the back of a highly intelligent and self-motivated group of employees.

(c) Leadership:

Leadership is seen as an essential feature of KIFs. It is also highly problematic due to the prevalence of highly trained and temperamental experts/professionals within the system who are largely resistant to strong direct control. The leader is often the founder of the company and is generally the chief motivator/organiser and primarily responsible for growth and development. S/he must ensure that the work of the professionals is and remains challenging and be able to carry forward new business ideas (Sveiby and Lloyd, 1987).

Starbuck (1993) also sees the presence of a dominant, strategic, charismatic and talented leader as an essential feature of successful KIFs. Both Starbuck and Sveiby and Lloyd see the ability to develop new generations of leaders capable of taking the organisation into the future as one of the central challenges facing a successful KIF. There should always be an acceptable successor to hand who can step into the breach, maintaining stability and momentum.

To operate as an effective leader, Sveiby and Lloyd (1987) suggest, one must have the approval of the professional cohort. This invariably means that the leader is also an expert or professional, has an inspirational style and uses his/her power through the ability to win intellectual arguments and strength of conviction (Sveiby and Lloyd, 1987:100). The leader is largely responsible for “...*creating environments, establishing frame-works, delineating boundaries, goading the professionals to ever greater efforts and transferring culture and knowhow to new employees*” (Sveiby and Lloyd, 1987:89). Successful leaders appear to have excellent informal internal monitoring systems and are constantly aware of all the subtle information flows around the organisation. Overall, the leadership image presented in the literature on KIFs is very much one of the transformational leader challenging, creating opportunity, setting a clear sense of direction, providing a symbol of security, acting as coach, role model and catalyst.

Finally, Alvesson (1992, 1995a) refines the control concept of leadership within KIFs in his view of the leader as a ‘social integrator’. He sees social integrative leadership

as a derivative of institutional leadership (focusing on the establishment of a broad purpose and set of core values for the organisation) and social leadership (focusing on human resource issues including job satisfaction and general communications). In his words the social integrator function is:

...a matter of transferring ideas, representations and orientations that counteract the disintegrative tendencies inherent in this organisational form and facilitates convergence in thinking, feeling and acting, which increases the chances of people staying in the company, getting along, co-operating efficiently within and between units, and adopting a not too divergent or diffuse style in project work and in interactions with customers. (Alvesson, 1995a:178)

Alvesson suggests that the social integrative aspect of leadership fulfils three key functions namely: (a) a boundary keeping function focused at reminding the employees that they are a valued part of the firm; (b) a sparring partner function aimed at providing intellectual, moral and social support; and (c) a cohesiveness function aimed at developing and maintaining a good collective social spirit (1995a:179). This general strengthening of the collective bonds within a firm is seen as important in getting employees to accept very high work pressures. Viewed from this perspective the leader can be seen, along with the more traditional conceptions of the role, as an agent and reproducer of the corporate culture, albeit a somewhat passive role constrained by the corporate culture itself (Alvesson, 1992).

(d) Financial, Relationship and Knowledge Asset Management:

Quinn et al., (1996) suggest that effective management control systems within KIFs must encompass four critical dimensions:

1. Peer review of professional performance;
2. Customer appraisal of outputs received;
3. Business evaluation of efficiency and effectiveness; and

4. Measurement of the intellectual assets created.

However, their contribution does not provide any detail as to the operationalisation of item 4 above, the measurement of intellectual assets created. As was seen under the knowledge strand, knowledge asset management within KIFs tends to be focused on retaining valued employees and in the conversion of the tacit knowledge of their experts into physical capital and routines (Sveiby and Lloyd, 1987). Sveiby and Lloyd see the accounting system of KIFs as “...one of the most important stable structures within a professional organisation” enabling management “...through a continuous flow of reports, to monitor and control the organisation’s activities” (Sveiby and Lloyd, 1987:56). Maister (1982) adds to this view by stressing that competitive pricing and high profits can be achieved by KIFs through the control of its project team structure “...leveraging high-cost seniors with low-cost juniors” (Maister, 1982:18) and tapping the synergy of the KIF project team. Client satisfaction can, however, be undermined through the excessive use of inexperienced juniors on a project. Control of the extended external network of KIFs (see the structural strand) including partners, suppliers and competitors is frequently achieved through the use of co-operation and confidentiality agreements (Sveiby and Lloyd, 1987:56).

A summary of the literature on control within KIFs suggests a strong emphasis on soft control or the use of social norms. The primary manifestation of this soft control is the development of a strong and distinctive culture based on collegiality, teamwork, trust and employee flexibility. Service quality was also paramount. The maintenance of this culture was aided through careful employee selection and socialisation and a level of selectivity in choosing clients. Formal quality control was deemed important and a central concern of all work activities. Ongoing and post-implementation evaluation were deemed important aspects of the quality control system despite an awareness of the nebulous nature of some of the output of KIFs. Strong leadership was seen as important in reinforcing the desired culture, in challenging and giving direction to the activities of experts and in acting as a key social integrator within the KIF. Successful KIFs were also seen as investing in the

development of financial, relationship and knowledge asset management, monitoring profit and margin levels, legally protecting their interaction with its external network and monitoring the size, changes in and quality of their knowledge assets.

The Human Resource Strand

Sveiby and Lloyd, (1987:103) argue that “...*the management of the professional organisation boils down to a single activity, recruiting and developing people*”. Employees are the machines of the KIF and their knowhow and expertise the key and sometimes the only capital available to the company. A review of the literature revealed four key practices reflecting this high concern for staff:

(a) Careful Recruitment and Selection Practices:

KIFs place great emphasis on recruitment in terms of meeting existing manpower needs and in planning future strategic needs. A recurring theme in the literature was a need to recruit the brightest and the best (Starbuck, 1993; Liedtka et al., 1997; Lowendahl, 1997). Liedtka et al. (1997:49) found that all three of their case studies sought multilingual individuals with exceptional analytical, human and entrepreneurial talents. All three cases identified human qualities such as interpersonal skills and personal qualities such as integrity and respect as essential in undertaking internal and external “*relationship work*” but also the most difficult to identify (Liedtka et al., 1997:49). Professionals should dominate numerically as they generate the revenue for the organisation. A related issue concerns the need to manipulate the age structure of the company achieving a balance between older and younger professionals. If they fail to mix in their knowledge capital cocktail the right proportions of mature wisdom and youthful vigour their business idea will become out-dated (Sveiby and Lloyd, 1987:108). Sadler and Milmer (1993) found that the norm among KIFs is to recruit primarily at a young age and typically in the form of graduate entry and develop them for senior positions within the organisation. Others will recruit

skilled and experienced staff in the hopes of gaining new ideas and clients but run the risk of experiencing socialisation problems (Sveiby and Lloyd, 1987:77).

Sadler and Milmer (1993) were the sole contributors to suggest that KIFs do not necessarily recruit the exceptionally talented. They see this trend as driven by a higher emphasis on teamwork ability rather than on individual excellence and by financial considerations within KIFs. Berry and Oakley (1993) found that the consultancy companies they surveyed did not deem the educational qualifications of employees to be that important but that they did place a heavy emphasis on their practical abilities. Most of the literature, however, sees KIFs as staffed by exceptionally bright and highly qualified employees (Starbuck, 1993). This tendency to recruit “the best” is a reflection of what these employees can currently do, of managerial hedging against potential future needs and as part of a wider policy of image and attitude building within the KIF (Sadler and Milmer, 1993).

Maister (1982) sees the attractiveness of a KIF in the professional labour market as primarily determined by the perception of career opportunities within the firm. He suggests that this is determined by the normal amount of time spent at each level before being considered for promotion and the proportion of staff actually promoted (1987:20). Failure to meet promotional expectations typically results in the departure of the employee. The perceived level of career opportunities within a KIF is seen as serving two functions. First it helps screen out unsuitable employees ensuring that only the ‘cream of the crop’ remain with the company (a process reinforced by a rigorous recruitment system). Second, it acts as a motivating tool for juniors who otherwise might take advantage of their discretionary work schedules. Looking beyond career opportunities, Starbuck (1993) adds egalitarian and challenging work practices, high pay, high prestige as further key features of the attractiveness of a KIF to potential exceptionally talented employees.

Sadler and Milmer (1993) found the formal interview as the most widely used selection method in its sample of KIFs. They suggest that this method remains popular, despite its

subjective nature and low predictive value, as it is “...*acceptable, non-threatening and relatively ‘safe’ process for interviewer and candidate alike*” (1993:88).

(b) Motivation and Remuneration:

Once talented employees have been recruited into a KIF the next challenge is to motivate these individuals to excel. Success, or the perception of success, is deemed essential to ongoing motivation. A central feature of the motivation practices within KIFs is the presence of a performance assessment and feedback system (Sveiby and Lloyd, 1987). Tampoe’s (1993) survey of 800 knowledge workers (a term he does not define) in R&D establishments, software development houses and engineering firms (322 responses were received) identifies four key motivators of knowledge workers (in order of priority):

1. Intellectual, personal and career growth;
2. Operational autonomy (ability to achieve set tasks within the constraints of strategic direction and self-measurement indices);
3. Task Achievement (achievement of high quality and relevant output); and
4. Equitable monetary reward.

Unsurprisingly, the author recommends meeting the industry norm for pay and concentrating on the other three intrinsic factors as a means of motivating knowledge workers. Of more interest, however, were the survey findings on the employees’ perceptions of how they were actually managed and motivated. The results indicate a considerable gap between organisational practice and the expectations of knowledge workers. The findings were:

1. Activity Orientation: Staff felt under pressure to implement ideas with little time for conceptualisation and testing;
2. Creative Autonomy: Staff were free to think innovatively but were frequently unable to progress their ideas due to a low level of operational autonomy;
3. Shared Values: Staff were aware of a strong corporate culture focused on performance;

4. Bureaucratic Bias: Staff were aware of a strong concern with process dominated behaviour;
5. Career Stagnation: Staff saw little opportunity for promotion; and
6. Financial Reward Focus: Strong reliance on money as a motivator.

Additional motivators identified by Sadler and Milmer (1993:113) include company reputation, a sense of mission, respect for the individual, special award schemes and a no layoff policy.

On the issue of remuneration, Starbuck (1993) emphasises the importance of an egalitarian compensation system. He does, however, see the success of such a system as contingent on open sharing of the workload, trust, and flexible responsibilities for clients. Miles et al. (1997:17) also talk about the need for a new equitable system of profit-sharing with KIFs to encourage ownership and knowledge sharing.

(c) Training, Learning and Development:

Within KIFs, staff development is essential for all categories of staff (leaders, managers, professionals and clerical staff) but is particularly challenging for professional staff (Sveiby and Lloyd, 1987). The effective development of this latter category requires bold initiatives and “...a massive personal commitment by top management and an empathy with the needs of the individual so far unknown in traditional industries” (Sveiby and Lloyd, 1987:116). Examples of professional development practices include staff swaps between clients and consultants, unpaid leave to work freelance and secondments to clients and competitors. Liedtka et al. (1997) identified three key aspects of the professional development practices in their case studies:

1. an apprenticeship approach that relied heavily on senior partners acting as models for and closely mentoring junior staff;
2. a commitment and openness to learning at all levels within the firms; and
3. continuous performance assessment and feedback aimed at learning.

Starbuck, (1992:724) argues that experts need to constantly update their knowledge through reading and attending conferences and training courses though he suggests that many senior managers within KIFs see knowledge updating more as something to manage than to do themselves. Some KIFs push responsibility for the updating of knowledge and skills onto the employees by limiting their job security. This practice reduces training costs and allows new experts with new knowledge to be easily taken on board, temporarily at least. These practices add to the faddish tendencies of KIFs identified earlier. They can also result in porous boundaries with staff flowing easily from and to client companies and a consequent difficulty in keeping unique expertise exclusive to the KIF. Some firms try to protect against this loss by converting expertise into organisational property (Starbuck, 1993) or by attempting to legally limit the employability of its departing employees.

(d) Career Planning, Outplacement and Welfare Services:

The unsolicited departure of a professional employee represents a serious loss of knowledge to a KIF and to this end they invest heavily in retaining staff primarily through promotional and “golden handcuff” practices. Sveiby and Lloyd suggest that professionalised employees are deemed to follow a life-cycle which companies need to take advantage of in their recruitment and development policies. In the consultancy field the ideal profile would be as follows: Age 20 -30: junior; age 30 - 45: partner; age 45-58: senior partner; age 58 - 68: mentor; age 68 - :ambassador. Knowledge levels are deemed to peak around the age of 45.

Maister (1982) identifies failure to meet promotional expectations as the typical cause of a professional’s departure. This “churning” strategy persists in certain types of KIFs due to potential gains for both the company and the soon to be ex-recruits. The high turnover allows partners to earn the surplus value of their juniors. The high turnover is also a very effective screening process ensuring the successful departure of those who are surplus to requirements, of those that have failed to meet their career expectations and those who

don't fit in with the culture (Sveiby and Lloyd, 1987). These temporary recruits, in turn, treat their spell in the company as a "form of post-postgraduate' degree" (Maister, 1982:23) leaving the KIF for quality employment elsewhere in a shorter time than would be possible by any other route. Certain KIFs actively encourage this process, providing professional outplacement services. The outplacement of ex-staff in quality employment is seen by the PSFs as a fundamental part of the development of its extended network, a key source of future business (Sveiby and Lloyd, 1987; Starbuck, 1993).

A final related issue under this heading concerns the stressful nature of the work within KIFs. Nonaka (1994) identifies human exhaustion as a major weakness of the work practices of KIFs. Starbuck (1993) likens the work situation at Wachtell's, one of his case studies, to an emergency medical team. They offer a 24 hour, seven day a week service to their clients. Much of the work they engage in is of a highly complex and crisis nature. One partner described the employees of the firm as wildly self-motivated and saw the firm's success built upon failed marriages. Their creed is "*... being there when the client wants you, getting it done expeditiously, turning out the best possible piece of work, and being scared. You're worried so that [the client] doesn't have to worry*" (Starbuck, 1993:905). Obviously, only highly self-confident, talented lawyers who thrive on responsibility and pressure are attracted to work of this nature. Indeed, only half of those offered jobs with the firm accept them. Sadler and Milmer (1993:141) are unique in the literature reviewed in making reference to the need for stress management within KIFs. Their conception of stress management is, however, very constrained focusing on the provision of counselling services as the primary means of maintaining the performance of their key employees.

The literature on the human resource strand stresses the centrality of recruiting, developing, motivating and retaining high quality employees. Most of the literature focuses on issues surrounding the professionalised or expert core with little attention paid to administrative or support staff. In relation to core employees, the literature places a strong emphasis on recruiting the best and the brightest. This view is somewhat qualified by a

growing awareness of the importance of key human or interpersonal talents such as teamwork and integrity. Opportunities for rapid advancement, challenging work, high pay and prestige are seen as important characteristics in attracting the exceptionally talented to KIFs. On the issue of motivation, the literature has a clear intrinsic focus. Employees are expected to be self-motivated and seek out challenging work. An open and egalitarian compensation system is seen as important provided there is a perception of equitable sharing of work loads and an ethos of trust. Ongoing training is seen as essential if experts are to keep their knowledge base up to date. Responsibility for this updating of knowledge can be pushed down to the individual employee or accepted by the organisation itself. Career planning tends to be seen as important if only from the point of view of ensuring the retention of important employees. Finally, on the welfare side, while stress was seen as an issue within KIFs, the literature suggests that its management is an issue for individual employees. The work is inherently stressful and the selection process is designed to select those who can cope.

The Technological Strand

Most of the literature on KIFs places little emphasis on the role and impact of technology. This would lend credence to Mintzberg's (1979) view that operating adhocracies tend to have non-sophisticated and non-regulating technology and a small support staff that tend to merge with middle management and the front-line staff in project work. Quinn et al., (1996) are alone in suggesting that new technologies, particularly new software systems capable of capturing important quantitative aspects of intellectual and service output, are becoming the most valuable competitive tool of intellectual management (p.24). These technologies appear to play a key co-ordinating role within KIFs facilitating the capturing, codification and dissemination of certain types of knowledge. They also play a key role in the measurement of the knowledge asset base.

Reimus (1996) identifies two approaches to the use of technology by consultancies in managing their knowledge. Methodology-oriented consultancies give primacy to the technology in achieving competitive advantage relying heavily on prescribed methodologies in dealing with clients. Knowledge-driven consultancies, on the other hand, focus more on cultivating the tacit knowledge and expertise of their employees. They regard technology as important but see its role as one of providing a support architecture for the acquisition, sharing and exploitation of knowledge.

Holsapple and Whinston's (1987) speculative contribution argues for a distributed IT system within KIFs (local work stations, dedicated support centres, communication paths for inter-computer interaction and distributed knowledge warehouses). They put forward the view of KIFs as joint human-computer knowledge processing systems with computers and associated information technology aids playing a crucial role in the support of knowledge management efforts (1987:77). They identify two main areas where technology can play a crucial role in facilitating the work of knowledge workers. The first area is inter-computer communications which they see as essential for "*...promoting knowledge sharing, co-operative (and consistent) problem solving among knowledge workers, and distributive knowledge processing*" (1987:79). The second area concerns the development of software tools to assist knowledge workers in their knowledge management activities. These tools will enable knowledge workers to directly meet most of their own needs while facilitating them in concentrating on the most conceptually and technologically demanding tasks. Also on the issue of software tools, Berry and Oakley (1993,1994) also found that while most of the management consultancy companies in their survey emphasised customised work they tended to use proprietary technology extensively.

Boland and Tenkasi (1995) and Tenkasi and Boland (1996) also speculate on the use of information systems in a knowledge-intensive work environment. They suggest that the implications of using IT within KIFs is best understood as "*...the interrelationship of organizational, cultural and technological elements*" (Boland and Tenkasi, 1995:365). They

see knowledge work as involving the creation of new understandings (of nature, organisations or processes) and their application in valued technologies, products and processes. This type of work requires “...*multidisciplinary expertise and mutual learning in order to achieve a complex synthesis of highly specialized state-of-the-art technologies and knowledge domains*” (Tenkasi and Boland, 1996:79). The maintenance of a KIF’s expertise requires that these domains develop their unique knowledge bases and understandings individually and then interact with and learn from other domains with a view to gaining new insights into product development and problem solving (Tenkasi and Boland, 1996:79). As discussed earlier under the knowledge strand Boland and Tenkasi refer to these two core processes as perspective making and perspective taking respectively. This requirement of KIFs to differentiate and then integrate multiple and differentiated forms of knowledge and expertise with a view to the facilitation of learning is, in their opinion, an area that requires urgent development and enhancement. While information systems aim to meet the integration needs of organisations, Tenkasi and Boland argue that current traditions in information system design render most systems unsuited to integrating differentiated knowledge. While the primary purpose of the authors is to highlight the need to face up to this new challenge facing system development, they do offer a number of examples of systems that are beginning to face up to the reality of the diversity of knowledge and ways of knowing. These include post-mechanistic groupware, Amsterdam Conversation Environment, OVAI and cognitive mapping tools such as COPE and SPIDER (1996:88).

Brown and Duguid (1998) echo the problems of the internal stickiness of knowledge mentioned above particularly in the context of sharing knowledge between heterogeneous communities of practice. While they stress the primacy of the social as opposed to technological context in the effective movement of knowledge, they see a key role for technology in responding to the social context and supporting the social network. They identify the need for technology to support different levels and types of local informality

and trust, to support complex, multi-directional implicit negotiation and to facilitate participation and learning (1998:104/6).

Finally, Van Hattem's (1996) ethnographic study of the activities of a Dutch management consultancy company provides an interesting insight into the contested nature of technology within a KIF. He describes the differing perceptions held on the one hand by senior consultants and on the other by the foreign and junior consultants on the proposal to introduce a groupware system where all company documentation (reports, presentations, etc.,) would be available to all employees. The senior consultants saw the information system as something that would strengthen their "*hyper-individuality*", complementing their more important personal skills, attitude and determination and enabling them to become more nomadic and independent. They saw it as having little impact on the in-company hierarchy and as unlikely to result in real learning. The foreign and junior consultants, on the other hand, saw the system as enabling them to become more effective at their work, resolving the dilemma of what they saw as the effective monopolisation of knowledge by the senior consultants. They appeared to assume that more codified knowledge was all they needed to become more successful. Van Hattem explains:

It [the system] is supposed to be stocked with "right answers" and "powerful solutions" which can be applied to business problems without thought or reflection. The juniors, in reality, want to make themselves into unempowered cyborgs, whose performativity is guaranteed by the "system". Supposedly, the "system" will function like a Thesaurus, providing on-call solutions and alternatives. If you want to know more about a certain topic, you use the hyper-text to click onto the project involved, and you are automatically provided with sources, quotes, reports. Even the opportunity to question a colleague by e-mail, or to establish a direct link by video conferencing/mobile

communication may be included. Of course all actions are logged; and would be related to performance criteria (1996:6).

This issue raises questions as to the true extent of knowledge sharing within certain types of KIFs. Typically one's earning potential as a consultant is tied to your individual skills and knowledge. As such there is possibly an ongoing negotiated process in train where consultants in particular constantly trade off the benefits of sharing versus hoarding their key knowledge base.

To summarise the relatively undeveloped literature on the nature and use of technology in KIFs, one finds a largely speculative picture of non-sophisticated and non-regulating technology. The focus is on using technology to facilitate knowledge work through improving access to, storage of and the faster processing of information and knowledge by knowledge workers. The architecture is of a distributed nature and is typically structured around a PC network. There is also a focus on the development of software tools with a view to automating the more mundane aspects of the knowledge worker's activity. The role of technology in facilitating multidisciplinary and distributed expert groups to communicate rapidly and on a common perceptual base is also emphasised. Finally, the role of technology, in particular distributed knowledge databases, in the politics of sharing and hoarding knowledge by experts is explored.

Discussion

This chapter has reviewed a substantial cross-section of the empirical and speculative literature on the design and management of KIFs. The intention behind this largely uncritical review was to aim for a literature integration and the production of a normative ideal type of KIF. Six interrelated design strands were separately reviewed and overall results are summarised below.

- **The Structural Stand:**
 - Organic form
 - Extensive use of overlapping teams or task forces
 - Structure dominated by a 'professional' core of three levels or grades
 - Low priority given to clerical and administrative staff in the structure
 - Partnership is the preferred legal form due to its flexibility and potential for employee ownership
 - Co-ordination mainly achieved through mutual adjustment
 - Extensive formal and informal networking internally relying on face-to-face and computer mediated media
 - Extensive external networking
- **The Strategic Strand:**
 - Dominant strategic focus centring around the acquisition, creation, accumulation and exploitation of new knowledge
 - Limited action planning
 - Innovation given a high priority
 - Unusual and incoherent strategic developments due to a complex input-output system, unpredictable customer demand and resistance from the expert staff to strong formal control
 - Strong concern with growth achieved, ideally, through an organic approach but also through acquisitions
 - Competition typically strong leading to strong pressures to standardise output but with a consequential negative reaction from the expert staff and a potential risk of bureaucratisation
 - Strategic service offerings tend to reflect market shifts leading to a level of faddishness
- **The Knowledge Strand:**
 - Focused knowledge centred around the development of a distinctive set of competencies and aided by the tight and selective control of service offerings and nature and number of clients
 - A creative context of smart staff, the use of overlapping work teams, a culture of collegiality and a supportive information technology network
 - Extensive knowledge development undertaken using a combination of overlapping strategies such as in-house and on-the-job training, staff turnover and the recruitment of experienced staff and links to academic institutions and other information and research oriented bodies
 - A concern with knowledge preservation with rewards and influence apportioned on the basis of knowledge, a concerted focus on retaining core employees, the conversion of expertise into physical capital and routines and the use of patents and copyright
 - Knowledge sharing afforded high priority using on-the-job training, formal mentoring, overlapping teamwork, regular project debriefings and reviews, seminars, conferences and the use of distributed information technology data bases
 - Monitoring and measuring of knowledge assets carried out focusing on issues of size, growth and quality, return on knowhow capital and knowhow risk exposure.

- **The Control Strand:**
 - An emphasis on control through social norms
 - The development of a strong culture based on collegiality, teamwork, trust and flexibility
 - An emphasis on innovation and flexibility and on minimising formalisation and bureaucracy
 - Presence of sub-cultures of experts with a focus on achieving a balance between them
 - An emphasis on service quality in all aspects of the KIF's work
 - Strong transformational leadership seen as an important function reinforcing the culture, aiding social integration and providing direction to strongly independent experts
 - Strong focus on the integrated control of financial, relationship and knowledge asset management
- **The Human Resource Strand:**
 - Clear emphasis on the importance and centrality of the KIF's human asset base
 - Very careful recruitment and selection relying mainly on interviewing as the primary method of selection
 - Careful image development and internal career management to attract the best new staff
 - Focus on the identification of self-motivators
 - Extrinsic motivation de-emphasised relative to intrinsic factors (work variety and challenge)
 - Broadly egalitarian remuneration practices with remuneration tied to performance and frequent use of deferred share option schemes
 - Extensive focus on employee training and development with a concern to achieve a balance between organisational and individual responsibility to develop knowledge and skills
 - Normally a clear career path aimed at retaining top performers and encouraging the departure of poor performers or those not fitting in with the firm's culture
 - Awareness of but little in terms of overt policies dealing with work stress.
- **The Technology Strand:**
 - Presence of non-sophisticated and non-regulating technology
 - Distributed architecture emphasised and a particular focus on distributed knowledge databases
 - Technology seen as aiding employee integration and knowledge flows assisting in the acquisition, storage, sharing and processing of information and knowledge
 - Use of proprietary technology/software tools in undertaking the core activity.

A condensed and more visual presentation of the framework or ideal type is presented in figure 2.2 on page 85.

Within the literature reviewed here there is general agreement that exceptional success within KIFs is rare and that KIFs are difficult to manage and extremely difficult to

replicate. However, there is still an unresolved debate within the literature as to both the possibility of developing generalisations about the nature and management of KIFs themselves and of the possibility of extrapolating from studies of KIFs into the wider organisational population. The anti-camp is typified by the work of Starbuck (1993). In his view the complex and volatile nature of the design of KIFs may make them precarious, unstable structures, peculiar and constantly on the move. He argues (p. 919) that the unique fusion of complexity and peculiarity of highly successful KIFs suggests a high probability of failure and also raises questions as to the ability to make generalisations from their study with a view to their imitation (1993:919). Successful imitation of a KIF, from Starbuck's perspective, is difficult if not impossible and, in any event, if reproduced, would result in a subsequent loss in uniqueness and competitive advantage (1993:887). In his view, those aspiring for exceptional success "...*must integrate many elements, some of which are abnormal, and must put them together in unique combinations that may not work or that may meet environmental hostility. Indeed, the fusion of complexity and peculiarity are probably what makes exceptional success rare*" (1993:919). As such, from Starbuck's viewpoint, this loose organisational form does not serve as a prototype. They are still worth studying for their own sake but not from the point of view of imitation (Starbuck, 1993:919).

The pro-camp, those arguing that there are structural similarities between KIFs and that there is a value in generalising from their study, is typified by the work of Leidtka et al. (1997). They view successful KIFs as providing "...*a needed prototype for all organizations struggling to enhance and utilize their knowledge to broaden and deepen their customer relations*" (Leidtka et al., 1997:47). Like Starbuck (1993), Leidtka et al. (1997) talk about the ability of KIFs to manage a range of seemingly contradictory design features. In their case studies they see the employees as fiercely independent and highly autonomous yet open to learning from each other and willing to operate in a highly consistent manner. They thrive on the diversity of their staff yet maintain a strong central

identity. They encourage innovation and risk taking yet maintain a high level of quality, efficiency and speed. Leidtka et al. (1997) suggest that these contradictions are managed through an ability to develop and sustain a generative cycle of “...*mutually reinforcing, self-sustaining employee and client development*” (Leidtka et al., 1997:48) which, in turn “...*creates an institutional capacity for flexibility and responsiveness that greatly enhances the firms’ ability to have a sense of their future, to be patient in searching for consensus, and to reengineer themselves as necessary to changing circumstances*” (Leidtka et al., 1997:56). Leidtka et al. (1997) downplay the role of formal structures in explaining the responsiveness and success of KIFs. In their view, the major contribution of the formal structure is simply not to impede the firms’ vital responsiveness (1997:56). Instead, they focus on issues of community and shared concerns themes to be addressed in detail in chapter 3.

Between these two opposing camps on the feasibility of developing generalisations from the study of KIFs there is a middle ground best captured by the work of Alvesson (1995a). From his more circumspect perspective, he cautions against making sweeping generalisations about KIFs given the limited number of case studies to date and the crucial contextuality of their nature (young companies, within a specific social, political and economic epoch and a prevailing fashionable set of management ideas). From his perspective:

It is more important to arrive at concepts and ideas which may offer understanding at a broader level, but where users of such knowledge themselves decide when and the extent to which the research results provide assistance in understanding phenomena which are of interest rather than to achieve strictly empirically based generalizations for a certain category (Alvesson, 1995a:345).

Given the limited, undeveloped and largely exploratory nature of empirical work on KIFs to date, Alvesson sees a clear need for further work at a theoretical-conceptual level rather than

in empirical terms (1995a:345). Despite this view, Alvesson sees the findings from his single case study, particularly his concept of social integrative management as having clear applicability to other studies of KIFs. In addition, he suggests that it is not unreasonable to expect his findings on the importance of engendering loyalty and commitment through social, emotional and symbolic means as having broader practical and theoretical application given the growing organic and service orientation of many organisations.

The general argument put forward by this author here would support the limited generalisation thesis advanced by Alvesson (1995a). This literature review and integration has identified strong commonalities between the various studies of KIFs at both a substantive and structural level and, to a lesser extent, at a cultural/symbolic level. It suggests that the management of KIFs and their knowledge workers require the consideration of a range of interrelated design issues which can be encompassed under six strands (structural, strategic, knowledge, control, human resource and technology). Each strand presents a range of interrelated and overlapping issues that may be considered in the design phase. The findings of this review support the viewpoint expressed earlier that KIFs are simply operating adhocracies but with extremely wide variations within the configuration. It is not suggested that the variables detailed in figure 2.2 on page 85 represent a simple blueprint for all to follow or, indeed, the totality of design considerations. Instead the framework is presented as a form of *ideal type* to aid a more systematic and holistic conceptualisation of the design problems that need to be faced by any organisation which is trying to encourage its knowledge creation processes. While a strict replication of a KIF may be very difficult if not impossible, if one simply wishes to structure a hybrid organisational form that gives a high priority to knowledge processes then the broad framework presented here ought to be of some assistance. Exceptional success, however, would appear to be an individual process gained on a trial and error basis.

While the framework presented in figure 2.2 is strong at a substantive or structural level it appears inadequate in capturing the complex dynamic of these firms. Indeed, this is

a similar criticism to that levelled at the start of this chapter against Mintzberg's (1979) excessive concern with structure in his configuration of adhocracy. In particular, the issue of how to represent the growing consensus on the importance of the idea of a community of practice or activity in explaining the dynamic of KIFs is unclear. This concept is obviously partially embraced under the control strand and its conceptualisation of culture. However, it is considered here, at this stage, that its inclusion as a component of the control strand does not do justice to its current ethereal conceptualisation within the literature on KIFs as it infuses the various design strands and forms a subtle medium for the transmission of knowledge. Chapter 3 will address this issue in more detail.

At a more general level, the content of this chapter raises a number of additional issues. First, as discussed in chapter 1, it is clear that early writings on the nature of knowledge in advanced economies, particularly the work of Bell and Drucker, were narrowly oversimplified, elitist and incorrect. The literature reviewed here adds little in terms of clarity or agreement over the nature of knowledge used within KIFs and typically tends to side-step or "black-box" the issue. The material offers little insight into the types of knowledge used within these firms and, if anything, supports the popular view of knowledge as a codifiable commodity. It is particularly neglectful of the dynamic and processual nature of knowledge discussed in chapter 1. This issue is the subject of chapter 3.

Second, one could argue that there is little new in knowledge work and that what we are seeing is the latest manifestation of the capitalist enterprise economy. Indeed, an examination of the issues detailed in figure 2.2 would not suggest a dramatic new paradigm of management. There appears to be the potential for historical insights into this structural form and associated management practice but this is unrealised within the literature which remains strongly modernist in orientation. On the other hand, in defence of knowledge work, the review of the empirical literature in this chapter could be interpreted to suggest that knowledge work practices do represent a moderately new and

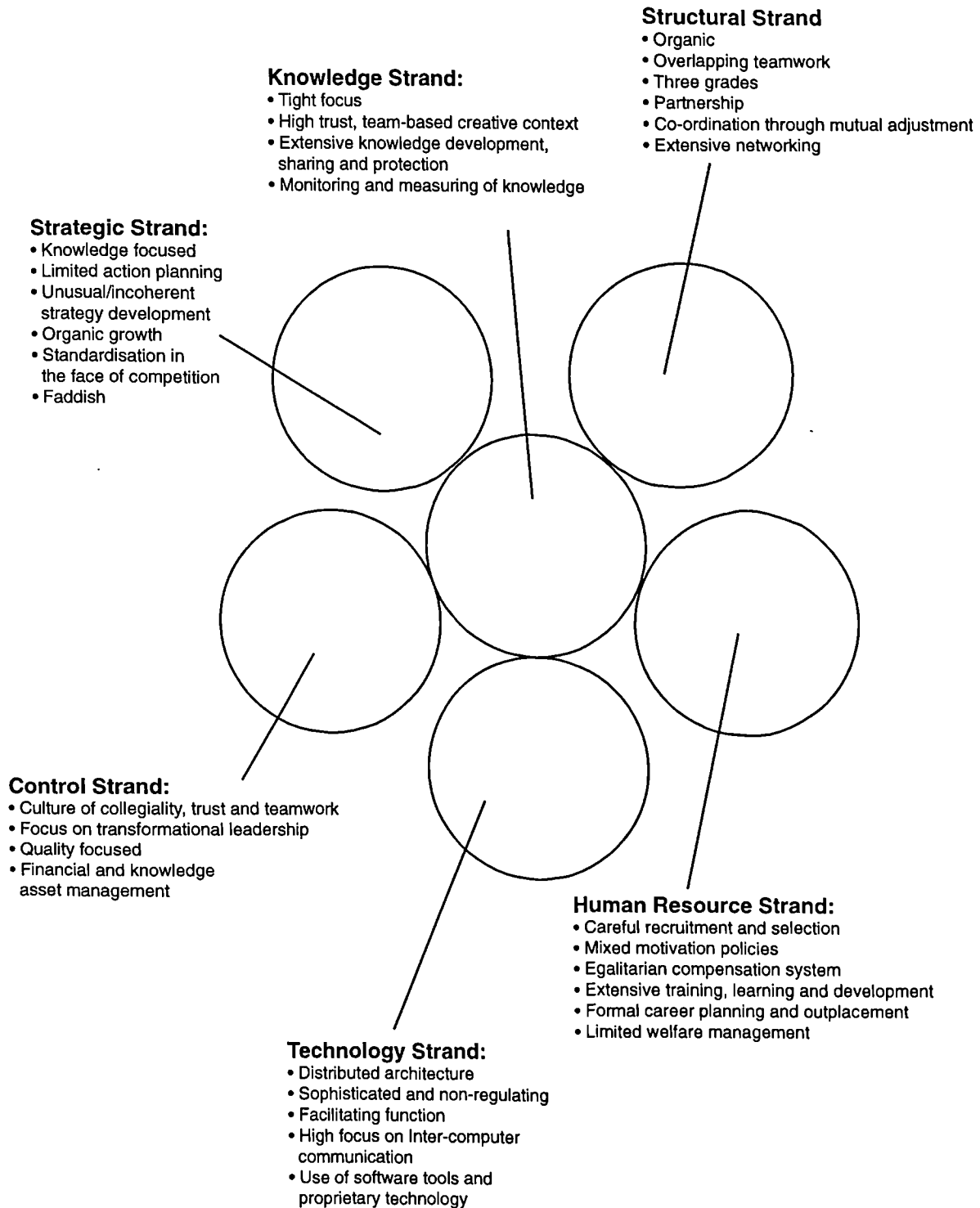
coherent set of management and design activities that can be differentiated from earlier white-collar work practices. The main issues under the “knowledge strand” would appear to represent a new major managerial concern but this line of argument ultimately brings one back to the fundamental and unresolved issue of the feasibility or utility of using knowledge intensity as a defining feature of a group of firms. Another recurring theme highlighted within the literature is the movement in the nature of the relationship between the individual employee and the organisation beyond the level of a merely transactional psychological contract to a more relational one (Rousseau, 1989). This approach, as we will see in chapter 3, involves values not traditionally associated with business. Whether this supposed new set of relationships within KIFs goes beyond the soft HRM model (Legge, 1995) is open to debate and will be considered again in chapter 8.

Third, much of the literature on the knowledge worker presents a narrow, stereotypical and elitist conception of a KIF as either an innovative consultancy or dedicated research centre staffed by esoteric experts. This perspective would support Stehr’s (1994) view of knowledge workers as a small, discrete but variable sub-group that seem to play a central role in the loose associations that characterise knowledge societies. This would, in turn, suggest that knowledge workers represent a very constrained category restricted to a few small business sectors. The view is also incompatible with the view expressed earlier in chapter 1 that there are knowledge-based occupations in all sectors of the economy and at all socio-economic levels. One can focus on the management of esoteric expertise with a view to broadening out one’s consideration to encompass a much wider conception of organisational knowledge (as this paper has done in its selection of literature) to include institutions such as opera and theatre companies, manufacturing companies, civil service departments, hospitals and circuses (Sveiby and Lloyd, 1987; Sadler and Milner, 1993, Nonaka, 1994). However, a downside of this view is that it would appear to make the “nailing down” of KIFs virtually impossible - perhaps a post-modern reality.

Fourth, while the examination of the literature on the management practices within KIFs has highlighted some positive features from an employee perspective (e.g. challenging work, empowerment, ownership, etc.,) these benefits do not extend to all employees within these companies. KIFs support a range of administrative and specialist staff who are not afforded the same favourable work conditions. Work stress in terms of high work demands, role ambiguity and job insecurity appear to weigh heavily on the shoulders of the knowledge workers themselves. Starbuck (1993) talks about how these firms turn an occupation “into an all-consuming passion” (p.918) where people choose to dedicate their lives to their work. In addition, the “cult(ure) of the customer” (Du Gay, 1991) is very strong within KIFs and appears to push consideration of business ethics down the priority list. The focus on the post-graduate educational qualifications of knowledge workers also raises wider issues of social exclusion. Overall, the management practices within the KIFs can be argued to smack of post-modern seduction where “...an enclave of privileged workers would be formed on highly exclusivist principles of social identity” (Clegg, 1990:234). As such, the desirability, whatever about the practicalities, of the diffusion of this mode of management will remain contested.

Finally, there is some evidence within the literature reviewed here that the role of history does have a utility in explaining the nature and development of KIFs (Miles et al, 1996). However, it is fair to say that this theme is not explored sufficiently and, in the case of the majority of the literature reviewed, is totally ignored.

Figure 2.2 The Six Design Strands of Knowledge-Intensive Firms



(Source: the author)

Chapter 3: KIFs: A Processual/Contextual and Community Perspective

Introduction

The purpose of this chapter is to build on the structurally oriented material from chapter 2 and develop a more comprehensive and holistic conception of the internal and external functioning of KIFs. It is contended here that the common structural and managerial practices within contemporary KIFs are important but need to be considered in a more dynamic, processual/contextual and communitarian sense. A number of overlapping alternative or at least contemporary perspectives on knowledge and knowledge work will be reviewed with a view to broadening and deepening the debate on the nature of the activities of KIFs. These contributions are presented as important examples of a general movement away from the traditional and rather static rational-cognitive approach to understanding knowledge work, towards one emphasising the situated and dynamic nature of knowledge creation and usage. This work is then integrated into a consideration of the concept and relevance of community to understanding KIFs. The chapter concludes with a tentative re-conceptualisation of the concept of community.

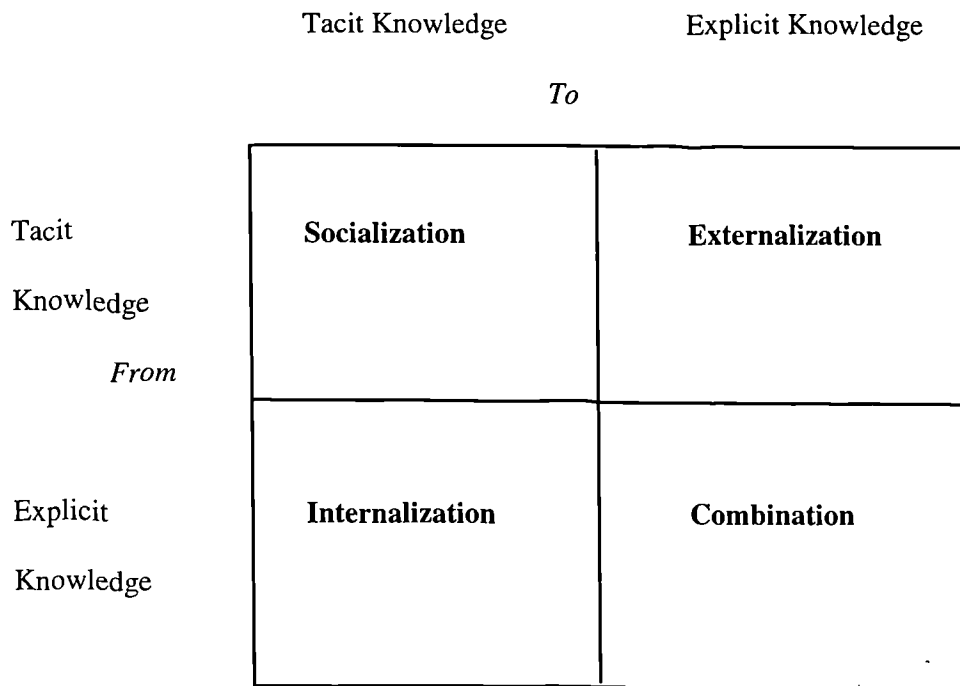
A Processual/Contextual Perspective on Knowledge and Knowledge Work

Chapter 1 presented a rather simplistic and largely homogeneous perspective on knowledge work. A more detailed examination of the knowledge worker literature suggests a much more complex and confused picture. There appears to be a generally emerging consensus that we have a limited theoretical conception of knowledge. Given the current confused, disputed and evolving nature of the debate over knowledge it would appear inadvisable to use knowledge-intensity as a defining characteristic for a collection of organisations (Alvesson, 1993). Unfortunately, this is not the case. While frequently identified as the dominant new factor of production, knowledge is typically narrowly conceptualised in an objective fashion or shrouded in mystery. Blackler (1995) refers to the work of Baer (1987) and Abbott (1988) on the privilege afforded by the term “knowledge”

within the established professions. Knowledge in their sense is used by occupational groupings “... *to protect their position and ‘black box’ their skills*” (Blackler 1995:1022). The main problem with the dominant conceptualisations of knowledge is a preoccupation with attempts to put a dynamic and multi-faceted issue into simple, static categories. To counter this tendency, Blackler suggests that one ought to focus more on “...*the (culturally located) systems through which people achieve their knowing, on the changes that are occurring within such systems, and on the processes through which new knowledge may be generated*” (Blackler, 1995:1021).

The material presented below will be used to argue that there is a strong case to be made to move away from a typology approach to understanding knowledge. If this view can be supported then an issue other than knowledge-intensity and the attendant categories of knowledge associated with that term needs to be considered in understanding KIFs. Within this movement away from static categorisations of knowledge Nonaka’s (1991, 1994) work on the dynamics of how knowledge and capabilities are created within organisations has been acknowledged as an important contribution. His theory is based on research on successful Japanese manufacturing firms but he sees it as having general application. His approach for managing the dynamics of the process of knowledge creation in organisations is based on systems theory and a modified information processing view of organisations. He suggests that there is a need to understand the dynamics of how knowledge and capabilities are created within organisations and to this end focuses on the fostering of innovation within organisations. Nonaka (1994) sees knowledge as “...*justified true belief...a dynamic human process of justifying personal beliefs as part of an aspiration for the ‘truth’*” (1994:15). He draws on Polanyi’s (1966) categorisation of knowledge as either tacit or explicit and sees the creation of new ideas and concepts as a product of the constant dialogue between these two types. On this basis he postulates four modes of knowledge conversion as shown in figure 3.1. These four modes are the means of communicating tacit and explicit knowledge around the firm.

Figure 3.1 Modes of Knowledge Creation



(Source: Nonaka, 1994:19)

Nonaka sees the organisational knowledge creation process as a dynamic, spiralling set of interactions between these four modes of knowledge conversion. The starting point is when an individual shares their tacit knowledge with others in the organisation (socialisation). This *socialization* (tacit to tacit) would include apprenticeships and on-the-job training and focuses on shared experience through observation, imitation and practice. Systematic insights into the knowledge are, however, never gained as the knowledge in question is never made explicit and so cannot be leveraged by the organisation as a whole. Next the *externalisation mode* takes over. Here the new tacit knowledge of the team is translated into explicit knowledge and combined with existing data or external knowledge. The *combination mode* focuses on the reconfiguration of existing explicit knowledge through sorting, adding and recontextualising. The *internalization mode* concerns the transfer of new explicit knowledge into tacit knowledge as employees use it, through experimentation, to broaden, reframe and extend their existing tacit knowledge base. While the tapping and exploitation of the tacit knowledge of individuals (externalization) is central to this knowledge creation process, this is most successfully achieved through the

“...dynamic ‘*entangling*’ of the different modes of knowledge conversion” (Nonaka, 1994:20) in an upward spiral process, moving up from the individual level to the group level and on to the organisational and interorganizational level.

Spender’s (1996a, 1996b, 1998), work can be seen as a critique of Nonaka, in particular the work of Nonaka and Takeuchi (1995). He puts forward a pluralist typology of knowledge. His theory sees the firm as a dynamic system of processes involving several different types of knowledge developed and interrelated into coherent knowledge systems in a number of ways. This pluralist view is a reaction against the dominant positivist theory of knowledge (knowledge as a decontextualised measurable economic asset) and addresses what Spender sees as important shortcomings in Nonaka and Takeuchi’s (1995) pluralist model. Spender is critical of Nonaka and Takeuchi’s (1995) simplistic twofold pluralist epistemology (tacit and explicit) which they present as dialectically complementary, a distinction which Spender (1998:243) sees as problematical. Spender also disagrees with their dismissing of the individual/organisational dichotomy and their limited view of the individual or self (1998:243). In this regard Spender’s approach adopts a view of the firm as a complex and dynamic community of practice which is only partially responsive to managerial influence (1996a:75). He argues for a pluralist epistemology in that, unlike a positivist one, it “...lets us define the firm as a dynamic but quintessentially human artefact, a deliberately created socio-economic system for managing the interactions of different types of knowledge and uncertainty” (Spender, 1998:242). Integrating ideas on organisational knowledge, learning and memory, Spender identifies four types of knowledge in a simple two-by-two matrix (figure 3.2). The matrix extends the traditional distinction between explicit and implicit types of knowledge and the individual and social levels of analysis. The matrix is designed to highlight the dialectical relationship between explicit and implicit knowledge, between the individual and organisational (social) level and the dynamics between these two dialectics themselves (Spender, 1996a:70).

Figure 3.2 **Different Types of Organisational Knowledge**

	INDIVIDUAL	SOCIAL
EXPLICIT	Conscious	Objectified
IMPLICIT	Automatic	Collective

(Source: Spender, 1996:70)

Spender sees firms comprised of all four types of knowledge, though one type may be favoured over others by a firm at some point in time. Each of the four quadrants adopts a different approach to the interaction of knowledge, learning and memory. The objectified quadrant is strong on memory: data bases, rules and procedures and operating systems. Learning in this case consists of simple data storage and retrieval. Knowledge flows in (selectively), is stored as data and, subsequently, extracted, given meaning and used as necessary. The conscious quadrant consists of knowledge typically uncoded and frequently lost in part or in total, but often codified as personal notes. Collective knowledge, deemed the most strategically important source of knowledge within the firm, is both situated and embedded in the organisation. Its value is that its embedded nature renders it largely non-transferrable and inimitable. Learning at the collective level consists of the interplay between the four types of knowledge through collective social processes such as teamwork.

The model of the firm underpinning Spender's approach is a complex "...*autonomous self-organizing system that emerges as the outcome of the interaction of different types of knowing within a bounded and deliberately created context*" (Spender, 1998:246). Management's role within this type of firm, while strong in initially setting strategy (the uncertainties it resolves) and structure and endowment of components, weakens, in the traditional sense, as the system becomes quasi-autonomous. As such the impact of management on the organisation is a function of their influence over the growth and shaping of this collective knowledge. Firms are in a position to know, learn and store all four types of knowledge which, in any event, interact closely with each other (1996:73) to produce an organic system. Organisational knowledge is thus seen as a qualitative aspect of the organisation's activity system that can be partially shaped by managers. Knowing consists of being able to take part in the process that makes knowledge meaningful (Spender, 1996b: 59). The objective knowledge takes second place to the performance, particularly in the face of complexity and uncertainty. Spender encourages a view of managers as active participants in organic quasi-object/systems and strategists as "...*nodes of imaginative leadership and influence in the complex of heterogeneous emotionally and politically charged knowledge systems which comprise our socially constructed reality*" (Spender, 1996b:60).

While the contributions of both Nonaka and Spender have deepened our understanding of the multifaceted and dynamic nature of knowledge, they suffer the limitations of any typology. In this regard the work of Tsoukas (1996) can be seen as a critique of both Nonaka and Spender. He argues that typologies assume that an observer is able to identify systematic similarities and differences (i.e., forms) between the various objects of study. As he explains, for this "*formistic thinking*" to be possible "...*the conceptual categories along which the phenomena are classified must be assumed to be discrete, separate, and stable. In his view, the problem is they hardly ever are separate.*" (1996:14). Tsoukas regards knowledge as important in that it determines how a firm's

resources are viewed which, in turn, determines the service rendered by these resources. A firm's resources are thus a creation of its knowledge system. His constructionist sociological approach is concerned with the development of the distributive nature of social systems. Tsoukas sees a firm's knowledge as distributed, indeterminate, emergent and in a state of tension as normative expectations, dispositions and interactive situations influence each other (1996:22). On knowledge, Tsoukas suggests that the knowledge types identified by Nonaka and Spender are not in fact separable but are mutually defined. He avoids the typology approach to knowledge and focuses more on what he terms a "*connectionist-cum-distributionist stream of research*". This perspective draws on a view of an organisation as a brain in a constant state of flux (Morgan, 1986; Stacey, 1995). An important concept within this approach is that of the "*collective mind*" where an understanding of what to do and how to do it is based in the activity in which one is participating. Drawing on the work of Weick and Roberts (1993), Tsoukas sees the individual mind (the individual contribution) and the collective mind (the manner in which individuals interrelate) as mutually constructed (1996:15). The collective mind is constituted in the increasingly attentive interrelationship of individual contributions and so is regarded as a distributed system of emergent joint accomplishment. Viewed from this perspective the key research question becomes how coherent action emerges from these highly complex and distributed knowledge systems. Two key implications are also suggested for management. The first, Tsoukas argues, is to find ways of helping employees improve the quality and quantity of their interrelationships with other employees within the firm and so facilitate the inherent creativity of human action. The second equally important issue is to sustain the firm as a form of discursive practice, described by Tsoukas as "*...a form of life, a community, in which individuals come to share an unarticulated background of common understandings*" (Tsoukas, 1996:23).

Blackler's (1993, 1995) contribution, like Spender's, is concerned with the social nature of meaning and practice. Like Tsoukas (1996), he is also concerned with the development of expertise and learning as a collective phenomena and with the nature of the

changing systems through which experts enact their activities. He draws on a range of contributions concerned with the process of sense-making, of social learning, on the collective foundations of cognition and on the theory of language and meaning (Engestrom, 1987; Lave and Wegner, 1991; Weick, 1993; Boland and Tenkasi, 1995 and Wittgenstein, 1953). His focus is on “*knowing*”, something employees do, as opposed to the traditional focus on “*knowledge*” as something employees have (1995:1023). The core of his approach centres on Engestrom’s (1987) version of activity theory which is developed by Blackler into a theory of organisations as activity systems. The unit of analysis of activity theory is the socially-distributed activity system itself, with the term “activity” being equated with the notion of social script or frame of reference. This view avoids separating the individual from the collective. Activity theory places a strong emphasis on the inconsistencies, tensions and incoherencies that typify everyday life within distributed work systems. These tensions, arising both within and between activity systems, provide the motive for, and indicate the capacity present within the system for, individual and collective learning (Blackler, 1993:872). Collective learning is deemed particularly important in that it involves the creative resolution of some dilemma and a subsequent reconstitution of the activity system.

Within activity systems, knowledge is not a separate category but something that permeates all the relationships depicted (Blackler, 1995:1038/9). Based on these points Blackler problematises contemporary perspectives on knowledge including his earlier categorisation of knowledge as embodied, embedded, embrained, encultured and encoded. He explains:

Rather than studying knowledge as something individuals or organizations supposedly have, activity theory studies knowing as something that they do and analyzes the dynamics of the systems through which knowing is accomplished. Recast in this way, knowing in all its forms is analysed as a phenomenon which is (a) manifest in systems of language, technology, collaboration and control (i.e. it is

mediated); (b) located in time and space and specific to particular contexts (i.e. it is situated); (c) constructed and constantly developing (i.e. it is provisional); and (d) purposive and object-oriented (i.e. it is pragmatic) (1995:1039).

In the context of knowledge workers, Blackler's alternative perspective encourages a viewpoint "*...away from a concern with the management of experts to a concern with the management of expertise, from an emphasis on plans and strategy to an analysis of activity and activity systems, and from a preoccupation with objective knowledge to a concern with the management of collective instability*" (Blackler, 1993:882). His perspective reveals the tentative and action orientation of knowledge which is seen as an actor and action-dependent entity, closely entwined with history and social structures. It also acts as a unifying framework aimed at the development of a unified account of knowing and doing that "*...emphasise the collective, situated and tentative nature of knowing*" (Blackler, 1995:1035). Blackler's work does not contradict much of the upbeat contemporary literature on knowledge work but reframes the problem, giving the field a more critical edge and greater depth. For him, the study of knowledge work and organisations must be located within the broader analysis of knowing as a cultural phenomena. As he explains, his approach "*...extends the debate about the importance of creative experts and flexible organisations to the (more general) discussion of the nature of expertise and of the systems through which people enact their activities*" (Blackler, 1995:1042).

These four authors provide a sense of the changing insights into the ongoing evolution of thought concerning the dynamic and interactive nature of knowledge within organisations. Cavaleri and Fearnon (1996) neatly capture this trend by talking of a "*knowledge ecology*" with its own dynamic that is only partially amenable to management control. This ecology exists in the space between task requirements, technology in use, human experiences and the organizational mind. Data, information, knowledge and wisdom

comprise the media of this ecology and the essential human processes sustaining it are interpretation, learning, knowing and being (Cavaleri and Fearnon, 1996:29).

The final set of critical contributions on knowledge work considered here implicitly accept the inadequacies of current dominant functionalistic conceptualisations of knowledge within knowledge work. However, the common focus of these contributions is not with the dynamics of the knowledge creation process but with a concern for developing alternative conceptualisations of the role and function of knowledge workers and KIFs within contemporary society. The first set of these “alternative contributions” considers the broadly symbolic role of KIFs with a particular emphasis on the consultancy sector. Czarniawska-Joerges (1990) suggests a metaphor of consultants as travelling merchants. In her view management is primarily about the management of meaning. As she explains:

Managers tell their subordinates what is what (they label things), what things are like or what they could be like (they use metaphors), they tell them what is normal and acceptable (they utter platitudes) (1990:139).

Czarniawska-Joerges sees these labels, metaphors and platitudes as the building blocks of more complex control devices such as worldviews, philosophies, ideologies and business ideas. While managers traditionally developed these labels, metaphors and platitudes (linguistic artefacts) themselves, Czarniawska-Joerges identifies management consultants as the significant new player in their production and delivery (1990:140). She sees them as travelling merchants or their representatives who sell tools for producing necessary management meaning and therefore the control necessary for effective collective action (1990:142). Consultants stir the stew and add a few new ingredients as well (Czarniawska-Joerges, 1990:148). As such, consultants are brought into firms by managers to get access to their tools and the knowledge as to how to use the tools. These tools are, in effect, metaphors or kits that have a strong aesthetic appeal for individuals and can initiate and guide social processes.

On a similar theme, Alvesson (1993), commenting on the vague and often “fluffy” notions of knowledge used to label KIFs, argues that “...*KIFs may be a useful category with which to operate, if one considers the claims to knowledge, rather than knowledge itself, the ambiguity and rhetoric of knowledge-intensive firms, organizations and workers*” (Alvesson, 1993:1014). His approach to the study of KIFs rejects the dominant objectivistic and functionalist understanding of knowledge and knowledge-intensity and, instead, adopts a social-constructivist or institutionalist perspective. Drawing on the work of Meyer and Rowan (1977), Alvesson suggests that KIFs are primarily in the legitimization business. Knowledge is still a vital component but its value is in terms of its power to convince on the basis of expertise and superior rationality. In the face of ever increasing ambiguity it becomes impossible for organisations to exercise rationality. This type of environment creates a space for the development of the socially recognised expertise of the KIF (Alvesson, 1993:1005) and for the development of “*institutionalised myths*.” These myths or “*rationality-surrogates*” have little to do with efficiency or rationality but appear to serve a vital symbolic and legitimating role in an organisation. Extending this argument, Alvesson suggests that the KIFs become vital symbols of rationality for client organisations and the consistent use of external expertise from recognised consultancy and other KIFs becomes a means for creating external as well as internal faith in the company (Alvesson, 1993:1004). On this basis, Alvesson suggests that subjective orientations and interpersonal skills may be more significant than formal ‘advanced’ knowledge in the work of KIFs and that KIFs can be more appropriately seen as “*systems of persuasion*” (1993:1011). While acknowledging the potential use of knowledge by KIFs as a simple functional resource to be applied directly to work, Alvesson argues that the knowledge of KIFs is better viewed as a social process (Alvesson, 1998:20). In the hands of a KIF, knowledge plays a range of roles such as creating community and social identity, as a system of persuasion, as a stamp of legitimacy for proposed action or as a means of obscuring uncertainty counteracting doubt and

reflection. Accordingly, his conclusions on the appropriateness of the title “knowledge-intensive” are as follows:

In sum: knowledge-intensive work tends to be ambiguity-intensive, which makes abilities to deal with rhetoric, regulate image and manage relationships and interactions with clients central. ...Consequently intensiveness does not only include knowledge, but also these other issues for any claim to knowledge to become successful. The knowledge-intensive means rhetoric-, image-, interaction and identity regulating-intensiveness (Alvesson, 1998:21).

Clark and Salaman (1996) reinforce these two earlier views. They focus on the art of story telling within management consultancy as they interact with clients. They argue that, given the free entry into management consultancy, the intangibility of the service they offer, particularly prior to purchase, service perishability and the heterogeneity of client assignments, their activities can be regarded as inherently social. Drawing on Alvesson’s (1993) representation of KIFs as “*systems of persuasion*” (1993:1011), Clark and Salaman see successful consultants as good at managing and manipulating the interaction process with clients in order to create a favourable impression of the quality and value of their services. Consultants intervene in the largely subjective and satisficing process of their selection by a client through storytelling. Through the presentation of symbols of expertise (qualifications, client base, demeanour, confidence) consultants create an impression of their knowledge, expertise and indispensability.

The final contribution in this section is that of Stehr (1994). He presents a complementary, though alternative, perspective to Reed’s class-based analysis of knowledge worker reviewed earlier and encompasses and integrates a number of the key points made above. He adopts a broad based perspective seeing the strong growth in and reliance on knowledge-based occupations (experts, counsellors and advisors) as part of a more profound transformation towards a knowledge society. In this sense his work, like most of the

contributions in chapter 1, is clearly ahistorical. He rejects as unrealistic the current popular conception of the expert as a high status brain worker and instead sees experts present and influential in all economic sectors and represented at all socio-economic levels (1994:164). He cautions against the idea of a class-based analysis suggesting that while experts now play a critical role in advanced societies, with their knowledge highly sought and trusted, their analysis requires new perspectives. He sees this stratum more as a “*structural element within a social configuration*” (Stehr, 1994:184). He suggests that the growing influence and power of knowledge-based occupations, typically the expert exercising specialised knowledge, is not necessarily part of the trend towards greater efficiency and rationalisation. While he sees knowledge as an anthropological constant present in all occupations, he isolates the expert as someone exercising:

...cognitive authority and influence by restricting courses of possible action of individuals and groups, by setting and defending certain normative standards which enable individuals to construct sensibilities of and for social action, by defining what counts as knowledge, by restricting the circulation of relevant knowledge and by imposing means for assessing the efficacy of expert knowledge (Stehr, 1994:168).

This Foucaudian “appropriation of discourse”, the use of cognitive or theoretical and occasionally material knowledge aimed primarily at affecting the self-conception of individuals (Stehr, 1994:169), is the focus of expert knowledge. This view goes against the traditional view of experts as the simple purveyors of instrumental or technical rationality. It presents their power deriving from “*...the very nature of such knowledge, in particular its definite character, its workability, the ease with which it ‘flows’ across boundaries and the decisive and penetrating insights it conveys to those who deal in such knowledge and to those who are able to avail themselves of expertise*” (Stehr, 1994:182).

Stehr’s concern with knowledge goes beyond the idea of scientific knowledge to encompass “*...the relationship between scientific knowledge and everyday knowledge,*

declarative and procedural knowledge, knowledge and non-knowledge, and on knowledge as a capacity for social action” (1994:12). By way of summary Stehr argues that if KIFs can be said to perform any specific function rather than a highly diverse range of purposes, it has to be the function providing capacities for action to those who desire or require knowledge (1994:197). This advisory process is central to our understanding of the role and function of the expert but, as Stehr points out, there has been little empirical research and critical reflection to date on the issue.

Organisations as Community: A Contemporary Review of the Metaphor-in Use

A recurring theme within some of the literature reviewed above and in chapter 2 (Alvesson, 1995a; Boland and Tenkasi, 1995; Leidtka et al., 1997) was of KIFs as communities of practice or learning. The image of community presented in this literature is attractive and harmonious but, in this author’s view, in need of elaboration. An examination of the general development and use of the concept of community, both within the organisational studies literature and elsewhere, reveals a complex, sporadically popular and contested picture. This encouraged the author to explore this concept in more detail with a view to examining its potential to throw some light on the conceptualisation of KIFs. The initial focus of this review will be on community as considered within the organisational studies literature. The irregularly but historically recurring theme of community within the organisational literature is crudely grouped into three overlapping categories. The first category of contributions examines community from an internal cultural perspective. The second category also has a focus on community in terms of values but examines the concept through the perspective of specific professional occupational groupings that cross organisational boundaries. The third view examines community from a learning perspective. This organisational view will then be contrasted with the treatment of the evolving concept of community within the wider field of sociology, politics, marketing and information science.

(a) Community within Organisational Studies:

The earliest contributions on community in the managerial/organisational studies literature that the author was able to identify were primarily concerned with issues of corporate culture. One can perceive a concern with community in many early organisational writings. For example, Mayo's Hawthorne studies can be viewed from a community perspective presenting the corporation as a means to "...harmonise the conflicting drives of modern man and achieve a happy union of the putative psychological blessings of medieval society with the material blessings of society" (Long, 1969:163). However, one of the earliest managerialist works directly and specifically addressing the concept of community is that of Ouchi (1981). Ouchi's *Theory Z* examines, compares and contrasts typical Japanese (theory J), traditional/bureaucratic American (theory A) and non-traditional American (theory Z) management practices against the then backdrop of global Japanese industrial dominance. The underlying Japanese stereotype, which is carried forward in large measure into the type Z organisations, is a feudal one involving trusting workers, intimacy, high consistency in the internal culture, loyalty, high commitment, hard work and a high degree of subtlety in managing interpersonal relationships. These practices have developed and thrived in a specific and special type of social, political and economic environment. They are also elitist in that Ouchi's focus is very much on the core male knowledge worker who is offered lifetime employment in return for high commitment, loyalty and productivity, an arrangement enabled through the exploitation of a lesser breed of worker. These Japanese practices, while accepted in certain areas of American society, are deemed somehow inappropriate to the modern American business organisation, a trend Ouchi attributes to an inappropriate clinging to the impersonal and individualistic Weberian bureaucratic ideal (1981:53). In modern society Ouchi sees a need to redress the excessive focus on rational objectivity and re-emphasise social intimacy (Ouchi, 1981:53). A central feature of both

type J and Z firms is the sense of holistic egalitarianism that pervades the organisation.

Ouchi explains:

Egalitarianism implies that each person can apply discretion and can work autonomously without close supervision, because they are to be trusted. Again, trust underscores the belief that goals correspond, that neither person is out to harm the other. (1981:68/9).

This sense of egalitarianism is linked by Ouchi to issues of intimacy, communal responsibility and a wider sense of community (1981:8). In Ouchi's view as a society loses its capacity for intimacy so too its sense of community will become lost. While the reintroduction of community is deemed important, American individualism must also be protected and nurtured (Ouchi, 1981:56). The challenge for American industry, therefore, is to change their internal structures in a manner which "...simultaneously satisfies competitive needs for a new, more fully integrated form, and the needs of individual employees for the satisfaction of their individual self-interest" (Ouchi, 1981:188/9). Theory Z, Ouchi suggests, approximates to this ideal.

While Ouchi's work and the contemporaneous work of the McKinseyites, Pascale, Athos, Peters and Waterman, initiated a massive surge of interest in corporate culture as a functional management tool, one is left with the sense that the underlying concept of community got lost along the way. Interestingly, the social emergent approach to culture (Smircich, 1983), a reaction against the narrow integrationist paradigm, in Meek's (1988:293) words, quoted in Legge, (1995:187) "...moves the researcher away from the political and ideological interests of management, towards those of the organisational community as a whole."

A second contribution under this cultural category is that of Mintzberg (1983:294) in his elaboration of the missionary configuration. The key part of this configuration is the organisation's system of beliefs or ideology which provides the organisation with a strong and pervasive sense of mission. Co-ordination is achieved through intense socialisation and

the corresponding main design parameter is that of indoctrination (Mintzberg, 1983:294). These organisations are loosely structured, relying on normative controls and trust to achieve co-ordination. There is a loose division of labour, status differences are de-emphasised and the technical system is simple. These organisations are typically small and cope with growth through hiving off largely autonomous enclaves that share the same ideology. The main advantage of this configuration is the extent to which it is “*harmonious*” (Mintzberg, 1983:295). Mintzberg cites traditional Israeli kibbutzim, religious sects, revolutionary political parties, small-town universities or small manufacturing organisations with an intense belief in their product as possible examples of this configuration. He also sees these missionary characteristics as central to the then high level of interest in the operation of Japanese enterprises. The following quote from Mintzberg suggests, incorrectly in this author’s view, that he sees this configuration emerging from the newly created needs of late modernity with no clear historical precedent for and significance of this form:

The West has never had an era of the Missionary, in which that configuration was in fashion. But perhaps our descendants, in their wish to escape from instability and impersonal relationships in their “post-adhocratic” age, will turn increasingly towards ideology and the Missionary configuration in the structuring of their organizations (Mintzberg, 1983:296).

The latest and most sophisticated contribution under this first category is that of Alvesson (1995a). He sees the creation of a sense of corporate community as a major ambition of management in his case study, Enator (1995a:320). The type of community developed in Enator is of a concrete nature focused on relationships between people within the firm, their ties with the company and, to a lesser extent, the ideal the firm represents. Like Mintzberg, Alvesson suggests that in his study community is achieved through the development of high social cohesion between employees reinforced through a strong corporate identity and a conducive hierarchical situation (Alvesson, 1995a:321). He sees

these aspects of a KIFs formal structure as fulfilling a key role in helping them resist their natural tendency towards disintegration (1995a:322-3). This tendency, in his view, is a common feature among loosely coupled organisations with highly decentralised work situations. Within the formal structure, Alvesson highlights the key role of six key structural dimensions within his case study namely identity, hierarchy, cohesion, project operations, image and customer relations (1995a:323). These dimensions are, in turn, largely managed symbolically through a range of eleven value-transmitting symbols such as the flat organisation, quarterly conferences and the business concept, etc., (p.326). These symbols are not very precise management tools and their effectiveness will vary from employee to employee. Their perceptual nature may also result in a range of unintended or unwanted consequences. Despite their woolly nature, Alvesson sees symbols as a decisive feature of corporate management in his case study and in other like companies. In his words symbols:

...play an important role in management's method of handling potentially negative effects of structural and substantial circumstances on corporate identity, internal cohesion and the basis of a uniform picture of what the company represents (image). Symbols also contribute to the flexible regulation of contradictions centred on the themes of equality/hierarchy and uniformity/flexibility in the conduct of project operations and the handling of customer relationships (1995a:341).

In this way Alvesson appears to be suggesting that it is possible to view KIFs in substantive and structural terms, having a certain objective reality however constructed or enacted that reality may be. However, a full understanding of the firm must also take a range of non-substantive aspects of activity into account and the key role of symbols in this context. As he explains:

...the company is an overall idea held by the people who work in it, that is to say ideas and feelings connected with the company as a

concept. The company cannot be reduced to concrete circumstances but stands at a level "above them". The collective gives the company a deep and emotionally coloured meaning which does not correspond to the total of its "objective", concrete characteristics or with how the company is typically perceived by the outsider (1995a:329).

On the same theme, Rousseau and Arthur (1999) talk about the need to join what they term the themes of agency and community. Drawing on the work of Barley and Kunda, they argue that the prevailing competitive conditions, new network organisations and the associated boundaryless careers of employees require a synergistic view of these traditionally opposing ideas (1999:8). Agency refers to the ability of actors to make autonomous decisions and act in their own self-interest. Community refers to mutual support, co-operation, high commitment and collective adaptation (Rousseau and Arthur, 1999:8). Within this work, consultancy companies are shown as hybrids of agency and community and as models for others to follow. The features of their new model of HR practice is based around voluntarism, market discipline and leveraging career competencies (core features of agency) and resilience, collaboration and civility (core features of community).

The second category of organisational studies literature loosely addressing the concept of community is that on *occupational communities*. This limited literature represents a direct attempt to draw on the wider sociological literature on community and apply it to an organisational context. Van Maanen and Barley's (1984) work represents the seminal contribution on this topic. While this work has a specific focus on traditional professionals, it is considered by the author to have application into the broader expert division of labour (Reed, 1996) including KIFs. In addition, the literature is useful in its recognition that the boundaries of occupational communities transcend organisational boundaries, albeit within the confines of a distinct and shared work identity (Van Maanen

and Barley, 1984:314). Later related contributions loosen this latter qualification even further (Powell et al., 1996; Lawrence, 1998).

Van Maanen and Barley define an occupational community as “...a group of people who consider themselves to be engaged in the same sort of work; who identify (more or less positively) with their work; who share a set of values, norms, and perspectives that apply to, but extend beyond, work related matters; and whose social relationships meld the realm of work and leisure” (1984:294). These four elements are seen to be analytically separate but empirically interconnected. The issue of occupational identity is seen as particularly important. Community members express their social identity and self-image through the proud presentation of their occupational identity. They typically maintain a distinctive code of communication, skill set and sense of dress are encouraged to view themselves as somehow different from the rest of the working population (Van Maanen and Barley, 1984:303). Community identity is further reinforced through the adoption of a common reference group with members agreeing to share a distinctive pattern of values, beliefs, norms and interpretations. This common collective perspective is reinforced through the creation of an aura of either high prestige or marginality associated with the occupation, the adoption of a common lifestyle and rigorous socialisation (Van Maanen and Barley, 1984:303/5). The final attribute of Van Maanen and Barley’s definition of an occupational community is that of the blurring of work and leisure, a process aided by issues such as close social relations outside work, extensive business travel and geographical clustering.

Two key sociological premises underpinning Van Maanen and Barley’s notion of an occupational community is (a) the idea that the work we do “...shapes the totality of our lives and, to a great extent, determines who we think we are” (Van Maanen and Barley, 1984:293) and (b) the view that “...people bound together by common values, interests, and a sense of tradition, share bonds of solidarity or mutual regard and partake of a communal way of life that contrasts in idyllic ways with the competition, individualism, and rational calculation of self-interest associated with persons organized on utilitarian principles” (Van

Maanen and Barley, 1984:292). They use the concept of occupational communities to put forward the idea of organisations as tribal federations or fiefdoms (1984:335). Individual occupational communities are seen as complex, tightly coupled social systems that exercise high autonomy and discretion. Self-control is emphasised within occupational communities and its maintenance facilitated by a number of situational factors. These include the frequent uncertainty and indeterminacy surrounding their implicit knowledge, the indeterminacy of the effect of their actions, the isolated, individualised and heterogeneous nature of their markets and the often submissive nature of their clients (Van Maanen and Barley, 1984:312/4). Latterly, the neglected topic of occupational communities has been linked to contributions on the situated and distributed nature of knowing and learning (Araujo, 1998) which is the third category of organisational literature addressing the concept of community.

This third and most recent category of organisational literature on community has as its primary concern the situated and distributed nature of knowing and learning. Within this diverse and complex category of literature the work of Lave and Wenger (1991) is a central reference point for most conceptual and empirical works. Putting forward the idea of learning as an aspect of all activity as opposed to any one kind of situated instructional activity Lave and Wenger reformulate the concept of learning as a form of collective social practice arising from increasing participation in communities of practice. Learning occurs, not through replicating the performance of others or the acquisition of knowledge through instruction, but through a form of apprenticeship involving “...*centripetal participation in the learning curriculum of the ambient community*” (Lave and Wenger, 1991:100). Their view of the person as a member of a sociocultural community promotes a focus on knowing as an activity carried out by specific people in specific circumstances centrally involving the construction of identities (1991:52/3).

Lave and Wenger define a community of practice as “...*a set of relations among persons, activity and the world, over time and in relation with other tangential and overlapping communities of practice*” (1991:98). They see a community of practice as an

intrinsic condition for the existence of knowledge, in the main through the provision of the necessary interpretative support for making sense of its heritage (1991:98). The successful legitimate peripherality of a participant hinges upon her ability to successfully access the key resources of a community (individuals, technology, information and opportunity). Lave and Wenger (1991:101) identify understanding, control and involvement in productive activity as three important aspects of access (Lave and Wenger, 1991:102-3). The individual motivations behind this long and difficult process are diverse but Lave and Wenger see the primary driver as the desire to become part of the community and the associated sense of identity and level of learning that being a master practitioner entails (1991:111).

While Lave and Wenger (1991) do define the idea of a community of practice, the scope of the term is left somewhat unclear. Their reference to apprenticeships such as midwives, tailors, quartermasters, butchers and alcoholics appear to imply the centrality of a close and personal relationship between newcomers, experienced employees, co-workers and practitioners (Lave and Wenger, 1991:61). Araujo (1998: 326) summarises their notion of community of practice as implicitly involving a set of relationships within a formal work setting, interacting on a face-to-face basis and bounded by contracts of employment.

Within this third category the contributions of Orr (1990), Blackler's (1993, 1995), Boland and Tenkasi (1995) and Brown and Duguid (1998) are also frequently referred to as influential contributions. However, while these works are important in terms of their own specific focus, in the author's view, they add little to our understanding of the concept of community beyond the limited "*set of relations*" view advanced in the earlier contributions. One final contribution worthy of mention is that of Araujo (1998). He is supportive of the emerging view, expressed above and in chapter 1, of knowing and learning as a dynamic, distributed and situated practice residing in a series of non-localisable associations between social and material elements (1998:331). Araujo is, however, critical of the internal bias in much of the literature on organisations as aggregations of communities of practice. Drawing on the work of Tsoukas (1993), he rejects the view of organisations as topographies, self-

contained and enclosed communities bounded by contracts of employment and relying on face-to-face interaction, condemned to learn within their own walls and involved in a fight for survival against a hostile and faceless environment (p. 325). In an industrial setting, in Araujo's (1998) view, learning is highly dependent on both the internal working of organisations as much as the inter-organisational network within which the organisations operate and exist. On this basis, he puts forward a view of knowing and learning that transcends conventional boundaries and, on the same principle, a notion of organisations as:

...interlocking, differentiated and shifting sets of relationships between communities of knowing that extend beyond the nexus of contracts and property rights that define the formal, legalistic boundary of the organization (1998:330).

Araujo's emphasis on inter-organizational aspects of learning encourages a view of organisational learning (and working, knowing and innovating which are merged and embedded with learning) as a form of mediation and propagation work using different media to "...disembed and re-embed knowledge across a range of local practices, spatially and temporally distributed" (Araujo, 1998:328). This view of organisations as socio-technical networks that extend beyond the formal boundary of the organisation into a complex and mutually supporting network of relations (Araujo, 1998:331) does not, however, necessitate a rejection of concerns with issues of community. Rather, in this author's view, it calls for a wider and more realistic conceptualisation of the concept of an organisational community.

The next section will try to broaden out our conceptualisation of community by considering its treatment in the wider sociological and political literature.

Conceptualising Community – A Wider Socio-Political Viewpoint and Contextualisation

The concept of community has a long and varied intellectual tradition. The word itself derives from the Latin *communis* meaning common. Brown and Isaacs (1994:508)

trace the linguistic derivatives of the term back to the Indo-European base *mei*, meaning “change” or “exchange” which was joined with another root, *kom*, meaning “with,” to produce the Indo-European word *kommein* meaning shared by all. At an academic level, community remains a complex, multidisciplinary, disputed and emotive issue. In its guise as community studies, it is seen as a predominantly sociological concept strongly influenced by anthropology (Gaetz, 1992). It receives considerable attention in the literature on public policy particularly in the areas of community development, policing, medicine and healthcare (O’Carroll, 1984). It is also addressed in the area of ecology, particularly plant and animal life, in architecture and urban planning (Lozano, 1990) and in politics (Nisbet, 1962). Coherence across these diverse literatures is difficult to locate as their concerns are highly differentiated. Even within a discipline such as sociology there appears to be difficulties in establishing coherence yet alone a unifying view as to the nature of community. For example, Hillery (1969: 117), referred to in Bell and Newby (1974:3), identified 94 definitions of community and found no agreement in the definitions beyond a common concern with people. This finding led Bell and Newby to conclude that there has never been a satisfactory definition of what community is yet alone a theory of community (1974: 49). Continuing confusion within sociology over the concept of community led to attempts to kill off the term in the 1960s and 1970s (Clark, 1973: 397). Stacey’s (1974:137) declaration of community as a “*non-concept*”, one best avoided altogether, is typical of the prevailing sentiments of the time. The concept of community has not, however, gone away though it does remain a contested and evolving concept of empirical and theoretical interest across a range of disciplines.

Numerous attempts have been made to delimit the various perspectives on community as either a concept or field of study. Bell and Newby (1974: xlv) identify six streams or approaches to community studies as a sociological speciality, a review of which is helpful in viewing the changing debates or disagreements as to the nature of community. The six streams are:

- *The Ecological Approach*: This view adopts an organic view on community focusing on the spatial consequences of formal social organisation, in particular, on common residence.
- *Communities as Organisations*: This view presents community as a social arrangement designed for the achievement of specific goals. The total lives of the inmates are tightly regulated and social interaction with the outside is limited.
- *Communities as Microcosm*: In this approach, community is taken to represent a sample of the wider culture in which it is located.
- *Community as a Method of Study*: The focus here is on community as sociological observational technique focusing on the study of human behaviour in communities.
- *Communities as Types*: This perspective adopts a typological approach to community. It is, in effect, a theory of social change focusing on the rural-urban continuum.
- *Communities as Networks*: This approach is a reaction against the typological approach and presents community as locally bound, close knit networks with vertical and horizontal dimensions.

On a similar vein to Bell and Newby (1974), though broader in scope and focus, Clark (1973) identifies three ways in which the concept of community has been used in the past and makes a positive contribution as to its future use by suggesting a fourth emerging perspective. The first view, “*community as locality*”, focuses on the spatial and environmental aspects of communal life. The second view, “*community as social activity*”, led to a focus on the actions of group members in times of drama or when acting dramatically in accordance with communal traditions or customs (Clark, 1973: 400). Clark identifies the third and most common approach to the study of community as “*community as social structure*”. This structural approach focused on issues of role, rules, status, social class and social network. While giving an orderly and clear description of the concept of community, Clark considers this approach to be too narrow, historically dated and static and

thus unable to give any sense of which a social entity is more or less a community. To this end, he suggests a fourth view, “*community as sentiment*”. This view merges a psychological and sociological perspective and encourages one to view community in terms of both a corporate psychological configuration and as a form of social activity and structure. It puts forward a view of community as an enduring and universal phenomena, the life-blood of social life, and stresses issues of attitude and feelings. Clark quotes from Simpson (1937) in explanation:

Community is not simply economic, nor simply political, nor simply territorial, nor simply visceral. Nor is it all these special elements added together. Ultimately, it is a complex of conditioned emotions which the individual feels towards the surrounding world and his fellows. ... It is to human beings and their feelings, sentiments, reactions, that all look for the fundamental roots of community (p. 97 and 71).

Developing this view of community as sentiment, Clark identifies what he considers to be the two fundamental elements of community, namely a sense of solidarity and a sense of significance. He describes a sense of solidarity in terms of social unity, togetherness, social cohesion and a sense of belonging and sees it encompassing sentiments of trust, sympathy, courtesy and gratitude (p.404). It is fostered by frequent and open interactions between individuals. An important by-product of this core ingredient of community is a sense of security, a form of psychological dependence, of intimacy, of care. Clark describes a sense of significance, at the level of the individual, involving an experience of appreciation, a sense of role clarity in the exchanges in the social scene, a sense of place, of achievement, of fulfilment, of having an important contribution to make. Clark considers that more theoretical consideration has been given to the phenomena of solidarity compared to that of significance. While he regards solidarity and significance as analytically distinct phenomena, they are closely related which encourages him to view community as a

phenomena which must, in the end, “...*be treated as an entity*” (Clark, 1973:409). This leads to Clark’s working definition which reads: “...*the strength of community within any given group is determined by the degree to which its members experience both a sense of solidarity and a sense of significance within it*” (1973:409).

A final general sociological point on community is that made by Minar and Greer (1969) when they suggest that the importance of the term community lies in its very ambiguity. They suggest that it is probably best to think of community as the primary dimension of human interaction, a variable present in some degree in most collectives and in an extreme degree in a few. In their view it embodies “...*both the descriptive and the ideal; it recalls to us our powers to make as well as to accept, to act as well as to behave*” (1969:331).

One of the problems associated with the concept of community is a tendency to view it in historically nostalgic terms (Clark, 1973: 401). This can lead to community being seen as historically dated sentimentalism involving nostalgic hankering for a past warm and harmonious prior age, one leading to the demonisation of industrialisation and an unbalanced evaluation of the impact of science and technology. While an historical view does run the risk of advancing a utopian call for a return to the medieval womb, it is the author’s contention that the historical context is important. It is important to the extent that it may help in applying the concept of community to a contemporary and different context. A useful starting point in clarifying and contextualising the historical view of community is the work of Nisbet (1962). His work has a political focus and his concern with democratisation, individualism and social unity can be seen as in keeping with the post-war and early cold war zeitgeist of the time. He talks (p. 23) of the growing concern with the properties and values of community that he considers against a backdrop of the collapse of the basic tenants of the enlightenment project. In the wake of its collapse, an ideology of lament, disintegration, disorganisation, alienation and uncertainty has emerged. The pursuit of rationalistic individualism has led to the decline of traditional associations of the *ancien*

regime, of guilds, family, religion and the ancient commune. This, in turn, has shaken the roots of society undermining tradition, identity, heritage and belief. In the face of this growing sense of dissolution and insecurity, the vocabulary of community has started to reassert itself. As the tide has turned against individualism, centralisation, remoteness and impersonality in both social and political life, the timeless and universal search for community has once again come to the fore.

Nisbet sees our interpretation of and the conditions lying behind the quest for community in contemporary society in the historical past, in particular in the social structures of the Middle Ages, real or imagined. His view of medieval society is not one of an artificially limited period of time in European history but as one of a timeless set of intellectual principles and social institutions (Nisbet, 1962: 85). The emancipation of the individual has been achieved at the loss of a sense of community, moral belief and interdependence (Nisbet, 1962:76). Within medieval society, the group was primary, or in Nisbet's terminology "...*the irreducible unit of the social system at large*" (1962:81). In this sense a medieval community was a group where its members were brought up to consent and act as a group bound by allegiance, tradition and a sense of solidarity. Adopting this conceptual perspective, a "*modern*" analysis of medieval economy and law, with its focus on individualism and contract, produces unintelligible results.

Nisbet refrains from a detailed consideration of the actual concept of community. From a reading of his work, one can discern a focus on issues of meaningful significance within a social order, of allegiances, connection, conjunction, kinship, loyalty and, centrally, a decisive role of corporate association (1962:83). The only specific example of communal organisational life that he elaborates upon is that of associative nature of military society and its benefits during times of war. He refers to the sense of unity, excitement and moral intoxication experienced by soldiers during periods of war. Comradeship is most in evidence in military life where strict moral regulation sits side by side with areas of strong individual freedom or assertive individuality (Nisbet, 1962:42, 35).

Remaining in the field of politics, a similar, though less dichotomous, historical perspective on community is provided by Etzioni (1997). His elaboration of a liberal communitarian paradigm of politics provides some interesting insights into community and its application in a modern world. At the level of generality of thought, he, like Nisbet, talks about the differing foci of traditionalism and modernity. Traditionalism, personified in terms of medieval thought, excelled at extolling monolithic social virtues and legitimising the controlling elite, feudal lords, kings and the church. Modernity, described by Etzioni as the “...*grand corrective to the social formations of the Middle Ages*” (1997: xvii), placed a high emphasis on universal individual rights and on the virtue of autonomy, voluntary action and consensus. In Etzioni’s view, good societies exhibit a balance between collective virtue and pluralist individualism. The problem today is that this equilibrium has been lost with the forces of modernity rolling back those of traditionalism. This has resulted in an increase in liberty but a consequential loss of social virtue and order. The challenge then is to find a way to blend the virtues of traditionalism and modernity, between the common good and universal individual rights, between the community and the self. Etzioni sees this challenge as the “*communitarian quest*” (1997:xviii). This communitarian paradigm, a golden rule or virtuous equilibrium, enables the attainment of more order and more autonomy while still keeping an equilibrium between the two. Etzioni explains:

I seek to stress that the concept of community, and hence the paradigm built around it, entails a combination of social order and autonomy. Without the first, anarchy prevails; without the second communities turn into authoritarian villages, if not gulags or slave colonies (1997:xix).

Etzioni also argues that good societies rely significantly on informal social mechanisms, a moral voice, rather than coercive tools of law enforcement (1997: 120) in the maintenance of social order. This moral voice urges an individual to do what is right. It has two main mutually reinforcing sources described by Etzioni as “...*inner (what the person believes the*

shared values ought to be, based on education, experience, and internal developments) and external (others' encouragement to adhere to shared values)" (1997:120). The inner moral voice emanates from the "active self" fostering moral behaviour and commitment to maintain that moral order. The external or community moral voice encourages the sharing of a set of values, encourages members to abide by them and censures those members who do not (Etzioni, 1997:123). Both the internal and external moral voices ought to be reinforcing but can exhibit subtle differences

Etzioni defines community in the following way:

Community is defined by two characteristics: first, a web of affect-laden relationships among a group of individuals, relationships that criss-cross and reinforce one another (rather than merely one-on-one or chainlike individual relationships), and second, a measure of commitment to a set of shared values, norms, and meanings, and a shared history and identity – in short a particular culture (1997:127).

To gain a deeper insight into this idea of affect-laden relationship and their relationship to values and norms, we will briefly turn to the work of Kanter (1972, 1973). Her historical and sociological study into the development of long-lived 19th century and contemporary US communes provides some interesting insights into the structures, ideals and values underlying one particular form of community life. Kanter frequently interchanges the terms "*commune*", "*utopian community*" and "*utopian*". She sees communal ventures as utopian in the sense that they represent an alternative to life in the dominant culture and an attempt to realise a unique set of ideals and aspirations. They are a "...*romantic, optimistic, utopian vision of human potential*" (1972:237). They are efforts, however imperfect, at re-personalising a highly depersonalised society having person-to-person relations and the group as their primary focus.

Kanter initially adopts a relatively narrow view of a utopian community defining it as "...*an extreme case of a system seeking to institutionalise communal, primary and*

expressive relations while at the same time it is organised as a corporate group to meet production concerns, to meet production goals and carry on relations with external systems for its participants" (1972:241). While she allows her concept of utopian community to have an external focus she is clear that an essential feature is that work outcomes are all directed towards the benefit of its own members. On this basis she sees her concept of utopian community specifically excluding organisations working on behalf of external shareholders and monastic communities working on behalf of a wider religious community (Kanter, 1972:3). In her examination of contemporary communal groups, Kanter modifies this view somewhat. She identifies two types of communes; retreat and service communes. Retreat communes are small in scope, nostalgic and individualistic in orientation and aid at creating "*Eden*" rather than "*utopia*" (Kanter, 1972:168). They seek withdrawal and isolation from society and tend to have a short life span. Service communes or communes with missions, on the other hand, seek social interaction and instead of being dependent upon their environment, they develop an exchange relationship with it. They define themselves as helpers to society, choose a constituency and set about trying to reform it (Kanter, 1972:191). Their strong service mission, elaborate belief systems and ideology aid in the development of a sense of moral superiority within these communities. Service communes are also typically engaged in education or re-education, echoing a strong historical connection between community and learning. The learning function of such communities aids in the generation and elaboration of their ideology and their effective socialisation by their members (Kanter, 1972:194). These service communes are the primary focus of interest in this thesis.

Kanter talks about periodic waves of community building highlighting the 1840s and the late 1960s and early 1970s in the US as prime examples. She presents this intermittent drive towards and resurgence of interest in community life in the US as deriving from three different rhetorics or critiques of society (Kanter, 1972:3). The religious (refuge), politico-economic and psycho-social rhetorics of community discussed by Kanter illustrate

the diverse motivations underlying the development of communes, the three views do share much in common, a point supported by the fact that there are contemporary communes growing out of all three traditions (Kanter, 1972:8). These common features or values include a voluntary membership, integrated and co-operative work, a mutuality of interests, mutual responsibility, high trust and open, equal sharing of all resources for the benefit of the collective. This replacing of a “*me*” spirit with a “*we*” spirit is seen as essential in developing an intimate collective life based on harmony, brotherhood and peace (Kanter, 1972:41). Kanter sees the highly intentional quality of utopian communities as achieved through the adherence to six core idealisations of group life. They are: (a) **the ideal of perfectibility**: resolving social problems through educational practices and mutual criticism aimed at knowledge of the truth (Kanter, 1972:37); (b) **the ideal of order**: recognising the need for conscious planning, of routines and work allocations of leadership, co-ordination and the inculcation of core value to ensure the smooth and harmonious operation of the commune (Kanter, 1972:41); (c) **the ideal of brotherhood**: harmony between members through an abhorrence of specialists and a work ethos of multiskilling transcending selfishness, exclusiveness and jealousy and promoting intimate relations and total involvement (Kanter, 1972:44); (d) **the ideal of unity of body and mind**: a balancing of the physical, mental and spiritual faculties often seen in the requirement of mixing mental work with hard labour for all members; (e) **the ideal of experimentation**: the ready exploration of new ways of doing things that may better enable the community to implement its ideas encouraging creativity but also deviance and regular illegality (Kanter, 1972:51); (f) **the ideal of coherence as a group**: the development of a strong sense of identity and direction through members valuing their own uniqueness and coherence as a group. Kanter admits that while these intentional ideals are seen to have harmony as their underlying theme, they can be seen and exercised in negative ways.

A recurring theme within Kanter’s work is the problem of sustaining communal life. She sees the key to communal strength and solidarity as relying on issues of human or social

organisation, getting the necessary work done and adequately satisfying and involving members (Kanter, 1972:64). She summarises the many such social organisation problems faced by communities as one of commitment, the linking of self-interest to social requirements. She defines commitment in terms of issues of connection and mutual obligations and, through commitment, sees the person and group as inextricably linked. Commitment is essential for the survival of the community but is also part of the essence of community (Kanter, 1972:67). The strength of a community and of the commitment of its members is a function of the way the group is put and held together. Kanter identifies three major aspects of a social system that involve commitment, namely continuance (the retention of members), cohesion (the collective strength of the group) and control (the extent to which members conform to and identify with rules and social values and beliefs of the system). These three aspects overlap to provide the instrumental, affective and moral commitment for a community to flourish. Building each of the three kinds of commitment (continuance, cohesion and control) requires different processes aimed at both increasing the value of commitment to the community and at reducing the value of other possible commitments. Kanter suggests that all aspects of community life are ultimately directed towards fostering, maintaining and strengthening communal commitment (1972:138). However, she identifies six concrete social processes used by long-lived communities in building commitment. They are *sacrifice* (giving up something of value or pleasurable to become a member); *investment* (members must give up control of some of their resources such as money, time and energy to the community purchasing a share in the proceeds of the community); *renunciation* (giving up of competing relationships outside the community and using distinctive language, particularly the use of jargon or esoteric terminology, distinctive style of dress and restrictions on access to the community by outsiders to create insulating boundaries); *communion*: (providing members with meaningful contact with the collective de-emphasising individuality and status within the group and fostering a strong “we” feeling through communal work, regular job rotation, a certain level of homogeneity in the

background of members); *mortification*: (member submitting to the social control of the community adopting a new communal identity, one defined and formulated by the community); *transcendence*: (where the member, aided by the presence of a charismatic leader or institutional awe, surrenders her or himself to the higher meaning and direction of the group). Through these concrete commitment mechanisms abstract communal ideals become concrete social practices and the more of these commitment mechanisms a community institutes the greater its chances of success (Kanter, 1972:138).

Kanter's main contribution of interest to this thesis is her focus on both structural and affective concerns (Kanter, 1972:241). Her focus on organisational functions, is, she argues, a vital addition in helping to capture the totality of a utopian community's system properties. Drawing on the work of Tonnies (1887), she sees utopians obtaining their sense of solidarity from their *Gemeinschaft* characteristics and focusing on *Gesellschaft* issues for their sense of purpose and mission, their division of labour and to obtain resources and support from their environment. This dual concern to be both human and efficient has traditionally been seen as inherently contradictory as seen in the dichotomous distinction between Tonnies' *Gemeinschaft*, the familial, affective non-rational component of social action, and *Gesellschaft*, relations focused on rationality, task-orientation and contract. With communes, their desire to operate on a communal basis needs to be seen in the context of other goals related to establishing a political or economic order (Kanter, 1972:243). This tension within commercially oriented communes has normally resulted in a shift towards *Gesellschaft* and a range of damaging pulls that typically results in the end of communal life (Kanter, 1972:158). These damaging pulls include increasing boundary permeability, isomorphism (becoming similar to the general environment), increasing value indeterminism and the introduction of perpetuation strategies that undermine the sense of community (Kanter, 1972:150). This issue remains a concern for contemporary communes.

Kanter notes how the most successful and enduring communities were also the most centralised and tightly controlled (1972:129). These institutions promoted total commitment

and high levels of certainty, clarity and security. In extreme forms, Kanter suggests the term “*total institution*” (1972:211) to represent these highly organised and tightly controlled communities. In defence of communes and what makes them different from other social forms is that their systems of control can be seen as self-imposed and membership voluntary. However, the important issue here is to understand that communities have a centre, based on common relations, that overrides all other relations (Kanter, 1972:131). Thus communities appear able to develop individualised commitment packages that can simultaneously tolerate high levels of democracy/participation and centralisation and of order and autonomy. On this basis, Kanter sees a key question for the future as one of “...*how to promote the growth of the individual and to respect his privacy in the context of a close loving community that also has the degree of organization needed to continue to meet the needs of the individuals within it*” (1972:234).

A final set of contributions on community is the relatively recent literature dealing with virtual communities. This issue is currently being addressed across a multitude of disciplines particularly sociology (Wellman et al., 1996) and politics (Holmes, 1997a). It has lately begun to influence the managerial literature particularly that on information systems design and marketing (Romm et al., 1997). Within the conceptual literature there is, at present, a sense of balance or at least an awareness of the paradox inherent in the internet vis-à-vis community. Cyberspace and the internet are seen as facilitating tremendous interactivity, breaking down established hierarchies and barriers of race, place, class and gender (Poster, 1997). Yet, at the same time, the world of cyberspace is a depersonalised, ephemeral one in which it is difficult to conceptualise an individual yet alone a community, existing (Jones, 1995:6). This literature presents contrasting views on community. Rheingold (1993:5) appears to see virtual communities as a supplement or extension of a “*normal community*” in the real world. He defines a virtual community as a social aggregation that emerges when enough people interact for long enough on the Net to form a web of personal relations in cyberspace. Hagel and Armstrong (1997) see a virtual

community as a group sharing an interest in or passion for a particular activity or product class. The formation of these self-organising communities is driven by a combination of information, transaction, fantasy and relationship. Wellman et al. (1996) don't define their concept of a virtual community despite their frequent use of the term. They appear to see virtual communities as on-line relationships that develop on the basis of shared interests (p.224). These relationships are not constrained by differences in status, by size or proximity and so tend to be socially diverse (p.224). Individuals belong to multiple partial communities, vary their involvement across these various groups and, through each person's personal communities of ties, provide a range of cross-cutting links between disconnected communities. There is increased ability to join and switch between numbers of partial personal communities of relations yet there is a consequential weakening in the sense of solidarity pervading these virtual communities due to increasing individualistic behaviour of members (Wellman et al., 1996:232).

Finally, Holmes (1997b:1) broadens out the debate on virtual communities presenting the concept as a metaphor for broader cultural process and as a material context that is beginning to enframe the human body and communications. He sees virtual communities as abstract assemblies coinciding with "*...the processes of globalization and the mobility that space- and time-altering technologies afford*" (Holmes, 1997c:27). He suggests three perspectives on community in the age of computer networks. The first is community as shared interests with individuals or their computer identities coming together to pursue or realise some common cognitive concern (1997c:28). The second view sees community in geographical or compositional terms. Computerisation initiates a process of cellularisation of public life dissipating community. Both these views hold an unproblematised view of place and identity in the physical world. They see the internet as a tool overcoming problems of distance supplementing existing forms of communication. A third view of virtual and abstract communities sees them as representing their own self-contained sealed realities. Communication is seen as taking place not out of self-interest or

the need for information but out of a need for “communion, commonality and fraternity (Holmes, 1997c:29). This communication is, however, taking place at an increasingly abstract level extending our sense of place and breaking up our experience of geographic experience.

To summarise, virtual communities are presented here as abstract assemblies of dispersed individuals enabled through information technology to increase their level of interactivity while, at the same time, increasing the level of anonymity between individual members of the community due to computer mediation. The concept’s attraction can be seen in its presentation of a less exclusionary or repressive experience of community, one attractive to the postmodern individual seeking the experience of meaningful togetherness in contemporary Western society (Willson, 1997:145). Willson explains:

They [virtual communities] are presented by growing numbers of writers as exciting new forms of community which liberate the individual from the social constraints of embodied identity and from the restrictions of geographically embodied space; which equalise through the removal of embodied hierarchical structures; and which promote a sense of connectedness (or fraternity) among interactive participants (1997:148).

Continuing with the positive side, the concept of a virtual community also encourages a postmodern and post-geographical sense of place and community (Holmes, 1997b:47). This issue is important for one of the core argument of this thesis and will be returned to later. However, the downside of the virtual community concept can be seen in the loss of mutuality, continuity and co-operation in an increasing information-based and IT mediated world, forms of embodiment deemed vital for the development and filtering of community and other integrative practices (James and Carkeek, 1997). Interaction and connectivity are increased but there is a tendency to encourage a voyeuristic approach to involvement similar to that of watching television. Neither physical commitment nor moral,

political or social extension beyond the network is required (Willson, 1997:153). Virtual communities are made but are so disembodied and lacking in a concern for the other that there is little valid experience of community.

Before offering an integrative view on community in the conclusion below, the continuing vagueness of and peculiar connotations carried by the concept of community is worth emphasising. This issue is captured in the following quote by the historian Rubin:

Community, like all coins for social and political explanation is and has always been discursively constructed and is always laden with aspirations and contests over interpretative power.

Community is neither obvious nor natural, its boundaries are loose, and people in the present, as in the past, will use the term . . . to describe and to construct worlds, to persuade, to include and to exclude (1991:134).

Conclusions

The brief and selective review of contemporary explorations of the dynamic and non-objective nature of knowledge work and the activities of KIFs presented at the start of this chapter complicates the simplistic image of KIFs created in chapters 1 and 2. The review reveals a discernible shift in concern from static typologies to more dynamic and interacting perspectives on KIFs and knowledge work. Further conceptual developments seeing knowledge as distributed, indeterminate and emergent (Tsoukas, 1996) and dynamic, mediated, situated, and contested phenomena permeating all the key relationships within a community of activity were also explored. A number of alternative perspectives on the nature of KIFs which challenge the traditional view of these firms as the providers of impartial “*brain work*” for clients were also explored. These latter contributions provide a useful and complementary set of views on the subjective context in which to consider the peculiar symbolic and legitimising quality of the work of KIFs. They encourage a move

away from knowledge types and knowledge development towards the motivations of the client companies, the symbolic and ambiguous nature of their activities and, more importantly, on the ideological and cultural forms of control used on these knowledge workers as they undertake their work.

Building on this processual and alternative view on KIFs, a broad socio-political perspective as KIFs as community was explored. It has been suggested that this object called community needs to be considered as a form of conditioned emotion focused on the development of solidarity and significance (Clark, 1974) and strong moral belief and interdependence (Nisbet, 1962). A strong and enduring sense of community requires the balancing of social order and autonomy (Etzioni, 1997) achieved through the integration of a range *gemeinschaft* (core ideals, values and principles deemed important for meaningful communal existence) and *gesellschaft* (structural orientation of community stressing issues of purpose, hierarchy, discipline, social control and order, division of labour and the maintenance of effective relations to ensure adequate inflows of resources) characteristics (Kanter, 1972). In this way, community is presented as a somewhat unstable zone of tension. The tension arises from inevitable pressures towards increased social control and hierarchy as the entity adopts an increasingly commercial leaning to ensure the existence of the group and reactionary pressures within to retain the diminishing core ideals and values of solidarity and autonomy in the face of these commercial pressures. Adopting Minar and Greer's (1969:331) view, addressed earlier, that community is a variable present in some degree in most collectives and in an extreme degree in a few, the size of the overlap between "*gemeinschaft*" and "*gesellschaft*" characteristics determines the strength and orientation of the community. The non-geographical nature of community is also stressed here. It is seen as operating freely, though in different ways, within and between different organisational units. It is a space as opposed to a distinct geographical or organisational place.

The suggestion in this chapter is that KIFs have strong communal orientations and that this orientation is much deeper and complex than simply referring to KIFs as having a

“collegiate culture” (Starbuck, 1992). This sense of community has been presented as closely interlinked with structural concerns. Community needs structure to flourish. While it is intended to examine these concerns within three contemporary case studies it is considered worthwhile at this stage to deviate off our course somewhat and go back in time. The next chapter considers the case of early Irish monasticism, an unusual, highly successful premodern knowledge-intensive institutional form. This case is useful in that it helps contextualise the interaction between structure and community in an organisational setting and, as we shall see, raises a number of new viewpoints to bring to bear on our subsequent consideration of contemporary KIFs.

Chapter 4 The Case of Early Irish Monastic Communities

Introduction

The purpose of this chapter is to offer an historical example of a complex and enduring knowledge-intensive organisational grouping. Through an examination of the organisational and managerial system underpinning early Irish monastic settlements this chapter, in conjunction with chapter 8, will highlight the importance of premodern contributions in understanding the nature and activities of contemporary KIFs. It will also be used to question further the claims that the design and management of contemporary KIFs represent a new paradigm of management. Finally, the chapter views early Irish monasticism as providing an interesting focus to consider and critique current conceptualisations of community (chapter 3) and the relevance of the concept to contemporary KIFs.

The study of Irish monastic life between 700 and 1200 AD is of interest for a number of reasons. First, the almost total domination of social and spiritual life of the Irish population by monks was and remains unique within a Europe context (Bitel, 1990:1). Second, the monks integrated successfully with all levels of Irish life adopting secular learning and practice and adapting it to their own cause. Third, they were extremely devoted and unified in their quest to develop a cohesive and broadly conceived Christian community which they saw as a divinely approved agenda (Bitel, 1990:1). Fourth, the early Irish monastic movement remained quite distinct in organisation, in its structure, in its emphasis on both individualism and collectivism, and in its dress and general theological outlook from its more austere and conservative continental equivalents. As such, early Irish monastic communities represented a distinct and important socio-political grouping in the early Middle Ages based around the acquisition, development, protection and sharing of religious and secular knowledge. Their activities were quite varied and operated at a social level (hospitals, travellers' accommodation, burial), at an economic level (education, training and agricultural development) and at a political level (peace keeping and law making). They were also a major employer in a relatively disorganised society. Figure 4.1 illustrates the distribution of monastic communities in early medieval Ireland.

Figure 4.1 Monastic Communities in Early Medieval Ireland



(Source: Bitel, 1990:xvi)

Early Irish Monasticism: Some Historical Background

Christianity came to Ireland in the 4th and 5th centuries from Britain (via St. Patrick, the son of a deacon from the west of Britain) and various missionaries from Gaul. Up to the 11th century the dominant Christian religious movement in Ireland was monasticism. Monastic orders developed out of early anachoretic life with its search for purity of life, frequently manifested in terms of an imitation of the life of Christ. The word “*monastic*” derives from the Greek “*monos*” meaning alone. St. Anthony (born AD 251 in Egypt), extolled as the developer of the formal monastic order, recognised that prolonged hermitical life tended to reduce one to a level of savagery and so secured that hermits should re-unite at intervals for spiritual conferences. This rule, the idea of common life, became the founding principle of developed monasticism (Ryan, 1972:20). While initially restricted to communities of virgin women, organised ascetic life began to be applied to males from the 4th century on. Its development in Ireland was strongly influenced by the Mediterranean foundation at Lerins (where St. Patrick had studied) which, in turn, was influenced by extreme early Egyptian anachoretic models. This peculiar mix of influences resulted in an Irish monastic system with a high concern with moral and religious perfection based on advanced exegetical and theological studies and penance and on holding anachoretic forms of life in high esteem. At the same time, as we shall see, the system placed a high level of emphasis on the maintenance of an open and externally focused community.

Irish monasteries were initially established as quiet retreats, places of strict discipline and asceticism, and of refuges from worldly concerns. However, they quickly developed into complex ecclesiastical centres or cities. Within these monastic cities (e.g. Armagh, Kildare, Cork, Clonard, Clonmacnoise) aristocrats, monks, priests, nuns, devout laity, tenants and artisans congregated and interacted. In this context, the abbot or abbess and his/her monks or nuns became extremely powerful institutions at both a political and cultural level. O’Corrain (1995) argues that these church scholars, along with grammarians, poets, canonists, lawyers and historians, formed:

...a single mandarin caste whose writings, in Latin and Irish, are the products of a single, if broad based and broad-minded ecclesiastical culture. That is not to say that all poets and lawyers became clerics, but rather that these disciplines were fitted into the ecclesiastical order of things and literate ecclesiastics became the masters of the profession (p.12).

The flowering of literature and learning in Ireland is indelibly linked with the development of Christian monastic schools that came to prominence in the second half of the 6th century. However, the role and activities of the monks and their teaching monasteries needs to be considered in terms of its linkages with secular learning of the time. Irish social structure at the time can be explained by means of a basic hierarchy. The basic territorial unit was the tuath or tribal kingdom. The aristocracy was a warrior class of clear lineage that was also the main source of patronage within the country. The next level down the hierarchy were the religious and the *aes dana*, the learned and artistic community. The next level down were the commoners or churl, followed by the landless cottiers (*bothach*) and the serfs (*senchleithe*). Within the *aes dana* there were two key secular groups, the bards, a hang over from Druidic times and, by the early Middle Ages, a declining force within Irish society, and the *vates* (the *brehon* and the *filid*). The *brehon* were the equivalent of the Roman jurisconsult who had knowledge of, preserved and, to a limited extent, developed the secular law. They educated their successors in law schools and the texts they used for this purpose are what are commonly known as the Brehon Law (Kenney, 1968:2/3). The second group within the *vates*, the *filid* (singular *fili*), were a more organised and larger secular body (Kenney, 1968:3). They were poets but also seers. Their considerable influence came from the power of the word and their threat of satire to ridicule and undermine authority (Mytum, 1992:54). Their work included sagas or romances, historical narratives and poems, genealogies, regal lists, official poetry, panegyrics, obituary and eulogies, texts relating to the customary duties and prerogatives of kings and people, didactic, gnomic and proverbial

literature, charms, incantations and other magical texts, grammatical treatises, glossaries and works on metre (Kenney, 1968:4).

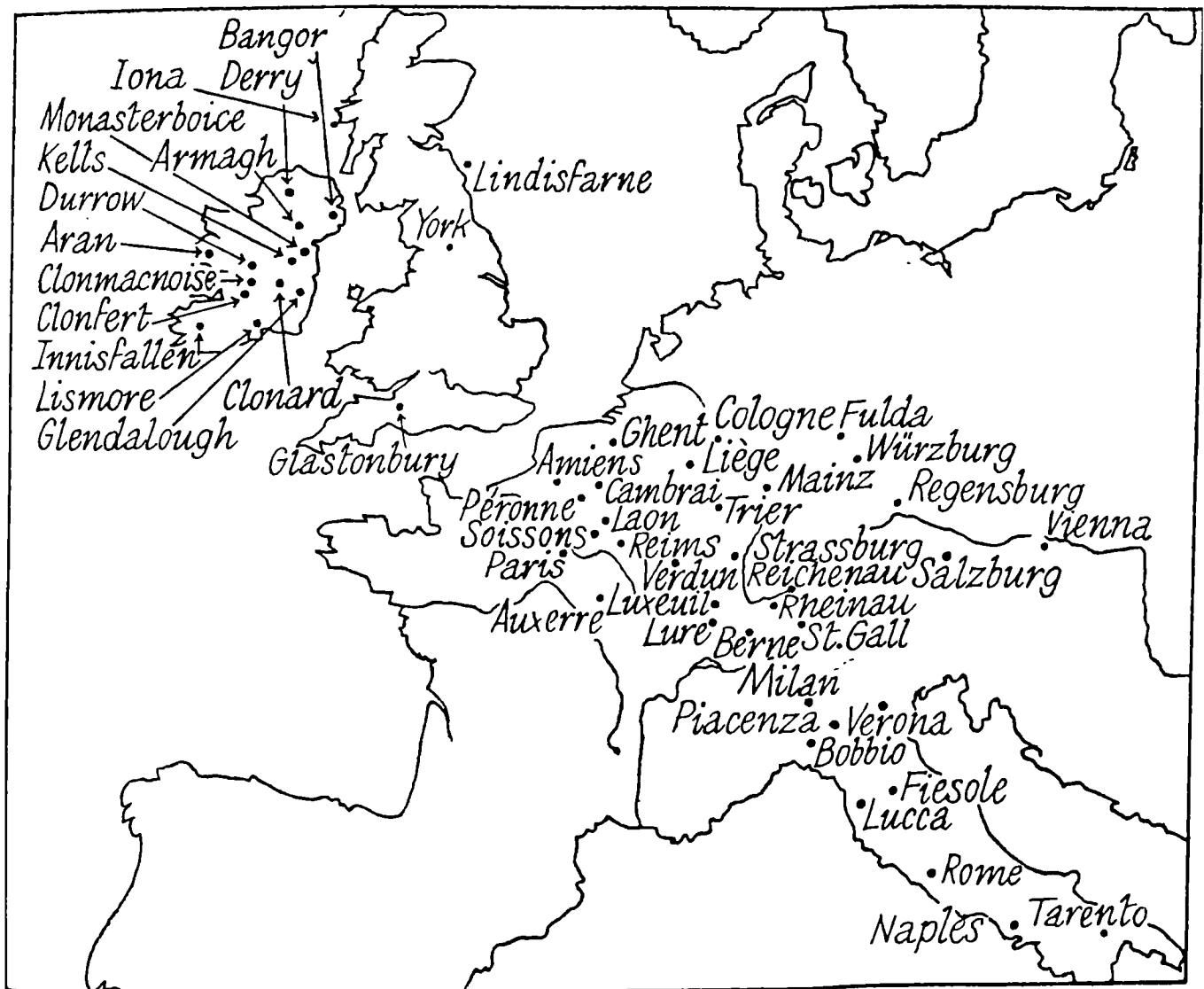
While the *filid* were an influential and interesting group, the main focus of attention in this chapter are the monks and their monastic schools who operated in parallel with and to some extent subsumed the role of this secular group. The secular schools continued and thrived but increasingly the secular and monastic schools borrowed from and merged their respective methodologies. Poets became monks and monks became poets. Bitel (1990:4) talks about Irish society at the end of the 6th century containing only one varied group of religious scholars responsible for keeping all elite traditions. Written Latin and oral and written Irish thus operated side by side in the monasteries and much secular learning ultimately came to be recorded and preserved in monastic libraries. Many of the early monks had had a sophisticated lay education and, subsequently, many laypersons attended the monastic schools for religious as well as general education (Graham, 1923:77). In Ryan's (1972:377) opinion this fusion of two cultures put the monasteries in an extremely strong position and made possible the subsequent wonderful religious and intellectual contribution that they were to achieve both at home and abroad.

While native and classical learning and their techniques were ultimately and widely incorporated into Christian teaching, 6th century Ireland provides the best and earliest example of their early and successful fusion (Ryan 1972:376). Ryan (1972) suggests that the presence of alternative pagan schools forced the church in Ireland to become involved in general education. He also argues that as the clergy and monks largely displaced the druids as the philosophers and theologians of the nation, the assumption that they should devote themselves to study was taken for granted (1972:376). The monastic school thus became a central focus of attention.

The sophistication and renown of the Irish monks and their schools peaked in the 7th and early 8th centuries. Bieler (1966:215) suggests that during this period Irish Latin culture was remarkably superior to anything that could be found in Saxon England, Lombard Italy or Merovingian France. This period, frequently referred to as the Irish Mission or the period of

the *Scotti peregrini*, the wandering Irish scholars (O'Croinin, 1995:244), is considered by Bieler (1966:4) as one of the most important European cultural phenomena of the early Middle Ages. Figure 4.2 identifies the main centres of Irish Christian influence across Europe by the end of the 8th century.

Figure 4.2 Main Centres of Irish Christian Influence within 8th Century Europe.



(Source: Bieler, 1966:viii)

While the greatest impact of the Irish monks was in the field of religion, they and their disciples were deemed to have had a profound influence in all areas of continental contemporary scholarship during this period. While it is clear that the early views as to how the Irish single-handedly saved classical literature during the chaos of the early Middle Ages (Bieler, 1966; Cahill, 1995) have moderated, it is widely agreed that, during the 6th to the 9th century, Ireland was a significant recipient of and contributor to the Christian Latin culture of Europe. Columbanus' French monastery, Luxeuil, was destined to influence directly or indirectly nearly 100 other houses before A.D. 700 (O'Fiaich, 1994:75). Luxeuil, Gaul and a further monastery at Bobbio, Italy housed large and influential libraries and teaching schools. The initial supply of literature to these libraries, both religious and classical, can be traced back to Irish productions (Bieler, 1966:110). The general impact of the the *Scotti peregrini*, the wandering Irish scholars is expressed by Cahill, possibly somewhat optimistically, in the following way:

Wherever they went the Irish brought with them their books, many unseen in Europe for centuries and tied to their waists as signs of triumph, just as Irish heroes had once tied to their waists their enemies' heads. Wherever they went they brought their love of learning and their skills in bookmaking. In the bays and valleys of their exile, they re-established literary and breathed new life into the exhausted literary culture of Europe. And that is how the Irish saved civilization (Cahill, 1995:196).

During the 8th century Irish monasticism entered a period of compilation rather than innovation (O'Croinin, 1995). While outstanding individual scholars were still produced, the flow of monks and clerics to the Continent began to slow down. The Irish Continental monasteries continued to flourish but they slowly lost their distinctive Irish identity. The inflow of Continental scholars and students also diminished as the native Irish monastic structure began to unravel. This process continued over the next few centuries and from the 11th and 12th centuries on the focus of Irish scholars turned increasingly to their native history

and language (O’Croinin, 1995:187). The 12th century marks the end of this particularly unique phase in Irish history. While the direct influence of the Irish on the intellectual life of Europe fades away during the latter Middle Ages, the Irish heritage lived on. The theology, classical learning and scientific knowledge of Ireland’s Golden Age, while soon surpassed, was crucial in providing a vital stimulus to the subsequent Carolingian revival in Europe during the 7th to 9th centuries.

The Structure and Design of Early Irish Monastic Communities

This section will examine the structural configuration and reported management practices within early Irish monastic communities. For the purpose of assisting comparisons with the literature from chapter 2 and to assist the subsequent analysis in chapter 8, the descriptions of these practices loosely follow the six design strands of the generic framework from chapter 2 (i.e. the structural, strategic, knowledge, human resource, control and technological strands). However, as will become quickly apparent, the overlaps between these neat strands are considerable.

(a) Monastic Structures:

Starting at a structural level, despite major differences in location, resources, size, status and function, monasteries all adopted a broadly similar architecture (Bitel, 1990: 58). The monastic complex itself adopted a symbolic circular or curvilinear design with the patrons saint’s body or, more normally, some saintly relics (bones, teeth, tools, cloth, etc,) displayed at its centre. A boundary wall advertised the wealth and size of an individual community (Bitel, 1990:85). The monks highlighted their close physical proximity to this holy space. Four levels of boundary existed around this holy space with clear rules governing access to the various levels. Access to these inner levels was restricted to important patrons and clients and only monks or clerics were allowed access to the inner holy space (O’Corrain, 1995: 49). Monasteries had a number of other sacred spaces or cloisters, namely the choir, library, scriptorium, cemetery and church though the regulations governing access of outsiders to the latter two was less severe. Walls divided up the various holy spaces of

each monastery and were used to separate the various subgroups of the community from each other and from the monks.

The early Irish church was unique in having abbots/abbesses at its centre. This differed radically from the bureaucratic continental church model headed by bishops in charge of clearly defined territorial dioceses (O’Croinin, 1995:147). Bishops existed in Ireland but they were either abbots themselves or subservient to abbots. The dominant monastic system adopted a network form of structure. This non-territorial system of monastic paruchia gradually won over from the rigid continental diocesan model headed by bishops over the course of the 7th century (Hughes, 1966:124). Each abbot/abbess headed a main monastic house loosely united to a confederation of lesser daughter houses organised as dispersed tribal/geographical paruchia that were spread throughout Ireland and beyond (Graham, 1923:53; Hughes, 1966:83; O’Croinin, 1995:147). When Brigit of Kildare died in 525 she had as many as 30 religious houses under her control. Columcille, of royal lineage, was abbot of up to 42 religious houses including Durrow, Kells and Iona. Individual houses were substantial in size. The father house, Rathfriland, was reported as having 847 clerics within its walls while Ard Macha was a community of several thousand with separate churches, quarters and streets for the various subgroups within its walls (Bitel, 1990:180). O’Croinin (1995:167) suggests that these monastic networks were typically loose and operated largely independent of each other. Occasional annual visitations by the head abbot/abbess were the norm. From an abbot’s or abbesses’ perspective, the tribal structure enabled expansion without over-stretching central resources. The size and geographical dispersion of these tribal paruchia provided the abbots/abbesses with access to far greater and extensive resources than that possible under the then prevailing Roman bureaucratic and geographically constrained diocesan system. O’Croinin (1995:167) suggests that the reason various popes allowed the development of this unique and seemingly subversive Irish form of development is that they may well have realised that the centralised bureaucratic, city-based model for the church would not work in Ireland. Ireland with its tribalism, dispersed population and poor infrastructure was more amenable to control through a loosely coupled

monastic model. The Irish monastic structure was thus an Irish structural solution to an Irish infrastructural and attitudinal problem and can be seen as an early example of the application of structural contingency theory.

Within each monastic house teamwork was prevalent, at least in the sense that there was a recognition that the survival of the monasteries depended upon effective collective effort. Everyone had to pull his or her weight and long hours of manual labour in the fields was the norm. Some specialisation of activity was permitted where monks had exceptional talents but most monks were expected to engage in manual labour as well as normal spiritual duties. As we will see, this expectation did change in time with a distinct shift towards spiritual and managerial work.

The hierarchy within the monasteries was stated to be composed of three main grades namely abbot/abbess, seniors and juniors. However, at an operational level in the larger monastic settlements, there appears to have been an elaborate hierarchy of sub-grades and posts of responsibility including psalm-singer, head teacher, exorcist, vice-abbot and counsellor (Bitel, 1990:138). The office of abbot or abbess had total control, a situation reinforced by a system of hereditary succession to the office based on family membership of the founding saint. In the late 8th century, it is suggested that “*airchinneech*” or lay managers frequently took control of large monasteries relegating the position of abbot to second in command. These lay managers were generally the noble patron of the community. This latter practice, and its associated tendency to de-emphasise the centrality of the religious mission of the settlement, was tacitly accepted as long as it did not result in the plundering of community resources. The increasing power, independence and lay orientation of many monastic settlements was a primary force behind the radical reforms of the early Celtic church in the 11th and 12th centuries and of Carolingian monasticism generally (De Jong, 1995).

Co-ordination was achieved through high levels of formalisation, highly centralised and autocratic direct supervision and, as shall be explored under the control and human resources headings, intense socialisation and social control. Many of the important

monasteries had extensive rule books detailing and justifying their internal division of labour, desirable behaviour and punishments. A recurring theme within these rules was the total obedience required of the monk within his community. Obedience is regarded as a general vital virtue for coenobitical life and expected unto death and the Irish situation was no different. Ryan (1972:222) suggests that the three key watchwords of the novice monk were “*observe, admire and obey*”. He explains how obedience to the abbot/abbess and other superiors was deemed obedience to God (Ryan, 1972:250). No monk could leave the monastery on any account without the abbot’s permission. In addition, long, dangerous journeys were to be undertaken without demur at a moment’s notice. Ryan (1972:224) goes so far as to suggest that the only discretion afforded to a novice was the speed at which he renounced his own free will and desires and allowed himself to be totally guided by his spiritual superiors. This concern with total obedience needs to be considered in the context of the dominant control model adopted within monasteries, namely kinship. Bitel expresses the idea of Irish monastic kinship in the way that the community effectively gave birth to, fostered, or adopted novices (1990:109). In her view, the kinship model was the only viable model available to this religious elite in their efforts to organise and perpetuate themselves (1990:109). However, the form of kinship adopted had a distinctly monarchical slant. The rule of the abbot/abbess was total and there is no evidence of democracy being a concern in the running of monasteries. The Irish monastic family (*familia*) had the saint at its centre with the abbot/abbess often perceived as adopting the role of the dead saint dispensing fatherly/motherly love and learning. The desirable relationship between monks was deemed to be one of brotherly feeling. The control strand will return to this issue.

The nature and level of networking within and between the monastic communities needs to be considered at a number of levels. Internally, within a community, networking was extensive. Knowledge sharing among the monks was constant and operated mainly at the level of the written word and one on one teaching. There was also extensive networking with monastic clients and patrons. In their dealings with their extended external network of clients and patrons, the kinship model favoured in holding the “*familia*” together was

dropped and replaced with a relationship securely based on formal contract with obligatory dues and services on both sides (Bitel, 1990:127). The monastic labourers (manaig) were the farmers, clients and tenants of the monastic family. Some were free clients while others were unfree tenants, in effect slaves attached to the monastic lands. The relationship between the monks and these lay folk was a complex one of reciprocal lifelong exchange. It was a formal contractual relationship based on the model of secular lord and client with behavioural expectations typically incorporated within the rule book of the monastery (Bitel, 1990:117). In return for the loan of monastic stock, cattle or equipment and monastic protection, the manaig would provide a certain percentage of their stock and an annual rent of meat, grain, dairy products or hospitality to the monastery. This allowed the monks to dedicate themselves to their precious functions of prayer and ritual. McGrath (1979:99) also details how the manaig were asked to give their eldest son and every tenth son after that for the purpose of undertaking study and ultimately ecclesiastical orders. Given the number of manaig in most monastic settlements this obligation ensured a constant source of recruitment for the monasteries.

While each monastery first relied on its own members, direct kin, clients and lay allies for survival, there is some evidence of co-operation and networking between monastic sites. Bitel (1990:220) recounts a number of examples of monastic inter-community alliances formed in the face of an external challenge to the prevailing socio-political order. In her words “*when they fought as one they were formidable*” (1990:220). While this fighting sometimes involved the use of arms, more commonly it entailed symbolic action such as fasting, praying and the issuing of curses. However, these bouts of inter-community co-operation were rare and easily surpassed by the numerous accounts of struggles for primacy between the various monastic communities (O’Croinin, 1995:159). O’Croinin (1995:48) gives details of numerous inter-monastic wars and violence against and amongst church personnel. He also explains how warfare among kings inevitably involved attacks on the enemy’s monasteries. There is also evidence of groups of churches convening synods to

resolve major doctrinal problems which, if unresolved, would be referred to Rome for final adjudication (O’Croinin, 1995:152).

(b) Monastic Strategy

At a strategic level of analysis, while there is no indication in the literature as to the undertaking of formal strategic planning within or across the various monastic communities, there is clear evidence of strategic intent in their behaviour. The general orientation of Irish monastic communities reflected the general monastic concepts of monasticism as “*Militia Christi*” and the monk as “*miles Christi*”. The ultimate purpose or mission of monastic life was to secure eventual entry into everlasting life and this was ensured on earth through the love of God and neighbour. The large monasteries had an interest in maintaining political stability and the prosperity that this would bring to the monastery and to the country as a whole. As was discussed earlier, the primary motivation underlying much of the daily life of a monk was the learning, protection and the perfection of Christian religious knowledge. This knowledge was then to be applied to the benefit of the wider Christian community.

As monasteries grew, monks could increasingly disengage from manual labour. This was entrusted to the monastic *manaig*, the farmers, clients and tenants of the monastic settlements, and the monks turned to the more elite occupations of prayer and managerial work (Bitel, 1990:115). In return for their labour the *manaig* obtained a range of monastic assistance including a form of legal protection from personal danger, trespass and destruction of lands. In addition to these rather pragmatic services, the monks also provided services of a more symbolic nature. These latter activities centred on religious ritual (baptism, marriage and burial), potential divine intervention, through the saints, in times of crisis and the potential for securing everlasting life in heaven. It also included more ritualistic protection offering saintly blessing, protection and refuge to clients and death and destruction on those who harassed monastic clients. Bitel (1990:124) recounts how Saint Maedoc threatened to invoke the praying power of 210 saints to bring disease, famine and death in hell to anyone harming properties under his guardianship. The *vitae sanctorum* (accounts of the lives of the saints) are replete with such tales of death and destruction and it is assumed that these stories

were widely disseminated to deter potential offenders. The vitae also contain numerous stories of Saints restoring life to clients accidentally killed while undertaking monastic work or healing those badly injured. While the validity of these stories can be disputed it is apparent that monastic clients had little choice but to maintain close and amicable relationships with their monastic lords if they were to hope to survive and prosper (Bitel, 1990:125). In summary, the saints, through the monks, offered their clients sponsorship in this world and the next; they watched over clients' lands, gave clients refuge when needed, and bestowed all the protection that proximity to the saint's relics and the sacred space could offer. In return for their labour the *manaig* gained spiritual protection and access to valued Christian ritual. In effect they acquired a muted form of monastic identity and privilege (Bitel, 1990:124).

Relations between the monastery and its patrons were more complicated involving delicate manipulation on both sides. The monks offered the kings preventative and curative medicine, heavenly protection, political support and a range of rituals including protection of the king's lineage and sacred burial. In return for these services the monks expected the kings to commit to an enduring relationship with the monastic community. Bitel (1990) identifies healing services to kings and their families as one of the central concern of monks. Indeed, an understanding of this service provides an excellent insight into the social and political complexities of monastic life. While baptism and burial were the most valued of the services provided by the monks, healing, particularly the healing of royalty, was the most popular ritual that they conducted. Due to the prevailing medieval notion that external illness reflected inner decay, the monks were able to use their curative powers to establish a causal link between disease and disorder and through their rules and laws (*cana*) establish themselves as guardians of the social and political order (Bitel, 1990:173). The healing of royalty was deemed of crucial importance in maintaining the status quo and the monks held a clear stake in supporting the prevailing social hierarchy particularly as they sat near its top. The vitae contain many accounts of miracle cures undertaken by the saints on behalf of their noble patrons.

Seeking the direct intervention of the monks to aid the curing process was typically kept as a last resort and, even then, reserved for chronic and degenerative afflictions. Ugliness, deformities, infertility and the premature death of offspring were all seen as potential sources of an inner moral decay that could result in social stigma, loss of influence and, frequently, loss of inheritance entitlements (Bitel, 1990:177). When home remedy and personal prayer failed and when the secular physicians (*leigi*) could not help, the monks were approached to seek the assistance of the saints. As this course of action was expensive and tied the recipient to long term obligation it was not undertaken lightly. In Bitel's view (1990:182), the heavy burden associated with seeking monastic intervention led to the early Irish frequently abandoning the replaceable and less valuable members of their society. Success in the healing process required the patients to achieve an appropriate state of inner awareness and penitential attitude and as such was more a spiritual encounter than a simple functionalist process or contract (Bitel, 1990:190). Believers could be cured (Bitel, 1990:182). This was, however, a difficult and dangerous process for the patient as seeking the help of the monks required adopting the appropriate penitential state and this increased the chance of public awareness of the illness that could have fatal social consequences.

Once a healing service had been carried out, the king or nobleman was obliged to provide an endowment to the monastery. These endowments were not seen as crude payments or gifts but as symbolic acknowledgements of the king's or noble's commitment to an enduring relationship with the monastic community. Bitel (1990:188) explains how the monks, once in the door, were quick to offer a range of additional healing activities, burials, baptisms and protective blessings to their patrons establishing an enduring if not permanent relationship of mutual obligation. Relationships could not be terminated while one party still owed the other some due or service and so, as Bitel puts it, "*...healers and patients thus constantly augmented their roles, offering each other the dues, gifts, and services of healing, clientage, tenancy, kinship and political alliances.*" (1990:188). As the healing process frequently involved the patient and her/his extended social network it had the result of

reinforcing social networks and the authority of the monks within the network. As Bitel explains:

Disability, illness, and disease destabilized communities and thus, like unruly kings, were enemies of the monks. By assuming the saintly role of healer, the monks sought not only to conform the afflicted but to heal the community of its disorders by asserting control over the composition of the community, its behavior, and its leadership (1990:180).

In return for their many services the monks expected the king to assist them in the development and maintenance of a just, Christian social and political order. In this regard, the monks also positioned themselves as trusted spiritual and political advisors to kings and frequently established themselves as professional mediators or peacemakers between warring kings. The monks became the creators and guardians of the social and political order of the Christian community becoming *spirituales medici*, doctors of both body and soul, mediating between God's dead saints and the living lay folk and nobility within their community (Bitel, 1990:173). While the monks clearly played on the fears and needs of their patients, there was a clear expectation that they would produce results. As Bitel puts it:

When the cure did not work or the peace did not hold, the monks were liable to be left, as Saint Gerald was, with no land, no honour, and no protection (1990:193).

The desire for prosperity and influence within the main monastic houses resulted in a focus on organic growth. Growth was achieved through the expansion of individual monasteries and the establishment of geographically dispersed daughter houses. This latter practice also provided promotional outlets for ambitious monks. There appears to have been a limited sense of competition among the settlements. The unsuccessful struggles of Armagh in attempting to enjoy undisputed hegemony across Ireland are well documented (O'Croinin, 1995:159). While outlying monastic houses sometimes changed hands this appears to have been by consent rather than by force of arms. Competition or external hostility was

countered through size, linkage to powerful patrons and ultimately through enhancing the reputation of the founding saint and thus of the existing abbot or abbess.

(c) Monastic Knowledge:

The next issue to be considered is that of the nature, development, sharing and protection of knowledge within the monastic communities. Graham (1923) points out that Irish monastic schools were primarily concerned with the development of religious knowledge. However, the particular emphasis of this religious knowledge changed with the times. The reproduction of Biblical texts and psalms appears to have been the main preoccupation of the 6th century. The early 7th century was concerned with hagiography, recording the lives of the saints. In the middle and late 7th century the genre was that of Hiberno-Latin writing on issues of exegesis, grammar and computus. Biblical commentaries flourished in the 8th century. The 9th century onwards saw a growing preoccupation with recording native secular knowledge (O’Croinin, 1995). While one can argue that the monastic schools were concerned with the production and dissemination of religious knowledge, from another perspective it is possible to see the desired output of these schools was the trained, eloquent and self-confident scriptural scholar (Graham, 1923).

Isolation from Roman influence and late conversion to Christianity forced the Irish to learn both written and oral Latin based almost solely on book knowledge. Indeed the Irish are attributed with the introduction of an elementary Latin grammar at the beginning of the 6th century designed for those with no previous knowledge of the language. If Christianity was to flourish, Latin had to be learned and so monastic schools slowly developed specialising in the study of Latin language, and Sacred text especially in relation to discovering its hidden meaning. (Ryan, 1972:378). This third category was regarded as the highest form of knowledge, proficiency in which resulted in the title “*sui littere*” or Doctor of Letters (of Scripture), a title that elevated the holder to the level of chief scholar of the nation.

Kenney (1993:622) divides the textual output of the schools into documents that directly bear on religious matters and those concerned with secular Gaelic scholarship and literature.

In terms of the religious literature he classifies the considerable output into three broad categories:

1. **Biblical and intellectual:** this literature was concerned with biblical and ecclesiastical works, commentaries thereon, original productions in theology, philosophy and church history, texts of secular Latin and Greek literature studies, prayers and hymns for private religious devotion and hagiographical texts and legends;
2. **Liturgical and devotional:** books on the administration of the sacrament, psalms, canticles, lessons, hymns, chants and prayers and material on miscellaneous ceremonies such as blessings and burials. The focus of many of these writings is on establishing the relationship between the Irish and other variations of the Christian liturgy both Eastern and Western.
3. **Homiletical, apocryphal and imaginative:** This strongly Gaelic period starting in the 9th century had a strong interest if not delight in the supernatural and the bizarre. The writings consist of Irish translations and adaptations of popular legends and folklore from ancient Latin texts used in the monastic schools of the earlier vitae, semi-dramatic saintly poetry and imaginative expositions based on Latin apocrypha and continental legends.

An unusual though disputed feature of the Irish monastic schools was their willingness to embrace works of ancient authors including Latin and Greek classics and diverse material from Spain and Africa. Meyer (1913:1) contends that the seeds of classical learning were sewn in Ireland during the start of the 5th century as Gallic scholars and rhetoricians, following the invasion of the Goths and other barbarians, fled their own country to Ireland. Continental monasticism was generally hostile towards classical pagan literature and typically confined itself to studying functional religious works (Bieler, 1966:2). The Irish monks, on the other hand, appeared to adopt the view that everything that was not absolutely opposed to the teaching of Christianity was to be used to enrich that course of study. Graham (1923) suggests that the curriculum within the schools was extremely varied in scope and fuller in content than most of the overseas equivalents in contemporary Europe. In his view

their work extended to the study of pagan authors of Greece and Rome, Irish language and art, geography, computation, astronomy, music, philosophy and dialect (Graham, 1923:122). O’Croinin (1995) suggests that the arrival in Ireland of the works of Isidore of Seville during the mid-7th century was a defining moment in the development of Hiberno-Latin studies. Isidore’s two most important works, “the Etymologia “and “De Natura Rerum”, provided the Irish monks, for the first time, with a new compendium of scientific and cosmographical facts and vivid encyclopaedic descriptions of knowledge within the classical world of Roman civilisation. This work provided the impetus for a range of famous Irish monastic chronologies. He suggests that this secular blending of pagan and Christian literature in Irish monasticism was defended by the Irish monks on the basis that it would give them a means of gaining access to the finer points of the Scripture which were written in Latin. However, while their activities can be explained or, at least, defended along these lines, the increasing diversity and non-religious content of much of their work would suggest that they were driven by a thirst for knowledge and a general love of all learning including the attainment of religious insights.

A further related feature of early Irish monasticism was the way in which the monks excelled at reusing or adopting established pagan knowledge as their own. The ancient Celtic knowledge was retained, often being garnished with Christian extras or given a Christian theme (Lehane, 1995). This retention of mystical Celtic knowledge and symbolism can be clearly seen in the way that pagan monuments often guard the sites of monastic churches or shrines (Bitel, 1990:43). O’Corrain also refers to how the monks made this pagan past the “*Old Testament of the race*” and portrayed its kings, queens and warriors as “*living according to nature in the Pauline sense, and thus fit subjects for Christian writers*” (1995:50).

Much of the literary output of the monastic schools reveals a deep love of classification and order. Little of the work exhibits real originality and many contributions, particularly the hagiographies exhibit a dull and repetitive style. One clear departure from this orderly and monotonous approach was the brief flourishing of the Hisperic style of writing in the 7th

century. This cerebral style of writing is deemed to reflect the earlier mysticism of the druids and their interest in the obscure and seen by some as a re-emergence of the old Gnostic heresy in Ireland (Lehane, 1995:68,69). The best example of this form of literary surrealism is the *Hisperica Famina*, a text, described by Ker (1955) (quoted in Lehane, 1995:68) as “...the most extreme thing in medieval Latin” and by MacNeil (1931) (quoted in O’Croinin, 1995:207) as symptomatic of a “...culture fungus of decay”. While the literary contribution of this style is still being disputed, it is clear that it found widespread favour among 7th century monastic scribes. It allowed them exhibit an anarchic playfulness with the literature embellishing the presentation with obscure words in Latin, Greek, Hebrew and Irish and developing a spirit of mysticism and fantasy (O’Croinin, 1995:208). This style led to the production of some of the most beautiful fantasies in early Irish literature most notably the allegorical sea voyage of St. Brendan.

The role and activities of the early saints played a central role in much of the religious output of the monasteries. The saints were deemed to penetrate every aspect of conscious and unconscious Christian life and provided clear symbols of guidance and objects of devotion. The numerous vitae written and illuminated by the monks recounted details of the virtues and talents of the saints identifying them as missionaries, prophets, confessors, miracle workers and providers of spiritual satisfaction (Bitel, 1990:10). O’Croinin (1995:210) has questioned the biographical accuracy of many of these works noting how many of them shamelessly borrow from each other. The hagiographers had a range of motivations in writing the vitae. At a basic level they were simple historical accounts of the lives of holy people that deserved recording. As was mentioned earlier, the vitae also served a role in the socialisation of monks and nuns offering clear role models for emulation. Viewed from another perspective the vitae offered a model of good Christian behaviour for the wider Christian community. A further perspective views them as a form of manifesto or advertising for the monastic community highlighting the powers, both positive and malign, of the founding saint which are at its disposal (Bitel, 1996:182). The more powerful the

influence of the saint the greater the interest in the community and the corresponding inflow of pilgrims and patronage (O’Croinin, 1995:210).

The vitae all follow a rather tedious formula cataloguing the qualities and miracles of the relevant saint and the attractions of being associated with the saint’s community. They also recount the numerous curses, plagues and death inflicted by the saints on their enemies including kings reluctant to provide the saint with land and other patronage. O’Croinin (1995) suggests that these hagiographs were never more than occasional pieces composed to suit local circumstances and, at best, are “*a dismal swamp of superstition and perverted Christianity*” and “*dreary litanies of misplaced reverence and devotion*” (1995:211).

However, in their defence, it is clear that their simple, repetitive and anecdotal nature was an effective communication device in extolling the virtues of a saintly Christian life, of the potential benefits of being able to call on the saint’s protection and of the dangers of offending the saints. Bitel (1990) expands on this point by suggesting that the monks, in effect, became the propagandists of the saints. Just as the saints had been deputies of God, the monks portrayed themselves as the inheritors of the saints’ powers and functions and as such were indispensable in extending the protection of the Saints to their secular allies. She explains:

The job of the monks was not merely to pray and perform parish duties, but to act as saints and thus to protect and heal, provide refuge, dispense divine justice; in effect, to approach God, through the saints, for the benefit of all. Theirs was an admirable and critical mission; to assure peasants and warriors alike of the divine plan behind the failed crops, the demons, the plagues, the constant petty warfare (Bitel, 1990:13).

Within this elite knowledge community, the written word, the book, was the central tool. The book was the only mechanism for recording detailed information and was essential in imparting knowledge and dictate. The book was also a transportable medium, a feature fully exploited by the Irish in their national and international wanderings. Graham (1923) talks

about books abounding in Ireland towards the end of the 9th century, a unique situation by European standards of the time. While many of these books were reproduction, there was also an amount of original work.

Intellectual life in the monasteries was focused around the three closely related centres of the monastic school or classroom, the scriptorium and the library (Graham 1923:93). The monastic schools, while initially developed to train monastic members in theology, quickly evolved into general centres of secular and religious education for the entire Christian population (McGrath, 1979:99). Within the monastic schools learning was seen as an unending process and the functions of teaching and learning were closely related with monks both teaching and being under instruction in the school at the same time (McGrath, 1979; Graham, 1923). The teaching approach adopted within the schools will be addressed later. Entry to the monastic schools was normally confined to trainee monks, members of the monastic order, the nobility and certain groups of professionals. The Irish monastic schools were held in high regard in Britain and across Europe. Bede, the famous English scholar, makes regular mention of frequent visits to Ireland by British scholars to study with Irish masters during the 7th century (Ryan, 1972:382). O’Croinin (1995, ch. 8), Graham (1923, ch.vii), and McGrath 1979, ch. 9) also detail the considerable scope and influence of Irish scholarship across Europe during this period.

Developed monasteries tended to have a special space set aside as a scriptorium and library (McGrath, 1979:93). The scriptorium was a centre of penmanship designed to produce textbooks for the school and more general and specialist works for the library. Most monasteries had an expert scribe, a person valued for his scholarship and penmanship. Bieler (1949:215) sees the title of scribe as denoting the director of studies in a monastic school. Scribes concentrated on producing copies of the Gospels, psalms and other books of holy writ (O’Croinin, 1995:181). However, the majority of the manuscripts produced in the monasteries were the work of school masters and not expert scribes or calligraphers. Within the scriptorium an invigilator acted as general task-master and ensured silence unless a complex work was being dictated for copying (Graham, 1923:101). While much of the work

was basic transcription there is also clear evidence of the monks directly engaging the text as they copied or translated the work. Many of the teaching books contained glosses, Irish translations or explanations written in between the lines of the main text, and detailed commentaries. These contributions were aimed at assisting comprehension, marking issues requiring clarification by the masters and generally accelerating the learning process. Cahill (1995:163) refers to the quality texts they produced as “*open, interfacing, and inter-textual – glorious literary smorgasbords in which the scribe often tried to include a bit of everything, from every era, language, and style known to him.*” In this way, while there was a strong focus on the codification and reproduction of knowledge within monastic communities, there is a clear acknowledgement in much of the literature that the content was always to be interpreted and that interpretation improved with learning and age.

An interesting by-product of the use of glosses is that a number of these works have commentaries and notes scribbled between the lines or on the margins. These notes contain details of surreptitious and silent conversations between companions or the simple thoughts of scribes as they worked away in quiet contemplation. Some comments express deep emotional attachment to the content of their work. Other comments are simple complaints about the conceptual difficulty of the work they were being asked to translate or of the poor working conditions (cold, poor light and long hours) in which they functioned. Many of these comments were unthinkingly incorporated into subsequent copies of the texts. O’Croinin (1995:204) sees these comments or asides as a way in which the hard working monk obtained relief in the quiet monotony of their work. Mael Brigte, a famous Irish scribe, included a slip of vellum in one of his gospel-books. On the slip he had written in microscopic Gaelic letters the boast (translated here) “*Had I wished I could have written the whole commentary like this*” (from Kenney, 1929, quoted in O’Croinin, 1995:181). Another famous insight into the life and thoughts of a scribal scholar of the time is contained in a four-stanza poem in Irish which was slipped into a 9th century manuscript containing Latin commentaries on Virgil and a list of Greek paradigms. Its English translation reads as follows:

*I and Pangur Ban my cat,
'Tis a like task we are at:
Hunting mice is his delight,
Hunting words I sit all night.*

*'Tis a merry thing to see
At our tasks how glad are we,
When at home we sit and find
Entertainment to our mind.*

*'Gainst the wall he sets his eye,
Full and fierce and sharp and sly;
'Gainst the wall of knowledge I
All my little wisdom try.*

*So in peace our task we ply,
Pangur Ban my cat and I;
In our arts we find our bliss,
I have mine and he has his.*

(Quoted in Cahill, 1995:162)

Once mastery in penmanship had been achieved the Irish scribes set about illuminating their books in elaborate, harmonious and colourful ornamental designs. The Book of Kells is possibly the best and most striking example of this art form. This enduring art form developed and flourished at a time when fine art was almost extinct across the continent of Europe (Graham, 1923:159).

The library, frequently in the same building as the scriptorium, provided a store of textbooks and other books for general reading. Books were kept in ornate leather satchels, labelled and hung from pegs around the room. The satchels aided the storing, location,

protection and transportation of the books. Irish monastic libraries were deemed to hold a vast wealth of written religious and classical literature by the standards of that time. Unfortunately, much of this material was destroyed or lost during the Norse invasions or carried abroad by missionaries to become the backbone of many of the great Continental libraries of Europe. On the issue of the store of Latin literature held by the Irish scholars, Bieler (1949) speculates that it was unlikely to have greatly surpassed that available to English or Continental scholars of the time. In his view the main cause of the extensive tributes paid to Irish learning was not down to the number of ancient texts they possessed but to the use they made of the texts they had. As he put it: *"To own much money is nothing to be proud of, but it is an achievement to make little money go far"* (Bieler, 1949:224).

A final and crucially important issue with the teaching monasteries was that all knowledge, old and new, was to be freely shared both in written and oral form. There was no advantage to be gained in an individual monk hoarding or hiding knowledge. Indeed, acclaim within monastic schools came with the ability to analyse and impart knowledge, not from its hoarding, an important issue in reinforcing the monastic principle of common property (Graham, 1923:100). Understanding was, however, a slow and gradual process that came with age and long years of study. At the same time, the sharing of knowledge across monastic communities appears rare and important books were guarded jealously. The famous St. Columcille was forced to return a copy he had illegally made of his master's (St. Finian) unique psalter. The ruling on the matter by King Diarmait *"To every cow her calf; to every book its copy"* is described by Cahill (1995:170) as history's first copyright case.

(d) Monastic Control

On the control side, as was mentioned earlier, familial control was exerted within the monastery. In interactions between the monastery and their clients and patrons, a system of reciprocal contractual obligation was adopted. Internally, the behaviour of monks and nuns was highly regulated and co-ordinated through the extensive use of both written and informal rules reinforced by and reinforcing strong social control. While all forms of monasticism

relied on a penal code, what distinguishes the Irish approach to discipline was its willingness to inflict corporal punishment for relatively minor infringements. Columban's *Peonitential* and *Regula Coenobialis*, outline, in minute detail, the principles governing the infliction of punishment in his monasteries. Punishments ranged from the recitation of a few psalms, strokes inflicted on the hand, the imposition of silence, fasting on bread and water for up to 12 years and, in the case of capital crimes, exile.

Many of the monastic rules were aimed at curbing hostile relations between the fraternal monks rather than at promoting brotherly love (Bitel, 1990:94). Bitel suggests that while the early Irish writings portray a very positive relationship between monks there was little or no indication of affection (1990:94). In addition, in the vitae frequent references are made to disagreements, hate and conflict between monks. Succession battles over positions of authority appear to have been a key source of fraternal disagreement. Written monastic rules also covered and justified their internal division of labour and relations with clients. As monastic settlement grew, regulations governing the scheduling and distribution of labour, the development of a management hierarchy and rules governing the interaction within and beyond the community were required. These rules were designed to create a fair, productive and supportive community dedicated to co-operative work (Bitel, 1990:137). One surprising result of the study of the rules of the various monastic communities is the view that there was no standard plan for the management of monasteries (Bitel, 1990). More informal guidelines as to proper behaviour were provided in the numerous vitae which were widely read and transcribed by the monks. While it was never suggested that the behaviour of saints could be reproduced, as these were God's chosen men and women, they were held up as exemplars for general imitation (Ryan, 1972:225, Brown, 1971, 1982). The role of these vitae in reinforcing and promulgating the influence of the monks will be examined later.

Monks, however, dedicated as they were to God's service, had to attack and face down the savage foe, attending to human weakness and becoming a true soldier of Christ. In Ryan's words:

Life, then, for the monk is a perpetual warfare. He must fight against himself, lest he succumb to sensual cravings. He must fight against the world, which is interested only in earthly pleasures, earthly honours, and which fixes the standard of its values accordingly. He must fight against the Devil, who fears and mistrusts the monastic profession and pursues its representatives with particular venom and hatred (1972:196).

To this end, the cultivation of a clear monastic culture or sense of identity was of crucial importance. An important issue within this sense of identity was the preservation of their status as a religious elite. This was achieved through a combination of architecture, dress, behaviour and image cultivation. The use of architecture in the location and design of monasteries has already been addressed. Monks' clothing, while drab, was distinctive and, along with their tonsures and education, marked them out as elite both inside and outside their enclosure. Behaviour, in terms of ritual, study or abstinence from manual labour was also an important component of their identity. However, in Bitel's view, the surest sign of a monk's identity was the confidence with which he undertook his sacred duties (1990:144). The high standard of education of the Irish monks was regarded as a key factor in their successful evangelisation of Europe during the 7th to the 9th centuries. McGrath (1979:105) suggests that while the success of religious apostles typically depends primarily on their holiness and personality, the high level of intellectual training of the Irish monks was crucially important in facilitating their assuming the role of great religious founders and promoters of both religious and intellectual activity. Bieler (1966:13) qualifies this view somewhat by suggesting that, while one can still dispute the extent and sophistication of early Irish learning, the important issue is that they were perceived at the time as superior. O'Croinin (1995) cites the controversy over the date of Easter during the 7th century as providing "...an extremely impressive witness to the level of scientific knowledge in Ireland at the time" (1995:201). It also provides witness to their superior attitude. The Irish, in typically single-minded fashion, had established their own date for Easter and disagreed with

efforts by Rome to enforce a uniform Roman calendar (and code of dress and appearance). A famous letter from Columbanus to Pope Gregory gives an insight into the confident mindset of the Irish at the time. The letter states that the table proposed by Rome to identify the one true Easter cycle “...has not been accepted by our teachers, by the former scholars of Ireland, by the mathematicians most skilled in reckoning chronology, but has been deemed more worthy of ridicule or pity than of authority” (Walker, 1957:6 quoted in O’Croinin, 1995:201). Wherever they went, the Irish were surrounded by an aura of superior learning (Bieler, 1966:13/14), a reputation born witness to in a diverse range of Anglo-Saxon and continental commentaries. Bieler (1949) reinforces this point:

Just as, for centuries, to be an Irishman was enough in European eyes to win a person the reputation of sanctity, so Irish origin, or even training in an Irish school, was in itself a title to scholarship (1949: 213).

O’Croinin (1995; 220) provides an extract from the famous biography of Charlemagne, written by Notker the Stammerer, monk of St. Gaul, which also illustrates the then supreme confidence of the travelling Irish monk. The story recounts the arrival of two Irishmen (monks) on the coast of Gaul. The extract recounts:

They had nothing on display to sell, but every day they used to shout to the crowds who had collected to buy things: ‘If anyone wants some wisdom, let him come to us and receive it: for it is wisdom that we have for sale’. They announced that they wanted to sell wisdom because they saw that the people were more interested in what had to be paid for than in anything given free. Either they really thought that they could persuade the crowds who were buying other things to pay for wisdom too; or else, as subsequent events proved to be true, they hoped that by making this announcement that they would become a source of wonder and astonishment. They went on shouting their wares in public so long that in the end the news was carried by

the onlookers, who certainly found them remarkable and maybe thought them wrong in the head, to the ears of King Charlemagne himself, who was always an admirer and collector of wisdom. He ordered them to be summoned to his presence immediately; and he himself asked them if it was true, as everyone was saying, that they had brought wisdom with them. They answered: 'Yes, indeed, we have it: and, in the name of God, we are prepared to impart it to any worthy folk who seek it'. When Charlemagne asked them what payment they wanted for wisdom, they answered: 'We make no charge, King. All we ask is a place suitable for us to teach in and talented minds to train; in addition, of course, to food to eat and clothes to wear, for without these our mission cannot be accomplished. (from the translation in Thorpe, 1969: 93-4)

A strong work ethic also pervaded most monastic sites. The daily life of the Irish monk was a difficult one. They were provided with little food and underwent a long and rigorous day of prayer, labour and mental work (studying, reading and transcribing). The monks undertook daily manual labour to provide for the community and as a form of penance. Manual labour ranged from basic digging to elaborate and highly skilled craftsmanship. In the *Vita Triparita*, a story is recounted of a monk physically dying of thirst after labouring all day without rest or refreshment. This event was duly interpreted as a sign that the settlement would prosper and that its fields would provide plentiful crops in the years to come (Bitel, 1990:134). In general, however, work of the mind was regarded as more important and uplifting than manual labour. As monastic settlements developed the monks became increasingly involved in managerial and intellectual activities leaving the manual work to their clients and tenants. Tensions frequently arose in the case of monks undertaking secular book learning to the detriment of their labour obligations. Mortification was widely prevalent with frequent fasting, difficult and humiliating work, all night public praying and a range of penances including castigations with rod or strap for failure to meet

one's obligations (Ryan, 1972:391-399). In accordance with the general monastic tradition, silence was considered a desirable virtue and used regularly as a penance. Ryan (1972:395) recounts how children undergoing training in the monastery were expected to remain silent for large portions of every day. Additional voluntary austerities were frequently added by the monks themselves and it was commonplace to see monks praying with extended arms or while immersed in freezing water. While many of these practices were designed to foster a sense of true Christian humility, Ryan (1972:399) suggests that a secondary agenda of ready and joyful obedience was never far away. In his view while a monk was a member of a monastic community, his humble acceptance and loyal execution of a superior's command was his first duty and regarded in itself as an exercise in heroic sanctity (Ryan, 1972:399).

Lehane (1995) suggests that the monks, through their education, lifestyle and reputation, established themselves as enduring heroes. They set themselves extraordinary high standards in all aspects of their lives. While they may not have actually met these standards it is clear that most of their clients, patrons and enemies believed that they did. This sense in which the monks created an aura that elevated them in the mind of the normal person (Lehane, 1995:107), coupled with their astonishing self-confidence, is put forward here as essential in explaining the success of their role. An interesting point that reinforces the monastic concern with maintaining a good public image is that higher punishments were afforded to monks sinning in public as opposed to those who had sinned outside the public eye (O'Croinin, 1995:197). This elite status of monks, particularly abbots, facilitated them becoming professional political mediators. This function was undertaken for the sake of political stability and the prosperity that this would bring to the monastery and to the country as a whole. Calm was preferable to chaos and the learning, spiritual standing and blood ties of monks enabled them to gain the confidence of feuding princes and kings (Bitel, 1990:149). Bitel suggests that this negotiator role is indicative of a wider ambition of the monastic elite to convince local rulers and their clients that ecclesiastical help was essential if they were to succeed in political life. In this regard, the *vitae* once again played an important role, elevating the position of the monk. Bitel explains:

Hagiographers promoted the idea that kings were not the clever, manipulative, powerful warriors who appeared in the annals and secular legends. They were both bad and good, mean and generous, but they were never as intelligent as the saints (1990:157).

(e) Monastic HR Practices:

On the human resources side the monasteries adopted a selective recruitment policy drawing almost exclusively from the upper and middle classes (Ryan, 1972:200; Bitel, 1990:107). Commenting on these practices O’Corrain (1995:48) expresses the view that “*God was no equal-opportunity employer.*” It was the norm of the time that the second son of royalty would be given into church hands. Some of these boys were expected to enter the church while others were simply there for a good education and safe keeping (O’Croinin, 1995:179). Typically boys destined for a religious career were handed over to a cleric or hermit between the ages of 5 to 7 to undergo elementary studies in letters before seeking entry to a monastery as they started to enter adulthood. Fostership was, in any event, a common practice within Ireland at the time. 16 or 17 year olds wishing to enter a monastery were initially interviewed by the abbot who enquired about his “*person and purpose*” (Ryan, 1972:217). If the abbot agreed to accept the student then the boy was simply given a monastic habit, a tonsure, normally a new name and a bed in the monastic guesthouse. Surprisingly, despite the substantial numerical size of some of the monasteries, there appears to have been no formal system of training for novices. The trainee was expected to learn through imitation, doing as he saw other monks do. Normally a senior was appointed by the abbot to act as mentor or spiritual father for the first three years of the novice’s monastic life. If this probationary period (one of purification) passed off successfully then the novice was allowed to formally join the community in his early 20s. The abbot was allowed discretion in admitting elderly aspirants or young men who had not followed the normal route of progress. In the latter case probation was extended to ensure their complete progress in spirit as well as purification.

As mentioned earlier, socialisation into the monastic life was assured through prayer, the study of God's word and hard manual labour. The novice was expected to apply himself with fervent passion in the pursuit of grace, virtue and eventually spiritual wisdom. The approach adopted was always one of heroic standards. Ryan explains:

The ideal must not remain an ideal; it must be realised. In Irish monasticism there was no place for mediocrity. Here lies its great strength and its great weakness as an institution that strove to extend and perpetuate itself in an indifferent and ease-loving world
(1972:222).

Adult recruits (in Gaelic *athlaig* or former laymen) were never as successfully integrated into the community as those admitted from an early age. They were given extra instruction in prayer and doctrine but frequently remained at the fringe of the monastic community and were often the butt of monastic snobbery (Bitel, 1990:108).

The teaching function within monasteries was their primary method of intellectual training. Teaching within the monastic communities appears to have been focused at the level of the individual or small group. The classic image of the time was the master working away in his cell with a novice or two peering over his shoulder. There are occasional references to small groups being taught in the open air. Learning was by means of memorisation and writing in both Latin and Gaelic. Generally the teaching of a novice evolved from the development of reading skills and Latin grammar followed by writing in both Latin and Gaelic and culminating in the refinement of conceptual analytical skills. No one system of pedagogy predominated, a view reinforced by the award of a special degree of *Sruth-do-aill* to a tutor who was able to tailor his teaching style and content to cater for all types of individual differences (Graham, 1923:100).

The presence of career planning within Irish monasteries was partially discernible. While there was a clear hierarchy within each monastery, election to the position of abbot was frequently based on principles of clanship or bloodline (Ryan, 1972:266). Elevation to the position of *seniores*, described by Ryan as the aristocrats of the monastery (1972:271),

was based on seniority and a record of obedience, presumably to the abbot/abbess.

Appointments of *seniores* and to offices of authority drawn from this level were made directly by the abbot/abbess. Turnover levels within the monasteries was reputedly low an unsurprising situation given that loss of vocation was regarded as a “*calamity and a crime*” (Ryan, 1972:256) and ultimately a cause of eternal damnation. A monk departing a monastery to wander among the people or join another community was to be excommunicated as a fugitive and driven back to the monastery. Leave to join another monastery was only possible if discipline in the monk’s original monastery had collapsed.

(f) Monastic Technologies:

An examination of the intellectual practices of early Irish monasteries also gives a useful insight into the simple and non-regulating technologies in use at that time. Secular learning practices of memorisation, particularly through song and poem, were adopted within the monastic schools but the schoolbook, as opposed to the master’s voice, became the primary source of knowledge sharing and protection. The gathering, copying and protection of books were of central importance in this culture of writing. If enduring and cumulative learning was to take place then knowledge had to be accumulated and codified to ensure accurate transfer. The tools of the trade were simple. Pens, ink, wax writing tablets and vellum were typically all made within the monastery. To assist and simplify the codification and learning process, the Irish monks developed their own form of script, abandoning the *scriptura continua* of antiquity. The majuscule (half-unical) was adopted as the script for important biblical and liturgical manuscripts and the smaller and less ornate minuscule was used for everything else (O’Croinin, 1995:172). The simple and clear style of their script speeded up the reproduction process and aided more rapid comprehension. The style of script also won widespread approval across Europe and had the longest life and widest dissemination of the numerous Latin scripts developed during the early Middle Ages (Bieler, 1966:15). Their new grammar of legibility introduced a new graphic convention of word-separation, capitalisation of first letters, punctuation and a system of superscript dashes

designed to distinguish words in Latin from those in Old Irish, all designed to aid non-Latin speakers to read and comprehend Latin manuscripts (O’Croinin, 1995:172).

By way of summary, an examination of the design and management practices of early Irish monastic communities reveals a range of practices remarkably similar to those found within contemporary KIFs and represented in ideal form in the generic framework (figure 2.2) in chapter 2. These similarities are explored in detail in chapter 8. While a macro perspective of early Irish monastic settlements appears to offer suggestions of a common managerial and design configuration, this view is open to criticism. The historical analysis here and elsewhere has suggested a high level of heterogeneity across monastic settlements with different types of monastic settlements being established for different purposes and managed in very different ways. Lehané explains:

Some monasteries became lively centres of learning, some took on the duties of social service. There was no central authority, no uniform aim, and the story of each community is different from that of others (1995:17).

Viewed from this perspective one is tempted to extend Starbuck’s (1993) view on KIFs to monastic communities and argue that generalisation across the monastic sector is meaningless. It is, however, the author’s view that this focus on configuration, while of value and interest, reveals a partial and somewhat superficial understanding of the true essence of the monastic settlements and, by extension, KIFs in general. It is suggested here that the dominant similarity within and indeed key defining feature of the early Irish monastic movement was their integration of this structural configuration or management practice with the creation of a sense of community. The issues of configuration and community are interrelated but it is clear that an effective community could be achieved through a wide range of different managerial practices. This concept of community, created within and around these complex monastic settlements, and its application to contemporary KIFs, is the focus of the next section.

Early Irish Monasticism: A Community Perspective

The foregoing section has presented a strongly structural perspective on the nature of early Irish monastic communities. The purpose of this section is to attempt to elaborate on the concept of community underpinning early Irish monasticism. The focus will be on identifying the core monastic/communitarian principles underpinning the intense, intellectually based, enduring and externally oriented concept of community within early Irish monastic settlements. The key point of elaboration will be the way in which the monastic communities successfully fostered intense commitment from their members, encouraged life-long learning while embracing monks, clients and patrons in a complex and enduring web of obligation.

In keeping with Kanter's (1972:241) view that utopian communities are as much defined by their structural nature as by their communal goals, the structure and design of early Irish monastic communities is presented here as both expressing and reinforcing the communal orientation of these settlements. As was seen earlier in this chapter, certain managerial practices (a clear and unifying mission, selective recruitment, intense socialisation, careful image cultivation, total obedience, etc.,) helped create a strong sense of community identity within the monasteries. These practices were essential in establishing a purpose and a division of labour and in the maintenance of exchange relations with the external environment. Collectively, these practices helped create a tight community within the walls of the monastery and beyond the monastic wall (Bitel, 1990:82). It is this author's contention that just as the individual cannot be separated from the collective (the internal community), the internal community must not be separated from the wider external community. It is in terms of integrating the individual, the internal collective and the wider external collective (in total, the community) and balancing the tensions between these interrelated components, that early Irish monasticism has a valid contribution to make to contemporary organisational studies.

The main interest of this penultimate section is to consider the nebulous communal principles or *gemeinschaft* characteristics underpinning Irish monasticism. These principles

are seen as essential in establishing a sense of solidarity within a community (Kanter, 1972:243). Early Irish monastic communities shared many aspects of Far Eastern and Continental monasticism but, at the same time, were particularly unique. It is these unique features, particularly the system's high level of secular and intellectual involvement, which render the model relevant to contemporary application. Before elaborating the unique principles of Irish monastic community it is necessary to return briefly to basic principles and establish the basic tenants of Eastern monasticism built into the Irish model. In the introduction to this thesis it was stated that the early development of monasticism in Ireland was strongly influenced by extreme early Egyptian anachoretic models. One of the most important source of knowledge of and insight into early Christian monasticism and spirituality in Egypt is the *Apophthegmata Patrum* (Gould, 1993). The Apophthegmata are a collection of sayings, dialogues and short narratives of the 4th and 5th century Egyptian monks known as the Desert Fathers. The Desert Fathers were initially based in the ancient monastic centres of Scetis, Kellia and Nitria but dispersed across the East in the 5th century. Gould (1993:4) suggests that the Apophthegmata have and continue to exercise a profound influence on the development of Christian monasticism and spirituality. The Desert Fathers practised a severe form of semi-anchoretic life in which asceticism played a key role, a pattern closely followed in early Irish monasticism. Their writings thus have a strong inward focus and provide a rare and detailed insight into the maintenance of a community that had a strong awareness of its own unity and identity (Gould, 1993:15). The semi-anchoretic model they adopted was a flexible one allowing a high degree of choice and flexibility. It facilitated various patterns and combinations of solitude and interaction allowing the pursuit of many different goals while demanding no particular life-style (Gould, 1993:vi). The concept of community within this flexible model was one based on the personal relationship of individuals. While the writings indicate that views and practices on the ideal of community changed over time, the issue of community based on good personal relations remained a consistent subject of highly developed discussion and a clear and enduring deliberate goal (Gould, 1993:184).

One of the clear themes emerging from the Apophthegmata is the idea of maintaining good individual relations within the community through the avoidance of bad relations (Gould, 1993:164). A norm of conflict resolution and avoidance thus existed within the community reinforced through a concern with the avoidance of anger, slander, judgement and praise. Central to the idea of good community relations were the related issues of obedience, submission and gradual development and learning, themes central to Irish monasticism. Obedience and self-disclosure were also deemed paramount virtues in a disciple and were followed not to produce blind submission but, as Gould (1993) puts it, as “...heroic activities directed to the end of personal development in the virtues of monastic life” (p.57). Attainment of these virtues was not seen as a passive lack of individuality but an indication of virtuous Christian personal development. Obedience, submission and disclosure by the disciple to his abba (senior monk) was seen as a keystone of progress in the monastic life and should be practised “...even to the extent of ceasing to worry about his own obedience to the commandments of God” (Gould, 1993:33). It was seen that only through such obedience and renunciation of his own free will could a disciple hope to endure in the face of temptation, hardship, criticism and ill-treatment. Endurance, self-disclosure, obedience and a willingness to rely on others were developed gradually in the teaching relationship between the abba and the disciple. This relationship had both a functional and divine aspect. At the functional level, the abba was seen as a reliable holder of experience and self-knowledge, vital ingredients in the slow guidance of a disciple. The relationship between the disciple and his abba was grounded neither in love and affection nor in the exercise of impersonal authority, but was a personal one based on the perceived needs of a beginner and perceptions as to how these needs ought to be met. The teaching methods adopted involved a mixture of social and experiential learning. The disciple was required to be an obedient learner but the learning relationship was deemed a reciprocal one in that the teacher needed to earn the respect and love of the disciple who, in turn, had to freely choose to co-operate in the educational process. Submission to the teaching of the abba, however, went beyond an issue of practical convenience to one of a “...divinely guaranteed means by

which a monk grows, by obedience and trust in what his abba tells him to do, in his acceptability to God" (Gould, 1993:27/8). As well as the principle of common property, the Desert Fathers lay great emphasis on the avoidance of self-love and clearly espoused a corporate, neighbour-oriented attitude to monasticism (Gould, 1993:95). The Apophthegmata talk about "*gaining your neighbour*" which Gould interprets as covering attitudes of concern, of giving and receiving, of charity, of self-sacrifice even to the point of actively harming your own interest (Gould, 1993:95-97). The only exception to this rule was where such openness would lead to the endangering of the givers own spiritual wellbeing. This necessary level of struggle and effort on someone else's behalf was and continues to be central to monastic life.

By way of summary, a justification for examining this semi-anchoretical grouping can be seen in their collective development of a new social ideal, a group with a very strong identity, engaging in community-wide discussion over a range of issues and, through the teaching relationship, in possession of a means of renewing themselves (Gould, 1993:185). Bearing these core monastic principles in mind we will now turn to the model of community in evidence in early Irish monastic settlements.

Irish monasticism encompassed most, if not all, of the ideals of early Egyptian monasticism but developed its own unique outward looking model with an unusual focus on intellectual developments. It had a strong concern with ensuring that its own internal house was in order but recognised that success in its mission and long term survival required a close and enduring relationship with its wider network. Internally, the sense of community in evidence in early Irish monasticism was somewhat different from the Continental European model in its attempt to create a sense of balance between communal activity and purpose and a strong level of individualism. Most large monasteries had a communal room, (*teach mor*) where monks would gather two or three times a day to eat, read and write. However, unlike the continental monastic norm, Irish monks had individual cells where they slept and carried out most of their study (Bitel, 1990:77). In Ireland, the amount of private space available to a monk denoted the prestige of a monk and abbots typically had a separate house within the

monastic enclosure. This desire for individual space and contemplation was a key aspect of Irish monastic culture and had an influence on 11th and 12th century monastic reforms that coincided with the arrival of the Cistercian and Augustinian orders from the Continent. Bitel (1990) mentions the unpopularity of the rectangular stone cloisters of the Cistercians among the Irish and how they had resisted their building. She recounts how when the famous Cistercian Stephen of Lexington visited Ireland in 1227 he found Cistercian brothers living in traditional Irish wattled huts built outside their stone cloisters (1990:242).

In summary, drawing from the material from the beginning of this chapter, key principles of this model of community that have particular relevance to the understanding of the practices of contemporary KIFs include:

- A clear sense of communal identity reinforced through behaviour, architecture, training and dress. This sense of identity was given focus through the pursuit of noble general aspirations to aid the total Christian community. The achievement of this peaceful Christian community represented a unifying social ideal which was not incompatible (at least in the short to medium term) with the pursuit of internal wealth and glory.
- A core monastic principle of common property in which the open diffusion of knowledge was taken for granted and concern for one's neighbour (a customer focus!) was paramount. Within a monastery no monk was allowed to own or retain property, a common principle of all forms of monasticism.
- A focus on the collective perfection of knowledge (religious knowledge in this case) which required interpretation to be understood. This knowledge was then to be widely disseminated with a view to expanding and benefiting the wider Christian community. This interpretative approach to knowledge perfection required a diverse and life-long approach to learning underpinned through the successful fusion of collective teaching and learning and a high degree of individual contemplation. An open or liberal approach to religious knowledge development within the monasteries was compatible with, and

was assisted by, a high emphasis on and encouragement of general intellectual pursuits.

The focus on teaching, in turn, represented a key method of organisational self-renewal.

- A sense of community that required an extremely high level of individual obedience to superiors and the organisation reinforced through the need for full self-disclosure. The imposition of strict rules and strong central control on the individual monk subsequently facilitated the successful operation of autonomous and geographically dispersed individual and group activity on an international scale.
- An equivalently high level of individual commitment to the collective progress of both the organisation and the wider community being served manifest in a strong work ethic, a sense of ongoing and inevitable struggle and an unending pursuit of learning.
- An ethos of superiority and extreme self-confidence achieved through careful selection, an ability to endure a reputedly harsh and well-publicised lifestyle, a seemingly high level of individual intellectual development and unquestioning faith in the system;
- A contingent relationship model reflecting the different needs and requirements of the various components of the monastic network. A system of kinship prevailed among the religious elite and an enduring system of contractual mutual obligation operated between the elite and its wider network of patrons and clients.
- The ability of the communities to provide a diverse range of activities, both pragmatic and symbolic, focused around the use and application of (religious) knowledge and backed up with an extremely effective system of marketing.

Relying on a kinship model, the abbot/abbess and his or her management team created a tight internal community based on total obedience, a strong work ethic, fraternal relations and common property. A peculiar blend of collaboration and individualism facilitated the development of a highly focused and determined organisation built around the acquisition, preservation and dissemination of religious knowledge. The monks formed a community in the fullest sense of the word. The community established itself as self-supporting, with its

internal life governed by the principles of love, respect, common property and strict obedience (Bieler, 1966:40). Around this tight and influential familial inner group, a wider supportive community of clients, kin and patrons was developed. The relationship with this wider community was one based on a complex system of equitable, reciprocal and constantly augmented contractual obligation. Within this exchange relationship the religious elite positioned themselves into a strong central position within the network, a position in which they could create a suitable Christian socio-political order. As Bitel explains:

A just and Christian rule meant safe borders, a healthy and happy people, prosperity and good weather. It created exactly the sort of Christian order cherished by the monks – including military protection for ecclesiastical communities and a steady flow of royal donations from fruitful farms (1990:161).

It is suggested here that, while the individual components that created these communities were important, the essence of their success was the totality of the formal and informal arrangements in the creation and balancing of this complex community. In addition, the kinship of the internal community and the contractual relationships underpinning the extended network of kin, clients and patrons complimented and underpinned each other. The nebulous and largely symbolic nature of many of the services provided by the monasteries was irrelevant and indeed was probably one of the reasons underlying their ability to endure for so long. In this regard, the preservation of the system required a level of faith and all those involved in the community had vested interests in ensuring that faith in the system survived. Within the community each group validated or ensured each other's existence. The monks in particular provided a range of practical and symbolic functions for both rich and poor in an environment where these functions were deemed essential to the maintenance of the prevailing social order and individual salvation. Through their control of access to religious knowledge the monks claimed a lasting legitimacy. In Bitel's terms:

Simply by being men of God, the monks were able to offer themselves as doctors of the body, healers of the soul and protectors of society. As

masters of inner health and outer order, they were the only ones able to preserve both, as well as preserving the conceptual link between them (1990:192).

Within this tight and cohesive internal community, with its strong sense of identity and strong external focus, apparent contradictions were able to survive. Ryan (1972:407) refers to the peculiar mix that anachoretic and apostolic ideals presented in early Irish monasticism. Irish monks expressed a strong desire for retirement from worldly concerns and contemplative meditation but also a desire to perform the ordinary public duties of the clergy and of missionaries. They excelled at both. The Irish situation also exhibited an unusual union of difficult and occasionally liberal study and hard discipline. In addition, the large and influential monastic communities also appeared able to maintain a delicate balance between being totally co-opted by the local nobility, on whom they relied for resources and protection, and retaining an independent concern for the general Christian community. This independence was maintained to the extent that monasteries occasionally clashed with their patrons (Bitel, 1990). Finally, Lehane (1995) talks about a happy synthesis of authority and anarchy within Irish monastic communities in that they appeared to follow a disorderly life while slotting “...most of life’s ingredients into cerebral pigeon-holes with a rigid ingenuity” (p.100). This blending and balancing of autonomous individuality and strict social order was, in the author’s opinion, a vital ingredient of success within early Irish monasticism.

(g) The Gender Issue in early Irish Monasticism

The final issue to be considered in this chapter is that of gender relations. The author was unsure where best to include reference to this complex issue and so decided to deal with it in isolation. The relative equality of importance of abbots and abbesses in early Irish monasticism was a clear anomaly by then European standards. Cahill (1995) argues that this irregularity would have deeply offended Roman Catholic sensibility, which, in Cahill’s words, “...to this day imagines rule by a woman over men as a perversion of the natural order” (p.173). The reasons for this situation are quite complex. Female religious were a

minority group in early Irish monasticism. Estimates of the number of female or double communities and hermitages prior to 1200 AD range from around 10 to 50 (Gwynn and Hadcock, 1970) and represented a small percentage of those dotting the island. Their settlements were always smaller, less resourced and more vulnerable to attack (Africa, 1994). While the gender teleology of the 9th century religious writers presented a clear temporal change in the relation of female religious to their male counterparts (from early co-operation, to peaceful cohabitation and on to spiritual and finally physical segregation) the evidence suggests more stasis than change (Bitel, 1996:194). Accordingly, the issue of the endurance and relative success of female religious houses in Ireland in the face of considerable social and legal restrictions on the role and rights of women and the growing misogyny of Irish male clerics is of strong interest. Unfortunately, its full explanation is beyond the limited space afforded in this thesis.

The classic image of the heroic and powerful Irish female religious is that of St. Brigit and St. Ita. Indeed, St. Brigit's double monastery long vied with Armagh for pre-eminence within Ireland. This view is emphasised in the somewhat unreliable, post-conversion, 9th century vitae which, in Bitel's view "*...crossed gender boundaries and treated its heroines as slightly less than male and much more than female*" (1996:202). This view of religious women and their role in the early missionary phase of Christianisation presented female saints as of extraordinary holiness and able to grow beyond the normal arrested development of women and able to undertake similar miracles, clientage and peacemaking functions as their male counterparts. In Bitel's view they were "*...heros first, saints second and women last*" (1996:195). These charismatic, powerful, successful and aggressive women were presented as symbolically imitating and sometimes exceeding the accomplishments and holiness of men. The early female saints performed all the functions of their male counterparts and were admired for undertaking acts for which later wives and religious women would be condemned. However, in Bitel's view these women were not real women by early Irish standards but "*ersatz men*" (1996:192). Once this difficult missionary phase was completed the need for such women declined in the eyes of the increasing

misogynous suspicion within the religious hierarchy. After 800 AD the “...*gender assymetry that constituted social equilibrium*” (Bitel, 1996:202) was restored. The post-conversion annals initially exhibit a level of distrust towards religious women presenting them as carriers of pollution and sin to men requiring claustration and isolation. Hull’s (1973) anecdotal account, referred to in Bitel (1996:195), of St. Molig stabbing himself in his erect penis on being caught in the bathtub by his lecherous female neighbour is a good example of this genre. This theme then gradually moderates to an attitude of general indifference towards religious women and their communities.

Bitel suggests that the early literary images of powerful male imitators were actually used to consolidate existing gender boundaries reinforcing the two models of women at the time namely that of kinswomen or wives of monks, priests, bishops and Jesus Christ (Bitel, 1996:176). In her view a more realistic image of religious women of the time can be found in the incidental references to female religious playing a minor supporting role to their superior male counterparts. These women, frequently presented as the target of violence, could, at best, “...*support their husbandly colleagues while trying vainly to imitate male impersonators of the lost past, who were held up as hagiographic exemplars*” (Bitel, 1996:193). The predominant acceptable role of religious women portrayed in the hagiographers’ texts is that of the spiritual or surrogate wife and kinswoman to their superior male colleagues. These surrogates assumed the burden of wifely duties and behavioural restrictions of the time (reproduction excluded) requiring them to support their spouses, remain quiet, monogamous and not assume knowledge or authority (Bitel, 1996:179). Even separate communities of women were forced to assume dependent, marriage-style ties with local male communities fostering young monks, cooking, clothes making and providing congenial company. While clearly inferior in status to their male counterparts, female religious clearly maintained their dignity and autonomy within the ecclesiastical hierarchy by paying for male protection and patronage. They maintained a position of mutual esteem and occasionally gained great prestige by balancing “...*a whole web of obligation for both Jesus and their male colleagues, which helped reinforce their personal and collective dependence*

on their patron communities while making them valuable to religious men” (Bitel, 1996:184). They frequently supplied many of the social, religious and political functions of male communities but their success was always based on the co-operation and support of males.

Despite the clear subsidiary nature of their religious role and the considerable restrictions placed upon them by ecclesiastical cannon (forbidding female preaching) and prevailing social mores, the early professional religious women of Ireland yielded great political influence and controlled considerable estates. They were not any different from their lay counterparts in having their relations outside the family negotiated by men but merely acted out more exceptions and added further complications to an already complex pattern of gender relations in early Ireland (Bitel, 1996:169). Their mission, chastity and education set them somewhat apart. As Bitel puts it:

...their rejection of the carnal act made it possible for them to do many things that laywomen could not: swear legal oaths, own property, manage their own farms, even broker political treaties and work miracles (1996:168).

Their role was always a subsidiary one, restricted socially and legally from equal participation but by carefully manoeuvring around these social, legal and political restrictions and adapting to a whimsical patriarchy they endured against the odds and enjoyed “...*exemplary, purposeful, meaningful Christian lives*” (Bitel, 1996:203).

Conclusions

In this chapter a range of internalist and externalist explanations have been offered to account for the success and historical endurance of early Irish monastic communities. In reviewing the literature it was found that the most successful settlements exhibited similar design and management practices. In the author’s view the crucial importance of these structural and management practices was the way they helped create an intense sense of community within the members of each settlement and subsequently between the monks and

their wider network of clients and patrons. The monks sought to create a set of loosely related communities aimed at fostering harmony and solidarity through the development, sharing and protection of religious knowledge among its members (*gemeinschaft* orientation). They also sought to provide social, political and economic services to their wider community of patrons and clients partially to gain sufficient resources to sustain the community (*gesellschaft* orientation) and, ultimately, to improve the lot of the wider Christian community. There were inherent tensions between these aims. Indeed, one can argue that one of the main causes of their virtual abolition was their increasing preoccupation with managing the commercial and political exchange with its environment (De Jong, 1995). Kanter suggests that there are no examples of utopian communities, past or present, that give an insight into the problem of building large and complex structures out of very small ones, particularly when the small communities need to maintain their own distinctiveness and identity to survive (1972:229). It is this author's view that the case of early Irish monasticism is such an example. As religious brotherhoods and sisterhoods, early Irish monastic communities exhibited many *gemeinschaft* characteristics (togetherness, reciprocal interactions, openness and trust, common resources and intense loyalty). However, they also acquired their sense of solidarity from their strong *gesellschaft* characteristics, namely their sense of purpose, their division of labour and their considerable and lucrative interactions with their environment. For a considerable period of time, these communities appeared to be able to keep these *gemeinschaft* and *gesellschaft* characteristics in balance. Once this balance was lost external influence, in the form of the centralised Roman Catholic Church, brought these "total institutions" to a premature end.

Adopting an historical and temporal perspective, the monks exploited a gap in the existing social structure. In a "...*disease-infected, accident-ridden, violent world*" (Bitel, 1990:193), their offer to protect both body and soul, now and in the next life, was one that was difficult if not impossible to turn down. They offered help when others could or would not. They manipulated the kings and the laws in their pursuit of a just social programme, a programme driven by an altruistic concern for Christians of all classes but one that

frequently brought upon themselves great status, influence and occasionally riches. Through their semi-mythical qualities and their strong emphasis on learning, they endeared themselves to their patrons and captured the people's imagination. They became a living organism shaped by their progenitors and their various patrons to function within the social ecology of the area and of the epoch. They became, in varying degrees of importance, social, political, economic, spiritual and artistic forces in society made possible and sustained by the political and economic power of their lay patrons (Johnson, 1981:175). The provision of spiritual comfort in the face of unavoidable human mortality sustained the flow of this necessary patronage. They became the creators and guardians of the Christian community, a predominantly male role that was the primary price of their intervention. The implication of this structural and communitarian view of early Irish monasticism for contemporary KIFs will be elaborated in chapters 8 and 9.

This chapter concludes the primary literature input into this thesis. This first part has presented a number of interrelated concepts and perspectives. The ideology of an information or knowledge society has been critiqued and found somewhat wanting in terms of its claims of a new social order. Questions were raised about the simple upbeat linearity underlying many of the foundation theories. There was an acceptance as to the "*informalisation of life*" (Webster, 1995) and the huge impact that this trend is having on organisations and our lives. KIFs and their knowledge workers were presented as key features and players within this ambiguous period of late modernity (Reed, 1996). These professional service organisations were presented as exemplars of tomorrow's business, flexible and highly innovative. An analysis of the literature on the structure and design of these KIFs revealed an apparent structural configuration. The literature dealing with the nature of the knowledge of these KIFs was also examined. It initially revealed a normative concern with objective and/or theoretical knowledge, a view which then evolved into a number of simplistic and largely unsatisfactory classificatory schema. More encouragingly, an emerging literature attempting to address the underlying dynamics of this knowledge development process and of KIFs themselves was identified and examined. This led to an

examination of the concept of community and of its potential application to an understanding of KIFs. The historical case of early Irish monasticism was then examined with a view to adding to the structural and communitarian perspective on KIFs and to add a third monastic view to the subject. It is proposed now to apply these complex and overlapping perspectives to three contemporary and highly successful KIFs to test their explanatory potential. In an attempt to maintain the literary flow in this thesis the overview and justification of the research methods adopted in this research has been placed in appendix 1. The appendix describes the methods used and the procedures followed in undertaking the research. It also addresses some of the limitations of the study and suggests some areas for further research. Some readers may find it useful to read this material now prior to the presentation and analysis of the case study material in the following chapters. The first case, Andersen Consulting, represents a stereotypical KIF, a hugely successful global management consultancy, the biggest and, in their view, the best in the world. In the chapter that follows Andersen Consulting will be measured up against the various perspective mentioned above to see if they have a utility in explaining what Andersens looks like, what they do, how they do it and why they are so successful.

Chapter 5: The Case of Andersen Consulting

Introduction

The description of each of the three case studies in this and the next two chapters will follow broadly similar lines. Each case will start with a brief historical overview and description of the firm. Then, using the generic framework developed in chapter 2, the descriptions will focus on the five design strands. The structural strand will be dealt with first with a view to gaining an appreciation of the general design of the firm and its mode of operation. The strategic strand will be considered next as this will help contextualise the activities of the relevant firm. Next comes the knowledge strand as this is centrally concerned with the core output of the firm. The control, human resource and technology strands will then be dealt with as these are, in effect, activities and devices aimed at supporting and directing the knowledge output with a view to achieving the strategic intent of the firm. Issues relevant to the processual/contextual, communitarian and monastic perspectives are interwoven throughout this structured framework. An overall comparison and analysis of the three cases, individually and collectively, will be conducted in chapter 8.

Background Information on Andersen Consulting

Andersen Consulting is an international management and technology consulting organisation. The firm has approximately 65,000 employees with administrative and support staff accounted for 19% of this figure. The firm has 149 offices in 47 different countries. Their world-wide net revenues in 1998 amounted to \$8.3 billion. The firm serves around 5,000 clients annually. For revenue purposes Andersen Consulting is divided into three geographical regions: the Americas; Europe/Middle East/Africa/India; and Asia/Pacific.

The roots of Andersen Consulting can be traced back to 1913 when Arthur Andersen, the son of Scandinavian immigrants, acquired a small audit firm in Chicago. Early on in the development of the practice Andersen decided to differentiate the firm by recruiting newly graduated accounting students from some of the major US business schools, a then major departure from the existing norm of hiring and slowly training

commercial and high school graduates. While this strategy required the payment of higher salaries, Andersen found that this added cost was more than offset by higher levels of understanding among his staff when dealing with clients. This factor coupled with higher productivity and quality enabled the practice to rapidly flourish. High investment in training and professional honesty became the trade mark of the firm. Andersen himself placed a high emphasis on homogeneity reinforcing his 'one firm, one voice' maxim through standardised training and extensive formalisation of work practices and procedures colloquially referred to as the "*Andersen way*". The 1950s and 1960s saw the audit firm expand domestically and internationally primarily through the design and implementation of complex accounting systems. This period also saw the slow emergence of the consulting arm of the firm which grew from a small industrial engineering practice within the audit firm set up to advise their clients on how to improve their business. In 1952 the firm launched its automated (computerised) payroll system, reputedly the first commercial computer application in the world. The 1960s, 70s and 80s saw rapid growth in the consulting arm achieved primarily through the application and integration of leading-edge information technology (IT) into client businesses.

Andersen Consulting made its reputation as an exceptionally successful IT consultancy and IT consulting continues to be the cash cow of the firm. Within IT consulting, Andersen Consulting excelled at the more complex and financially rewarding systems integration market. Systems integration typically involves the design and implementation of a complex informational network or set of networks spanning a number of corporate functions and involving a wide number of hardware and software vendors. In the face of mounting competition within this sector and the increasing failure of IT projects to live up to clients' expectations, Andersen Consulting formally launched its new client service strategy, "*Business Integration*", in 1988. This approach focuses on the integration of strategy, people and technology concerns irrespective of the nature of the project and represented the next level of complexity beyond systems integration and repositioned

Andersen Consulting as a major management and IT consultancy (Dataquest, 1994). Business solutions were seen as requiring the consideration and judicious balancing of each of these four elements and Andersen Consulting presented themselves as a firm uniquely capable of providing a fully integrated business strategy to clients. While Andersen Consulting was traditionally strong on technology and business processes, it had been developing its strategic and change management expertise over the 1980s (Ackenhusen, 1992). In support of its business integration philosophy Andersen Consulting has reorganised around five integrated service lines (strategic services, change management services, systems integration/technology, process and business process management) offered across six major vertical markets or industries (financial services, health care, utilities, telecommunications, industry group products and Government). The Dublin office provides a full service range in accordance with the service offerings of Andersen Consulting globally.

All interviews in Andersen Consulting were carried out with staff of the Practice Management section of the Dublin office- the support wing of the main consulting division of the firm. Interviews were held with the human resource manager, the marketing manager, the knowledge manager, the information technology manager, the quality manager and the firm's financial controller (shared with Arthur Andersen). Most interviews ranged across all six topics under investigation. A number of those interviewed had extensive past and ongoing consulting experience within the firm both in Ireland and abroad. A description of the firm organised around the six design strands now follows.

The Structural Strand

At a global level, Andersen Consulting operate a highly organic structural form that interviewees found difficult to describe. The structure also changes frequently. The firm has a complex network structure composed of geographic, vertical market and service lines. The geographic or regional structure is currently the dominant structural focus. The Irish

operation is part of the Maratine region (Ireland, UK, Scandinavian countries and South Africa). While one will always find a distinct local or national structure, the regional operation takes precedence. The regional structure operates like a mobile skill pool with local operations tendering among themselves for certain staff to undertake projects. The Irish operation is currently a net exporter of skills as young Irish staff are particularly in demand due to their quality and the relatively low Irish wage rates (one of the lowest in Andersen Consulting) which facilitates competitive tendering or high profit taking. The financial controller explained how consultants are paid at their national rate irrespective of where they are working. A senior partner takes overall responsibility for each competence within a region. At the time of writing, the regional structure was being gradually displaced by a more globally focused one while still retaining the four competency practices and six industry lines.

The Dublin office is structured into two divisions. Business Process Management with a current staff complement of around 20 consultants and Business Integration, the main consulting group with a staff of 170 consultants split across the following five specialist areas:

- **Process** (130 consultants)
- **Technology** (included in the figure above)
- **Change** (10 consultants)
- **Strategy** (4 consultants)
- **Practice Management** (26 consultants)

A number of those interviewed stressed the pervasiveness of teamwork within the firm. Generalisations concerning the size, composition and longevity of any particular consulting team were impossible. Team sizes range from two to sixty consultants depending on the size and complexity of the contract. Team size and composition also vary considerably over the life cycle of the projects. Projects involving large numbers of consultants are subdivided into smaller specialist teams such as a development team, a

technology team and a change management team. One of the managers mentioned the increasing trend towards the use of cross-functional teams within larger projects. The normal composition of a team is at least one partner, one project manager and a number of lower level consultants. It is normal for partners and senior consultants to be involved in a number of consulting teams at any one time but less so for the more junior staff. The appointment of the project manager is the remit of the partner and is based on skill, experience, current workload and availability. The manager, in collaboration with the partner, will then set about building a consulting team drawing on the knowledge and personnel resources of all the regional offices. A regional scheduling database, which contains details of the skills, current workload and availability of all regional consulting staff, assists in the selection process. One of the managers interviewed did stress that her conception of teamwork was of “...*working somewhat alone and autonomously but as part of a team doing related activities that need to be compatible.*” She agreed that the team members met regularly but this was typically an informal arrangement. On going team contact is primarily undertaken via e-mail.

Within the consulting area there are five staffing grades of partner, associate partner, manager, consultant and analysts. However, the actual hierarchy is extended considerably by the presence of levels within some of the grades. There are two analyst levels (A1 and A2), three levels within the consulting grade, (C1, 2 and 3) and seven levels within the manager grade. One interviewee had figured out that it would take her a minimum of 14 years to progress up through the ranks of the firm, a situation she considered unsatisfactory given her perceived abilities.

The financial controller described Andersen Consulting Worldwide as “...*a global partnership with profits from the consulting wing amalgamated with those of the accounting practice for distribution purposes*”. Within Andersen Consulting, there are both global and local partnership agreements. The Dublin partnership is a straightforward partnership consisting of a managing partner and a number of senior and associate partners.

Co-ordination of action is achieved through a range of integrated activities. Mutual adjustment between team members is important on an ongoing and daily basis. Face to face and e-mail communication are the most frequent form of contact. The size and tight deadlines associated with most of the consulting projects has resulted in a high level of standardisation in terms of work process and skill. Each assignment has an engagement partner who is responsible for the co-ordination of all consulting activities. The financial controller highlighted the role of the firm's rigorous and top down system of strategic planning which lays down demanding performance standards across regions, national locations, industries and service activities. These strategic demands are translated into specific productivity/revenue/and profit requirements for each consulting assignment which are monitored on a weekly basis through the use of a technologically sophisticated financial control system. The marketing manager also identified the firm's global quality assurance scheme as playing an important role in achieving co-ordinated and consistent consulting behaviour. This issue is addressed further under the control strand. Standard operating practices and methodologies are also used, particularly in undertaking technical consulting assignments. The nature and impact of these methodologies will be considered later.

Internal networking is extensive within the Dublin office and across the firm globally. While formal meetings and telephone conversations remain influential networking devices, increasing use is being made of electronic mediated communications (e-mail) and the firms knowledge data bases (see the technology and knowledge strands respectively). Looking at the external network, there are examples in the USA and the UK of joint ventures with both client and unassociated companies. This is explored briefly under the strategic and knowledge strands. The firm is also in constant communication with IT hardware and software vendors and gathers extensive market information from outside bodies.

The Strategic Strand

The discussion on the strategic practices within Andersen Consulting took place at a relatively generic level due to obvious competitive and confidentiality constraints. This did not, however, represent a serious problem for the research in that the focus here is not so much on the firm's strategy but on its strategy development process. The marketing manager explained how the firm follows a tight, highly formal, top down three-year rolling strategic planning process. There is a global strategic plan that is operationalised across the various regions, national areas and specialisms. The firm's objective within each national area is to target the top fifty organisations (private and public) in each country and to become the dominant player in this segment. The firm strives for around 80% repeat business. Andersen Consulting aim for and achieve an average global growth rate of 20% per annum. This is primarily achieved through internal organic growth. In some regions substantial growth has been achieved through joint ventures, though the Dublin office has no experience in this regard.

The marketing manager drew attention to the key themes within Andersen Consultings' 1996 annual reports as a way of encapsulating the core activities of the firm. The 1996 annual report (p.5) focused on four core concepts deemed to be at the heart of the firm's approach to delivering greater value to their customers:

1. *turning ideas into valued results.*
2. *transforming the process.*
3. *motivating people to deliver value.*
4. *using technology for strategic advantage (p. 5)*

The report identifies these four concepts, which mirror the four competency practices of the firm, as necessary to "...guide our clients into a new, exciting and successful future" (1996:5).

The firm's core philosophy is a partnership approach to the provision of a global, full-service, business integration service. The stated corporate vision is "*To be one global*

firm committed to quality by having the best people with knowledge capital, partnering with the best clients to deliver value". The associated mission statement reads "*To help our clients change to be more successful*". One of the consultants interviewed explained the activities of the firm as follows:

We generally assist them [the client] in doing something that they are planning to do. More often we are going in where we are doing some sort of an analysis to either review where they think they are going to see if we would agree with their direction and then providing a team to get there. A lot of it is providing resources, providing a strategy, reviewing a strategy they have. The majority of the work is where we are going to do some form of diagnosis and strategic direction work for the client. The client normally has something done but we would review it before going forward. In a way we are providing an external sense check for the client.

The consultant emphasised the difficulty in generalising about the activities of the firm. In her words "*...there is no straight answer because it varies so much from client to client*".

As the firm has shifted its focus away from an almost exclusive IT focus to become a provider of the full range of management consultancy services, it has become increasingly prone to competition from both large established management consultancy concerns and small dedicated IT providers. The firm has responded to this increase in competition by way of a greater focus on the provision of value to the client and on building long term relationships. One manager explained:

We are perceived to be one of the more expensive service providers in the market place and anyone who is taking us is taking us because we are going to give them value for money. Everything we do must add value to the client.

Andersen Consulting sees itself ideally building up a close, long-term and ongoing relationship with a large client that they refer to as “*partnering*”. Partnering is a core philosophy of their corporate mission and is manifest in the way Andersen typically implement their solutions in joint teams with the client to maximise ownership and knowledge transfer (both ways). The partnering approach has also led to a range of collaborative alliance with some of their consulting clients, selling on innovative solutions and new products into the market. This approach facilitates Andersen Consulting in building up considerable knowledge about the client which can be accessed when dealing with a new problem. It also helps the firm avoid having to go through the long and costly tendering process when a client assignment arises. The partnering concept has also been applied to develop alliances and joint ventures with industry leaders with whom Andersen Consulting do not have a consulting relationship.

On the marketing side, one of the managers explained how, following the separation of the consulting and audit wings in 1989, Andersen Consulting undertook a globally integrated marketing and image programme focusing on print and television advertising. The three stated goals of this programme were (Source: Dataquest, 1994:12):

1. *to establish a clear identity for the firm separate from Arthur Andersen Consulting*
2. *to position the firm in the broader management consultancy market*
3. *to introduce a new integrated marketing model for the firm*

Andersen Consulting uses the usual marketing and advertising media (TV, newspaper and periodical advertisements, consultant research reports and books, direct mail and conference and sporting event sponsorship) to develop a “*composite picture*” of the firm. The marketing manager also stressed the key role that the consultants themselves play in the marketing process. Each assignment is seen as a marketing device for future work. In recent years the firm has begun reorienting its marketing effort away from general advertising towards targeting specific clients by industry. Its focus is always on the value they can bring to the

potential relationship and not price. While consulting assignments are still mainly tendered for on a fixed price basis, benefits-based agreements where Andersen share in the success or failure of the assignment are becoming increasingly popular. The image Andersen Consulting push out to the market is of a consulting firm in control of leading-edge technological knowledge, globally focused, able to delivery a totally integrated service and, most recently, strong on creative and innovative abilities. Partnering and implementation are central ingredients of Andersen Consultings' service strategy.

Andersen Consultings' use of industry research is a good example of how the firm integrates its various functional activities to its advantage. In this case the essential development of industry knowledge becomes a core marketing device and visa versa. Andersen Consulting have published a range of reports independently ("Economic and Monetary Union - The Business View", 1996), on a commissioned basis ("Electronic Publishing. Strategic Developments for the European Publishing Industry towards the Year 2000", 1996 - commissioned by DG XIII of the European Commission) and in collaboration with other research bodies (Vision 2010: Designing Tomorrow's Organisation" (1997) - a co-operation with the Economist Intelligence Unit).

Andersen Consulting remains highly market responsive which is normal practice for any successful professional service firm. However, the marketing manager stressed that they avoid the charge of being in any way faddish through use of their business integration approach. This methodology ensures a comprehensive approach to change irrespective of the precise nature of the change programme being undertaken. Another manager suggested that the firm wants to be on top of whatever is coming out of the market but added that there is a strong base culture within the firm that ensures the latest fad will not be blindly adopted but examined, tested and adopted only if it has been shown to be of value. When asked why a company might recruit Andersen Consulting rather than one of its competitors, the marketing manager suggested that there was no single reason as to why the firm would be

considered over and above other consulting concerns. He put forward the following suggestions as to why Andersen Consulting has been so successful to date:

First we are a distinctive national firm with access to a global knowledge base. The pressures of globalisation on most business concerns today render this 'global perspective' a valued resource. We have a deep skill pool and an extensive knowledge base on best practice across a wide range of industries. We also carry a valuable global reputation which can lend a needed measure of legitimation to managerial action. Finally, we can offer an integrated, one-stop service offering ensuring that all necessary aspects of any particular client problem (technological, strategic and social) are adequately addressed.

This view is compatible with Andersen Consultings' core competencies as identified by Dataquest (1994:29) as follows:

- A suite of service lines including strategic consulting, change management, systems integration, and business process management
- Application software, methodologies, and tools designed to meet market needs
- Knowledge of its clients' industries
- Worldwide training and investment in professional development
- Research and development on the application of advanced technologies
- A global network of consultants.

As to the future, the marketing manager referred to Andersen Consultings' increasing focus on the development of creativity and innovation within the firm. A new project methodology, business integration methodology, is in the process of being rolled out within the firm. This methodology specifically focuses on creativity and innovation. Details of the methodology were unavailable at the time of writing. Enterprise and innovation are also identified as desirable competencies within the firm's formal staff appraisal process.

Less formal methods for encouraging creativity and innovation within the firm at present include the highlighting of creative solutions, teamwork and the use of creative decision-making techniques such as brainstorming and the Delphi technique. This new concern with creativity is counter-cultural and is expected to take some time to roll out. One manager expressed the challenge in the following way:

Andersen's is like the McDonald's of consulting. No matter where you go if you get an Andersen Consulting person in they will approach the problem in more or less the same way and produce very similar deliverables at the end of the day. We deliver a standard reliable product but with no real flashes of inspiration. The firm and our clients don't want us taking major risk attempting something radical. We sell a safe approach, our clients know this and they know what they're buying.

The Knowledge Strand

Focusing on the knowledge strand, the most difficult issue encountered was how to describe or categorise the knowledge used within the company. While all the interviewees agreed that knowledge was the life-blood of the company and needed to be constantly expanded, updated and shared, there was no consistency of explanation of the term across the various managers interviewed. Explanations of the firm's knowledge varied from "intellectual capital", "the contents of people's minds", "competencies developed within the staff", to "industry knowledge and experience" and "general and specific expertise". One manager interviewed talked about the intellectual capital of the firm describing it in terms of "...data, information and knowledge". When asked to clarify the nature of knowledge within this threefold categorisation, the manager described knowledge as composed of "lessons and insights". Sometimes a combination of these general terms were used. A good

example of this tendency can be seen in the Andersen Consulting Internet fact sheet which, on page 1, states:

We apply our in-depth industry knowledge and experience to make the application of our competencies relevant to the specific needs of our clients. Each of our competencies is a collection of skills, methodologies, knowledge capital and experience that, in combination, can achieve an outcome that is of value to our clients.

Another manager described the firm as knowledge-intensive in the following way:

The firm is knowledge-intensive because that's what we sell at the end of the day. We're not selling a product we're selling a service, our knowledge: past experience, global expertise. We have an incredible amount of knowledge out there on client experience in 40 different countries. We've done so many projects that no matter what a client want's done, we've done something similar somewhere. We also have content experts that are flown around the world all the time and if you need an expert on something particular, say mutual funds, they will be put on a plane in the morning if it will sell business. And this is where the one global firm concept comes into its own. The global resources of the firm are at your disposal.

Only one interviewee raised the issue of the use of theoretical knowledge within the firm and even then in a qualified manner. She suggested that the firm's methodologies were based on "...theory and best-practice combined" but stressed that concern within both the firm and among clients at the end of the day lay with how it is done as opposed to the conceptual underpinning of the relevant approach.

Another manager saw the need to consider Andersen Consultings' knowledge base at a composite level. He saw the firm's competencies as summarising "one dimension of the knowledge used in the firm". Other distinctive yet complementary dimensions of the firm's

knowledge include “*industry knowledge and experience and in-depth knowledge of specific issues e.g. electronic commerce*”. As a way of further clarifying the core knowledge of the firm, the marketing manager was asked to identify the types of client problems dealt with by Andersen Consultings. He suggested that while a functional perspective on the problems was possible (e.g. strategy, change management, process and technology problems), he saw this as rather inadequate.

The firm’s knowledge base is relatively dispersed as it offers services within four comprehensive competency practices across six major industry groupings. This continuing growth in its espoused areas of expertise is partially linked to the firm’s strategic repositioning from a predominantly IT based consultancy to a mainstream management and IT consultancy. A wide range of general competencies and specific industry skills are developed within the consulting body and evaluated under the performance appraisal system. Necessary competencies are established globally for each specialism and for each grade within each specialism strict criteria as to the desirable achievement levels are laid down. Employees are subsequently graded as below, at or above the desirable skill level. When asked if all consultants had to acquire a generic set of competencies and skills one manager had this to say:

You expect them all to have the same set of competencies but the desirable level of control of a specific competence, their target or ‘at level’, will vary across the competencies depending on the discipline of the consultant. For example the ‘at level’ of a technology guy for programming would require that he has done A, B and C and X, Y and Z whereas a strategy guy would only require X and a little bit of A. The HR guidelines determine who requires what and the necessary level.

The competencies vary from highly specific and technical issues such as “*conversion*”, the ability to undertake the conversion of an old system to a new system, to specific skill sets

such as “*reengineering*” to more generic attributes such as “*leadership*” and “*entrepreneurship*”. Steps are afoot to put the entire appraisal process on-line.

The creative context within the firm is one of teamwork, high trust and extensive knowledge sharing driven by a strong performance ethic. As has been detailed already, all consulting assignments are undertaken using specialist or cross-functional teams. Knowledge sharing in terms of consultants openly sharing their experiences, both good and bad, among each other is endemic to the organisation. Trust in employees is seen as both a tacit and implicit part of the firm’s guiding ethos. One manager referred to the high level of trust placed in the integrity of individual consultants in terms of their dealings with clients on behalf of the firm and in the general acceptance by the firm that employees truthfully complete their fortnightly time sheets.

Knowledge development is achieved primarily through on-the-job experience in a team environment. This experiential and mentoring-based approach is complemented by extensive in-house formal training, dedicated training weeks and constant briefing and information sessions based on ongoing consulting assignments. Cross-training ensures that by the time a consultant is with the firm for five years s/he has developed a high level of expertise in a technology area as well as a market or business function. The human resource strand will expand further upon the nature and role of training within the firm. The increased recruitment of experienced staff in recent years, particularly in the areas of change management and strategy, has been used to acquire new knowledge within the firm. Research and development is encouraged globally through the use of dedicated research centres (the Centres for Strategic Technology Research in Northbrook, Illinois and Palo Alto, California, the Andersen Consulting technology park in Sophia Antipolis, France,), a technology assessment group, a range of Business Integration Centres in the USA, United Kingdom and Australia and a number of research collaborations and alliances (with IBM, Digital, Dell, Kodak, AT&T, etc.,). The Business Integration Centres simulate client work environments and are used as locations for staff education and training, applied research,

marketing pitches and hands-on workshops for clients. The centres are kept current by being totally revitalised every 12 to 18 months. The firm typically maintains close contact with the leading business schools in the respective national location. The Dublin office maintains linkages with a number of Irish third-level and training institutes through the sponsorship of professorial chairs and membership of university committees. The use of industry reports mentioned in the strategic strand is an important source of industry knowledge. The Internet is also being used in a restricted manner to this end.

All those interviewed agreed that there is limited potential for the protection of knowledge generated within the firm. An open and supportive communications climate based on the ready sharing of and access to information and knowledge is deemed essential for the successful operation of the firm. This high trust and open environment does not lend itself to tight security practices. The IT manager stressed the high level of security applied to protect unauthorised access to the firm's computer system. The knowledge manager mentioned how access to the knowledge exchange for lower grade staff is controlled but saw this as partially an infrastructural limitation. Internal documentation is typically copyrighted and some use is made of global patents primarily with regard to specific Andersen Consulting methodologies. However, the potential for extending the use of patents was seen as limited due to the diverse and generic knowledge base drawn upon by management consultancies. In Andersen's case knowledge preservation is primarily achieved through efforts to retain quality staff and through the continual development of a global knowledge database, the Knowledge Xchange.

Andersen Consulting's 'Knowledge Xchange' is one of the largest and most sophisticated intranet systems of its kind. The knowledge manager described it as a *"knowledge-sharing system which connects globally all the firm's client service teams."* The core of the system consists of a range of dedicated databases accessible on-line, 24 hours a day, and updated four times daily. The databases contain information on the consulting experiences of the firm. One interviewee described the Xchange as *"...containing a highly*

diverse body of knowledge ranging from company methodologies and procedures, case studies of engagement and project experiences, consultant skills and locations, business relationships with clients and contact details, client presentations, research notes and client company and industry information.”

The Knowledge Xchange is based on the groupware product Lotus Notes and can be searched with the aid of proprietary software called “knowledge map”. The intention behind the system is to provide any individual consultant within the firm with access to the codified skills and experiences of each of the firm’s worldwide professionals. One manager described the usage of the Xchange in terms of “...*building best practice, not repeating the same mistakes and repeating stuff that worked well.*” Another manager described the ‘normal’ usage of the Xchange in the following way:

When you are being sent out on a project the first thing you will do is to spend a day sitting in the office working through the knowledge xchange to see if anyone has done what you’re about to do. The most usual thing you will pull down is vague information but more importantly you will get a few contacts and you can chase them up directly. I’m not so much interested in what they did but in what might have gone wrong, what difficulties they experienced and what alternatives may have been attempted.

The manager felt that variations within assignments made the downloading of ‘step by step, how to do it information’ a relatively wasteful activity. She added:

Even if I pulled down something that was very good I’d generally go and talk to who ever did the job just to get the ‘off-the-record’ comments. Realistically, from their own personal protection point of view, nobody is going to paste up on a database that they had a complete disaster. The only way you will find that out is if you talk to the guy.

Inputs onto the Xchange are tightly vetted to control for quality and avoid overload.

The knowledge manager described this vetting process as follows:

If a consultant feels that s/he has a valuable input worthy of inclusion s/he must first gain the support of a sponsor (typically a partner grade prepared to bear any cost associated with the development and inclusion of the idea). The proposal must then go through the national knowledge manager and on to the relevant regional quality integrator who will ultimately decide if the quality of the entry justifies inclusion on a database.

The main drivers behind contributions to the Xchange were seen to be at manager level. One manager explained how one's potential to make a quality contribution into the knowledge exchange is largely dictated by the length of the gap you have between projects. His view was that given adequate time, most people would like to contribute positively to the Xchange. He suggested that some consultants are better than others at making contributions and have formalised procedures for writing up and reporting their activities before, during and after each consulting assignment. Another managers expressed the view that involvement on the Xchange "...depends totally on your own commitment." While there is no formal recognition for contributions to the Xchange she explained that specialist contributions tend to facilitate networking within the firm. As a result "...by putting your name up there you increase your profile and it means that people will contact you for advice and you get to know what's going on."

Both the IT and Knowledge manager highlighted the growing problem of information overload on the system and the need for rationalisation of the content of the various databases. As will be discussed in the control strand, the firm's quality system is designed to integrate with this system by requiring the appointment of a knowledge officer in each consulting assignment whose purpose is to identify potentially useful and valuable items for inclusion on the Xchange or for other forms of distribution. While the knowledge

Xchange is the flagship of the Andersen Consulting internal knowledge management strategy, there was an open acknowledgement of its limitations. One of the manager's views on this issue were interesting:

Our firm relies heavily on the tacit knowledge of its consultants but we know that much of this knowledge is very difficult if not impossible to capture.

Other equally important mechanisms for formal knowledge sharing within the firm include the use of overlapping teamwork, team feedback sessions, company training, the formal mentoring system, quality reports and audits and an in-house electronic newsletter. Informal information sharing is constant and an accepted part of the culture of the global organisation. One manager went so far as to attribute Andersen Consulting's competitive advantage to its abilities with knowledge capture and sharing. They saw the Knowledge Xchange as vital in this capture process.

Finally, other than the vetting procedure applied to contributions to the Knowledge Xchange there is no formal monitoring and measuring of the annual or cumulative knowledge assets of the firm. The financial controller confirmed that this was not currently a concern of the formal accounting system. When asked about growth in knowledge capital, interviewees tended to talk in terms of increase in staff numbers, total expenditure on staff training or research and development expenditure.

The Control Strand

Control is a major preoccupation within Andersen Consulting in terms of maintaining existing growth and profitability levels, high quality standards and a distinct global identity for the firm and its employees. Control is achieved through maintaining a delicate balance between rigorous internal hard accounting practices and a range of "soft" control practices cumulatively referred to by a number of those interviewed as the firm's

corporate culture. When asked which was the more pervasive form of control within the firm the financial controller saw the financial control system as dominant. As he saw it

...the purpose of the firm is to make a profit and this could only be assured through the establishment of stringent financial measures which dictate the nature and extent of consulting time spent on any particular project.

This view, he admitted, was linked to the historical and continuing influence of Arthur Andersen - the accounting wing. While the accounting and consulting divisions operate relatively autonomously, they continue to share a common formal control system. These practices may change if the consulting partners break away from the accounting side. Inevitably, the hard financial control system in operation within the firm is an intrinsic part of its culture. What is unusual in this case is the balancing of the hard controls with their concern with profitability and performance with a range of softer controls aimed at developing identity, collegiality and creativity.

The financial control system within the firm is extremely rigorous. Projects are normally tendered for on a fixed price or benefits-based basis leaving little margin for error if profitability is to be maintained. A detailed computerised global accounting and costing system facilitates the weekly review of the profitability of each national and regional area. The system creates almost total financial transparency within each individual consulting project. Where profitability is not meeting expected target rates 'unprofitable' activities or inefficient project team structures can be identified and remedial action taken. The quality assurance scheme detailed below integrates with and operates in tandem with the financial control system.

Tight control is also exercised over each consultant's daily activities. Fortnightly time sheets must be submitted to the human resource department showing company time utilisation in half-hourly increments. There is a general requirement of 80% time utilisation for assistant and senior consultants. Utilisation rates are reduced to 75% for managers and

50% for partners. The HR manager explained that not all of this time needs to be billable to a specific client as allowance is made for company training and advance preparation work prior to approaching a client.

While the formalised control practices are highly pervasive and visible within the firm and represent, in one of the consultant's words, a "*hard culture of performance and accountability*", there is an equally strong soft culture in operation. While all those interviewed agreed that there was this soft side to the firm and that it was crucially important, pinning it down in concrete terms proved difficult. The merger of this hard and soft culture was what a number of interviewees termed the "*Andersen experience*." A number of the interviewees found it difficult to generalise about the typical Andersen Consulting work experience. One manager put it this way:

There isn't any typical experience of working in the Dublin office because luck determines what your experience will be. You could spend all your time outside the Dublin office or even outside the country returning home at weekends. If you end up in the States you only come home every three months. Equally, you can end up working in Dublin with the same client and interacting closely with the rest of the Dublin office. In this way it can be a very alienating job if you are one of those people stuck on a job in the middle of nowhere.

Descriptions of the firm's culture were quite diverse. One interviewee saw it as manifest in a "*strong respect for the individual*" (both employee and client). Another emphasised the "*up or out promotion policy*" with its focus on performance and "*continuous teamwork*". Another talked about "*collegiality*" (particularly in terms of an extremely strong ethos of information and knowledge sharing), "*teamwork*", "*employee mobility*" (stressing the global nature of the firm) and the "*intensive concern with ongoing training*". The size and global nature of the firm appear to be core values. One manager explained how formal company training programme typically have a good, representative

spread of nationalities with a view to emphasising the geographical spread and diversity within the firm. On the size issue, two managers mentioned the lasting impact that the physical size of the St. Charles training campus made on their mind. One went on to say “*Size is part of the culture. We’re the biggest, the best.*” The firm also has an unusual and detailed system of language that can be seen as a form of cultural identity. One interviewee described the firm as “*acronym city*”. New employees coming to Andersens with prior organisational experience appear to find this language issue a particular barrier to their successful incorporation into the firm. All interviewees highlighted information and knowledge sharing as a core feature of the firm’s culture.

A number of managers focused on the demanding work standards required by the firm. Terms such as “*working long and hard*”, “*work hard, play hard*” were frequently introduced into the conversation. The sense of work pressure was expressed by one interviewee in the following way:

It can be quite intense in that you are expected to prioritise the job over pretty much everything else. If you have a deadline to be met then that’s your priority. You can’t leave at six o’clock and go home if there is a deadline to be met. The whole thing of serving the client and delivering is important.

Within this intense work culture, social bonds were seen as important in holding the firm together. From the start, social bonding within a trainee analyst’s “*start group of 10*” is strongly emphasised during the initial socialisation process (overseas training in Chicago). These groups tend to form into a lasting though informal support group, or as one manager described them “*...a sounding board with a similar frame of reference*”. They appear to endure despite geographical separation. The firm organises a range of social events or community days for the entire office throughout the year and informal socialisation within specialist competencies and work teams is considerable.

Despite the strong overt formal controls and the pervasive impact of the firm's culture, the managers with ongoing consulting experience all expressed the view that they had a relatively high degree of autonomy in undertaking their work. One of the managers suggested that the high level of training and socialisation enables the firm to leave employees to their own devices once they have clarified the nature of the required deliverable and the time frame. On this basis she said *"OK, while I say I have a high degree of autonomy, that's within the understanding that I'm not going to do something completely out of the ordinary. We know what's going to be acceptable."*

The enforcement of the firm's culture was by a mixture of formal and informal practices. The socialisation and training system inculcated core values that were, in turn, reinforced through the appraisal and reward systems and peer pressure. One manager highlighted the subtle enforcement of the firm's culture in the following way:

The culture within the firm does not tolerate people stepping out of line or not pulling their weight. Like there's very much the culture of you'll get the smart comment if you walk out the door at half five every day. It would be expected that a body wouldn't be working only from nine 'til half five.

Leadership was not typically given too much priority as either a control or motivational device within the firm. At the regional and national operational level there is an increasing concern with self-leadership. This trend is encouraged due to an ever-expanding portfolio of expertise within the firm and the fact that each competence has a regional rather than local/national leader. This dislocation of the leadership function, allied to the regional focus of much of the work, has led to a fuzzy sense of national identity within the firm. One manager referred to the relatively informal nature of leadership in operation within the firm which she saw as in keeping with the relatively low importance attached to grade status. As one manager put it *"Grades are seen as functional in nature, there to facilitate work as opposed to enhance someone's prestige."* The firm's performance appraisal system has a

leadership section in which individuals are assessed on the extent to which they exhibit leadership. In addition, one of the core values assessed within the firm is “*stewardship*”, the extent to which you set an example to those below you and help the development of your junior staff. The existing self-appraisal system asks for specific examples of these behaviours.

Quality is also a major preoccupation within Andersen Consulting. They operate a comprehensive quality assurance system that is integrated with all aspects of their operation from strategic planning to customer practice. There is an overall quality assurance (QA) department at a regional level with a smaller support function based in each national location. Co-ordination of the quality approach is achieved through a regional quality committee. Andersen Consulting has adopted a form of total quality management which they call ‘QVS’ (quality, value and success). The system is structured around a total quality management (TQM) philosophy and ISO 9000. The system has a formal internal control function through the establishment of standards of practice and audits and integrates closely into the wider processes of financial and strategic control within the firm. While at one level the quality system has a strong formal and visible presence it also has a strong intangible nature. The quality manager’s view was that quality issues are increasingly becoming an accepted part of Andersen Consulting’s culture, a core issue as opposed to a peripheral aspect of consulting practice.

Finally, as mentioned under the knowledge strand, Andersen Consulting does not operate a specific system of knowledge asset management. The firm’s financial system does not currently take account of the value or growth rates of the firm’s intellectual capital. While there is no formal system of knowledge asset management within the firm, the financial controller referred to the range of more informal practices that address the protection of knowledge.

The Human Resource Strand

Andersen Consulting operates a sophisticated human resource system aimed at selecting quality employees, socialising and training them effectively, motivating them to attain high performance levels and retaining them within the firm if they meet the required standard. All HR policies including salary levels are defined locally and depend on local market conditions. The following quote from one of the interviewees emphasises the prevailing high concern with employees within the firm:

You do know that it's a people organisation and that it's people we're selling. All staff are now looked after and you do feel as if you are an important resource. Increasing staff turnover and strong external market forces have seen the firm undertake major improvements in its human relations strategy in recent years.

One manager, when asked if employees were the main asset of the firm, had this to say:

Well what else is there to it if you think about it? We sell people skills.

We sell content knowledge and they're all within the individual.

When subsequently asked if what was on sale was actually an Andersen approach, the manager had some difficulty separating the two suggesting that they were “...*not mutually exclusive as one can only be carried out through the other.*”

The individual components of the HR Strand are examined below under six subheadings.

(a) Recruitment and Selection Processes:

Andersen Consulting invests substantially in the recruitment and selection of its new employees. The Dublin office tends to recruit new employees directly from university. The average age of the employees is currently around 25 with female representation at around 40% of the total. Experienced employees with specific industry experience are occasionally recruited. New recruits are required to have a first or second-class honours grade one degree

and around 40% of the staff would have postgraduate qualifications. Intensive interviewing is the main selection method used. They actively seek a certain blend of temperament, attributes and ambition in a new employee. The HR manager described the ideal Andersen candidate as a good all rounder, an academic high achiever but also a good team player who has exhibited an interest in organised activities (debating competitions, university societies, etc.,) self-motivated and with the potential to be 'moulded' into the Andersen Consulting way. The H.R. managers referred to the current guide to graduate opportunities within Andersen Consulting as a good illustration of their espoused staffing requirements. The following extract summarises their espoused requirements and expectations of its new graduate recruits:

We are clear about the kind of people we need. A good degree is the first benchmark. Next, we look for the ability to think on your feet, digest detail, analyse information and spot the key issues in a situation. But above all, we need people who can put principles into practice. Team-work is essential. So is accurate communication and the ability to listen to others. We look for people with character to be team leaders and team players. Mobility is vital. ... An Andersen Consulting consultant is expected to exercise judgement and discretion and have an instinct for managing situations which are highly charged. You'll also need self-confidence, assertiveness and tenacity to convince others and complete what needs to be done (p.4)

Another manager outlined her ideal employee profile in the following manner:

Someone who is personable, (pause) intelligent obviously. Someone with a lot of stamina (a) from the point of view of the workloads and the long working hours and (b) from the point of view of difficult clients so that you wont crumble if you have a difficult client shouting at you.

She also suggested a “*certain amount of malleability*” as a desirable trait from the point of view of internal company advancement.

(b) Motivation and Remuneration Policies

The recruitment and selection process is designed to identify ambitious, self- and intrinsically-motivated employees. The nature of the work and prospects for promotion are deemed to be the primary motivators offered by the firm. Foreign engagements are also seen as an attractive feature of the job offering the potential to travel while boosting earnings. Motivation, coupled with performance, is monitored closely by the firm. Assistant and senior consultants undergo an extensive tri-annual performance assessment that is competence based and focuses on ongoing project work. Knowledge sharing is not an area considered for assessment but is informally regarded as essential for advancement within the firm. As one manager admitted “...*those not sharing knowledge are easily identified and just don't get on in the company any more.*” Ability permitting, one manager saw an opportunity to specialise into your area of interest as you advance through the firm as a key motivator within the firm.

Andersen Consulting operate a flat salary system of remuneration. No bonuses are paid and few perks are available to staff. The salary system is broadly egalitarian in that salary levels are pre-established and known for each grade up to the level of manager. For each grade a salary band is set within which there are three levels of awards. The annual salary review, which is partially connected with the performance assessment, breaks employees down into three categories (a) outstanding - 10% of employees; (b) satisfactory - 60% of employees; and (c) competent - 10% of employees with those in each of the three categories receiving marginal variations in salary increases. Money was seen by most interviewees as a motivator, but in a qualified sense. As one interviewee explained:

You don't join Andersen's for the money. It's not significantly better than anywhere else. It is, however, consistent, with annual increments

and significant opportunities for rapid promotion if you perform well.

But relative to the challenging nature of the work, I don't consider that money is a key motivator.

The HR managers explained that Andersen Consulting operate an up or out promotions policy. There is no limit on the number of promotions and so while there may be an element of competition in terms of salary awards there is no internal competition for promotion. Tough performance standards are set and expected. If an employee fails to gain promotion within a pre-established period s/he will move on through mutual consent.

(c) Training and Development Practices:

The primary learning vehicle for consultants in the firm is on-the-job learning. The firm expends approximately 7% of total global revenue annually on staff training and development. A new graduate recruit into the Dublin office will undergo an initial three week intensive IT course in Dublin. This is followed by a further three week course at the firm's St. Charles campus near Chicago. This highly intensive training programme on the fundamentals of computers is then followed by four years of ongoing core and specialist training depending on the area in which the employee is based. Subsequent training courses are undertaken at the St. Charles campus or in the firm's education facility at Eindhoven in Holland. The HR manager estimated that in her/his first five years, an Andersen Consulting consultant will have undertaken around 1000 hours of formal training. Training continues throughout the working career of the consultants. It tends to peak when a consultant is promoted or is eligible to apply for promotion and as such can be seen as an intrinsic component of the career path system. This experiential and partially mentored approach is complemented with extensive formal in-house (class-based, case-based, role plays, video-based and multimedia) training provided by the firm's senior staff. There has been a distinct shift towards self-paced computer-based training with training packages and modules being downloaded from the Knowledge Xchange.

Most training within the firm is provided and is designed to produce a uniform approach to undertaking a task thereby producing a consistent product or service and enabling cross-disciplinary and cross-national consultants to operate effectively together. Mandatory training requirements will depend on your competency base and grade within the firm and are tied in with the annual appraisal process. Further informal training is provided through a wide range of ongoing formal and informal talks, assignment feedback sessions and industry or topic presentations within Andersen Consulting which staff are expected to attend. A final form of training is also provided through the firm's mentoring system. Under this system new recruits are allocated a mentor. This individual is normally an experienced employee well up the hierarchy and acts as an informal advisor and/or career counsellor for the employee.

(d) Career Planning, Outplacement and Welfare Services:

The HR manager explained that there is a relatively formal career path to be followed by consultants. The typical career process would involve a consultant spending 1-2 years as an assistant consultant working on a number of large integration projects.; 3-5 years as a senior consultant; 5-8 years as a project manager with success at this level leading to a partnership. If an employee fails to meet expectations he or she will move on. This 'up or out' promotion policy contributes to an annual turnover rates of around 15% per annum within the firm globally. This rate varies between competencies and offices and with economic buoyancy. Another manager referred to the tendency of some employees to use the firm as a two or three year training platform with a view to getting a job elsewhere. As she explained "*we're a nice blue chip company to have on your c.v. and regardless what you have done while you're here people pick up jobs outside very easily.*" The firm appears to regard a certain level of this type of practice as inevitable and unavoidable. The HR manager stressed that Andersen Consulting does not fire employees and departures are typically amicable. Another of the interviewees described this process in the following way:

You're never turfed out. If you don't get promoted it's blatantly obvious that the company doesn't want you. The jobs you start getting put on are at the shittier end of the scale. You end up doing dull work in the office and will leave of your own accord. You will be given every opportunity to leave.

While turnover is seen as an important part of the socialisation and 'weeding out' policy within the firm, the HR manager alluded to a minor problem with exceptionally talented staff being poached by competitor consultancies who are prepared to offer higher salaries or a more attractive benefits package. The relatively rigid salary system within Andersen Consulting has been seen as hindering attempts to retain these employees. At the time of writing steps have been taken within the firm to redress this problem.

On the welfare side there is no formal stress management programme in place in the company. The HR manager saw one of the primary functions of their selection and recruitment process as the identification of individuals that "...*thrive on stressful work*." She explained that consulting work is inherently stressful and tends to attract individuals who regard such working environments as a challenge rather than a problem. The firm does place limits on the amount of overtime that can be worked by any one individual. In addition, the mentoring system is designed to identify problems of this nature before they become serious. The firm also operates a "*buddy system*" where a person a year ahead of you provides you with general practical advice. A counselling service is available at a national and global level but, to the HR manager's knowledge, "...*has never been availed of by any employee in the Dublin office*". Most interviewees did openly acknowledge the draining lifestyle of the mobile consultant. One manager described it, at its worst, as a "...*horrible and alienating lifestyle*."

The Technological Strand

Andersen Consulting operate a relatively sophisticated technological base to facilitate their consulting activities. The main infrastructure is a personal computer (PC) local and wide area network. The wide area network connects all Andersen Consulting offices world-wide. The PC working environment within the Dublin office is Windows NT with Lotus notes used as the main e-mail mechanism. All the data bases on the knowledge Xchange are based on lotus notes. When on site, all consultants are supplied with laptops. The main communication vehicle is e-mail and is operated on both the local and wide area network. The sophisticated technological infrastructure within the firm is a reflection of the technological roots of the consulting firm and the continuing centrality of systems development integration activity within the firm. One interviewee put it this way

We see ourselves at the leading edge of technological developments both in terms of our internal work practices and in our dealings with clients. While we're at the leading edge I don't think we're ahead of it. That's not our role. And the investment in training by the firm to have us up to date with the latest technology is very impressive.

While the IT infrastructure within the firm is obviously quite sophisticated it was difficult to establish clearly the extent to which the technology in use could be regarded as regulating of behaviour. The IT manager saw the primary role of the technology as a rapid support vehicle in obtaining, interpreting and rapidly transferring or sharing information and knowledge. Another interviewee saw the IT system as a catalyst for innovation, facilitating the exchange of views and experiences and “...allowing the full potential of the global firms' accumulated knowledge and experience to be brought to bear on a particular problem or set of problems.” This frequent sharing of insights and problems at national, regional and global level is deemed a normal and accepted part of the job. A further interviewee saw the technology as crucial in undertaking their consulting work. She explained how all the administrative requirements were now totally determined by the

system. Much of the information used in their work including methodologies and insights is downloaded from the system. Despite the centrality of the IT system to the core activities of the firm, the interviewee was of the opinion that the importance of the system is more a reflection of how the knowledge within the firm is structured and stored. She explained:

The methodologies on the system are our best practice, our best way of doing it. But you're not expected to go into a client and use it like a cookbook. You're expected to supplement the methodologies with common sense and your own experience. Tailor them to meet local conditions.

On this basis the interviewee felt that the technology was not strongly regulating of behaviour but, reinforcing views expressed by other interviewees, was “...*more there to support the work we do.*” One interviewee also alluded to an internal political dimension of the IT system. The IT system has high visibility status at a global level and employees must be seen to be an active user to get on in the organisation. The increasing formal and informal use of the system by senior managers was regarded as a key issue in its widespread influence and adoption within the organisation. While consultants are expected to involve themselves fully on the IT system there is no formal system of checking on individual usage and involvement.

The firm's methodologies, mentioned earlier, are the main form of proprietary technology used within the firm. One manager was critical of the impact of the firm's business process methodology which she described as “...*a step by step idiots guide to consulting no matter what piece of work is to be done.*” She felt it hindering of individual creativity but admitted that their clients were not necessarily looking for this creativity from Andersen Consulting. Quality checks are structured around ensuring that the methodology is being followed but most practitioners appear to “loosely follow” the templates. Another manager described the role and qualified usage of the business process methodology as follows:

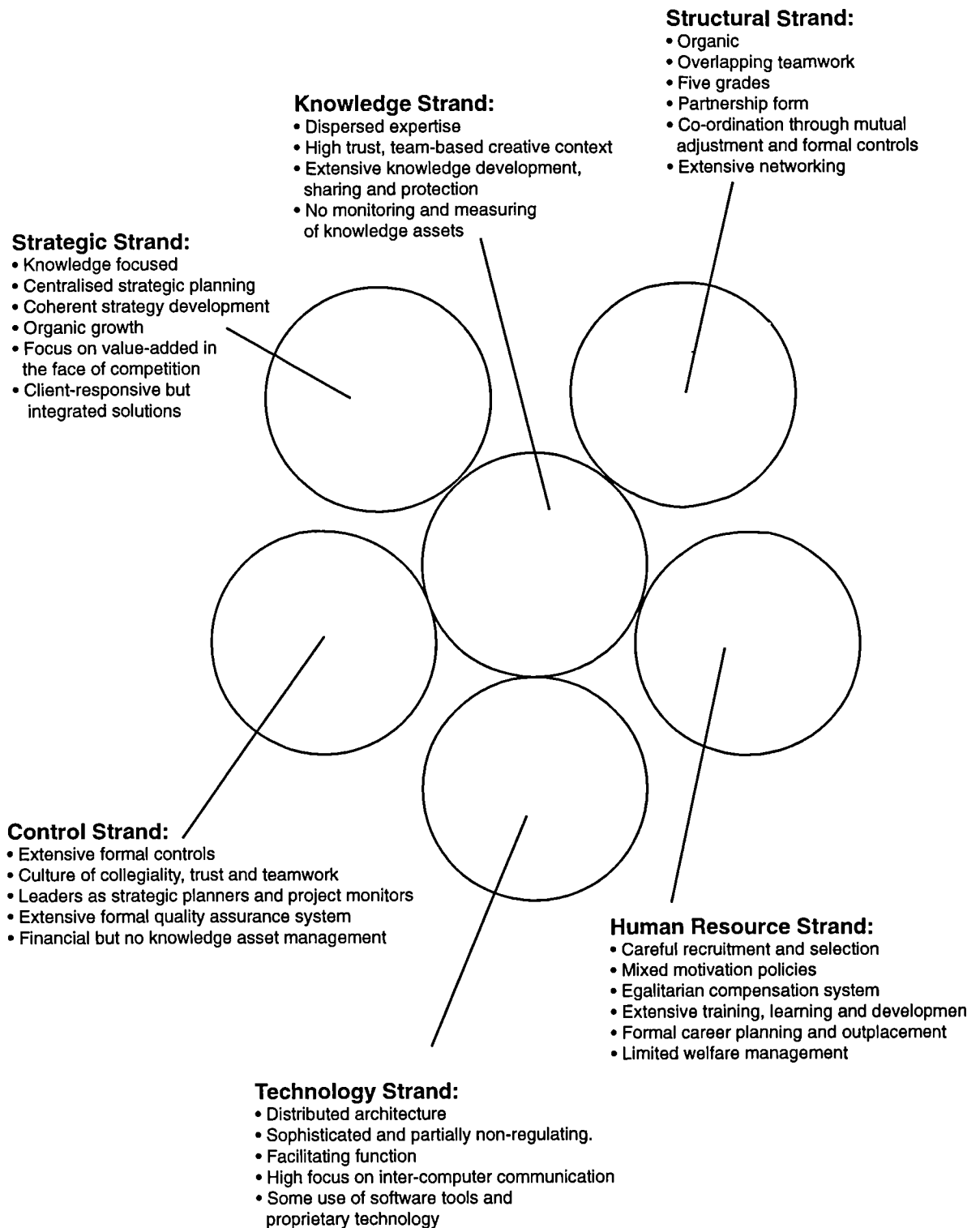
The methodology, now based on Internet explorer, is an all singing, all dancing, press buttons affair. It's used as you go through a project. When you are planning a project you would know what to do but you would always refer back to the methodology to check if you have covered all the angles or missed something as you were going through. The quality assurance person might check on whether you have fully followed the methodology but typically they are used in a relatively loose manner. At the end of the day it comes down to meeting your deadlines and if there are 15 steps that can be done in 5 then you will do it in 5.

When asked to identify the major challenge facing the IT department the IT manager, leaving aside the insatiable demand for new technology from staff, saw the dangers of information overload as the most pressing issue requiring attention. When asked if the total collapse of the IT system would be a disaster for the firm, the IT manager suggested that the collapse would represent an “inconvenience” but that “life could go on”. In her view everything on the system is in hard copy manuals or in the heads of individual consultants somewhere in the organisation. As she put it

... the IT system merely facilitates the rapid distribution and sharing of this knowledge. In many respects the IT system is simply replacing extensive leg and telephone work.

A visual summary of the findings of this case are detailed in figure 5.1. The analysis of these findings will be addressed in chapter 8.

Figure 5.1 The Six Design Strands of Andersen Consulting



Chapter 6: The Case of Centre Reinsurance

Background Information:

Centre Reinsurance (Centre Re) was founded in 1988 by Steve Gluckstern and Michael Palm. The two were teachers and initially met in Iran in the 1970s. Gluckstern was a principal of an elementary school and had an association with an English language school where Palm, a graduate in English literature from Yale with a masters degree from Harvard, headed the English department. One of their first joint ventures involved the creation of a company to plan and manage English language schools in the Middle East. The 1979 Iranian revolution saw the pair return to the US. Palm then worked in Harvard University before taking up a corporate finance post in the Bank of Boston in 1982. Gluckstern became a schools superintendent in a small rural Colorado district but then in 1981, at the age of 29, quit his teaching post and enrolled on the MBA programme at Stanford University. On completion of his MBA he had a brief job with the Wall Street investment bankers Lehman Brothers and then took up a position with a dental distribution company. During his brief stay with the dental company he was recruited by Berkshire Hathaway (headed by the eccentric Warren Buffet) to head up their reinsurance business. After six months of total immersion in the business, Gluckstern, together with Palm who had joined the company in 1986, produced a business plan for the company. Berkshire Hathaway didn't like the plan and six months later Gluckstern and Palm walked out and set up Centre Re.

Centre Re was established in Bermuda in 1988 with \$250 million in capital, a substantial capital base that allowed the company to dominate the small but growing financial reinsurance market. By 1990 the firm was reporting annual profits of \$41 million. While the firm initially grew organically it soon engaged in a number of high profile acquisitions which confirmed its leadership role in the finite reinsurance market. The company now has underwriting offices in Zurich, New York, Australia and Dublin. It also has a representative office in London that feeds business to the Dublin office. Each operating subsidiary is allocated a certain geographical area and, to a large extent, operates autonomously.

However, the relatively small size of the company and the high level of mobility between the various offices mean that the offices work largely in tandem.

In 1992 Centre Re became a wholly owned subsidiary of the Zurich Insurance Group which had held a substantial minority stake in the company since its foundation. Zurich regards Centre Re as an influential innovator and an important source of new business for the group. It is also hoped that Centre Re can have some influence on changing the more traditional Zurich style. At the time of writing, Zurich is in the process of undertaking a number of strategic changes aimed at improving the integration of its operations and those of Centre Re. It is envisaged that the core activity of Centre Re will continue to operate autonomously.

Centre Re applied a whole new set of attitudes to a traditional, slow moving and relatively inefficient industry. They brought a new quantitative and analytical rigour to the industry, one enabled though the adoption and use of information technology. This approach, coupled with a mindset of viewing information in new ways, is the hallmark of Centre Re.

The founding concept of Centre Re, one that still exerts a profound influence on the company, was that traditional insurance was not insurance at all but merely a rather inefficient financing mechanism. Insurance companies didn't take on the client's risk, they merely financed it for you, charging substantially higher premiums in the face of losses. Centre Re quickly became the market leader in the provision of financial or finite reinsurance. Standard and Poor, a major insurance rater, in awarding an AA (Excellent) rating to Centre Re and its affiliates, described the firm as "*...the world's leading finite-risk writer with a very strong reputation for providing customised solutions for insured/reinsured.*" (1996:1). Finite or financial reinsurance is designed to help companies in their risk management strategies and to improve their financial stability. Policies can be either prospective or retrospective. At its most basic level financial reinsurance is any transaction in which potential investment income is an acknowledged component of the underwriting process and where the potential liability of the reinsurer is limited or capped. Centre Re typically caps its aggregate limits at a maximum of 300% of premium. Other

innovative features of its approach include the multi-year nature of most of its contracts and its tendency to include elements of profit sharing with clients. It applies a multidisciplinary and transaction-oriented approach to the development of unique solutions to clients and is in a position to meet all the risk coverage requirements of its clients irrespective of the type of coverage required. The company tracks risk correlation to minimise the exposure of its risk portfolio to one event or type of risk. Its own internal investment portfolio is very conservative and dominated by US government securities and highly rated corporate bonds.

The company currently describes itself as a full service provider of customised reinsurance and finite risk management products but see their function constantly evolving in line with changing market demands. Reflecting these changes, in 1996, Centre Re's traditional business line, the provision of finite reinsurance to property and casualty insurance and reinsurance companies, amounted to less than 50% of its total business volume. While the firm's traditional business has continued to grow, major growth has been achieved in new areas such as corporate insurance, professional liability, residual value, environmental impairment, workers' compensation and specialised property catastrophe reinsurance. Centre Re continues to look for new products and services and is currently focusing on the rather nebulous market emerging from the increasing merger capital markets and the insurance/reinsurance industry.

The Dublin office was established in 1991 with a view to expanding the European market and currently accounts for over one third of the firm's total business. Factors deemed relevant in locating in Dublin included the compatibility of the time zone and language, the high educational levels and a 10% rate of corporation tax. The Dublin office and the representative office in London are treated as a single entity. The geographical area covered includes the United Kingdom, Australia and South Africa. All the interviews in this particular case study took place in the Dublin office. In all seven interviews were held, mainly with staff at vice-president and assistant vice-president level encompassing core underwriter, actuarial staff as well as the human resource and IT manager. As with the

Andersen interviews, comments are directed at the Dublin office but assumed to have application across the various geographical offices of the firm.

The Structural Strand

At a structural level, Centre Re can be regarded as a relatively small network of around 120 employees based in six closely interconnected offices in six different locations around the world. The Dublin/London office, with a core staff of around 30, has responsibility for the United Kingdom, Australia and South Africa. The global structure could be regarded as a flexible network of entrepreneurial companies. Within each office, a strong leader maintains strategic control largely through direct supervision. Much of the formal company documentation stresses the firm's flat and entrepreneurial structure suggesting a form akin to Mintzberg's (1979) simple structure. This point was emphasised by a number of those interviewed, one of whom highlighted the firm's non-hierarchical and grade-free staff list contained in its 1996 annual report (figure 6.1). However, behind this flat, flexible public image lies a peculiarly extensive hierarchy of grades. An examination of the firm's 1995 annual report identified 8 different grades down to the level of assistant vice-president. On top of this, there are numerous other professional and administrative grades within the firm. The core employees of the firm, internally referred to as "*officers*" or "*the production*", consists of three grades: senior vice-president, vice-president and assistant vice-president. These in turn are often subcategorised into underwriting and actuarial positions. This extended hierarchy appeared to be a point of amusement if not mild embarrassment to some of those interviewed. As one interviewee stated "*We have a fairly extended hierarchy. We tend to joke about our flat organisation!*" Despite this extended hierarchy, the consistent line among the interviewees was that in the daily operation of the firm grade was irrelevant. This issue will be re-examined under the control and human resource strands.

Figure 6.1 Centre Re 1996 Staff List.

PERIODIC TABLE OF THE OFFICERS

1 Mb Mark Baker	2 Ra Neil Almond	3 Jb Jeffrey Bowlesock	4 Jc John Carr	5 Bb Byron Bowers	6 Ab Amy Bradach	7 Dc Douglas Canione	8 Bb Bryan Baig	9 Od Olivier de Penneque	10 Td Thomas Dickson	11 Fd Fred David	12 Nc Nick Carter	13 Jc John Cross	14 Md Michael Dorph	15 Vd Vincent de Vito	16 Ld Laurent Dignat	17 Wd William Dove	18 Ed Erika Dury	19 Ga Christiane Alike	20 Db David Brown	21 Dc David Cash	22 Mc Michael Cash	23 Te Tony Epton	24 Aj Aidan Jennings	25 Cm Christina Marsham	26 Ac Andrew Coffey	27 Jd Jeremy Doyle	28 Ad Anthony Dunne	29 Gd Charles Dury	30 Ce Clifford Elster	31 Lf Louis Feldman	32 Rg Rene Graminger	33 Ah Arend Hasinger	34 Ae Ann Eccles	35 Te Tom Evansmann	36 Dc David Corbitt	37 Md Michael Dwyer	38 Tg Thomas Gleason	39 Gg Gayle Gorman	40 Sh Sybil Hand	41 Js James Shogh	42 Ot Oscar Tymon	43 Tw Teresa Wessley	44 Lg Luc Baynon	45 Ph Philip Hartin	46 Lf Lynn Finkel	47 Sg Steven Gernain	48 Tg Thomas Graham	49 Bh Brend Hamilton	50 Hk Hansborg Kruger	51 Sf Steven Fallon	52 Cf Craig Fennar	53 Tf Todd Finner	54 Mh Michael Hamner	55 Rh Robin Hamill	56 Sh Sybil Hand	57 Ah Andrea Hodson	58 Gh George Hutchings	59 Rk Rhonda Kichen	60 Sp Salma Palmer	61 Ch Chris Haisel	62 Dh Diane Harrison	63 Mh Michael Harcourt	64 Hh Hermann Heide	65 Ph Paul Haines	66 DI Dionisius Lepori	67 Bm Brian MacMahon	68 Sg Steven Gluckstein	69 Ph Percy Hemmels	70 Th Tony Huang	71 JK John King	72 TI Tara Leonard	73 DM Don Marley	74 Rm Russell McWherry	75 Rm Robert Miller	76 Jr James Redrobe	77 DS Deborah Sherry	78 Sj Shiraz Jones	79 RK Randall Kou	80 PI Philip Larson	81 TI Teresa Leighton	82 SI Stephen Lerner	83 Sm Stephen Marti	84 Pn Paul Morici	85 Wj William Jwett	86 HK Hans Peter Kuhn	87 JK Joel Kussman	88 Dr Daniel Ruck	89 AS Arlene Schindler	90 CS Christine Schuler	91 PS Phyllis Simmons	92 PS Philip Smith	93 SI Scott Levine	94 Jm Joseph Margano	95 Fm Fred Matt	96 Am Adam Mizal	97 Jm John Moran	98 Dn Diane Neppard	99 Sp Selbert Palmar	100 Jn John Noonan	101 Ap Albert Peter	102 CI Cindy Lindewicz	103 EI Ellen Lim	104 JI Joel Livingston	105 MP Michael Palm	106 WS William Scabiani	107 Cr Cheryl Rink	108 RW Richard Wesch	109 SO Smiljan Orsic	110 Fp Frank Person	111 Mp Mel Pinto	112 Lp Lee Pissament	113 Jr Jay Ralph	114 CS Cathy Syra	115 GS Gail Schiller	116 JS John Shuck	117 Rr Robert Rubert	118 Dr Daniel Riedler	119 Ap Anne Perittes	120 Mr Mike Rogan	121 EL Ellen Lim	122 WS William Scabiani	123 SS Steve Stahn	124 RS Rolf Staub	125 Rt Richard Timmer	126 Mt Michael Turk	127 Dw David Wasserman	128 MW Mick Wiczorek	129 MW Michael Wiener	130 SS Scott Smith	131 ES Eileen Sweeney	132 EV Elizabeth Ventura	133 JV John Vahogius	134 TS Tom Struppock	135 MW Marina Waser	136 EW Ernest Wilson	137 ST Sharon Shanahan	138 ST Sharon Shanahan	139 ST Sharon Shanahan	140 ST Sharon Shanahan	141 ST Sharon Shanahan	142 ST Sharon Shanahan	143 ST Sharon Shanahan	144 ST Sharon Shanahan	145 ST Sharon Shanahan	146 ST Sharon Shanahan	147 ST Sharon Shanahan	148 ST Sharon Shanahan	149 ST Sharon 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The Dublin operation, herein after referred to as Centre Re or the firm, is an unlimited company wholly owned by the Bermudan Holding Company and ultimately the Zurich group. While the company form has been chosen as the desired legal structure, one interviewee referred to the way in which the global firm tends to be run by six or seven senior management very much like a partnership.

All deals within Centre Re are carried out on a team basis. This team approach to deal analysis or, as one underwriter put it, “...*the idea that a couple of heads looking at a certain problem will always be better than one*”, represented a major change from the industry norm at the time. The norm within the traditional insurance/reinsurance industry was to have a lone underwriter deciding on the feasibility and structuring of a deal based on limited analysis. A typical Centre Re deal team would consist of the contact person in the London office, an underwriter and assistant underwriter and an actuary. The team can also draw upon accounting, financial, taxation and legal expertise as desired. One interviewee, when asked about the importance of teamwork had this to say:

It's always a team. We've got the actuaries, we've got the finance people and the underwriters and there could be a lot of brainstorming for instance on what is the best solution. You have to work as a team because the more people involved the more ideas crop up.

The representative staff in the London office play a crucial role in screening the large number of enquiries received, referring only potentially viable deals to the Dublin office for examination.

Another underwriter mentioned that their team approach was highly valued by their clients. In feedback they had received from a number of key clients, he explained:

What impressed them most is that someone you could be working with and for some reason they might not be there and somebody else would come in and they'd be just as good. They saw the team as very flexible. And it is. Everyone is very focused on what they're doing, work well together and work really, really hard.

Co-ordination within the firm is achieved through a range of formal and informal mechanisms. Work is allocated through a system referred to as triage. All incoming deals come through the triage officer who allocates work to the various underwriters and actuaries based on his knowledge of the amount of work on hand, how busy the individual officers are and on the ideal combination of staff given the nature of the problem on hand. A weekly management meeting supplemented by a computerised deal tracking system then facilitates senior management in establishing what business is on hand, what each employee is working on at any one period of time and the state of play of each deal. Further details on the monitoring system will be provided under the control and technology strands. The end of week management meeting, where all the active business on hand is examined, was regarded as a crucially important co-ordinating device. One underwriter explained its importance as follows:

Actually, we're very serious about that. We try not to miss it on any Friday. So 10 O'clock, it's the end of the working week, we'll see what we've done, what deals are close to being bound, what are worth working on but will take a while. There's a good discussion on all of the business. So in a sense we all know what everybody else is working on. It's in our interest.

Internal networking within the firm is considerable but relatively informal. At an operational level, both within work teams and, to some extent, in dealings with clients, the primary method of co-ordination is mutual adjustment (Mintzberg, 1970). This constant communication and willingness to bounce ideas off each other was identified as an important aspect of the culture of the firm. As all the production staff travel extensively, there is an increasing reliance on IT-mediated communications with e-mail seen as vital in keeping in contact with other deal team members and in maintaining close links with staff and developments in the firm's other offices. Permanent staff are encouraged to and financially supported by the firm in installing a computer at home. While on balance this was seen as a positive issue, one interviewee did mention how the firm can now "...get you at home as

well.” A more detailed consideration of the communications infrastructure within the firm will be carried out under the technological strand.

Looking to Centre Re’s external network one finds limited activity. The firm will occasionally work as one of a consortium of reinsurers but typically prefers to work on its own. This ‘loner’ strategy was emphasised by one of the underwriters when asked to explain the firm’s apparent dislike of collaborations:

We always want to do everything 100%. First of all it gives us more flexibility when the client wants to change something, maybe half-way through the contract, and it’s a lot easier when there’s only one party involved, which is Centre Re. Now there are times when a client might say “Well I don’t like putting all my eggs in one basket. I want to have two or three other reinsurers as well. So we’d go along with that but we’d almost prefer to do it 100%. When you do a lot of the work you want to keep all the potential profits.

This issue will be raised again under the knowledge strand when examining the issue of knowledge development and protection.

The Strategic Strand

Centre Re is in the risk business and its strategy is to make a return on its capital base.

One of the firm’s vice-presidents explained the situation as follows:

Basically what we have is capital. We’ve a lot of capital and we’re prepared to lend it to people - at a price.

None of the interviewees could remember the formal mission of the firm but were all uniformly clear on what they were to do. One underwriter offered his interpretation of the firm’s mission as “...to find new areas that we can make decent returns upon and provide a significant sort of value added to the client.” Another interviewee explained his image of Centre Re as a helpful and knowledgeable partner available to clients as they strive to maintain a level of financial stability in the face of the increasingly complex demands of risk

management. In so far as Centre Re is concerned, they present themselves as a “*translator*” between the market and the customer, offering to package risks in a form acceptable to the capital markets and in a creative and tax efficient way that can result in considerable ‘value added’ for the client. This translation service is backed up with a willingness to assume real risk on behalf of the client, an independent source of capital, the legitimacy and speciality services of the Zurich group and a uniquely comprehensive level of expertise aimed at providing comprehensive solutions based on the complex interplay between exposures, risk and capital (1996 annual report, p.9).

While Centre Re was clearly identifiable as the market leader in finite reinsurance in its early years, it has in recent years repositioned itself as a provider of innovative sources of capital to support reinsurance, insurance and general corporate risks. Some of those interviewed talked about the firm now being in the ‘*finite risk business*’ but saw the business as having already evolved beyond that term. These strategic moves were identified as reflecting the increasing competition being faced by the firm, the need to meet the increasingly sophisticated demands of their client base and the size and financial attractiveness of new emerging capital markets.

A number of those interviewed admitted that the strategy development process within Centre Re is largely emergent, reflecting the rapidly changing needs of the client. There was general agreement among those interviewed that it is impossible to predict where their business is going to come from in the future. Given the rapid level of environmental change, growing market uncertainty and the growing sophistication of the demands of their client base, strategic planning within the firm has, at best, a two-year time frame. While the firm has a strong commitment to seeking out and exploiting new areas of opportunity (an issue to be explored under the knowledge strand), attempts by the firm in the past to anticipate future client demands have met with mixed success. Sometimes their predictions have not transpired. On other occasions they have accurately predicted a problem but for a range of reasons, price competition being one, clients have not taken up their idea. One of the actuaries expanded upon this latter issue explaining that they can easily identify a real

risk problem but if the client doesn't believe that it's a priority for them they're not going to do anything about it. On this basis Centre Re has found it more fruitful dealing with problems brought to it by clients and is often a first port of call for clients with complex risk problems. While this would suggest an element of faddishness in the activities of the firm, the Centre Re view is that while its primary responsibility is to be highly responsive to clients' needs it does this through being an innovative market leader.

This constrained ability to engage in proactive strategic planning is not seen as a major problem for the company. Within the firm, great emphasis is placed on its ability to be highly creative and innovative when dealing with complex client problems. Their central pitch is that they will create an innovative solution to your complex problem and not try to shoe horn the problem into an existing off-the-shelf product. One underwriter stressed how Centre Re deliberately differentiates itself in the market by presenting themselves as creative problem solvers, someone to come to when the general market will not meet your needs or are charging ruinously high premiums. He explained that the firm never competes on price alone. Price is important but is only one of maybe five or six key criteria that ought to be taken into account. While admitting that he sounded arrogant, he suggested that the solutions they develop are “...*normally beyond the intellectual capabilities of most other insurance/reinsurance companies*”. He added “*We know we're better than the rest.*” This high self-concept, coupled with the persuasive eloquence of the staff in general, will be a general theme addressed further in chapter 8. The underwriter continued:

There's no one standard product that we provide. That's what happens to people who have copied or got into the finite risk or non-traditional reinsurance. They think that there are a number of products and you get this product and you sell it to somebody. And when that happens it becomes a commodity and the prices fall as the competition comes in. And we're really not interested in doing that. What we want to do is to provide unique solutions to people who have problems and that's where you get paid the best and you add more value.

One of the actuaries explained the unique nature of the firm along the following lines:

We have what few other companies have. We are willing to take risks and embrace new problems and areas once we can analyse them and get comfortable enough with them. We have sizable financial and human resources to put to work and we respond fairly quickly. Very few companies have all these ingredients. And we stand over our reputation. Clients know that if we say we can do something we will deliver.

The knowledge strand will address the core components of this creative context in greater depth and the related issue of staff selection and training will be addressed under the human resource strand.

There are no taboo areas of business for Centre Re, a point emphasised by the fact that some of the firm's most lucrative deals have come from areas where traditional companies refused to do business. The UK mortgage business is a case in point. One of the underwriters explained the mind set of the firm in the following way:

...if underwriters see an opportunity and we think we can understand the risks and come up with the correct insurance or reinsurance structure and we think we're getting the right price for it then we move. That's our job - to earn money on the capital they've given us.

This freedom and willingness to move rapidly in the face of high uncertainty is seen as an important factor in Centre Re's success. Two related aspects of this flexibility, the relatively high levels of responsibility given to staff and the control framework guiding the decision-makers, will be discussed later under the control strand.

Centre Re has grown steadily since its establishment in 1988 with an average rate of return of around 11% and return on equity at 15%. Strong capital growth within the firm has facilitated the company in funding its growth internally. While the firm made a few key acquisitions early in its history, most of the growth to date has been organic. The firm's 1996 annual report offers an integrated view of its growth to date:

Distinction and specialisation achieved through focus, creativity and discipline generate our growth. Focus on what has made us successful and a valuable partner for our customers; Creativity through relentless pursuit of new and better ways to meet the complex risk management and capital needs of our customers; and Discipline of being solution, rather than product, oriented and of practising prudent risk management and capital preservation to maintain a high degree of financial security.

Centre Re is subject to strong competition from rival insurance/reinsurance firms and increasingly from general financial service firms. This competition primarily manifests itself in terms of firms copying their solutions and offering them at a lower cost. However, this tendency does not seem to bother Centre Re too much. As explained earlier, many of their solutions are tailored to meet a specific set of circumstances facing a particular client at a particular point in time. Offering them as commodities suggests a serious misunderstanding of the risks involved and reduces the potential return to the company. As such, increased competition forces the firm to continue to innovate while strongly emphasising a partnership relationship with the client entailing substantial value added to both parties. Partnership values stressed by Centre Re include commitment, creativity, flexibility, knowledge and resources (1995 Annual Report, p. 8-9).

Due to the innovative and somewhat radical nature of many of Centre Re's activities, the firm invests heavily in marketing itself. In the case of the Dublin office, most of the marketing is carried out by the representatives in the London office, the key 'rainmakers' for the firm. Most of the marketing effort is directed at traditional insurance and reinsurance brokers. However, the firm will also bypass the use of brokers and market itself directly to potential customers. Investment banks and accountancy firms are currently being targeted with a view to encouraging them to refer their clients' risk problems on to Centre Re. While the firm does market itself through the use of advertisements in trade magazines, it primarily relies on personal contacts to gain new business. The firm also tries to be innovative in its

marketing approach. Its annual reports are used as a key marketing device with their glossy, dramatic post-modern style setting a new standard within the industry. The firm also invites its main brokers and clients to events aimed primarily at building up a relationship with Centre Re and introducing its client base to each other. These 'events' are designed to be out of the ordinary but are ultimately integrated into the activities and approach of Centre Re. Two recent examples include a workshop on integrative negotiations run by a team from Harvard University for brokers and clients and a Caribbean cruise to see the last lunar eclipse before the end of the millennium for key customers. Ultimately, responsibility for marketing the firm is seen as the concern of each member of staff.

The Knowledge Strand

All those interviewed agreed that Centre Re was a knowledge-intensive firm. However, as with Andersen Consulting, categorising the multifaceted nature of this knowledge proved difficult. One of the underwriters, when asked if the firm was knowledge-intensive, had this to say:

I'm trying to think about this (pause) It's knowledge-based in that if you look at everyone here they're all professional, highly professional and qualified in various aspects, with good experience.

Another underwriter categorised the types of knowledge used in the firm in terms of the professional qualifications and/or experience of the staff, highlighting reinsurance, insurance, finance (banking and capital markets) and law. Another classified his core knowledge as numeracy, 'soft skills' (e.g., negotiating with the client), an understanding of the players and an intuitive sense about the attractiveness or otherwise of a deal.

A consistent image that emerged from the interviews was the way the firm appeared to successfully blend a strong theoretical understanding of the market with a high level of experience and creativity in a supportive and resource rich work environment. One underwriter explained how a lot of their actions were ultimately underpinned by a theoretical understanding of market behaviour, finance and insurance but saw this type of knowledge as

useful only where used with a measure of intuitive understanding and experience. He suggested that a lot of the so called theory was implicit in their use of computer modelling. This view was reinforced by one of the actuaries who saw a lot of their analytical models as based upon relatively common statistical, actuarial and financial theory. This expertise and complexity built into all the firm's solutions remains largely hidden from their client. This strategy of removing or hiding complexity, which was presented as a requirement of the client, will be considered further in chapter 8.

The team approach to dealing with problems in Centre Re is a deliberate strategy aimed at encouraging creativity but also drawing on the different knowledge perspectives of the team members. The core of any team is the underwriter and the actuary and each is seen as contributing partially overlapping perspectives on a potential deal. One of the interviewees explained this crucial divide as follows:

So the actuarial point of view will always have a bit more of an analytical, statistical, numerical twist to it and the underwriting point of view will have a more global approach to seeing the risks involved. So the actuaries tend to get stuck in the trees and the underwriters keep the forest more in perspective.

One underwriter talked about the necessary common skills between the underwriters and what he referred to as the underwriting actuaries. On the activities of the underwriter, the interviewee stressed the higher concern underwriters would have with the 'soft issues' including relationships, the trustworthiness and reputation of the client and their business. He added:

You can do the analysis and you can do all the numbers and you can do all the models you like, but ultimately you have to be able to stand back and say 'Does this make sense?'. Because you're talking about business that will happen in the next couple of years. 'Does this intuitively make sense?' and common sense is a thing I'd like to think an underwriter has to bring to the table most of all. That with your experience you are

able to sit there, you know what's going on in the markets so you're able to say that this will this work or not or yeah the numbers look great, but he's just not going to achieve that sort of growth plan, forget it.

These partially overlapping but complimentary underwriting and actuarial roles, coupled with good team work, the encouragement of a slightly unorthodox perspective within the respective functional specialisms and the involvement of supporting financial, accounting and legal expertise appear central in explaining the success of the firm.

Centre Re, from its inception, placed a strong emphasis on the use of technology in its work. The primary manifestation of this strategy can be seen in the extensive use of computer-based models by the firm in analysing various scenarios and risk exposures. One underwriter interviewed explained how, through the use of technology, the firm had gained considerable new knowledge on the functioning of the insurance/reinsurance market. He described the historical role of technology as follows:

We were able to make a lot of money in the early years out of things that people didn't know the value of. They weren't able to analyse the value correctly and we were and we made buckets of money out of doing that. ... People would have a rough idea, you know, about how much a sort of claims might cost and how long it might pay. But what we did was to try and formalise that and say "OK, lets model all the different variables and come up with a cash flow model and let's apply some sort of risk tests to see what your profit and loss distribution might look like and what sort of returns you could get on that. It was a strange time because we found that there were a lot of assumptions held about the business that were way off. About people writing stuff that they shouldn't have been and other stuff that nobody would touch that we wrote and made loads of money out of.

Throughout the interviews, the models were consistently highlighted as vital tools by a number of the production staff but only in the context of the “*embrained*” knowledge of the production staff. One underwriter described the models as essential tools in the calculation of the probability of losing or making money on a particular deal, in deciding on the necessary level of capital allocation for any deal, in comparing the financial attractiveness of different deals and in calculating the added value accruing to the client. The calculation of the exposures becomes highly complex given that Centre Re might be manipulating up to six different facets or variables in structuring a deal in anything up to a ten year time frame. However, he also emphasised the vital cognitive input that must precede the development of a model stressing that “...*the real value is the thinking that goes into structuring the contract at the beginning.*” While the final deals do and must look simple if they are to win the client over, he stressed that considerable work goes into making the deals look simple. Another underwriter had this to say about the models:

The usefulness of the models are their ability to bring the various different concepts involved in a deal together. The actual conception of it is not that difficult. If you have a model it's just blank. You still have to come up with the assumptions. If you can't come up with the ideas then the models are relatively useless. A key part of our responsibility has to be an ability to predict the losses. So I have to look at a deal and be able to say in the next five years what potential losses might arise.

One of the actuaries was asked if the models have key aspects of the knowledge of the firm built into them. His view was that there was some knowledge built into some of the generic models used in the initial stages of the consideration of a deal. He did, however, discount it somewhat in that he considered that if he left the firm tomorrow he would not feel deprived in not having that knowledge. He went to justify this stance:

There is some knowledge built into them {the models} but it's not necessarily something like a black box that helps us in some mysterious way. It's just a tool that enables us to do a few things.

He identified the main utility of the models in helping control the quality of the results that come out of the analyses in a highly efficient manner. The control strand will examine this issue further. The network manager added to this view identifying the underwriters' and actuaries' ability to use the relevant software package underlying the analytical models as one of the most valuable aspects of their knowledge.

While the previous discussion of Centre Re's knowledge base and general business strategy would suggest a broad and expanding diversity of activities, the firm's historical expertise and reputation typically result in most business opportunities being related to the insurance/reinsurance field. This continuing level of focused expertise was targeted by one underwriter for particular mention:

I would maintain that Centre Re's competitive advantage is not the technology or all this stuff, because everyone's got that now, it's the fact that we're still quite focused, especially over in Dublin and London. Especially over here! We're still a small number of focused people and we can bring large amounts of capital with us and we can move to new areas very quickly, whereas some of our major competitors have so many other strings to their bows that they have to make sure that all the different units get to see that business first and that nobody's little territory is getting impinged upon.

The maintenance of this focus within the firm in the face of rapid change is reflected in the continuing predominance of underwriters and actuaries within the firm. While Centre Re brings a multidisciplinary approach to its work, its success continues to be based on superior analytical ability coupled with an innovative flair in the design and implementation of solutions to unique problems.

This focused approach to the use of its knowledge is complemented by careful selection of deals. Standard and Poor (1996) estimate that the Centre Re group underwrite only about 15% of enquiries received. The Dublin office will finalise a maximum of 30 deals in a year out of a possible 150 submissions that get through the initial screening by the London office.

One underwriter gave the following description of the initial vetting procedure in selecting a deal.

And so when it comes here you know it has sort of been screened once and you can get an idea about it pretty quickly. You might call the broker and talk to him about it or you might arrange a meeting with the client and talk to them about it. You get a fair idea of what you could do and what you can't do, how big or juicy the deal could be, you know, how risky it could be. And so in that way it would be kind of assessed and what we do is before our weekly underwriting meetings we actually label each deal according to workload and according to sort of probability and financial attractiveness of doing a deal.

Strict size and return on capital limits are imposed on each deal. The selection process has proved very successful to date. Once accepted, a deal can take anything from 3 months to 2 years to conclude.

The creative context within the firm is one typified by a set of interlocking factors. The staff are intelligent, numerate, highly IT proficient and self-confident. Teamwork is pervasive and the IT infrastructure well developed and user friendly. There is a high performance standards in terms of quality and comprehensiveness, an attractive and comfortable work environment and a work ethos or culture that responds to difficult and challenging work assignments. One interviewee gave details of a deal that took months just to figure out the issues involved and the nature of the problem yet alone how a solution could be developed. He explained the approach to this deal on the following lines:

And I know if I was in another organisation I would say it's not worth it, it can't be done. Whereas here, obviously, it can be done if you throw enough thinking at it and you know this is probably something that nobody has ever done before.

Another underwriter talked about a willingness to “look outside the box”, challenging long held assumptions and practices. In this sense “the box” can be seen as the prevailing market

orthodoxy with Centre Re's guiding philosophy being one of constantly questioning and reconsidering this orthodoxy. The culture operating within the firm will be given further consideration under the control strand.

Knowledge development practices are relatively informal and somewhat individualised partially reflecting the small, mobile and highly dispersed nature of the firm. The firm buys in a certain amount of its knowledge through its staff. All of the production staff are either highly qualified or experienced and sometimes both. Most would have third-level qualifications, some up to PhD level. As will be seen under the HR strand, the recruitment process is designed to identify and select those with an open and enquiring mind and strong numeracy abilities. The firm will purposely hire people with a high level of specialist experience, abilities or network of relationships that they think may be of value. Ultimately, however, given the changing nature of the business, each employee is individually concerned about the continuing relevance of their knowledge and skills. One underwriter explained the strong interest among the staff in getting allocated new but invariably less financially rewarding lines of business to assess as follows:

A lot of the new stuff we're getting into is more risky, because of the state of the market and it's not as well paid but you know it's the future so you want to get involved. Everybody here is quite conscious of the skills that you need to kind of develop and learn to get into these new areas as banking and reinsurance get closer together. You need to develop all the time.

Formal internal training as a form of knowledge development has been expanding in recent years though it is still relatively underdeveloped. As will be seen under the HR strand, the training function is tailored to meet the perceived needs of individuals within the firm. The company will meet the cost of any training need identified by an employee. As the firm has expanded outside its traditional line of business into mainstream capital markets it has had to draw on external expertise for advice and information. One of the actuaries gave as an example an ongoing course on investment banking being provided externally in the office

one morning each week. All underwriters, actuaries and accountants are expected to attend. Informally, on-the-job training is the main source of knowledge development for junior staff. All the senior staff interviewed acknowledged the importance of their roles as mentors within the firm. The team approach to deal analysis is ideally suited to on-the-job learning. Careful team selection and a deliberate matching of teams and deals ensures an ideal learning environment. Commenting on the high emphasis on knowledge sharing within the firm one underwriter had this to say:

I was amazed when I joined Centre Re. Just the attitude was so different, of taking somebody on who knew nothing but who was reasonably intelligent and was prepared to work their ass off. That they would give you a chance which you just never came across in Ireland. But the other thing I was amazed at was people's openness and willingness to share their knowledge with you. People would genuinely try and teach and I think that probably came from Michael and Stephen [the two company founders] and their teaching backgrounds. The ethos of their company was to teach young people.

There is a high level of formal and informal information exchange between the various offices and functional specialisms within the firm. All the senior underwriters and actuaries meet formally once a year. Chief actuaries meet formally 2 or 3 times a year to share information on actuarial developments and problems. This arrangement is supplemented by constant informal communication, primarily by e-mail. Lower down the organisation there is also extensive knowledge sharing and networking between deal teams within the Dublin/London office and between the various geographical offices.

The IT infrastructure and applications also play a key role in knowledge development within the firm. As will be seen under the control strand, the IT system plays a key role in the extensive formal and informal networking that takes place within the firm. The firm's e-mail and video conferencing systems are particularly important in this regard. The IT system is also an increasingly important route for gathering new information about

industries or companies. The firm provides internet access to all staff and maintains a number of external news feeds such as Reuters Insurance Briefing and FIRST. The IT system also acts as a tracking and archive system for ongoing and completed deals. An important by-product of the system is that employees can use the system as a main underwriting database. The directory structure of the IT system with deals being classified by company name and status of the deal facilitates detailed, on-line searches being carried out in any of the firms offices. These searches are typically initiated through e-mail requests for information. Each file will contain the full history of how the deal progressed, the models used and how and why they may have been refined. Finally, returning to the Lotus-based analytical models, the firm has an ongoing policy of reviewing completed deals with a view to refining the utility and efficiency of the analytical models. This ongoing applications development process thus provides a mechanism for capturing codifying and sharing new insights into deal analysis.

Centre Re uses a range of devices to protect its knowledge base. The main method used is staff retention. A measure of the success of this strategy is that the firm has virtually no turnover among its production staff despite constant approaches from head hunter organisations on behalf of established and new start-up competitor organisations. Unusually, the deferred compensation system has been recently modified to allow staff to leave and still gain financially provided they don't take up employment with a competitor firm.

One of the actuaries explained how they occasionally use confidentiality agreements with clients to prevent them from divulging the details of a Centre Re solution to a competitor with a view to gaining a more competitive price for the same solution. However, his qualification on the use of these agreements gives a good insight into the firm's general approach towards knowledge protection:

We accept the fact that the life span of a new area or a new idea is not that long and that it gets around the market eventually. That's just the reality. It's amazing. The market absorbs a new deal, a new solution, very fast and then you have to keep looking for the next one. But what

we try to do is not shout too loud when we're doing something new, keeping it low profile enough. And yet the knowledge, the news, gets around rapidly. It's amazing.

In addition, as mentioned earlier, the firm's preference to have complete control of a deal can be seen as a form of knowledge protection strategy. As the sole party involved the firm can avoid having to reveal the thinking and calculations behind their solution and gain maximum profit for their input. Where the client insists on other firms being involved from the point of view of spreading their exposure, Centre Re will engage in full disclosure. However, full disclosure of its approach to a competitor will not guarantee collaboration. An unusual story in this regard concerns Centre Re's publicised dealings with the Halifax, the UK's largest building society. Halifax Mortgage Re Ltd., the parent's captive insurance company, faced market restrictions in providing adequate loss coverage to its parent over a multi-year period. The firm approached Centre Re who came up with a highly innovative solution. Halifax, however, insisted on 50% of the contract being placed with three other reinsurance firms with a view to spreading their exposure. The underwriter takes up the story:

Then Halifax said to us "OK we like what you do. We like the product, but we don't like to put all our eggs in one basket. Can you say take 50% of it and give the other 50% to three reinsurers. They wanted to reinsure with four reinsurers, but we would take the lions share - 50%. We said that we'd prefer not but if that's what you want to do. They also said "would you guys explain to the other reinsurers what you've done, the statistical odds you've done on the actual?", which is a bit unusual, but we said "well, yeah, if that's what you guys want" So we did, we explained to - they named a number of double A and triple A reinsurers in Europe - and we spent time with these guys. But none were prepared to take the risk.

Centre Re went on to provide an innovative, ten year, stand alone programme for Halifax which has resulted in considerable benefit to both itself and the client.

When asked about the protection of their simulation models, one underwriter explained that he had asked the same question of one of the firm's senior actuaries around the time one of their staff had left the firm. He recounts:

I asked him how do you stop these guys taking our models and he said 'look the model is only a model, a mathematical model that they can replicate easily'. But he feels that that's not where the real value of Centre Re is, the model is just a tool people use. The guy leaving is not going to be able to replicate the Centre Re culture into the new organisation because they are going to say what's the answer and that type of thing. He was only one person. Now he will probably help their underwriting and thought process by trying to take some of what he learned in Centre Re, but again the thinking process is only one vital ingredient.

A recent strategy of the firm which could be interpreted as a method of knowledge protection can be seen in its efforts in 1996 to support and sponsor solutions for industry or exposure groups on a world-wide basis. The firm's 1996 annual report (p.13) identifies the pharmaceutical, mining and utility sectors as beneficiaries of these common solutions. This can be seen as a form of knowledge protection in that, if successful, its net impact is to prolong the life-cycle of the relevant solution. A final method of knowledge protection is the detailed, on-line archive system operated by the firm. While records are required to be kept for legal reasons during the life of the contract, their IT-based system, as mentioned earlier, has evolved into a detailed global knowledge database containing an extensive amount of information on markets, industries, clients, simulation models, etc. While the firm takes active steps to protect its knowledge assets, as can be seen from the previous illustrations, it has no formal system for measuring and monitoring the value, size of growth of these assets.

The Control Strand

While all those interviewed in Centre Re stressed the high level of responsibility given to production staff and how creative thinking ‘outside the box’ was actively encouraged, they all talked about the tight direct and indirect controls built into the system. Surprisingly, no one interviewed saw these controls in any way invasive or intrusive but regarded them more as aids to help then get on with the work. The control activities will be broken down into informal or soft controls and formalised or hard control. Both were influential and reinforcing.

The firm operates few overt behavioural controls. One interviewee talked about the firm being lucky in not having to put in place many formal control structures due to its small size. As he put it “you know if anybody is getting out of line”. One underwriter saw the controls as pervasive but not very visible and certainly not restrictive. He put it this way:

The controls can't be seen, as a lot of it is cultural control in that people don't want to write bad business. There are checks but they're not too structural. A lot of it is fiat rather than dictate.

A number of those interviewed talked about the culture or ethos that pervaded the firm as a central issue in determining desirable behaviour. Discussions on and descriptions of the culture were various but shared a common set of themes namely money, success, respect for staff, innovation and hard work. While the role of money will be examined in detail and qualified under the HR strand, it is fair to say that all those interviewed saw it as a core aspect of the firm. At the individual level, monetary rewards were seen to represent a core motivational factor. The following story recounted by one of the actuaries is fairly representative of the general views expressed about the importance of money, though, it must be admitted, always qualified to some extent:

I know a guy who was being interviewed by the company and I think he was asked if money really mattered and he went on with this spiel why it didn't. He didn't get the job. Money does matter it's why you're here. It's why you stay late at night. It gives you the hunger.

Another underwriter talked about the ultimate in-house individual goal of “*going the home run*”. He described this as a situation where you make \$20 - \$30 million for no risk. This aspirational goal, rarely if ever achieved in the current riskier work environment, was seen as a way of becoming a company hero, part of the company lore.

All the interviewees took pride in the successful track record of the firm and its Irishness. As mentioned above a core aspect of the culture was the avoidance of writing bad business. While deals can and inevitably do lose money given the high risk nature of some of the ventures, mistakes in terms of poor analysis or an inadequate due diligence are not tolerated. Success was ultimately expressed in terms of profits and the amount of value a deal brings to a client. The profitability of the firm was seen as an issue of some pride among the interviewees. One interviewee stressed how in 1995 Centre Re, with around 300 employees, made something like 20% of the total profits within the Zurich Group which has around 50,000 employees.

The success of the firm was seen as stemming, in part at least, from the abilities and work effort of the employees. In this regard respect for staff was deemed paramount. Staff were seen as treated fairly, well rewarded and given high levels of autonomy and responsibility. A number of interviewees stressed how all contributions are equally valued. When asked how this openness squared with the long hierarchy within the firm, one of the underwriters put it this way “*Ah yea, but if the VP is wrong the most junior person in the company will say that you’re wrong and that’s the difference.*” One underwriter explained the respect ethos as follows:

The basic ethos of Centre Re, from Gluckstern on, was to show faith in employees. If you pay them well, give them a good working environment and treat them as intelligent, they’ll work their asses off for you. And It’s true. Very few people have left.

A further important factor advanced for the success of the firm was its ability to constantly innovate. This factor had been the essence of the firm since its establishment and has already been addressed under the Strategic and Knowledge strands. One underwriter

expressed this innovative and creative potential in terms of describing the firm as having what he called a '70s culture', equating it to his perception of Apple computers in its initial entrepreneurial stages. Innovation is manifest in terms of giving people a high level of individual responsibility, a creative outlook that pays little heed to the prevailing industry standard practice, cross-functional teamwork, a general willingness in expressing opinions and criticisms and an absence of grade consciousness. The nature of the work itself forces an innovative perspective given the unique and problematical nature of many of the deals. Innovation was seen as possible only where there was a sense of high trust and co-operation among the staff. This culture of success or constrained risk taking is reinforced by a high level of trust within the firm and a willingness to experiment. Aspects of this trust and openness have already been covered under the knowledge strand. The openness was also in evidence in the freedom afforded to employees in undertaking their work. One underwriter put it this way "No-one is told how to do things. You are just given a job and told to get on with it."

Finally, a commonly mentioned aspect of the ethos of the firm was hard work. The espoused view was that you work hard when you're busy but that if you don't have anything to do you can go home. In practice, the production workers are always busy, working long hours with people rarely leaving the office before 7 p.m. Necessary research work readily fills in any gaps between deals. One underwriter put it "I have worked my ass off for them, unbelievable hours, unbelievable stress at various stages." He did, however, see his level of effort and commitment as having been equitably rewarded by the firm. The related issue of stress will be briefly mentioned at the end of the HR strand.

While soft or informal controls were most frequently highlighted when discussing issues of control, the firm does have a sophisticated set of formal or hard controls. There is no sense of formal time keeping or having to charge time and expenses to specific clients. Each Friday, all the managers review what has gone on during the past week with feedback from the relevant employees and in that way identify who is doing what, the equity of the work distribution and how busy the firm has been over the last week. One of the firm's senior

managers has responsibility for allocating deals among the staff as they come in from the London office. This function is referred to internally as “triage”. Two of the senior managers admitted that they had had little or no need to date to be concerned about either the activities or productivity of their employees. They related this to the strong levels of self-motivation within all the staff and the reinforcing function of the performance-based component of their remuneration. As one actuary put it *“People are getting paid well based on performance. If they don’t perform they don’t get paid as much. That’s a strong reminder!”* Apart from the six monthly performance reviews, the performance appraisal system is designed to pick up on those performing below par.

Despite the strong performance ethic within the firm, one reinforced through the bonus system, there is no sense of there being pressure on staff to attain a certain number of deals per year. The Dublin office has a performance target set but has easily exceeded the target each year. The focus is on writing good business, getting a small number of large deals completed correctly as opposed to a volume approach. The high component of remuneration based on organisational performance (annual bonus and deferred compensation) reinforces the ethos of writing good business. As the firm is relatively resource constrained it places a high level of importance on deal selection. As part of the detailed selection process, the firm lays down strict criteria in terms of the minimum size of a deal and minimum potential return. These financial criteria are also used in designing a particular solution and in the selection of people working on a project.

Leadership was regarded as a moderately important issue within the firm. All those interviewed brought up at some stage the colourful history of the two founding partners. These two individuals were used as a constant reference point to convey the entrepreneurial approach of the firm. However, their influence was seen as somewhat diminished due to Palm’s retirement and Gluckstern’s appointment to the board of the Zurich group. The President of the Dublin/London office was generally regarded as the main leadership figure by all those interviewed. He maintains close contact with all senior staff and is seen as adopting a challenging strategic, occasionally directive though supportive outlook on the

business. At a lower level, all the senior managers interviewed saw the leadership role as an automatic part of their daily functions. They saw the role as a relatively easy and low key one given that everyone was clear on what the firm is trying to achieve and how they are trying to achieve it. From that perspective, self-leadership was regarded as important. One underwriter saw this desirable level of freedom afforded to staff as giving rise to occasional problems in the face of conflicting work demands.

The firm also operates a sophisticated internal quality control system involving a range of checks and a process of peer review where each deal is checked by a senior member of staff who is external to the team. A final check built into the system is that all deals must be ultimately approved by the head of the respective office, normally the president of the firm. As such, no individual underwriter can commit the company to a potential underwriting liability. When asked if they saw the need to seek an external quality validation, the general impression conveyed was that there was neither the need nor the demand for such a move given the nature of the internal checks in place. One of the underwriters referred to the firm's high level of repeat business with customers as the best indication of high quality work and high customer satisfaction. There is a sophisticated accounting system in operation within the firm which shares an IT platform with a general deal tracking system. The tracking system was introduced to track the progress of individual deals and to facilitate keeping sight of the overall capital and underwriting commitment entered into by the firm. It has little direct impact on the behaviour of staff. There was general agreement among the interviewees that the formal controls in place were necessary and added to the structure of the deals.

Further control is imposed on employees through the firm's formal code of ethics. A copy of the code is provided to each employee in her/his employee manual and a signed copy given to the HR manager. The code, primarily based around EU competition law, lays down strict guidelines for employees on client confidentiality, receipt of gratuities and gifts, interests in other businesses and insider trading. One of the senior managers said that ethical issues were taken very seriously in that their reputation and standing in the market could easily be damaged. The internal controls in the firm coupled with the inability of any

underwriter to actually commit the firm financially are designed to remove any possibility of rogue trading.

A final formal control imposed on the firm concerns the monitoring requirements of the parent company and external evaluators engaged in providing the firm with a claims-paying rating. The firm has found that certain new ventures need to be considered in light of their potential to affect their current rating or parent company guidelines. While one of the actuaries made the point that occasionally they had a bit of a selling job to undertake when undertaking a new line of business generally he felt that their track record of success gave them a lot of credibility.

The Human Resource Strand

Centre Re operates a relatively sophisticated set of policies around their human resources given the small size of the firm. The system is designed so as to be broadly comparable across the different offices particularly at the level of benefits. The HR manager saw the design of the HR system stemming from the founding ethos of Gluckstern and Palm. She explained:

I think that the ethos that they [Gluckstern and Palm] worked by was that they loved to take people on who had very good brain power, who were very good at working on their own initiative, give them as much leeway as they could to progress their careers and to this end build around them an attractive system of benefits.

Most of the sophistication in the HR system is aimed at the core production staff, the underwriters and underwriting actuaries. The production staff saw themselves as “*out there, bringing in the money*”. However, the non-production staff interviewed, while agreeing that the firm was primarily and justifiably focused on looking after the underwriting staff, put forward the view that they also saw themselves as knowledge workers and an essential component of the general innovative ethos within the firm.

As with the Andersen case, the description of the HR system in Centre Re will be structured around the relevant six subheadings from the generic framework.

(a) Recruitment and Selection:

From its inception, Centre Re placed a strong public emphasis on the nature and quality of its staff. Staff are recruited based on their potential to think ‘outside the box’, coupled with strong numerical and computer literacy. While the primary qualifications within ‘production’ are underwriting and actuarial, there are also those with financial, accounting, legal and investment qualifications and experience partially reflecting the unconventional recruitment approach of the firm. As the HR managers explained

We have found that making sure that the person has a good financial background and a good understanding that way and good technical skills, is more important than necessarily knowing all the jargon. We aim for quality people like this and then train them into our way of thinking.

Ultimately, the nature of the work requires exceptional analytical and numerical abilities and this will normally result in an employee being recruited with or subsequently acquiring relevant professional qualifications. An earlier experiment with recruiting employees with a non-financial background was not regarded as a total success. The firm will recruit either new graduates or experienced staff depending on perceived current or future requirements. Experienced staff can be appointed directly at officer level depending on their level of skill and expertise and level of contact in the relevant industry. Due to the highly specialised nature of some of the vacancies/openings the firm will switch between using a recruitment agency and advertising directly themselves. The average age of the employees is around 30.

Recruitment is based on an intensive interviewing process with a range of staff within the firm becoming involved in the process. On the production side, the HR manager stressed that a huge effort is made to ensure that the right person is taken on board. Desirable features of a new recruit included fitting into the work environment, flexibility, ability to work on their

own initiative and self-motivated. Two of the underwriters thought that their recruitment procedures ought to be more sophisticated but admitted that, in general, existing practices were working very well.

(b) Motivation and Remuneration Policies:

The role of rewards was heavily emphasised during discussions on the topic of motivation. For non-officer grades including administrative staff, remuneration consists of a basic salary and an annual performance bonus of up to 10% of their salary. For officer grades (assistant vice-president and above), the remuneration package consists of a basic salary, a performance bonus that can exceed 10% of their salary based on both individual and overall company performance and a system of deferred compensation involving options on parent company stock. The total benefits package would be regarded as very good by Irish standards. None of those interviewed were prepared to give a figure for their total annual remuneration despite gentle probing. One of the underwriters had this to say “*The money is good to be honest but it’s not sort of retire at 35 stuff unfortunately*”. In this sense the remuneration system is not egalitarian in that individuals do not know the remuneration levels of their co-workers. The HR manager described the system as “*discrete*” and saw the design of the individual bonus system as one of the reasons for this secrecy. If it was openly known that someone did not get a bonus due to poor performance than this could have a major demotivating impact on the poor performer.

The HR manager explained how the salary levels are reviewed each year based on an industry survey of the relevant grades and specialities. The salaries paid would be at the higher end of the industry average. Differing remuneration levels was put forward as one explanation for the extended hierarchy that exists within the firm. A number of those interviewed stressed the view that one reason for the success of the company was the active policy of making sure that high remuneration levels go right throughout the organisation. Those that help run the company and put business on the books are well remunerated for

their effort. One underwriter went so far as to suggest that one of the central factors underlying the success of the company was the “*selflessness of management*”.

The direct remuneration package is supplemented by an extensive benefits package paid for by the firm. The HR manager described the impact of these benefits as “...*the creation of a very comfortable working environment where people can get on with their work.*”

The HR manager described the firm’s motivational policies as very much a “*mixed bag*”, involving an attractive remuneration package, varied, challenging and responsible work and a comfortable work environment. While money was mentioned as a key motivator by all those interviewed, this view was always qualified. One of the actuaries stressed the importance of the nature of the work in motivating staff putting it as follows:

I think people join a company like ours for the diversity. The culture is not just trying to maximise your income. I think people would not stay here if that was the only issue. Most people find that the environment here provides them with the most challenging set of responsibilities that they can find given where they are in their careers.

This view was reinforced by one of the underwriters who put it this way “*Oh yeah, you wouldn’t do it always for the money. You have to enjoy your work*”. Another underwriter was at pains to stress the crucial role of money in motivation but in the end admitted that the work variety was important in terms of maintaining the ‘edge’. His views are self-explanatory:

I think the work is also crucial (pause) if you reach a stage where the hunger goes it’s your own fault. Like if you go ‘shit, I’m fed up doing this!’ well then the onus is on you to go to the boss and ask to get involved in an area that you are interested in. You will be facilitated.

One unusual motivating factor that emerged during three of the interviews was an element of national pride. One of the underwriters put it this way “...*but one of the things*

that was always the pride factor among the original people here was the idea of creating a winning Irish company and creating good jobs for people. I think we've done that."

Promotion, given its linkage with higher remuneration, increased status and added responsibility levels within the firm, is deemed an important motivator. The firm has not imposed a limit on the number of vice-presidents that can be appointed and this provides a continuing promotion outlet for staff. Given the low levels of turnover, promotion to senior management within any individual office is limited. However, the firm has ongoing plans to open up further new offices providing new senior level vacancies in the longer term.

(c) Training and Development

On-the-job training is a core activity with the firm and seen as the main learning and socialisation vehicle of new or less experienced staff. The team approach used in undertaking deals is an ideal device to facilitate this learning. The open-door policy and generally high levels of mutual adjustment in the firm also means that problems and issues are freely discussed and examined in a highly collaborative work environment. Formal staff training and development is in a relatively undeveloped state within the firm. The HR manager's view on this is that the small size of the firm coupled with the highly dispersed and specialised training needs of the production staff and their demanding workload and travel schedules has militated against a coherent organisational-wide programme. One could suggest that essential training in respect of core 'production' activities is outsourced through recruiting people with relevant professional underwriting, actuarial or financial/accounting skills. Those recruited from other professions will normally pursue the most appropriate professional qualification with the support of the firm. Within the firm, IT training is the most developed. All staff are fully trained on the lotus software environment and refresher courses are provided when system upgrades take place. New underwriters and actuaries attend '*Centre Re University*', a formal six to eight week intensive course which socialises new employees to the Centre Re way. Occasionally, the firm will run a course within the office if it considers its knowledge and understanding of a particular market or technique

deficient in any way. Beyond that, training tends to be provided as actual or perceived needs arise. Individuals are fully supported in meeting their perceived individual training needs through either in-house assistance or more normally through attendance at an external course. Training issues are a major focus in the appraisal system addressed earlier under the Control strand.

(d) Career Planning, Outplacement and Welfare Services:

The obvious career move within the firm is to become an 'officer' in the production area with the attendant financial, status and job enrichment attractions that accompany that position. Promotion is based on merit. Outplacement is not an issue of concern to the firm in that its staff numbers are low and turnover virtually non-existent. The Dublin office lost one IT person last year as a result of "*buoyancy in the IT market*".

While only a relatively small number of contracts are underwritten each year and senior management ultimately have to approve and sign off on any risk exposure, employees appear to undergo sporadic periods of extremely high work pressure. Periods around the conclusion of a deal were identified by a number of those interviewed as particularly stressful. The high travel requirement associated with the work was also identified as a key stressor within the firm. One underwriter talked about the excitement of his early years in the firm working 12 hours a day, six days a week. He admitted that his work had become his life and found it difficult to draw back from work demands. Overall, however, allowing for relatively predictable periods of intense work pressure, all those interviewed admitted that they enjoyed their work. The firm is aware of work stress and sees the creation of a helpful and relaxing work environment as a key strategy in tackling this problem. The selection process does try and identify those that can cope well with stress. In addition, the funding of sport club membership for staff is also seen as important in managing stress levels.

The Technology Strand

Centre Re has always placed a strong emphasis on the use of technology in its work. While the analytical role of technology in the firm has already been addressed to some extent under the Knowledge strand, it is the intention in this subsection to consider the broader symbolic and facilitative roles of this technology. As the level of technological diffusion and analytical sophistication within the insurance/reinsurance industry has increased substantially in recent years the ability of Centre Re to differentiate itself on the basis of technology has lessened. One interviewee explained it thus:

So yeah, technology, technology to me used to be one of our competitive advantages. I would have put it in with our other key factors, flexibility to move very quickly and a dedicated team. I would have put technology in a couple of years ago but I think a lot of people have caught up.

The IT department within the firm is divided into two specialist areas: infrastructure development and maintenance and applications development. The latter issue has already been explored under the Knowledge strand. Focusing on the infrastructure side, the firm operates a local area network for each office and a wide area network connecting each of the five geographical locations and the parent company Zurich and its other subsidiaries. A common PC based technological architecture is used across all Centre Re's offices. All business is carried out in the English medium. The system is designed to enable any employee to access all the information they need to undertake their business in any of the firm's offices and from remote locations. As the network manager explained:

We have it down to the level that someone can log off a P.C. here in Dublin, go to New York office, log in there and have their desk top the exact same way they left it when they left here.

While the firm does as much as is possible to maintain the security of the IT system from external interference, internal access is totally open. The network manager saw this as a deliberate design feature present from the inception of the firm and an indication of the high levels of trust with which the employees are held.

Most of those interviewed saw the IT system as relatively sophisticated. However, there was not as much clarity over the questions as to whether the technology was regulating of behaviour. This issue brings us back to the nature and role of the analytical models discussed under the knowledge strand. All the 'production' workers saw the technology as vital in undertaking their analyses given the sophistication and flexibility required and the time constraints but again all stressed the view that the technology was merely a tool. The embedding of target returns and size limits into the generic models could be seen as highly regulating of behaviour but this was not stressed by any of the interviewees. The awareness of management to the potentially damaging impact of technological regulation can be seen in the abandoning of an imaging pilot project aimed at reengineering workflows within the company. The project was abandoned when it was discovered that the system was imposing a rather rigid and unrealistic structure on the flow of information around the company. The new pilot system was found to be hindering the dynamic and spontaneous information flows that are the life-blood of the firm. Overall, the main emphasis put on the role of IT was of an enabling function facilitating analysis, information gathering and general communications.

The role of IT in facilitating communications was stressed by all of the interviewees. The use of e-mail both within the firm and increasingly with clients was extensive. The role of e-mail in terms of networking, gaining new information and simply staying in contact when on the move has already been mentioned on a number of occasions. The network manager says the provision of e-mail as one of their most important functions as, in his view, *"...if there's no e-mail, all of a sudden you cant work."* If an employee requires company information or documentation while away from the office remote access is also provided. The IS department also maintain a video conferencing system which uses a dial-up ISDN line. The system is mainly used for the Friday meeting between the Dublin and London office but can be used to communicate with the other Centre Re offices or Zurich HQ.

The IT system also supports the firm's control function through the provision of a deal tracking system which is, in turn, integrated with the accounting and HR systems, all of which share a common platform. Its information gathering role through e-mail, connection

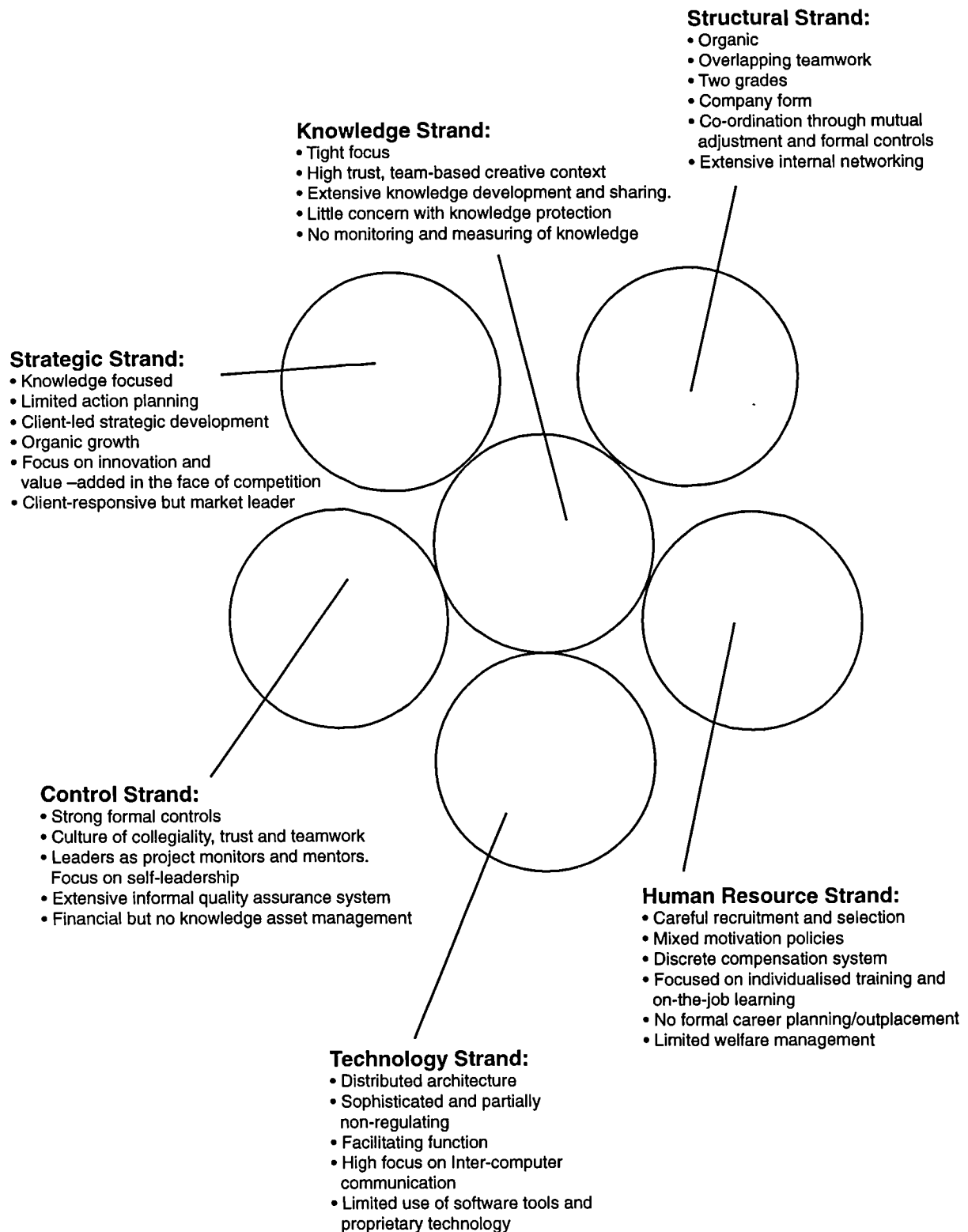
into dedicated information service providers and internet access has already been covered under the Knowledge strand. The IT department are also charged with ongoing technological infrastructure development. The network manager explained this role as follows:

The attitude the company has towards technology is that we want to be up there. Not at the bleeding-edge but at the leading-edge. So the IS department is certainly encouraged to go and seek out things that make the whole infrastructure work better.

The main software tool used is Lotus Notes focusing on the shared use of Lotus 123 spreadsheets. The actuaries and underwriters are able to use the flexibility of lotus spreadsheets, sometimes up to 10 megabytes in size, to rapidly develop sophisticated time-based scenarios that can be easily shared and compared. As one interviewee pointed out “...spreadsheets have the great advantage of being usable by a large number of people and you don’t have to be a rocket scientist to understand them.” The use of a number of pre-designed generic models or spreadsheets mentioned under the Knowledge strand as a starting point for deal analysis is aimed at improving efficiency and ensuring a greater level of quality control over the initial design of the spreadsheets.

A visual summary of the findings of the research is presented in figure 6.2.

Figure 6.2 The Six Design Strands of Centre Reinsurance.



Chapter 7: The Case of Baltimore Technologies

Background Information

Baltimore Technologies was established in Dublin, Ireland in 1976. The founders of the company were a group of post-graduate students from the Mathematics Department of Trinity College Dublin. Its initial focus was on the development of proprietary solutions in the area of cryptography and group mathematics. The firm had a relatively unremarkable performance for the first twenty years of its existence. In November, 1996 the firm was the subject of an external buyout led by the existing Chief Executive, Mr. Fran Rooney and Mr. Dermot Desmond, a renowned Irish international financier. Rooney, with a strong background in information technology, had joined Baltimore from International Investment and Underwriting Ltd., where he had been responsible for identifying and analysing technology sector investments. He quickly recruited a new senior management team and set about developing the technical, marketing and sales plans. Within months the firm had repositioned itself into a global and leading edge developer in information security. The firm now has a global reputation as a developer of public key infrastructure products and security systems for email, web and electronic commerce. Its current focus is on the development of sophisticated cryptographic and client authentication systems. The firm is highly regarded and has won a number of domestic and international awards for its management and product innovation. Examples include the Irish National Innovation Award, 1998, the Irish Software Association Company of the Year, 1998 and the Institute of Chartered Accountants Growth in Business Award, 1998.

Baltimore offers to protect what they see as a firm's most valuable asset – its information – and so enable companies to fully leverage the benefits of today's electronic society. In their publicity material they stress the increasing threat of fraud, eavesdropping, data theft and unintentional or deliberate data corruption by outsiders in this new global culture of electronic information exchange. To this end, Baltimore has developed a range of standardised and highly customised information security solutions for clients. The firm provides a complete family of products and services aimed at securing business conducted

through computer networks whether for internet, extranet or intranet applications. The range of solutions they offer include programmer and protocol toolkits, plug-ins to secure electronic mail systems, certification authority systems, trusted third-party services and a range of consultancy and training services around the provision, installation and extension of the firm's security products.

The firm is currently based in a diverse range of industry sectors including Government, commercial and non-commercial public sector, financial, manufacturing, legal, educational, telecommunications and healthcare. It operates in over 40 countries world-wide and its global customer base includes the Irish Government, the European Commission, the UK National Health Service, the Australian tax office, ICL, Hewlett-Packard, Digital Equipment, IBM, Amway Japan, Ericssons, Lehman Brothers and the Bank of Ireland.

In 1997 the firm experienced a rapid increase in sales and staff and has continued with this level of growth in 1998 and 1999. One of the managers interviewed explained how he had arrived in December, 1996 to a firm of seven staff in one office. The firm now has around 90 employees based primarily in Dublin. It has eight overseas employees in representative offices in London, Boston, San Mateo, Amsterdam and Tokyo and has plans for major and immediate operational expansion in the US and the Far East. The firm expects to have around 150 staff in the Dublin office in six months time.

Interviews were undertaken with five employees in the functional areas of professional services and product development. Two of those interviewed were senior managers in the firm both of whom had been involved in the firm for a number of years and had been heavily involved in the external buyout and subsequent re-launching and strategic repositioning of the firm. The other three were experienced technical staff. Towards the end of the interview process in Baltimore, the firm was the subject of a reverse takeover by UK software firm Zergo. The subsequent interviewees were completed on the basis that the take-over had not taken place. This was facilitated by the minimalist changes undertaken in the Dublin office post take-over.

The Structural Strand

In the Dublin office, the operations of the firm are structured around four main functions nominally referred to as departments (product development, professional services, strategic business solutions and sales) with a senior manager in charge of each function. Product development has around 25 staff and specialises in the development of new products and the ongoing upgrading of the existing product range. The 10 staff in professional services are engaged in the provision of technical consulting, training and educational activities and technical and sales support. The sales department has around 15 employees and is involved in the marketing, sales and distribution of Baltimore's products and services. At a structural level, Baltimore has the appearance of a small functional structure. However, the firm actually operates in a highly flexible and cross-functional manner. The operational background of many of the firm's middle and senior management, coupled with a lingering culture of a start up enterprise, tends to result in a multiskilled and flexible approach to work within the firm. Despite being allocated responsibility for specific functions such as sales, marketing or technical support, one tends to find constant informal interaction between all the staff. The small size of the firm has facilitated this approach. As one manager put it

Everywhere here, everyone will probably have an opinion on almost every one of the topics that you are about to introduce. In a sense we are all multi-skilled though this can be a problem.

One interviewee argued that the firm was not tied up on titles and so what one did was "...pretty much determined by one's ability." He referred to a "loose hierarchy" operating within Baltimore, under which lay a "mesh" or "matrix" with projects overlapping functional areas and employees within these groups reporting to a number of different managers. He saw this flexible and multiskilled set of practices as a function of the company size for, as he explained "...in a small company everyone can be an interface with everyone else." Another interviewee described the firm in the following way:

It's pretty much a free for all around here in some respects. Everyone knows what they are supposed to be doing and tend to just do it and if it goes well, great, and if it doesn't, well, we just have to live with it.

Imminent operational expansions in the USA and the Far East will add a network dimension to this relatively unsophisticated though organic structure.

The Chief Executive has a very hands-on approach to running the company and has around twelve key personnel reporting directly to him. The vice president manages the firm's marketing, strategic product and business development functions but the managers in charge of these functions regularly report directly to the Chief Executive. A number of interviewees saw the need for a more formalised or structured approach to the management of the firm as it continues to expand rapidly. In keeping with the norm of the software industry, there was little emphasis on grades within the firm. On the software development side there were three main posts of responsibility. Team leaders are responsible for the development of a particular product and are nominally in charge of a number of developers. Team leaders in turn report to the development manager. On the professional service or consulting side there are two grades, the section managers and those who work for him. A similar situation prevailed on the sales side. All interviewees described the firm as relatively flat at the moment with little or, at most, nominal recognition of grades and seniority across the firm. The legal structure of the firm is that of a private limited company.

The company is very team oriented with all projects being undertaken on a team basis. Team sizes varied depending on the nature of the project or issue under consideration. There was general agreement that the concept of teamwork within the firm was an informal one. One manager expressed it this way:

People just get drawn into issues that arise and an issue could be something as simple as a conference call with a corporate customer in the States and we would need to draw together people from the different areas within the company.

Another manager gave the following view:

What I'm saying is that this isn't a company where you sit down, put on the headphones and just work away. Day in, day out you work with people and you are expected to bounce and feed off people constantly.

Co-ordination is partially achieved through the functional design of the firm which can be crudely divided into pre and post sales. The managers in charge of each individual department task the employees, monitor their progress, ensure they get paid for their work and liaise with the other departments such as sales or product development where necessary. An operations manager ensures that issues get due attention and do not fall between two stools and follows up on a wide range of operational issues such as staffing and accommodation across the departments. There is no formal tracking system to monitor projects but within the software development and consulting sides there is an insistence on the maintenance and regular review of thorough formal documentation. One manager referred to the importance of the product managers who fulfil a conduit function within the firm acting as a central channel through which people co-ordinate and communicate with each other. Their role will be returned to under the knowledge strand.

The senior managers in charge of each department communicate with each other but on an informal and ongoing basis. One manager suggested that these contacts tended to be project focused and irregular. He argued that there was no need for the top team to sit down and carry out post-implementation reviews as any lessons in terms of what went well and what went badly have already been learned and informally disseminated around the firm. This informal dissemination takes place at the level of the team. The team will review performance and collectively identify lessons to be learned from any particular problem. This information is then discussed at the level of team leader and, in turn, is passed on up to senior management. Senior management will occasionally become actively involved in the process but normally only upon request from lower down in the organisation. These discussions were presented as normal and everyday occurrences. The knowledge strand will explore this issue further.

In terms of internal networking, there was general agreement that the firm needed to operate as a single entity. The professional services manager saw his department as playing a key integrative role within the firm. His department integrates with the sales people in terms of providing necessary technical expertise to deal with customer enquiries. They are also involved with sales in the pricing of a project in terms of manpower requirements. They have a two-way relationship with the development department. They provide the development people with constant customer feedback acquired as they support the use of the software. This feedback provides information on bugs in the software or on desired added functionality. In turn, the development people provide the professional service people with necessary technical information for the installation and modification of the firm's products and for use in client training. The development people also advise them on any planned product development information that the professional service people pass on to the client encouraging future demand. Due to the technical nature of the product, professional services also support the marketing function of Baltimore, writing brochures and magazine articles and attending conferences.

Co-ordination between departments is formalised only to the extent that a request has to be made on a service form. One of the professional service managers explained the process:

A service form from the sales department could ask that someone from professional services needs to go to such and such a bank in Germany to install a certain product and provide 3 days of training and do a report on what they need. It is then a matter for the professional service manager to allocate the job to the most suitable and available member of his team.

As part of ongoing restructuring, efforts are underway to integrate the accounting system into the operational tracking thereby ensuring that relevant costs are allocated to appropriate cost centres.

The firm's external network is extensive. The firm frequently works in collaboration with the big five accountancy firms in a range of different countries. The firms with which

Baltimore is most involved with (in order of importance) are Price-Waterhouse, Coopers; KPMG, Andersen Consulting, Ernest & Young and Booze, Allen & Hamilton. Baltimore may be invited to become involved in an IT project directly by the consulting firm on their own initiative or the consulting firm may have been contracted by the client to identify and involve an expert in the information security area. The peculiar relationship Baltimore enjoyed with the big consulting firms was outlined by one of the managers in the following quote:

With those big companies you can be into them in so many different ways that they may not be aware of it themselves. And then again you can find that you can be directly competing against them.

Baltimore undertakes extensive partnering arrangements with a wide range of firms. Existing alliances in the information security technology and services market include Axent Technologies, ICL, Logica, Isocor, Kyberpass, Netscape oracle, Hewlett-Packard. One of the managers explained their approach to alliances as follows:

Basically we will partner with anyone who seems to represent a good fit. If they are a software company and want to take one of our products, add value to it and sell it on. Or it could be someone in the data security area that we feel have a good complementary product set and we will partner with them. At the end of the day you only partner with someone who will sell for you. So you will sign up lots of these people, I think we really have around three productive ones. And they're great.

The issue of necessary knowledge/technology protection in partnership arrangements will be addressed later under the knowledge strand. While the firm will partner widely they do not buy in expertise in terms of developing their products. The firm also recently launched a *PKI Technology Alliance Programme* aimed at fostering co-operation amongst the different solutions providers to ensure the development of a low cost and open industry standard thereby ensuring the ease of product deployment and the rapid development of the market.

The Strategic Strand

The firm is totally focused around cryptographic knowledge reinforced and complemented with mathematical and information science knowledge. It sees itself using this knowledge to develop information security products. One manager described their activities as different from the norm of consultancy work in the information security field. He explained:

If the client wants to buy a product out of a box he or she can. But if you want to wrap all sorts of additional services around the product, we can do that as well. So, in a specific area, we are in a position to do a whole range of things even if it's just to stand up and talk.

Consultancy services such as training and the design and implementation of integrated security services were seen by two interviewees in terms of applying the firm's core knowledge complemented by vital industry experience. These services were estimated to be providing around 30% of the firm's total turnover.

All aspects of the firm are undergoing radical upheaval due to the rapidly evolving nature of the information technology/e-commerce market and of the needs of clients in terms of information security. The firm has no formal mission statement and does not currently engage in formal strategic planning. One senior manager interviewed saw the current pace of change within the market rendering such a formalised approach irrelevant if not potentially harmful to Baltimore's development. Every few months the top management team sit down and spend a few days discussing where the firm is going. One manager put their approach to planning this way:

We have a general plan but it changes a lot. You simply can't have a plan which says that this is the way we will be going for the next six months. The pace of change in the market renders this approach irrelevant and dangerous. We're lucky. At least we do have a vision which can see out six months but we will probably change that in four to eight weeks time.

One of the senior managers explained how their informal vision of where they were at had changed considerably over the past 18 months. They have moved from seeing themselves as a quasi-legal trusted service provider, to a provider of desktop commercial data security or encryption systems, to a provider of sophisticated programmer toolkits augmented by training, professional advice and the certification system at the top. As the vision has evolved, based on hard commercial experience, the firm has reconsidered its role as a developer of end-user application and now largely confines itself to the provision of tailored solutions for large corporate clients.

When asked why the firm was so successful, one manager put it this way:

We know the market. We know who the leaders are and we know where we fit within that and we know where we want to be. We want to achieve a dominant position or as much of a dominant position as is available. It's an arrogant strategy in some respects but we see it as there for the taking and so why shouldn't we. It's as simple as that, particularly when you know you can back it up by saying our stuff is better.

The growth rate within the firm is phenomenal and described by one experienced manager as “*manic*” and “happening at a rate he did not consider possible”. Two of the managers interviewed considered Baltimore to be the fastest growing software development company in Ireland. The rapid and continuing growth in size appears to come from a number of related sources. One manager talked about how evolving relations with clients are driving company expansion. The number, size and complexity of client problems demand more staff. Clients now have high expectations of Baltimore and Baltimore needs more and better staff to meet these expectations. Another manager talked about the firm “*attacking the globe*” and “...*requiring significant resources everywhere you have a presence.*” Another interviewee talked about the complementary issue of being top dog in the industry. As he put it “*Top dog means that you need to be big and able to take control of very large projects.*” He added:

The people who invested in this company, it would be my contention, don't believe in coming second. They want to win and will instil that

ethos in anyone who works in the company. It's one thing to spend two years running around saying that we are going to be the best or are the best. You have to deliver on that or people simply get bored with the clichés after a while and to that end we are expanding overseas and recruiting and recruiting and there will be no let up on that.

Competition is an ongoing issue of concern for the firm. The firm found it difficult to quantify the size of their market or the extent of their market share as the e-commerce market keeps expanding so quickly. Two interviewees also talked about the difficulty of positioning oneself against a competitor who is also changing constantly. The rapidly changing nature of the industry and an inability to predict main competitors' moves has pushed Baltimore in the direction of stressing its own superior merits or outstanding competencies. One manager stated these as:

Best in terms of technology. Best in terms of product suite. Best in terms of professional services. The only company to take part in the digital signature of an international agreement. Stuff like that. Poetic licence if you like but its important to get the firm thinking about its strengths on its own right and away from thinking about them in terms of your competitors strengths.

Baltimore also puts a strong emphasise on the European and Irish nature of the firm in its competitive strategy. The prevailing view expressed was that European firms were fed up dealing with US software houses and Baltimore was exploiting this sentiment. The Irish angle is particularly exploited, as one manager explained:

In general terms in business in Europe, Europeans are favourable disposed towards the Irish. In business terms we never killed any of them and that's a pretty strong card to play.

One important qualifier on the nature of competition faced by the firm was made by one of the senior managers. His own words adequately express the point he was making:

Particularly in this industry and possibly in the chemical industry as well, the extent to which true competition takes place is questionable. There is a lot of competition obviously, there has to be, but there is also a very high level of collaboration. There is a sense in being in a game. It's not the same as producing widgets and hoping nobody else finds out how you do it. You know you have to know what the other guy is up to in a very close way.

This issue of industry openness and collaboration will be returned to under the knowledge strand and, at a more general level, in chapter 8 when considering KIFs at a community level.

Marketing within Baltimore is currently confined to the web and considerable effort is invested in the development and continual refinement of the firm's web site (WWW.Baltimore.com). The firm engages in extensive tracking and analysis of visitors to its website. Beyond the use of the firm's web site marketing is seen as the responsibility of all staff, though the professional services and sales department take a leading role in the process.

On the potential charge of being faddish, most interviewees saw the firm both setting and following the market. In the information security industry academia appear to be influential in establishing broad standards that all software providers must meet. This is particularly true on the issue of certification. Baltimore's approach to standards is complex. Ideally, Baltimore would like to be in a position to set a standard itself. If it can't set the standard itself, then the firm likes to have a forceful and full participation in the establishment of an open standard. Once a standard is set, Baltimore will try to be first to the market with a product that meets these open group standards. It will then try and improve upon these standards by coming up with a more sophisticated implementation than anyone else. An example of market leadership mentioned by two of the managers is Baltimore's adoption and application of JAVA into its information security products. Overall, the view within the firm was that academia, as opposed to commercial market developments, set market standards

and the issue became one of who was going to be first to market with a product that meets the new standard and the level of functionality within the new product. There was a clear sense among those interviewed that this cycle of ever changing standards was seen as accelerating

The Knowledge Strand

All the interviewees saw the core knowledge base of the firm centred around cryptography, mathematics and information science, at both the level of theory and application. When asked what constituted the core knowledge of the firm, all the interviewees focused in on Baltimore being a body of expertise rather than a body of knowledge. One manager described the firm in this way:

It's [the firm] a body of expertise rather than a body of knowledge. We don't know anything that isn't in the public domain. But it would take somebody a very long period of time to digest this vast amount of information. We've people who have a body of expertise in this area, they understand this stuff really well and they follow developments in this area really well.

Another manager added to this differentiation between knowledge and expertise as follows:

Someone can have technology knowledge indicating a certain theoretical capability in relation to the topic. But this would fall short of the capability of someone who has expertise based on the argumentation of their knowledge set with practical experience of the implementation of a technology.

This expertise was seen as based around the development and application of information technology-based cryptographic security systems. The interviewees all saw the firm's core expertise as concentrated in the development and professional service departments. One manager explained:

The developers understand the mathematics and the standards to a very detailed degree and the PSD people are experts in the subject as an information topic. For example, our senior cryptographers are very good at implementing quality cryptography based upon open standards for generic security services. Our PDS people are weak at the bits and bytes level but are very good at helping the customer design and implement solutions that are appropriate to their business environment.

A similar demarcation was provided by another manager who talked about two broad categories of knowledge within the firm. The first he categorised as that originating from a “... core academic, mathematical, cryptographical, computer background.” This knowledge he saw as based in development and as something the firm always had since its inception. He saw this knowledge producing the quality product. The second category he referred to, somewhat vaguely, as “...the ability to convince people that you have the best product in the world.” In his view, this “*applied knowledge*” is what makes a business successful. This view was reinforced by another interviewee who referred to the firm’s knowledge in terms of “...specific, highly skilled technical knowledge.” He saw this knowledge operable at two levels. First, it is the theoretical knowledge required to physically make the product work. As he expressed it “[W]ell, here’s something people were aware of theoretically for years but never implemented.” Second, it involved a creative and applied element which he expressed in the following way: “And we’re saying here’s an implementation and it’s probably as good as you’re going to get”. When pressed to identify the core theoretical knowledge base of the firm, one manager saw it as “...in our employees heads and in books.” Another manager expressed his view on the core knowledge of the firm in the following way:

It’s theoretical mathematics and we contribute research papers on it and contribute to standards bodies on it. We regularly write academic papers on the subject and a few of our staff have written books.

The creative context within the firm is large based on teamwork and a culture that encourages self-belief, risk taking, innovation and knowledge sharing. In one of the manager's views:

We are dealing with something that is totally emergent. If you start building proprietary software, you might sell some of it but there's no future in it. Our boss here has this expression "If you give someone their wings they will fly". The flexibility here is a good way of harnessing someone's creativity. So if someone comes up to you with an idea, however bizarre, it will be entertained because you never know there might be the bones of a product in there.

Knowledge development takes place within the firm at a number of levels. Across the firm, use has been made of experienced hires to increase the level of core knowledge. In the development and professional service departments, all staff are expected to have a certain mathematical or quantitative aptitude before entering the firm. While most new staff have some form of prior technical experience and knowledge, it is rarely in the specific area of cryptography. As will be mentioned under the human resource strand, the attitude and personality of the potential employee are typically regarded as more important than a specific background knowledge or skill set. Given the new and rapidly evolving nature of the business and Baltimore's desire to remain at the forefront of developments formal approaches to knowledge development within the firm are limited. Baltimore provides an initial three-day socialisation course to all new employees. The course is designed to provide new employees with a base level of knowledge about cryptography and Baltimore's approach to the topic. After completion of the course employees are expected to "...hit the ground running". Beyond the induction course, there is little currently provided in terms of in-house training to employees. One good example of informal in-house training mentioned by two of the interviewees was a somewhat spontaneous decision in 1999 by the senior cryptographer in Baltimore to provide a fortnightly one and a half hour course on cryptography for anyone in the company who might be interested. The course has proved to

be extremely popular and is attended by employees from across the various functional specialisms within the firm. Where the firm or an employee identifies a specific knowledge or skill gap that needs to be addressed then the firm will fund an employee to attend specialist training courses. Courses of this nature are rare and normally only available in the USA.

Given the rapidly evolving nature of the industry and its knowledge base, significant responsibility is placed upon employees to keep themselves up-to-date on developments in cryptography and e-commerce. As one senior manager put it:

...as we always say to people when we are interviewing them, you really have to break out the books. You get so much training but you have to take responsibility for your own level of awareness. And people are amazingly enthusiastic about that.

To facilitate and foster this expectation of self-development, Baltimore engages in a range of supportive activities. The firm subscribes to a number of external public domain groups such as the Yesman Group and all staff are expected to monitor the output. They also subscribe to a number of specialist publications such as Nua Internet Journal and Cryptogram monthly and these are circulated freely within the firm. Given the rapidly evolving nature of both the field and underlying technology, there is a heavy reliance on the world wide web as a source of new knowledge and information. One manager put it this way:

Every member of staff here is on the web and implicitly they are expected to be surfing the web quite a lot, picking up on new stories, things happening around the world, what's happening in crypto.

Baltimore staff also frequently attend trade shows, conferences, particularly developer conferences, and technical European Union meetings to keep abreast of both technical and policy developments in the area. One of the managers stressed the importance of these events in terms of knowledge development within the firm:

People keep up to date with what's happening through attendance at conferences and trade shows. Because within this area there's a lot of

new protocols and ways of implementing things coming on board and what Baltimore tends to do is to send people to these events to be either involved in the committees writing these new specs or, if not that, to be on the groups that vote on and decide about these new specs. And so, rather than a focus on formalised training, Baltimore's approach is to be in at the coal face where the industry is going and being there with it.

The firm also maintains strong links with a range of Irish universities. Senior staff frequently undertake part-time teaching in these institutions to keep abreast of potential new knowledge and to fulfil a quasi-marketing function for the firm. Staff are also encouraged to present papers at conferences and a number of staff have written technical/academic texts on the subject of cryptography. A number of interviewees acknowledged the obvious market motive underlying these latter practices. The firm also has representatives on a number of international bodies that are involved in stimulating new research in cryptography or setting new standards for cryptographic systems and applications. Two examples mentioned were KRA and the European Security Forum. Having staff attend meetings of this nature appears to serve both an academic/technical and political agenda, both of which are vital for learning and development within the firm.

Information and knowledge sharing are regarded as issues of high priority for the firm. However, they operate a relatively informal process that does not follow any specific line of communication or hierarchy. One of the development managers identified informal discussion within the firm as crucial in ensuring the flow of knowledge around the firm. He explained:

There's a lot of sitting around over cups of coffee here. That's where a lot of the knowledge transfer occurs. It's not that everyone sits at their desk tapping away all day. People wander over to one another. Chat about football and then chat about how this crypto algorithm works or

whatever. There's a lot of that within and across all the functional areas and that how most of the transfer occurs.

The same managers saw this informal approach to knowledge sharing facilitated by the relaxed culture or atmosphere within the firm. His explanation and qualification of this viewpoint are interesting and will be returned to under the control strand:

It is a very informal and relaxed atmosphere here. Relaxed in its informality. Not relaxed in the sense that people sit around and have nothing to do. I mean it's quite frantic here a lot of the time. But relaxed in the sense that there is no overt monitoring of how long you spend in the kitchen talking. They don't mind how you spend your time as long as you meet deadlines.

A number of the interviewees placed great emphasis on the prevalence and importance of e-mail in the flow of information within Baltimore. One manager's view on this was particularly insightful:

There are times when people will e-mail somebody sitting 10 feet away with something important rather than get up and talk to them. Why is that? – I would suggest two reasons. First, we are a very technology focused company and that has an influence. Second, people have the perception that if you receive an e-mail it just sits there in your in box and just won't go away. And what often happens here is that people not only e-mail other people to remind them about stuff but will e-mail themselves with things to do. So e-mail is one of the most common methods of communication on work related issues.

The firm has established a number of internal e-mail discussion groups based around those involved and interested in development issues, the firm's technology, marketing, sales and professional services. These mail groups are open to all employees and are extensively used.

Examples of formal communication flows within the firm are limited. Presentations are made to staff when a new product is launched or a new release comes out. In addition, on

return from a trade show or conference, employees are expected to write up a summary and post it around on e-mail. While the firm sees informal communication as vital to continuing success of the firm, it has embarked on the development of an internal communication function as a matter of priority. The primary impetus of this move is to offset any potential problems arising from the rapidly growing size of the firm and the inevitable loss in face to face interaction between staff. At the time of writing there was no information available on the nature of this new function. Two interviewees did stress that its design is aimed at complementing and strengthening the existing informal system.

One manager argued for the need to maintain a careful balance between fully open and excessively tight flows of knowledge and information. He explained:

Knowledge sharing is crucial to the survival of this firm. However, you have to be careful where you draw the line. Either extreme is bad and the trick is finding where in the middle is the optimum place to be. The extremes are either that the information is openly available and shared and that there is very little control of the flow of information around the organisation and the other is that the flow is very tight and you have different departments or sectors not aware of what the other is doing.

The example he gave of the downside of unregulated information flows was of sales people being partially involved in discussions among developers as to where they want to go with products in terms of extra functionality. While he saw these “conversations” as important, an inevitable consequence of these conversations is that the information will be passed on by the sales staff to current or prospective clients. However, in the hands of the sales people the information will be recounted, as the manager expressed it, “...with all sorts of resonances and implications that weren’t there in the original discussion in development.” This practice can cause false expectations among customers forcing the development department into a stressful “catch-up” situation, diverting resources away from potentially more strategically important areas. He saw this problem as more of an issue as organisations grow resulting in less day to day interaction and a consequential risk of department specific nuances and

resonances not being fully understood across the organisation. In Baltimore's case, one way in which this potential problem has been resolved is through the introduction of product managers who have become the "...*sole arbiters of what is or is not valid to say about any product.*" The product managers thus act as key linking pins in the channelling of product information around and outside the firm.

As regards the protection of the firm's knowledge, a number of approaches are used by Baltimore. This focus on knowledge protection was qualified by a number of those interviewed. One manager explained how beyond some product-specific knowledge most of the knowledge they use is freely available in the public domain. The issue of patents is currently being explored within the firm but there appeared to be a reluctance within the firm to go down that route. One manager explained that one of the main algorithms they use in Baltimore was patented by Americans 25 years ago but suggested that this legalistic approach was not the norm within the industry. He talked about a "...*certain academic tradition of making things public.*" He added that all the products are being built to conform to recognised standards and as everyone knows what those standards are it is not difficult to figure out how the product is put together. The open and highly democratic way in which standards within the computer industry are developed adds to this culture of openness. This matter will be returned to in chapter 8. Given the absence of patent protection and the level of freely available knowledge, the interviewer enquired as to the reasons for the absence of a serious domestic or even European competitor, even in terms of a competitor reverse engineering the product. One of the interviewees advanced the following reason for this situation:

Because to actually build the product would require enormous effort.

And if you look at the pockets of expertise around to actually do it there just aren't many of them around.

Another manager reinforced this viewpoint:

The amount of knowledge you would need to have to gain a foothold in this industry is very, very big. The best thing a competitor could do is

simply buy out the company or poach key staff. Even then one would need to poach up to 20 of our staff because of the broad range of skill sets. It's not just cryptography. It's also the management and implementation of cryptographic systems. They are equally important but different skill sets.

Knowledge protection is also achieved indirectly through an emphasis on retaining staff. A deferred share option scheme has recently been introduced and there is a clear policy of rewarding good performance. All interviewees mentioned the very low turnover of staff within the firm. There are no legal or contractual restrictions on staff leaving the firm to go to competitors. Such an approach was seen as unenforceable and ran the risk of setting a bad tone within the firm. In any event, Baltimore's main competitors are based in the USA. The Human Resource strand will return to these issues. The firm also has partnership agreements with a number of software companies or others in data security. Usually the firm will have a formal contractual agreement with a memorandum of understanding and a non-disclosure agreement included. Interestingly, one of the managers explained how in the case of one of their more successful partners, a Far Eastern subsidiary of a US multinational, the relationship has never been formalised contractually. It is an issue that both firms intend to sort out eventually but it is just not on the agenda at the moment. The manager described their relationship as one "*...involving a very high degree of trust*". Any problems that have arisen to date have been settled very honourably on both sides. In addition, where Baltimore sells a toolkit or application to a client, on-selling by the client is contractually forbidden under the sale agreement. In addition, a standard programmer toolkit licence would prohibit the client from subsequently building a certification application with the kit. The client would have to buy such an application directly from Baltimore or someone else. Baltimore makes some use of patents but not much and they would not see their use of patents expanding in the future. As one manager put it, their primary approach to knowledge protection is to "*stay ahead*".

Beyond the co-ordinating role of the development managers mentioned earlier, the firm currently has no formal monitoring of knowledge assets and sees no pressing reason for developments in this area. One manager gave his view as to how the firm automatically monitors the development of its knowledge asset and would be aware of any problems arising:

We would notice a decline in our knowledge assets if our revenues started to take a dip or if one of our competitors started making big inroads in an area we're not currently emphasising.

The Control Strand

Baltimore exhibits an unusual mixture of hard and soft controls. On the formal or hard side, there are numerous controls in operation within the firm. One manager commented on the “...*extensive procedures and practices for virtually everything you want to do in the company.*” The main visible controls are on spending. In one manager’s view “...*nobody is able to spend money, recruit people, get on a plane, etc., without seeking the CEO’s approval.*” At the time of undertaking the interviews a new financial controller had been appointed to the firm and it was expected that he would assume significant responsibility from the CEO in this area. The firm does not follow any formal quality control or assurance system. However, most of the open standards will have minimum quality standards that must be complied with in the development and sale of a product. Use is made of automated testing software that mimics the users and as one manager put it “...*bashes the new product to death to check for glitches.*”

In discussions as to the form of soft control in existence within Baltimore, the issue of culture emerged frequently. The strength and nature of the firm’s culture was expressed in a number of reinforcing ways and was inter-linked with a concern with developing and expressing a strong identity. One manager saw the core values of the firm as “...*strong element of self-belief in our vision, in the quality of our products, confidence but not arrogance that our technical skills are as good as you will get.*” Self-confidence with skills

and abilities were seen as crucial as Baltimore was a relatively small firm dealing with very big international players. Two interviewees emphasised their view of the firm as “*crypto developers*” and not “*commercial software developers*.” Another interviewee articulated what he saw as the very strong sense of identify within the firm in the following way:

We are different. We are clever. We are smart. We get things done.

All interviewees talked about the flexibility of the firm as a desirable cultural trait. This flexibility was expressed in terms of responsiveness to clients, an ability to adapt to change and the multi-skilled orientation of the employees. One manager put it this way:

I tend to think of the firm in terms of responsiveness – a whole load of people who are conditioned to respond very quickly to change. The whole culture here is “assume change will happen”. It’s part and parcel of what we are doing. And if someone came up to me tomorrow and said I want you to stop what you are doing and dedicate all your time to training or public speaking than fine! If you can’t understand that your job could be different tomorrow then you will probably always have difficulty with the company.

On the issue of employee flexibility or multiskilling, one interviewee had this to say:

Most people here do what needs to be done. So even developers can, at times, not often, but at times, can be called upon to do customer support or presales if there is no one available. They can also be called upon to package stuff or to give an input into the desirable colour of the product packaging. People, as a matter of course, will get involved in anything that is of relevance or interest to their area. This practice is encouraged. You are given freedom to make inputs in any range of areas that are related to your core competency and prove that you have the ability and aptitude to have a more constructive input into these areas.

While this multiskilled approach to work was seen as a key strength of the firm, it was acknowledged to cause problems by one interviewee. He explained that it occasionally proves difficult for those seeking explicit confirmation or affirmation that they are doing a good job or not messing up. He explained:

There is no formal monitoring of your work in that sense. The responsibility is that you go and do the job. That doesn't mean that people are not there to support you or wash their hands of you. But it does mean that the responsibility is for you to seek help if you have run into a dead end. If you ask, people are very willing to give up their time and to sit down and go through things with you. And that isn't in any way considered a failure. But definitely the onus is on you not just to perform but to seek out advice.

This culture of flexibility was matched by what one manager termed "...a philosophy of involvement and ownership." He felt that the complex nature of many of their projects made it difficult to hand it over completely to someone else. An ethos of openness and learning was also mentioned by three of the interviewees. The flexibility and autonomy afforded to staff was seen as leading to occasional error. However, this was seen as an accepted risk. There was frequent mention of a "*tolerance of mistakes*" and willingness to learn from such mistakes. One development manager recounted how development staff were frequently approached by support people (the example given was someone involved in shipping a product who had no need to know anything about cryptography) asking for explanations about how the product works and what various technical terms mean. In the manager's words "...this type of informal openness, sharing and learning goes on all the time". Another manager used the phrase "*share my problem and I'll share yours*" as an explanation of the open learning environment within the firm. The learning ethos, while aimed at collective improvement, was also peculiarly individualised. As one of the development managers explained:

Your own development and education is very much in your own hands, much more so than in other organisations where there is a much more structured work pattern and much more structured training pattern.

In their dealing with clients, the firm tries to develop this sense of openness emphasising, in the words of one of the managers, a combination of “*informality and an absence of barriers*”. This same manager stressed that the firm was not in any way pompous with clients, unlike some of their main competitors. He saw these features adding to their popularity with clients.

All interviewees emphasised the strong social bonding within the firm. There was frequent social drinking and eating. One manager praised this tight social bonding between a core of the staff in the following manner:

It's a good way of forming bonds with people in a way which is personal and professional. So if people are more friendly with you they will be more helpful. It's as simple as that. And more direct too. If they can't help you they will tell you and not fob you off.

Two interviewees mentioned distinctive subcultures within the firm but saw these as a feature of all software firms. The “sales people”, “*the techies*” and “the developers” were identified as the three key subcultures. There was an awareness among the interviewees that these subcultures could be destructive if people “*...start looking over the fence and comparing each other without knowing what the other is doing.*” This problem was avoided in Baltimore through each of the key groups maintaining respect for each other's skill. The frequent use of cross-functional team interaction was identified by two interviewees as crucial in aiding this mutual understanding and respect. Another manager saw these small inter-functional rivalries and niggles among the subcultures as giving rise to positive, humorous “*slagging*” between functions.

There was also a clear ethos of hard work within Baltimore. As one manager explained:

People work very hard here, every day every week. But it's also effective work.

Another manager talked about the long hours put in by most staff:

The long hours are almost an expectation. Many of the contracts don't have hours written in. While some employees think this is great with no minimum hours the inference in it is that you have to work the hours that the job requires.

Another managers recounted how, on leaving a local pub at 11 o'clock one night, he met a group of developers coming in for a drink before they went to work. They had left the office at around 6.30 and had gone for something to eat and for some fresh air. They returned to work at midnight and stayed until 6 in the morning doing a job that couldn't be done during the normal noise and disruption of the day. The manager explained how behaviour like this was quite common within Baltimore and often has to be done like that. He added that no overtime was paid to employees.

Quality was also identified as central to the firm but did not manifest itself in terms of a proliferation of formal quality control or assurance systems. One manager explained how they had managed to talk themselves around the introduction of formal quality audits. They could pursue the ITSEC quality standard in cryptography (similar to ISO 9001) but given the expense entailed in obtaining this standard (around \$250,000) and the absence of any requests from clients to have this standard, the firm made a conscious decision not to go down that route. There are occasional external third party audits on the firm's software products. The firm also must seek and meet compliance certification for its products and these standards have clear quality checks built into them.

The role of leadership was seen as important by all interviewees. One of the managers talked about how the numerous bright people they had in the firm tended to have opinions as to what direction to go. The CEO was seen as good at binding the organisation together and articulating where the firm is going. One of the managers explained:

The company direction comes from the CEO and there is a very high degree of loyalty, belief and commitment to him. This is definitely not motivated by monetary rewards, although Baltimore pays quite well.

It's just if Fran were to say "Baltimore will conquer the world, follow me" then people will follow.

The CEO exercises a high level of visibility within the office having a glass-fronted office that looks out onto the main open-plan workplace. There are other leader roles within the firm but they are often informal. The two senior managers emphasised the mentoring and hands-off approach they adopted. They referred to a high level of consultation over projects and that people don't get shoved into something that they don't want to do. While some tasks were unpleasant, they had to be done. One of the managers then averted to the important issue of strategic vision in sustaining this delicate system. As he put it:

If these guys know that they are not on a death march, you don't have to worry about it, even if parts of it seem like that. Once the overall direction is fine then you won't topple off the cake.

By way of summarising the prevailing ethos of control within Baltimore, one manager put it this way:

Control over your day to day job here is quite minimal. There is a supervisory role but this is typically outcome oriented rather than how you go about your job.

Another manager expressed a similar view:

In Baltimore, control is exercised only when you do something that isn't good or you get to a stage where you have not produced the expected result. Things are given to you, indeed thrown at you, and it is the culture here that you run with them and produce the results at the end of the day.

The Human Resource Strand

There is currently no dedicated HR department or specialist within the firm. General HR responsibilities fall under the operations manager's remit with help from the CEO's personal

assistant on all confidential or sensitive issues. As with the two previous cases this strand will be examined under four interrelated subheadings.

(a) Recruitment and Selection

The Dublin office has around 80 staff mostly of Irish nationality. The average age is around 30. All employees are highly qualified. There are only two people in the entire company without a relevant degree and existing staff include a professor, two PhDs, five qualified accountants and a high number with masters degrees. Most staff also have a high level of language skills. One of the senior managers expressed his view on the calibre of the staff this way:

I've never worked in a company with so many bright people. I feel like a thicket in this organisation. The calibre of most of the employees is really good. For example we sent three teams along to a national charity pub quiz last year and the teams came second, third and fifth but they were pissed off that they didn't win.

Staff turnover is very low. In the last two years only one member of staff has left to take up a post with another software company. This almost familial sense of loyalty to the firm was commented on by one manager:

A funny thing about this place is that it almost borders on nepotism. A very large number of the staff here were either in college together or share houses with each other or worked in previous jobs with each other. Most of the people who come in here tend to bring one or two more in with them.

All the senior managers of the firm are also ex-civil servants of around 10 years service.

Some use is made of recruitment agencies but most of the recruitment to date has been by word of mouth among the staff. The firm gives preference to new hires known to one or two staff members. Staff are also actively encouraged to identify and recommend individuals whom they feel would fit in with the Baltimore ethos and work hard. A salary reward of up

to £1,000 is given to an employee for bringing somebody in to the company. This was considered a normal practice within the software sector and considered much less risk compared to recruiting an unknown individual from an agency. While most of the managers had reservations about this system they all had to admit that it had worked out extraordinarily well to date with an excellent match being made between the new recruits and the culture of the firm.

All new recruits are currently interviewed by senior managers and would normally be interviewed twice. The chief executive is frequently involved in the interview process. The firm is very careful whom they select. Employees are taken on based on the possession of a broad range of skills not just a single specialist area of expertise. A broad outlook and flexibility as seen as core attributes of any new employee. One of the managers explained:

We are very keen to get people in here who are not mercenary programmers. We don't want anyone coming in here and saying "I'm a great C programmer, give me £30,000. We want people to come in here who are more switched on by the work the company is doing and are willing to, pretty much, contribute towards that. You've got to contribute, you've got to contribute ideas, you've got to be unconcerned about hours.

Another manager, referring to recruitment into the development area of the firm, argued that employees rarely came in as experts in cryptography or Unix programming or anything like that, but would need to be in a position to show that they had an aptitude for that type of work. Directly relevant work experience was an advantage but he saw the primary issue is selection being the potential employee's willingness to respond to challenge and their own level of internal motivation. He expanded on this issue:

I think that what the firm looks for potential employees who are able to take on board new ideas, able to run with new ideas, have the ability to think on their feet, to be able to take in new ideas, get up to speed on

these ideas quickly to be willing to work hard, look for advice and be able to take advice, to learn.

Another manager described the ideal employee as a “*committed self-starter who doesn’t need supervision.*” He saw it important that “*...the mice would not play when the cat was away, because the cat is always away here.*” He saw little need to hassle employees and professed to a general managerial philosophy of mentoring.

Most employees within the firm are on renewable contracts. There was no clear sense of an employee being brought into an inner core at some stage though there was clearly an identifiable senior manager cadre.

(b) Motivation and Remuneration

Motivation was seen by all four interviewees as primarily an issue internal to the individual. As one manager put it “*If they can’t motivate themselves there is something wrong inside.*” As mentioned earlier, the company seeks and develops flexible, multi-skilled employees. However, the firm will subsequently allow an employee to find, develop and excel in a particular niche but the impetus and motivation for this rests entirely with the employee. Self-motivation is seen as crucial. As one interviewee explained:

If you don’t buy into the firm’s winning ethos and have an aggressive belief in yourself then they [the firm] are not terribly interested in you.

One manager described the motivational system in operation in Baltimore as “motivation by example”. He clarified this view in the following way:

Existing employees work very hard and are very motivated. They exude a tremendous enthusiasm for the products and a belief in how successful this company is going to be. That really impressed me when I came in. You walk in and you just feel that. People believe that we are going to be huge. This creates a ready-made atmosphere or ethos within

the firm which, if you come in as a new employee is very difficult not to respond to. And I would say that most employees do and very quickly.

The firm offers to employees an average though attractive salary and benefits scheme. The system is relatively egalitarian with employees being roughly aware of what different individuals are earning. There are few pay scales in any event. The second tier employees on the development side (team leaders) would be well paid by industry standards. These would be good commercial software developers who came to the firm with good experience. These individuals were identified as having the potential to earn considerably more elsewhere on contract but as one manager humorously put it “...they chose us because they want to be in and part of, as the American’s say, a FTP, a fun place to work.” A number of staff with highly specialised skills could earn considerably more money in the USA but have little opportunity to use their specific cryptographic skills in Europe. There would be scope for these individuals to move into the general software industry and earn more money but the nature of their job would change considerably and to their cost. One interviewee put it this way:

Many of our good people wouldn’t hack it in the general software industry. They wouldn’t have as much freedom of expression. The structured nature of standard software development would do their heads in

On the professional service side, the middle level staff would be on around £25,000. One interviewee explained how prospective employees, at recruitment stage, are normally asked what money they are looking for and typically they do not look for too much. One manager suggested that if, over the past year in particular, they had carried out a survey of software salaries and tried to meet them, the firm would probably go under fairly quickly. As she explained

Luckily we are not under pressure to meet the industry norm at the moment but this won’t continue. We will be improving the range and level of incentives on offer to

staff. The situation should improve as recent rapid expansion had left margins tight.

At the time of writing, an employee share option scheme had just been introduced or all staff. A limited scheme applying to senior managers had been in operation for the past few years.

While money was identified as a relatively important motivating factor, all interviewees emphasised the vital role of a challenging and varied work environment, interesting work and travel opportunities in sustaining motivation.

(c) Training and Development:

As mentioned under the Knowledge Strand, Baltimore does not have a formal training policy and no specific training budget. All new staff undergo a three day induction course designed to breaks the back on cryptography and get people to hit the ground running. The firm expects middle and senior staff to already have managerial training or demonstrable skills in that area. There is fairly regular investment in necessary skills development and if a staff member asks to be sent on a specific course, and it makes sense, then he or she will be supported. However, the leading edge nature of some of the work means that there are few training courses available as yet. This reality pushes knowledge development back to the individual and the various communities within the firm.

(d) Career Planning, Outplacement and Welfare Services

An informal system of career planning operates within Baltimore. There is good opportunity for assuming responsibility of new areas as the firm grows. One manager saw progress within the firm down to individuals to grasp the opportunity and push themselves forward. Movement within the firm is largely limited by your ability. As one managers put it:

There are big opportunities here. But it isn't very rigorous. It isn't staged or there isn't an obvious scale. It's clear that progression is

available and possible but the exact nature that it will take is not that obvious.

There is no concern with outplacement at present, particularly as staff turnover is virtually non-existent. There was an open admission that the work was stressful and tense at time. However, beyond this admission there was no specific welfare services in place. One of the senior managers outlined his overall view of the company and his approach and advice as to how to keep issues in perspective:

It's a nice place to work. Most people get a kick out of it. I suppose there are disadvantages to being a fast moving company because it tends to be all consuming. But if you are aware of that and are prepared to put a time limit on it then it's not so bad.

Another manager saw the strong sense of humour in existence across the firm as a good outlet for stress. The firm has an internal e-mail joke address called 'Friday' where staff at all levels within the firm constantly engaged in bizarre humour including comments about each other and ongoing events at large in the world. One of the senior managers when asked if he was not worried about this misuse of company time had this to say.

Oh no. Everybody knows that if someone has written a bit of code and has a programme running to test it and he has to wait a couple of minutes for things to happen. And so he may surf the web, do a bit of reference work or something. Everyone knows that there is a certain amount of "time out" going on, on an ongoing basis. There has to be, otherwise people wouldn't stay doing it. If you have people working until 9 or 10 at night, there has to be slack.

He admitted to being a regular monitor of the site himself.

The Technology Strand

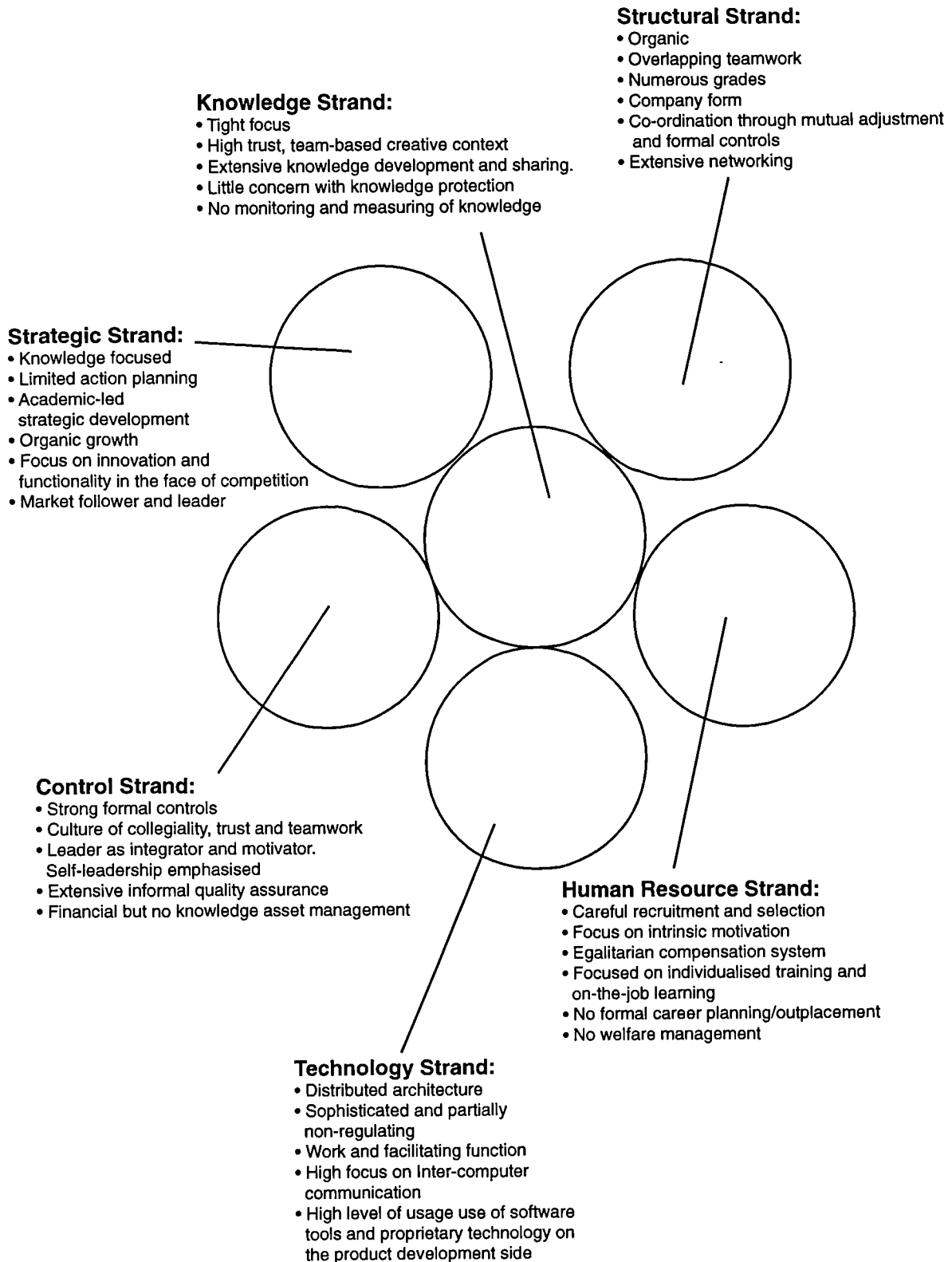
All interviewees admitted that they could not do the work they do without the technology they use. A wide array of technology is in use ranging from laptops to palm pilots, organisers and mobile telephones. The technology was seen as both facilitating and determining the work done. One manager categorised the technology in use into three overlapping categories namely (a) technology to do the work, (b) technology to facilitate the work and (c) technology to market the work. Technology to do the work includes a PC network with standard office products that you would see in any organisation. The firm has a range of standard graphics packages aimed at the development and upgrading of their internet site. They have e-mail and internet access via two dedicated two 64 kilobyte links. The importance of e-mail as a key communications and knowledge-sharing device was addressed earlier in this chapter. The firm also uses a range of very specialist scientific products including Microsoft developer kits (c++, visual basic, oracle), specialist directory products from ISOCOR and a range of smart card technology. The firm has specialised tamperproof devices for holding encryption keys. Baltimore also builds its own toolkit to aid in the development of their products which are, in turn, sold to customers. They also make extensive use of automated testing software that mimics the users, bashing their products to death to check for glitches. Facilitating technology was identified as e-mail and web and remote access with lap and palm tops and mobile telephones. The technology aimed at marketing the work was the firm's web site. All interviewees admitted that the type of technology in use within the firm is changing constantly.

The technology in use within the firm also had a managerial control slant. Their computerised sales tracking system, sales logic, was seen as a key managerial tool aiding the tracking of projects, identifying future prospects, developing sales forecasting and, by extension, cash flow projections. The system has also been integrated into the professional services side to develop scheduling, tracking of consulting work and subsequent timely invoicing.

Figure 7.1 provides a visual summary of the research findings.

Figure 7.1

The Six Design Strands of Baltimore Technology Ltd.,



Chapter 8: An Overall Analysis of the Three Case Studies

Introduction

This chapter presents the analysis of the three case studies at three integrated levels. The first level of analysis will focus on issues of structure and design drawing on the literature from chapters 1 and 2. The three cases will be individually and collectively analysed with reference to the ideal type KIF developed in chapter 2. The second level of analysis will adopt a processual and communitarian perspective on the three cases drawing on the literature from chapter 3. The third level of analysis will be the monastic perspective from chapter 4. Clearly the three levels of analysis overlap considerably and so the author has created an artificial separation for presentation purposes. As mentioned in the introduction, the material on both the processual/community and monastic perspectives of the three firms was gathered in a looser and less overt manner compared to that on the structural, design and management issues. Accordingly, their analysis is presented in a less structured, more interpretative and more aggregate, though no less valid, manner than that on structural issues.

A Structural Analysis of the Three Cases

(a) The Case of Andersen Consulting

Despite its considerable global size and complexity, the results of the fieldwork would suggest that Andersen Consulting conforms relatively closely to the generic set of management practices deemed to be of relevance to the operation of KIFs outlined in figure 2.2. In undertaking this analysis, the approach taken was to view the Dublin office as the main focus of analysis, as a meaningful and objective entity, albeit blurred by its regional responsibilities, and sufficiently representative of the other semi-autonomous offices of the global firm.

At a structural level, the firm belies a simple categorisation. Drawing on Mintzberg's (1979) configurations, it exhibits elements of an adhocracy, matrix, divisionalised form and professional bureaucracy. Despite its confused and constantly evolving structure the firm operates in a highly organic manner and can be seen as a global network. It is a legal

partnership with five core grades of consulting staff. All consulting assignments are team based with co-ordination achieved through a combination of positions of authority, highly formalised and tight financial and quality reporting criteria and constant informal team interaction. There is extensive networking within the global structure at both a formal and informal level.

The strategic level of analysis provided the main points of departure from the generic framework. The firm is strongly knowledge focused and is now placing a much higher strategic profile on innovation and creativity. The firm's strategy development is far from unusual or incoherent being based on extensive and highly formalised top down strategic planning. While the firm is facing growing levels of competition this has not resulted in a focus on standardisation but on an increasing focus on value, on the developed of integrated service provision (a one stop shop approach) and on efforts to develop long term relationships with clients. The firm is highly market responsive and conscious of needing to be perceived as at the cutting edge of management practice. However, it avoids being seen as faddish by providing an integrated approach to its assignments addressing strategic, technological, people and process issues irrespective of the nature of the service offering.

On the knowledge side the firm has a diverse and expanding body of knowledge underlying its activities. This is at odds with the controlled, tight focus predicted by the generic framework but can be explained in part by a deliberate strategic repositioning of the firm as it moved to become a full service provider management consultancy. There is little sense of theoretical knowledge being a core concern of the employees. Where mentioned, theoretical knowledge is presented more as an intrinsic component of underlying methodologies and technologies, embedded knowledge (Blackler, 1995). The prevailing view on the core knowledge of all three firms is that they were selling in-depth experience. The point was made, however, that this experience could be drawn upon and used by clients in a wide variety of ways. The creative context of co-operative, high trust teamwork conforms closely to that predicted by the model. The knowledge development, preservation

and sharing practices within Andersen Consulting are well developed and were the most sophisticated of the three case studies examined. While there is a heavy emphasis on the codification of knowledge particularly through the use of the Knowledge Xchange, there is also clear evidence of a willingness to invest in the development of informal flows of information and the informal sharing of implicit knowledge that is not amenable to codification. The integration of the marketing and aspects of the control function into the knowledge development process is particularly impressive.

On the control side, the Andersen Consulting attempts to achieve a balance between hard financial and time utilisation controls and softer informal controls. The financial control system within the firm is sophisticated and highly pervasive. The firm's culture appears to conform closely to Maister's "*one-firm firm*" model. It has a high emphasis on co-operative teamwork and institutional commitment, controlled organic growth, extremely careful selection of assignments, heavy investment in updating the company's knowledge resources, open access to all information and a de-emphasis on internal competition. However, this apparent high trust, open learning environment appears to operate successfully in parallel with an extremely demanding performance ethic and tight surveillance. Leadership is seen as more of a global concern with a focus on self-leadership at a local level. Quality assurance is pervasive and has a high level of client input. There is a written code of ethics and a global ethics committee that operates as adjudicator in matters of dispute. Despite the presence of a sophisticated financial control system, there was no formal system for monitoring and measuring the knowledge assets of the firm.

On the HR side, the match with the framework is very good. The firm engages in an extremely rigorous selection process seeking bright, ambitious university graduates who are strongly self-motivated. Relatively moderate starting salaries and the absence of bonuses and perks emphasise the initial downplaying of extrinsic motivation. The system is egalitarian in that salary bands are known and the requirements for promotion are openly stated and uniformly applied, at least within individual offices. The firm has a high commitment to continuous training and has adopted a "*learning organisation*" model of continuous staff

development. It spends around 7% of its total revenue annually on staff training and development. A clear career path is structured around an “up or out” promotions policy and an informal outplacement system operates for those that don’t make the cut. The welfare services provided by the firm are adequate but not proactive in terms of trying to eliminate the causes of stress and breakdown inherent in the core work of the firm.

Finally, investigation of the technology strand revealed a partial match with the generic framework. The system requires examination at two levels. At one level there is a highly developed financial reporting system that regulated behaviour in terms of establishing monetary and time limits to consulting activities. At another level there is a well developed and largely non-regulating distributed PC network which acted as a catalyst for innovation, aiding rapid information seeking and sharing. The distributed knowledge database, the knowledge Xchange, also made available a vast store of information on industries, clients, topics and consulting practice and insights. The use of software tools and proprietary technology is not emphasised though the business integration methodology followed by the firm does appear to exert an influence on consulting behaviour, at least overt behaviour. The main technological problem raised appears to be the potential for overload in the face of rapidly increasing demand for on-line information seeking facilities, data storage and retrieval.

Overall, Andersen Consulting is a remarkably successful firm. The research does not reveal anything particularly unique in the operation of the firm to the extent that one could talk about a new paradigm of management. Andersen Consulting combine a set of well-developed and integrated practices that continue to afford them a high level of success in a highly competitive market. They excel at capturing, sharing and reusing their knowledge base and at selling their global experience. They also exhibit a very high level of commitment to staff training and development. The case study findings suggest that Andersen Consulting conforms closely to the generic framework with the only significant deviation arising in terms of: (a) its widely dispersed expertise; (b) its strong, top down strategic planning focus; and (c) the tight and pervasive financial control system that

operates in tandem with a range of 'softer' control systems. The latter two deviations can be attributed, in part at least, to the historical and continuing influence of the accountancy side on the development of the consultancy practice.

(b) The Case of Centre Re

The description in chapter 6 suggests that the management practices within Centre Re conform closely to the generic framework. At a structural level the company is clearly organic in nature and can be seen as a network of closely integrated underwriting offices. Each office can be described as an operating adhocracy (Mintzberg, 1979). A company form of legal structure has been adopted but the system operates very much like a partnership. All core activities are team based. Operational co-ordination is achieved primarily through face-to-face and IT-mediated mutual adjustment among team members. Strategic co-ordination is maintained through direct supervision supported by a computerised tracking system. At an operational level within the firm staff fall into two grades, production or non-production staff. However, underpinning this simple two grade system is an elaborate hierarchy of grades. Internal networking is extensive but the firm appears to have little interest in developing any elaborate external network of alliances.

At the strategic level, the firm matches closely with the generic framework. The firm has always been knowledge focused in that it differentiates itself based on its ability to produce new innovative solutions to risk problems that the traditional market is either unwilling or unable to deal with. Strategic planning is relatively centralised but highly emergent and relatively short-term in nature. The firm remains highly responsive to market needs and acknowledges it's limited ability to determine or influence the nature of market demand. At the same time, the firm is clearly a market leader in the finite risk area and its solutions are widely imitated by the traditional market. Growth is substantial and primarily organic in nature. The firm faces constant competition with its solutions being rapidly copied and turned into commodities. Centre Re responds to this situation through constant innovation, recognising the limited shelf life of its solutions and refusing to get drawn into a commodity-

type price war. It also pushes its partnership approach with clients which involves a multiyear relationship and a system of profits sharing or partial refund of premium in the face of a positive claims situation.

On the knowledge side, the importance of theoretical knowledge to the success of the firm is acknowledged. It is seen as a core aspect of the employees' initial education and, to some extent, like Andersen Consulting, was built into the firm's complex analytical models. This theoretical knowledge was, however, always contextualised and presented as having a utility only when used in conjunction with embrained, embodied and encultured knowledge (Blackler, 1995). The application of common sense or intuition was always seen as a vital accompaniment to the use of quantitative, quasi-theoretical analysis carried out on deals. An even stronger emphasis was placed on the creative mindset applied to the initial assumptions made by the production staff as to the nature of the problem on hand and as to how potential solutions might be structured. While the firm clearly affords a high priority to its knowledge base, there is evidence of equal weighting being given to the firm's capital base, market reputation and the managerial ethos in explaining its remarkable success. The employees clearly see themselves as knowledge-intensive but recognised that this was only one essential component of their success. Given the innovative nature of the firm's output, its reputation and legitimacy within the market is vital in winning the confidence of clients. This is achieved through its own track record, its external ratings and its connection with the Zurich group. Finally, the firm may have the knowledge to develop highly innovative solutions to clients' problems but its ability to earn a high margin on these deals and absorb the associated downside risk is highly contingent on having sufficient capital at its disposal. If any one of these items fails to deliver then the house of cards falls down (Starbuck, 1993).

The creative context in which knowledge creation takes place in Centre Re is as predicted by the literature. Cross-functional teams, high trust, shared perspectives and a high level of face-to-face communication all conform to Nonaka's (1994:26) rugby-style approach. Knowledge development and sharing practices are well developed and effective but relatively unsophisticated. In some respects the knowledge management system in place

is a by-product of normal administrative good practice. Centre Re's approach to knowledge protection possibly best captures the firm's minimalist thought highly effective approach to knowledge management. The firm's concern is not so much to protect its knowledge but to ensure that its level of new knowledge development remains sufficiently ahead of the competitors. It does this through retaining quality staff and encouraging them to constantly innovate. This point highlights the highly integrated nature of the internal management practices in that it requires the co-ordination of the knowledge, strategic, HR, control and IT strands.

The control strand also achieves a good match with the generic framework. The firm exhibits a very strong culture of collegiality and co-operative teamwork and there is a high level of institutional commitment among the employees. Assignments are carefully selected. Beyond the financial guidelines imposed on the employees (normally embedded in the actuarial models) in examining deals and the fact that the deal must ultimately be vetted by the president of the firm, there are few direct controls imposed on the behaviour or functioning of staff. Senior management are prepared to stand back from the detail of individual deals and apart from imposing size and return limits generally do not impose a structure on how things ought to be done. The reward system was frequently cited as the main overt control on employee behaviour particularly in terms of ensuring that bad business is not underwritten. Leadership was deemed important but assumes a more motivational and mentoring focus, stimulating and challenging the assumptions held by employees in their work. Quality was deemed paramount and there was a general acceptance that there was no room for error in the business. The risky nature of most of the firm's activities assumed that some deals would make a loss and this was accepted as an inevitable outcome provided the risk in question had been understood, quantified and taken into account. The firm has a sophisticated accounting and deal tracking system but these appeared to exert little direct influence on the behaviour of staff. There was no formal system for monitoring and measuring knowledge assets.

On the HR side there are a number of important deviations from the generic model, deviations, in the author's view, primarily linked to the small size of the company. There is clear evidence of the high priority given to the management of employees. Much of the sophistication in the HR system is pitched at the core production staff but there is a beneficial cascade effect throughout the organisation. Staff were carefully selected by interview based on a mixture of qualifications, experience, contacts and in all cases a personality that is compatible with the prevailing ethos of the firm. Mixed motivation policies are in use with the three core components consisting of an attractive remuneration package, a varied and challenging work load and a comfortable work environment. While salary levels were broadly known, total remuneration levels were seen as a matter of individual concern. Formal training is designed to respond to the perceived needs of individuals though there is an emerging policy of having short on-site general courses for all staff on issues deemed of future importance. Learning is seen as an issue to be fostered through on-the-job experience combined with informal mentoring and reinforced through the performance appraisal process. There is no formal system of career planning with advancement being linked to length of service and satisfactory performance. The overall impression of the HR system is of one designed to provide desired benefits to individual employees rather than of one trying to develop a standard policy line or exert control over the staff.

Finally, on the technology side one finds a relatively sophisticated technology infrastructure that exerted a partially regulating effect on behaviour. Technology is universally seen as an enabler. At the level of deal analysis and solution development it was seen as facilitating more sophisticated analyses and as essential in understanding the level of risk involved. The technology was also seen as crucial in terms of information gathering, sharing information and co-ordinating action within and between offices. An early by-product of the system architecture was the development of a detailed knowledge archive accessible on-line by all staff. The open, distributed and user-friendly nature of the technology system reflected the open and learning-focused ethos of the firm generally.

A structural analysis of Centre Re suggests a well managed and thoughtfully structured company designed to provide innovative solutions to complex problems in the highly specialised area of finite risk. Despite its small size (individual offices having between 20 and 30 employees) the firm presents a comprehensive and well integrated set of management practices. However, as with the Andersen case, the management practices uncovered are not considered by the author to be in any sense radical. The organisation respects and rewards its employees well but, in return, expects a high level of commitment and effort. It requires its employees to innovate and so provides them with adequate resources and a loose set of controls to maximise creativity. The main deviations from the generic framework included the low priority afforded to knowledge preservation, a relatively undeveloped training function, a greater drive towards innovation and value-added in the face of growing competition and a company legal form.

(c) The Case of Baltimore Technologies

The description in chapter 7 suggests a relatively close fit between Baltimore and the generic framework. At a structural level, while the firm appears to be a small functional structure, it actually operates as an organic adhocracy. It is also gradually adopting a more network form as it opens offices in different global locations and moves project staff around these diverse locations. It is a private limited company, but like Centre Re, has a very close and co-operative top team that operate in a quasi-partnership mode. All activities are team based. Operational co-ordination is largely by mutual adjustment involving face to face and IT mediated communication. The firm emphasises a flat structure and de-emphasises the importance of grades in its daily operations. Despite this, it has an extensive range of internal staff categories across the different functional areas. Internal networking is extensive and Baltimore engages in a substantial amount of external networking and collaborative partnering.

At a strategic level the firm clearly sees itself as knowledge based focusing on a core and highly theoretical body of cryptographic, mathematics and information science knowledge.

Strategic planning is highly emergent and has a short time horizon. Baltimore is highly responsive to market trends and proactively intervenes to influence and set these trends. As the firm has limited potential to set open market standards it places strong emphasis on the development of applications which lead the market in terms of functionality. Growth is rapid and primarily organic. The firm faces strong international competition and reacts to this pressure through an emphasis on innovation, competitive pricing and leading edge functionality of its products and services.

On the knowledge side there is a balanced emphasis on the importance of both theoretical and applied knowledge gained through industry experience. The underlying cryptographic and mathematical theoretical knowledge enabled the development of products that work. The applied knowledge and experience added functionality to the product and enabled the development of lucrative consultancy services. The terms “skill” and “expertise” are emphasised relative to that of “knowledge”. The core knowledge use by Baltimore is freely available in the public domain and, as such, their success lies in their ability to access and understand this knowledge, use it to develop effective products and apply these products in the design of a successful solution to client’s information security problems. The creative context is as predicted by the model with a heavy emphasis on teamwork, trust, an open and learning environment and a tolerance of mistakes. Knowledge development takes place at a number of levels but is relatively unsophisticated and individualised. On the job training is minimal reflecting the emergent nature of the industry. Some use is made of recruiting employees with relevant experience. Generally, however, responsibility for knowledge development and innovation is pushed down on the employees. The firm supports the individual in terms of access to relevant information via the web, attendance at trade shows and conferences and membership of standard setting bodies. Full and active knowledge sharing is an unquestioned expectation of all employees within the firm. It is ongoing and informal with face to face and e-mail communications predominating. The open and rapidly evolving nature of the information security industry has led to a de-emphasis on knowledge protection within Baltimore. Some use is made of patents and contractual agreements with

clients and partners and there is an emphasis on retaining quality staff. Beyond these measures knowledge protection is afforded low priority. This lack of concern with protection is matched by a strong emphasis on constant innovation. There is no formal monitoring or measuring of knowledge assets.

On the control side Baltimore balances tight formal control, particularly on expenditure and the attainment of expected results, with strong soft or informal control. Employees were expected to get on with the job following the Baltimore way and were subject to overt managerial control only when things went wrong or results were not achieved. The soft control is designed to foster an ethos of innovation and autonomy and is achieved through the inculcation of cultural values stressing hard work, openness, risk taking, flexibility and an identity of superiority. Leadership is deemed important at the level of motivation and direction setting. Quality is emphasised in all aspects of the firm's work but there is no standard and formal quality system in operation.

Turning to human resource issues, again a good match with the generic framework was achieved. Employees are clearly acknowledged as the firm's primary asset. However, there was a clear sense of awareness among the senior management they could do a lot more to nurture. Their current drive for rapid growth left them, for the present, with limited time and resources for staff development. Strategic success was seen as hinging on attaining a certain size. Similarly, strategic success and market reputation is seen as essential in retaining and attracting quality staff. Overall, a sense of future or deferred reward for those exhibiting loyalty was palpable. Recruitment and selection is very selective and almost all employees had relevant third level qualifications. Preference is given to new recruits known to existing employees giving a quasi-nepotistic air to the firm. Internal or intrinsic motivation is emphasised. Formal training for is limited and pressure (with organisational support) is put on individual employees to develop themselves and share any new knowledge. On-the-job learning is also vital and constant evaluative feedback. There is no formal system of advancement within the firm but individuals are facilitated in creating their own progression through the company.

Finally, on the technology side there was a partial deviation from the framework in terms of the strongly regulating impact of the technology in use. Some of the sophisticated technology in use was vital to produce the firm's software products. There was not, however, any clear sense of this technology determining or tightly controlling behaviour. The most visible impact of the technology in use was in facilitating work flows and idea generation with e-mail figuring centrally.

A structural analysis of Baltimore reveals a picture similar to that presented for Centre Re. Its flexible operations, tight knowledge focus and emergent and somewhat adaptive strategic planning process are very similar. There is an equivalent concern with balancing hard and soft control, with minimal formal training and a limited concern with knowledge protection. Baltimore does, however, lay strong emphasis on its underlying theoretical knowledge base and its product focus. As with the two previous cases the author could not see a radical new paradigm of management in operation within the firm. Baltimore clearly identified the need for changes in its procedures and practices as it grew numerically and expanded geographically but these changes envisaged improvements and occasionally more formalisation to existing practices. The prevailing view among the interviewees was that their design and management practices were quite standard but were the most suited to the prevailing environment and constraints facing the firm.

(d) An Integrative Structural Perspective Across the Three Case Studies

Table 8.1 presents a summary case-ordered comparison matrix (Miles and Huberman, 1994) comparing the features of the ideal form with those of Mintzberg's (1979) adhocracy and the three cases. As in the case descriptions, the order of presentation of the variables is not based on a level of importance but on the author's approach to maximising comprehensibility.

Table 8.1**A Case-Ordered Comparison Matrix**

<u>Generic</u>	<u>Mintzberg's</u>	<u>Andersen</u>	<u>Centre Re</u>	<u>Baltimore</u>
<u>Framework</u>	<u>Adhocracy</u>	<u>Consulting</u>		<u>Technologies</u>
Structural Strand				
• Organic	• Organic	• Organic	• Organic	• Organic
• Overlapping teamwork	• Overlapping teamwork	• Overlapping teamwork	• Overlapping teamwork	• Overlapping teamwork
• Three grades	• Numerous grades	• Five grades	• Two grades	• Numerous grades
• Partnership	• Not specified	• Partnership	• Company form	• Company form
• Co-ordination through mutual adjustment	• Co-ordination through mutual adjustment	• Co-ordination through mutual adjustment and formal controls	• Co-ordination through mutual adjustment and formal controls	• Co-ordination through mutual adjustment and formal controls
• Extensive networking	• Extensive networking	• Extensive networking	• Extensive internal networking	• Extensive networking
Strategic Strand:				
• Knowledge focused	• Knowledge focused	• Knowledge focused	• Knowledge focused	• Knowledge focused
• Limited action planning	• Limited action planning	• Centralised action planning	• Limited action planning	• Limited action planning
• Unusual/incoherent strategy development	• Not specified	• Coherent strategy development	• Client-led strategic development	• Academic-led strategic development
• Organic growth	• Not specified	• Organic growth	• Organic growth	• Organic growth
• Standardisation in the face of competition	• Innovation in the face of competition	• Focus on value-added in the face of competition	• Focus on innovation and value –added in the face of competition	• Focus on innovation and functionality in the face of competition
• Faddish	• Not specified	• Client-responsive but integrated solutions	• Client-responsive but market leader	• Market follower and leader

Knowledge Strand:

- | | | | | |
|---|---|---|---|---|
| • Tight focus | • Not specified | • Dispersed | • Tight focus | • Tight focus |
| • High trust, team-based creative context | • High trust, team-based creative context | • High trust, team-based creative context | • High trust, team-based creative context | • High trust, team-based creative context |
| • Extensive knowledge development, sharing and protection | • Extensive informal knowledge development, and sharing | • Extensive knowledge development, sharing and knowledge protection | • Extensive knowledge development and sharing. Little concern with knowledge protection | • Extensive knowledge development and sharing. Little concern with knowledge protection |
| • Monitoring and measuring of knowledge | • Not specified | • No monitoring and measuring of knowledge | • No monitoring and measuring of knowledge | • No monitoring and measuring of knowledge |

Control Strand:

- | | | | | |
|---|--|--|---|--|
| • Culture of collegiality, trust and teamwork | • Culture of collegiality, trust and teamwork | • Culture of collegiality, trust and teamwork | • Culture of collegiality, trust and teamwork | • Culture of collegiality, trust and teamwork |
| • Focus on transformational leadership | • Leaders as environmental scanners, conflict resolvers and project monitoring | • Leaders as strategic planners and project monitors | • Leaders as project monitors and mentors. Focus on self-leadership | • Leader as integrator and motivator. Self-leadership emphasised |
| • Quality focused | • Not specified | • Extensive formal quality assurance system | • Extensive informal quality assurance system | • Extensive informal quality assurance |
| • Financial and knowledge asset management | • Not specified | • Financial but no knowledge asset management | • Financial but no knowledge asset management | • Financial but no knowledge asset management |

Human Resource**Strand:**

- | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| • Careful recruitment and selection | • Careful recruitment and selection | • Careful recruitment and selection | • Careful recruitment and selection | • Careful recruitment and selection |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|

- | | | | | |
|--|---|--|--|--|
| • Mixed motivation policies | • Intrinsic motivation | • Mixed motivation policies | • Mixed motivation policies | • Focus on intrinsic motivation |
| • Egalitarian compensation system | • Not specified | • Egalitarian compensation system | • Discrete compensation system | • Egalitarian compensation system |
| • Extensive training, learning and development | • Extensive training. Limited development | • Extensive training, learning and development | • Focused on individualised training and on-the-job learning | • Focused on individualised training and on-the-job learning |
| • Formal career planning and outplacement | • Not specified | • Formal career planning and outplacement | • No formal career planning / outplacement | • No formal career planning / outplacement |
| • Limited welfare management | • No welfare management | • Limited welfare management | • Limited welfare management | • No welfare management |

Technology Strand:

- | | | | | |
|--|--|--|--|--|
| • Distributed architecture | • Not specified | • Distributed architecture | • Distributed architecture | • Distributed architecture |
| • Sophisticated and non-regulating | • Non-sophisticated and non-regulating | • Sophisticated and partially non-regulating. | • Sophisticated and partially non-regulating | • Sophisticated and partially non-regulating |
| • Facilitating function | • Not specified | • Facilitating function | • Facilitating function | • Work and facilitating function |
| • High focus on Inter-computer communication | • Not specified | • High focus on Inter-computer communication | • High focus on Inter-computer communication | • High focus on Inter-computer communication |
| • Use of software tools and proprietary technology | • Not specified | • Limited use of software tools and proprietary technology | • Limited use of software tools and proprietary technology | • High level of usage use of software tools and proprietary technology on the product development side |

(Source: The Author)

The comparison matrix highlights the clear and substantial commonalities between the generic framework, Mintzberg's (1979) operating adhocracy and the three case studies. The similarities between the case studies are notable despite their obvious size differences, market differences and differing strategic concerns. Overall, all the cases exhibit a good match with the generic framework with none of them matching perfectly. An obvious question posed by this comparison matrix is whether any one of the three firms conforms more closely to the proposed ideal type suggested in the generic framework. While there was no perfect match the author considered Centre Re to be closest to the ideal. This view is not just based on observable structural manifestations but partly reflects the finding to be presented in the next two sections and on the espoused and manifest culture within the firm experienced by the author. Baltimore's strong product focus and its concern with rapid numerical expansion and attendant increase in formalisation were seen as moving the firm away from the ideal type. Andersen Consulting's historical legacy of accounting control, its global standardisation and highly centralised formal strategic planning process rendered the firm somewhat unique. Its drive towards innovation and its seemingly impending split with Arthur Andersen may well reverse this trend and would represent an interesting longitudinal study. While Centre Re equally had important deviations from the ideal, it frequently operated in the spirit of the ideal type. Examples would include its partnership mode of operation, its emergent and unusual strategic orientation, its high emphasis on innovation and de-emphasis on technology and standard procedure.

While there is a general good match between the generic framework and the three cases the research did uncover a number of significant individual deviations from the framework worthy of comment. The generic framework and thus the prevailing mainstream literature appears incorrect in its view on the de-emphasis on formalisation (structural strand) and an associated reliance on soft as opposed to hard controls (control strand) within KIFs. This view was not supported by the finding here. In all three cases there was clear evidence of extensive formalisation in conjunction with strong informal control. Interestingly, all the interviewees did not see these rules, standards and methodologies as restricting their

behaviour. Rather, they appeared to be interpreted as helpful guidelines establishing the parameters of their perceived extensive autonomy. In this sense one could argue that the strong normative controls appeared to de-emphasise the level and impact of the extensive formalisation. All three cases stressed the importance of innovation and improved value-added to the client as their strategic response to competition. The ideal type also appears incorrect in its claim of standardisation in the face of increasing competition. Interestingly, none of the cases threw up additional factors that were omitted from the framework. In all three cases each interviewee was asked for any possible additions that they could suggest for the framework but none were forthcoming.

Looking across the three empirical cases there were a number of differences in practice and implementation. However, most of the variations can, in the author's view, be attributed to differing degrees of development across the firms reflecting variations in size, degree of dispersion, available resources and strategic priorities and to the unique historical development of each firm. A number of noteworthy overlapping commonalities in practice across the cases include:

- A flexible and globally focused networked structure that operates on a non-hierarchical basis yet with an extended internal hierarchy.
- A real or virtual partnership orientation to running the firms among senior managers.
- A clear, though informal, sense of unity and purpose among the employees.
- In two of the cases, the adoption of a loose and emergent approach to strategic planning in the face of an increasingly uncertain business environment.
- A strong emphasis on the provision of non-standardised solutions.
- Extensive but loosely operated teamwork but also time or at least space for individual reflection.
- A high concern with maintaining an impeccable public image and profile achieved, in part, through the strong self-concept, persuasive eloquence and commitment of the core employee.

- Centrality of continuous learning as a cultural manifestation of the firms.
- A prevailing sense of openness and camaraderie among the employees.
- High level of formal hard controls imposed over the behaviour of employees but with a simultaneous perception among employees of very high levels of self-governance and personal responsibility.
- A prevailing work ethic requiring exceptional levels of effort, commitment and loyalty from employees.
- Careful recruitment and selection with a minimal requirement as regards aptitude or expertise and a strong concern with personality, self-motivation and the ability to work as part of a team.
- A focus on balancing the use of intrinsic and extrinsic factors in motivating staff.

The intensely overlapping nature of many of the individual design issues considered in this study emphasise the need for a more holographic conceptualisation (Morgan, 1986) of the design of KIFs. The ability to capture this holographic quality would appear beyond the scope of one dimensional writing and graphics.

Standing back from structural concerns the three cases threw up a high level of confusion and complexity in terms of identifying and verbalising the nature of their respective “*core knowledge*”. The term “*knowledge*” itself appeared to be widely interpreted within and across the three cases but in the end a complex picture of a distributed, ephemeral and variable concept emerged. Theoretical knowledge was acknowledged as important in two of the cases (Centre Re and Baltimore) but in some respects was relegated or at least subsumed within the standard procedures, processes or technologies of the firms. In the case of Andersen Consulting, interviewees had difficulty identifying and/or discussing the core underlying theoretical underpinnings of their activities and placed much greater emphasis on applied knowledge and experience. The following section will give further consideration to this issue.

To conclude this section, it is the author's view, given the close similarities between the three cases, the generic framework and the starting point of the research, namely Mintzberg's (1979) adhocracy, that the management practices within KIFs do not represent a new paradigm of management. Indeed, beyond a growing level of awareness of the importance of managing knowledge, the findings from this research uncovered little new or innovative in terms of organisational structure or general management practice. The apparent growth in interest in knowledge management among all types of organisations may render this particular point of differentiation redundant relatively quickly. Tentative additional support for this view can also be seen in the decline in volume of published research on the topic of KIFs. One possible explanation for this relative decline in interest in researching KIFs, despite a massive growth in both the size and profitability of the sector, is that, internally, their structures and management practices are actually quite boring. This tentative finding that the management practices within these firms are not in any way innovative begs the question as to the true source of their past and continuing remarkable success. Equally important, the tentative research findings presented here would not support the view that KIFs are individually unique entities, interesting to study but impossible to imitate (Starbuck, 1993:918). While imitation of a highly successful KIF within an industry or sector may be extremely difficult and ultimately uneconomic, these case studies do show how a firm can combine a number of relatively available and unsophisticated elements to attain exceptional success. There is room within each industry sector for one dominant KIF and these finding may help one firm take that small step to put them ahead of the pack.

A Processual/Alternative and Communitarian Analysis of the Three Cases

In chapter 3 a processual and "alternative" perspective on knowledge and knowledge work was considered. A number of loosely related literatures were used to portray a general trend away from the dominant functionalistic conceptualisations of knowledge work. The communitarian issue was presented as revolving around issues of identity (Alvesson, 1995), solidarity and significance (Clark, 1973), social order and autonomy (Etzioni, 1997). These

two perspectives were nominally linked through the somewhat undeveloped perspective of KIFs as communities of practice or learning (Blackler, 1995; Brown and Duguid, 1998). The intention of this section is to add to the first level of analysis undertaken above by analysing the three cases from these processual/alternative and communitarian perspectives.

Turning first to the processual/alternative perspective on knowledge, it was suggested earlier that in all three cases there was little clarity over the nature of the knowledge in use. There was some discussion over objective or theoretical knowledge but in all cases the descriptions typically lapsed into discussions about the crucial importance of skills, expertise and intuition. The theoretical knowledge was largely seen as public domain knowledge that could be embedded in methodologies and technology for subsequent context specific manipulation and application. On further questioning an emphasis was placed not on a specific skills but on “...*the mind-set brought to bear on the problem*” and on “...*the way the technology is used*”. This tendency would support Blackler’s (1995) view that one ought not to study knowledge as something someone has but focus on knowing as something somebody does. The research here has also suggested that success in each case is not just attributed to holding and developing a particular body of knowledge and/or expertise. Issues such as sufficient resources, particularly capital, and reputation with clients were also afforded high priority. In Andersen’s one consultant talked about the client seeking approval for work they have already commenced and how sometimes their presence in a company alone adds credibility to a particular course of action. In Centre Re one of the underwriters talked about how, due to the highly innovative nature of their work, they frequently had to convince “*the market*” that their solutions were legitimate. In this sense the role of Centre Re was to come up with a successful innovation but also to convince both client and the market of the acceptability of their offering. While repeat business and maximum financial gain ultimately hinged on the efficiency and effectiveness of the solution, innovative ability and persuasiveness/credibility are clearly of equal importance to the firm. One is no good without the other. Baltimore was somewhat different in that their primary claim to success lay in the technical functionality of their products and related services. Their products had to

conform to the prevailing industry standards but, as was highlighted in chapter 7, Baltimore plays an active role in setting and operationalising these standards. These views support the argument concerning the important symbolic functioning of KIFs (Czarniawska-Joerge, 1990; Alvesson, 1993). Clearly all these success factors are related but affording priority to one, as the KIF literature typically does with its consideration of objective knowledge, is clearly misleading. In all three cases interviewees also talked about the importance of winning key clients in terms of gaining legitimacy within the market. For example Andersen are only interested in dealing with the top 50 organisations in Ireland. Alvesson (1993) refers to similar issues when he discussed how the invisible assets of a KIF are created in and cannot be separated from external relationships. The system operates and is sustained through “*mutual confirmations*” (Alvesson, 1993:1008). The monastic perspective in the next section will add further to this viewpoint. In this regard the author agrees with Alvesson’s (1998:20-21) suggestion that when studying knowledge it is best to conceptualise it as a social process. Viewed as a social process, knowledge not only includes objective/theoretical knowledge but also issues of image, rhetoric, identity, concerns central to any claim to knowledge becoming successful. Relating this issue to the cases, the author found that Baltimore, as a more product oriented and high technology company, placed more visible emphasis on its theoretical knowledge base (mathematics and cryptography). In the other two cases there was a perceived de-emphasis on the importance of objective, theoretical knowledge and an attendant emphasis on issues of rhetoric, image-interaction, intuitive skills and experience. This trend may be related, as suggested by Alvesson, to the increasing level of ambiguity associated with the underlying knowledge of and activities/outputs of these latter two firms. It would also support Ekstedt’s (1990) view on the need to differentiate *pure knowledge companies* with their embrained and encultured knowledge from *high technology companies* with their knowledge embodied in products and technologies. Baltimore would clearly fall into this latter category.

Turning to the issue of community, the argument being made here is that each case exhibits a very deliberate and strong communitarian orientation. While the cases share a

number of these community principles each excelled in slightly different ways. Drawing on the characteristics of professional communities (Goode, 1969:153), the three case studies exhibit many of the necessary features such as:

1. Their members are bound by a sense of communal identity.
2. Limited turnover once inside.
3. Members share common values and have clear role definition.
4. Members have a common language that is only partially understood by outsiders.
5. The community exercises power over its members.
6. The limits of the community are social as opposed to physical or geographical.
7. The community tends to produce the next generation socially through careful selection, training and socialisation processes.

However, the most obvious communal manifestation across the three cases was that of the open sharing of knowledge. In all three cases there was an implicit and explicit acceptance that knowledge had to be shared. It was presented as a given, a core value that transcended narrow self-interest. One of the Andersen consultants explained this concern in the following way:

The culture is very much that if someone is doing something and you have done it before, then even if you are up to your absolute eyeballs you are expected to help them. It's undertaken very much on a favour basis. Chances are that they have done something that you will want from them again. But I have seen people lunatic busy come in here at 9 or 10 in the evening to go through a past project with someone for an hour. Nobody hoards knowledge here.

One of the Centre Re underwriters expressed a similar view. Commenting on his first year in the firm he highlighted the total openness within the firm:

But the other thing I was amazed at was people's openness and willingness to share their knowledge with you. People would genuinely try and teach you all they knew.

In Baltimore, knowledge sharing was again seen as “...*crucial to the survival of this firm*” (quote from one of the managers) and developed informally both within the firm and between the firm and its clients. The monastic perspective will return to reinforce this viewpoint when discussing the core monastic principle of common property.

Beyond this central concern with knowledge sharing, issues of community manifest themselves across the three firms in different ways. Within Andersen Consulting there was a clear sense of the development of a single global community within the firm. One of the firm’s core competencies is its global experience and for this to happen there needs to be a global memory. The primary manifestation of this can be seen in the massive effort by the firm to develop and codify its experience at a formal level through the knowledge exchange. This technological system is reinforced through and reinforces a social norm of global co-operation and trust. This informal social network is vital in gleaning knowledge and insights not amenable to codification or public broadcast. A number of Andersen interviewees talked about being part of a global community and how they could only sell their global experience if it was shared among themselves. The geographically dispersed nature of the firm’s formal training programme and the deliberately international diverse composition of these training programmes reinforce this sense of a global diversity within the firm. The concept of community has also recently become a formal part of the Andersen corporate language. One consultant talked about “*competency communities*” where competency specialists from a number of countries will meet on a bimonthly basis to talk about current and future developments. One manager saw the purpose of these competency days as to “...*provide a sense of belonging and an opportunity to network with others in your competency*”. This sense of a single Andersen global community is balanced by an equal emphasis on the local community. In the Dublin and other national offices there are “*community communication days*” twice a week (Christmas and mid-summer) where, as one manager put it “...*everyone catches up with the major projects, who’s doing what, who’s been promoted*”. These days involve all the staff of the Dublin office and are held in a single venue. One of the Dublin managers explained how they had to make a major effort to maintain a sense of the Dublin

community and will pay for employees working overseas to return for these community days. Commenting on this latter practice she explained *“It’s very much, I suppose, a communication to everyone that you are still valued as a member of the Dublin office, even if you are working in South Africa”*.

In Centre Re, the sense of a global community was not as strong despite the firm’s international nature. The firm maintained a distinct identity within the Zurich group. They saw themselves as the innovators and risk takers. As mentioned in chapter 3, one senior manager proudly boasted how Centre Re, with around 300 employees, made around 20% of the total profits within the Zurich Group with its 50,000 employees. The most forceful issue within this firm was the intensity and openness of the cross-functional teamwork. There was also an intense closeness between the firm and its clients, a situation aided by the limited number of clients it handles each year. There was also a clear sense of local identity within the Dublin office. Many of the staff were of Irish nationality and identified this as important. Leaving aside the nationality issue, the author sensed an air of superiority among the Dublin core “production” staff, a situation reinforced by the remarkable profitability of the office over time.

Turning to Baltimore, the most distinctive communal manifestation within that study was the openness they foster within the industry itself. The norm of common open standards and the relatively undeveloped nature of their industry encourage a level of openness across firms. Within Baltimore this can be seen in their disinterest in the use of patents and other legal mechanisms to protect their knowledge base. Their attitude is that all relevant theoretical, scientific and technical knowledge is and ought to be available in the public domain for the benefit of the community as a whole. Baltimore clearly feel that they can make better use of this commonly available knowledge but still wholeheartedly contribute to the community development process. In addition, two of the interviewees talked about the almost artificial sense of competition existing within the industry. Individual firms alternate between competing, collaborating or simply peaceful coexistence with other KIFs adding to a sense of community within the industry. Like Andersens and Centre Re, the norm of

knowledge sharing within Baltimore is a given. There is an absence of procedure imposed on staff and little effort at codifying bodies of knowledge. The assumption is that the relevant knowledge is automatically shared among the necessary staff. They know what needs to be done.

Looking across all three cases, the following communal/Gemeinschaft tendencies were in evidence:

- High individual commitment in evidence through extremely high levels of loyalty and work effort. This is achieved through a range of mechanisms such as phenomenal time investment (work and travel), the inculcation of a clear communal identity, high trust in return for high levels of respect and responsibility. The down side of this high commitment can be seen in bouts of intense stress and a general absence of family life.
- Openness in terms of collective sharing of knowledge and insights. A consensus existed that the pooling of physical and intellectual resources was vital to achieve a successful client-focused outcome.
- An ideal of order, harmony and experimentation (Kanter, 1972). In all three cases there was a stated acceptance of accepting and learning from mistakes made due to valid experimentation and an acceptance of espoused core values to ensuring effective collaboration and a level of order to ensure continuity.
- Centrality of life long learning (Kanter, 1972). All firms had a range of ongoing learning practices (formal, informal and on-the-job) with an organisational-wide, team and individual orientations. Learning and knowledge development were seen as unending and constantly evolving and shifting processes.

One small aspect of community raised informally in all three cases was the issue of size. Kanter (1972) talks about communities being relatively small concerns that run into trouble when they expand. All three cases were concerned about the interrelationship between increasing size and a consequential loss of community but their strategies were different. Centre Re openly stated that the close communal system they operate can only function in

numbers below 30. Their strategy for dealing with growth is to set up new offices and promote senior staff to positions of control within these new offices. Baltimore also saw their close communal and informal arrangements as changing as they grow. This loss in communalism was seen as a necessary cost of having the necessary scale to compete for large projects on a global scale. They also set up new operational offices overseas but envisaged the Dublin office growing rapidly to around 300 staff. Andersen Consulting clearly have Baltimore's desired level of scale in its Dublin office and present awesome scale at a global level. As mentioned earlier, their approach to this problem appears to be one of re-emphasising the local and developing communities of international competency specialisms.

The argument being made here is that successful KIFs appear to have a strong, overt and deliberate concern with issues of community but that this concern also manifests itself at different levels and in different ways across firms. The dominant image emerging from a communitarian perspective is one of *Gemeinschaft*. The focus is on the creation of conditioned emotions or sentiment (Clark, 1972) centrally revolving around the fostering of social cohesion, solidarity and significance. It is worth stressing that structural issues also play a central role in the creation and fostering of this highly charged emotional situation (Kanter, 1973; Alvesson, 1995a) complementing and reinforcing innovative and adaptable behaviour. The analysis of the monastic perspective in the next section will briefly reinforce this view.

The Monastic Perspective on Contemporary KIFs

One of the peculiarly abiding memories of the author of the interview stage of this piece of research was the hushed and almost reverential atmosphere within the offices of the three locations. This almost monastic atmosphere of quiet and contemplative reflection struck the author as unusual given the stereotype of the frenetic, team based and stressed out knowledge worker he held. On reflection, the atmosphere made sense. The monastic perspective, drawn from chapter 4, overlaps considerably with the two previous levels of

analysis having clear implications at a structural and community level but also in a manner that is uniquely monastic. While many of these issues have already been addressed above they are alluded to again here to stress the considerable explanatory potential of this unique monastic perspective. At the level of structural and design, the experience of early Irish monasticism provides an impressive set of parallels with contemporary KIFs both at the level of the ideal type and the specific experiences of the three case studies. Both institutional forms favour a flexible, geographically dispersed network form of structure. Teamwork is a central feature of both forms allowing a level of specialisation and, through collaboration, extensive knowledge sharing and the development of a communal orientation. Both forms portray an image of a flat hierarchy but actually exhibit an extended scale of grades and offices - an issue already addressed when considering community. On the strategic side, leaving aside the peculiarities of Andersen Consulting, both forms have a clear and unifying mission but little sense of elaborate strategic planning. That said, all of the activities of both forms are driven by a clear strategic intent albeit an emergent one. Both forms emphasise organic growth exhibiting wide variations in the size of individual units and a preference in establishing geographically dispersed units as a means of reaching a desirable economy of scale. In the face of external competition over clients or patrons each form exhibits a tendency to stress its own unique strengths and abilities and undertake a range of marketing and publicity devices to heighten their public profile and claims to prowess. On the knowledge side, both lay emphasis on a relatively discrete body of knowledge but emphasise interpretation and applied skills or expertise in terms of exploiting their core knowledge. Knowledge development is highly emphasised in both camps fostered through a combination of individual and collective learning. Both forms offer their employees isolated conversation spaces punctuated by opportunity for communal interaction (Boland and Tenkasi, 1995). Knowledge protection is emphasised partially through codification but also by a focus on retaining employees/members and continuous development and innovation. Both see knowledge sharing within the organisation and externally between the organisation and its clients as a core philosophy. In both camps a high level of emphasis is placed on both formal

and informal or social control. Both camps aim to produce a high level of obedience with extensive use made of rules and formal work procedures and standards. At the same time, both systems aim to generate high commitment and high levels of responsibility and autonomy partially as a motivator but also as a means of enabling dispersed activity. Members could operate outside the cloister but still remain “*inside*” as long as they did not exceed their abbatical brief. On the human resource side both camps operate a very selective recruitment policy. A strong focus is placed on certain attitudinal or personality traits. Learning, in the form of formal and on-the-job training and an emphasis on continuous self-development are stressed on both sides. Finally, the technology used to undertake the core service activity within both forms is relatively unsophisticated and non-regulating. The core concern with the technology with both forms is to aid comprehension and interpretation and to facilitate knowledge dispersion and protection. The implications of relative sophistication of the design and management practices within early Irish monasticism and the remarkable similarities between their structural and design practices and contemporary KIFs, despite the 1,000 year separation, will be discussed in the concluding chapter, chapter 9.

While the study of early Irish monasticism is of interest in terms of its organisational structure and design it also has a clear contribution to make to the communal perspective on KIFs and to the broader conceptualisation of community itself. The structural practices outlined above combined with a distinct set of community principles and ideals to produce what was referred to earlier as “*total institutions*” (Kanter, 1972). Two important points concerning monastic communities that have important implications for KIFs need to be stressed at this juncture. The first concerns the importance of structural and managerial mechanisms in creating and reinforcing the sense of community in evidence within early Irish monasticism. Issues of location, selection, socialisation, education, rules, codes of lifestyle and dress (issues centrally involving identity and significance) initially aided the development of an intense internal community. This intense system of control facilitated the development of an extended network of related daughter houses and of the wider community of patrons and clients. The unique dress, appearance, lifestyle, language and knowledge of

the monks elevated their identity in the prevailing society. They were perceived as special and influential. The author had direct experience of the relevance of this issue to contemporary KIFs in the lengthy negotiations undertaken to gain access to the three firms. Each KIF was intensely sensitive of their public image and reluctant to let a researcher have free rein within their organisations. The second related point concerns the monastic conceptualisation of community as one transcending strict organisational and locational boundaries to encompass related organisations, clients and patrons and ultimately the wider Christian community (Bitel, 1990). Both these issues are relevant to an understanding of the three case studies. In two of the case studies, Centre Re and Baltimore, there was a clear sense of this desire to expand geographically by sending off an experienced employee to set up and run a new office. These individuals could be trusted and carried with them the essential ethos of the firm. Like the monastic daughter houses these new offices aid geographical expansion without causing any excessive drain on the parent house. The concept of an extended community to encompass associated companies, clients and patrons was also in evidence in the three cases. They all talked about “*long-term partnering*” with clients and were prepared to share both gains and costs with their clients. Like the monasteries, there was also a sense of special clients getting “*inner access*” (more partner and senior attention, good seats at the sponsored conferences, special trips and treatment).

The monastic perspective also provides room for contemplation about issues of internal consistency, an issue deemed important in explaining the success and uniqueness of successful KIFs (Starbuck, 1993). Chapter 4 highlighted the peculiar mix that anachoretic and apostolic ideals present in early Irish monasticism, their unusual union of difficult and occasionally liberal study and hard discipline, of autonomous individuality and strict social order and their happy synthesis of authority and anarchy. The suggestion made here and reinforced by similar experiences within the three case studies is that issues of community and identity are ultimately central in holding these inconsistent elements together.

Two remaining monastic applications merit brief discussion. The first concerns issues of gender. This is a difficult and sensitive issue to address given the relatively

superficial investigation carried out on the topic within the three cases. The author does consider it important and raises it here at least in the sense of flagging a topic worthy of future research. In the discussion on early Irish monasticism the aggressive missionary zeal and success of early abbesses was contrasted with a more subservient and service oriented female religious of the post-missionary phase. Relating this loosely to KIFs one also gets a tiered sense of female participation. In all three cases there was a limited level of female participation at senior levels. From indirect discussions with various interviewees one got a possibly biased image of these “successful” female managers as aggressive, ambitious women of exceptional ability and determination. The author’s view on this issue, drawing on the monastic material and on Starbuck’s (1993) reference to the success of his case study being built on broken marriages, is to highlight the potentially chaste and genderless image of the entire senior group. Work was paramount. Family and spouse were secondary considerations. Like the early wandering Irish monks, workers in the three cases recounted tales of overseas travel undertaken at extremely short notice. One particular interviewee had to reschedule his interview with the author five times due to complications in a major deal necessitating immediate overseas travel.

The final monastic issue of clear application to KIFs concerns their approach to and use of knowledge. The monastic ethos, explained in chapter 4, was that any knowledge not absolutely opposed to the teaching of Christianity was of value in aiding interpretation. They also excelled at repackaging, reinterpreting and reusing others’ knowledge as their own. Again clear parallel can be seen in the activities of the two service-oriented case studies where old knowledge is constantly reused, improved upon and reinterpreted to suit changing circumstances.

To conclude this monastic perspective it is argued here that KIFs, like early Irish monastic communities, can be seen as a loosely structured occupational grouping. Through various activities they enmesh their clients in a complicated web of involvement somewhat akin to the concept of reciprocal obligation seen in early Irish monasticism. Collectively they offer to look after the mind and body of their clients. Both consultant and client have a

vested interest in making the system work. Like the early Irish monks the knowledge workers within KIFs have become the holders of a form of moral authority. They have become the monks or prophets of late modernity. Figure 5.1 shows an advertisement from the Irish Times of 18 September, 1998. The image of consultant as prophet is blunt.

Figure 8.1 Recruitment Advertisement for BFK Design Ltd.

Prophet required...

Prophet, visionary, strategist, planner or guru - whatever your title, we want to talk to you.

BFK, one of Ireland's top graphic design and marketing consultancies, is aggressively expanding its international business. To bring us into the new century, we're looking for a brand strategist.



The ideal candidate has international experience on both the client and consultancy sides of brand management.

Our plan is to become a force in strategically-based international design. If you have what it takes to make things happen and want to be part of this new team, send your CV marked for the attention of Kevin Barry.

...to improve our clients'
Profits

BFK Design Ltd

Block 5
Westland Square
Pearse Street
Dublin 2
Ireland

Telephone + 353 (0) 1 671 8844
Fax + 353 (0) 1 671 8045
ISDN + 353 (0) 1 635 0146
E-mail info@bfk.ie
Website www.bfk.ie

ISO 9001 Registered Company

(Source: Irish Times of 18 September, 1998.)

Conclusions

This chapter has presented three overlapping analytical perspectives aimed at understanding the complexity of contemporary KIFs. The first perspective with its focus on structure and design presented a view of KIFs as conforming to a loose ideal type configuration. The analysis supports the view of clear structure and design commonalities between the three cases and the ideal type. Tentative adjustments to the ideal type were proposed. However, these practices, even in their ideal form, are not considered to represent an exciting new paradigm of management. The second perspective considered KIFs from a processual/alternative and communitarian viewpoint. At the processual/alternative level, the findings generally supported a de-emphasis on objective theoretical knowledge and, in the case of the more service oriented KIFs at least, a greater focus on social/contextual concerns such as legitimization and credibility. At the communitarian level, the findings supported the view of KIFs as communal organisations but reinforced the viewpoint that community is as much concerned with issues of structure and control as with issues of values and principles. Finally, the monastic perspective reinforced the two previous levels of analysis (structure and community/alternative) and introduced some uniquely monastic perspectives on the nature and activities of KIFs.

Chapter 9: General Conclusions

In the introduction to this thesis three research questions were outlined namely:

1. Is it meaningful to talk about professional service KIFs as a specific and identifiable category of firm that has emerged in the current period of late modernity?
2. What factors need to be considered in explaining the success of this narrowly defined group of highly successful KIFs?
3. Do the management practices within these firms represent a new paradigm of management?

The answers to these questions as outlined in this thesis present a somewhat confused picture rendering it difficult to disentangle the three issues but also encouraging one to hold back on definitive claims. The overall weak conceptual and theoretical underpinning in evidence in much of the literature addressing this area of study adds to the confused picture. Adopting an empiricist's perspective, one could argue that the ideal form (Weber, 1978) developed and empirically tested in this thesis suggests that it is possible to talk about professional service KIFs as a meaningful category or at least sub-category of firm. No claims are made as to the potential for generalisation from the narrow KIF sub-category to the wider population of organisations but, like Alvesson, (1995a), this author would argue that other categories of organisations can learn from these findings. The research methods section in appendix 1 addresses this generalisation issue in more detail. This classificatory perspective also finds that the structure and design practices of contemporary professional service KIFs are not particularly innovative and that these organisational forms are not radically different from other modernist organisations. While the three case studies clearly do certain things exceptionally well and combine unusual and seemingly contradictory practices to good effect, their activities cannot be considered a new paradigm of management. It also suggests that this emerging reality is one reason why interest in researching the general KIF category has waned. Research interest has shifted to broader concerns with communities of practice and learning. While KIFs, as defined in this thesis, can clearly be encompassed within this latter area of research, so too do many other categories of manufacturing and service

organisations. Within this broader field, the perceived uniqueness of KIFs and their quasi-monopoly as to knowledge-intensiveness is gone. At an empirical level, and drawing on the communitarian and monastic perspectives this thesis also adds another voice and angle to the partially symbolic or legitimising role of KIFs and of the mutual benefits to be gained by both provider and recipient in this complex process (Alvesson, 1993).

While the ideal form presented here clearly imposes a neat order to the description of KIFs it clearly does not represent a single privileged site from which to understand KIFs and their world. It is a valid viewpoint but only one of many. In this regard, an important contribution of this thesis is to present KIFs as “*plural forms*” (Jeffrey, 1991). Plural form in this sense is where “...*different control mechanisms in the same organisational structure are operated simultaneously by a company to perform the same function*” (Jeffrey, 1991:278). Borrowing from Frances et al. (1991:5) and their intermediate theoretical categories of markets, hierarchy and networks, KIFs have been presented here as governed by market mechanisms (size requirements, pricing practices), hierarchy (rules, regulations) and internal and external networks of social or communal relations (community). The monastic case clearly illustrates the vital interaction between at least two of these factors. Contemporary KIFs, as illustrated in the three case studies in this thesis, are put forward here as hybrids resulting from different combinations of interdependent forms of co-ordination both within the individual firm and between firms and clients. Viewed from this more holistic perspective KIFs may be put forward as a new organisational form. In any event, the level of conceptual complexity required to view KIFs from this perspective begins to do justice to their complexity and encourages a welcome move away from simplistic classificatory contributions.

Another important contribution of this thesis is in the area of conceptualisations of community. The continuing importance of this concept within organisational studies has been highlighted. Community principles favourable to openness and trust were identified. The study has added support to the emerging view of the importance of structure in developing high social cohesion (Alvesson, 1995a: 312) a view initially advanced by Kanter

back in 1972. This conceptualisation of community counters the internal bias prevalent in the conceptualisations of community with the community of practice literature. Drawing on the literature on virtual communities and on the concept of community within early Irish monasticism, a non-geographically constrained and strongly external focused concept of community emerges. It is important to stress here that the aim of this thesis is not to put forward a deterministic model of community but to highlight the potential of the monastic approach to community to provide an internalist and externalist insight into the seemingly peculiar activities and success of contemporary KIFs. The image of community presented here is not a utopian one. The potential downside of the community concept has been alluded to, some aspects of which were in evidence within early Irish monasticism and in the three contemporary case studies. However, my concern with community has been to draw out its explanatory abilities and not to promote it as a desirable or undesirable social form. That said, I, like Etzioni (1997:130), see a value in reintroducing community onto the organisational studies agenda, incorporating that which is good (trust, open participation, dialogue and truly shared values) and severing that which is undesirable (elitism, exclusion, discrimination). The monastic model presented in chapter 4 was an extreme and closed model offering little opportunity for escape for those who wished to exit. It extolled a relatively monolithic set of virtues legitimising an established and rigid hierarchy and domineering social order. It represented total monopolistic power over members (Etzioni, 1997:128). However, modern community members have multiple sources of attachment within and outside work. This multi-community membership “...*protects the individuals from both moral oppression and ostracism, it mutes the moral voice to some extent*” (Etzioni, 1997:128). The findings here suggest that employees remain with the case study firms by choice and due to the rewards, both intrinsic and extrinsic, on offer. While requiring intense effort from employees at times, these firms are not coercive and the employees have a range of immediate alternative employment opportunities. Etzioni adds to this argument in the following way:

Dominance by power elites and other forms of authoritarianism are not basic or inherent features of community but reflections of the way it can be distorted. For communities to be fully or even highly communitarian, they require the authentic commitment of most – if not all – of their members to a set of core values. To attain such a commitment, the values that are being fostered need to be (a) truly accepted by the members and (b) responsive to their underlying needs.

(Etzioni, 1997:129/30).

Power can be abused within communities but it will be achieved at a loss of their moral order which, if continued, will result in the destruction of the community or its transformation into some non-communitarian form.

The third important contribution of this thesis is in its focus on the potential of premodern organisational theory. KIFs are clearly important features of late modernity but they were also important features of other older epochs. This thesis provides a strong historical perspective on KIFs in the face of clear and deliberate ahistoricism of the current literature. While the theme of premodern organisational theory remains relatively undeveloped it presents a challenging area of future development (Burrell, 1997: Blaug, 1999). In the face of growing unease with the modernist paradigm of organisational theory and increasing uncertainty as to the emergence of a valid postmodern alternative (Alvesson, 1995b), the suggestion here is that much can be learned by looking back, adopting a “*retro*” view (Burrell, 1997). In an Enlightenment sense, the premodern is bad, representing dogma, superstition, ignorance, absolutism and autocracy. While premodern concerns can be seen, like their modernist counterparts, as totalising combinations of power and knowledge to establish narrow regimes of truth, it also has positive potential. Rosile and Boje (1996) talk about premodern organisations as a “...*mythical and nomadic journey, defending preindustrial artisan craftsmanship, spirituality, family and a strong sense of community over economic rationality*” (p.227). In this regard it has much to recommend it. Drawing on the Irish monastic example developed in this thesis, positive issues to emerge include:

- a clear differentiation of and sensitivity towards the individual within a communal setting,
- an external and liberal orientation to knowledge development,
- the ability of the monastic communities to maintain a level of independence from patrons in the interest of the wider Christian community despite strong reliance on them for finance, labour and physical protection.
- an organisational system which successfully mixed custom and practice with a rational organisational design and associated set of managerial practices
- their ability to develop a distinctive and enduring form of ideological hegemony.

The premodern influence still surrounds us. Indeed, as I write these concluding words and my mind begins to shift its concern to issues of the impending oral examination, I am struck by Rosile and Boje's view that the PhD. oral is the most direct and ritualised carryover from the Spanish inquisition. In their words the oral is "...*a spectacular display of power potency, a manifest gaze of the sovereign, an inversion of invisibility*" (1996:230). Similarly, Lefebvre (1997:16) talks about the equivalence between medieval knighthoods and the contemporary conferring of Ph.D.s.

The major criticism of premodern organisational forms and management practice tends to focus on their disorganisation, limited scale of production and poor efficiency levels. Clegg and Dunkerley (1980), drawing on their brief consideration of the ancient guild system conclude that preindustrial and pre-capitalist modes of production were "...*neither complex organizational arrangements nor complex ideological bulwarks*" (1980:71). While not disagreeing with this viewpoint, the case made here is that if one considers premodern service organisations then a different and fundamentally more complex picture emerges.

Turning to the particular premodern contribution of this thesis, that of early Irish Monasticism, some concluding comments seem appropriate. Part of the impetus to investigate this topic came from the work of Lefebvre's (1996). He puts forward a rather

utopian concept of abbey-management as a means of reconsidering medieval values, traditions and customs in the development of 21st century management. His underlying model is that of the adventurous and progressive wandering Irish monk of the 6th century acting in a pure and communal manner (Lefebvre, 1997:14). Central to his conceptualisation of abbey-management is “...*a system of organisation among equals and peer in which the access to office and power is irrevocably linked to the leaving of the same office and power at a specific time in the future to allow the powerful to move back to the ranks from where they were picked in the first place*” (1996:14). Such a monastic system would ensure the more equitable and humanistic exercise of managerial power within organisations. While this view may potentially be true and may have application to continental monasticism, as we have seen in this thesis, the model underpinning early Irish monasticism was far from democratic and bears no relation to Lefebvre’s ideal. At the same time, insights into early Irish monasticism are clearly of value in understanding the nature of contemporary KIFs.

The case has already been made in chapter 8 that contemporary KIFs share many of the appearances and practices of early medieval Irish monasteries. The associated question then becomes one of how far this comparison can be taken. Two broad issues, partially raised in chapter 4, suggest considerable potential to extend the comparison. First, the analysis of the functioning of the early Irish monastic communities stressed the importance played by the unifying and focusing role of their Christian mission. The monks were uniquely united in their role as the creators and guardians of an impartial Christian community. This mission was obviously a unique and focusing device, both at an individual and communal level. An individual monk could justify all forms of hardship on the basis of this unending mission, the enthusiastic pursuit of which would guarantee him eternal salvation. At the same time, the monks knew that to succeed in their mission they would need to collaborate. The pursuit of this common monastic mission still permitted a high level of individualism and heterogeneity within the monastic sector. The suggestion made here is that contemporary KIFs are united around a similar grand narrative or theme namely that of

the free market, globalisation and the information/knowledge society. These themes echo constantly throughout public literature of the three cases studies.

Remaining with this theme of the centrality of the religious mission during the Middle Ages, one could argue that the emergence of a secularisation and democratisation of society during the 18th century has reduced the influence of religious knowledge. Religion as dogma has declined in its relative social importance as have the holders of religious knowledge. On this basis there is scope for a new pretender on the block and the knowledge workers in KIFs can be seen to have assumed the mantle of the religious monk. A further twist in this argument to de-emphasise the importance of religious knowledge can be gleaned by viewing the religious mission of the Middle Ages as a complex and largely symbolic concept. Schmitt (1998) argues for caution in interpreting the term “*religion*” in a Middle Age context. He suggests that the 19th century interpretation of religion as an individualised one affording a high level of privilege belief and faith, to assent to certain propositions as well as strong inner conviction, has coloured historical interpretations of medieval religion. In a medieval context, Schmitt prefers to use the alternative term “*culture*” or to focus on the “*religious*” as opposed to religion. He explains his perspective on medieval religion as “...above all participation in rituals and even more generally participation in an entire social organisation and in the sum of symbolic practices and of relationships of meaning among men, between men and the divine”(1998:384). A focus on religion as ritual encourages a view that merges culture and religion, of mediating relationships within a community, of religion, like magic, as a form of politics based on language and as an instrument of social conflict (Schmitt, 1998:384). Viewed from this perspective, the importance of religious knowledge as a knowledge type during the Middle Ages becomes somewhat irrelevant. The issue of central importance becomes one of relationships and associations (Brown, 1971, 1982). Knowledge claims, whatever their nature, help underpin the associations but are not the central focus. On the same theme, Schmitt argues that the medieval concept of faith, *fides*, was also different from its modern usage. The medieval concept of faith was one designating belief and commitment to a whole social organisation

(*fides christiana*) and not just what we call “*the faith*,” (Schmitt, 1998:384). The parallels here with contemporary KIFs and their emphasis on issues other than objective knowledge in explaining their success is obvious. A final angle on the theme of religious knowledge is that the monks of the early medieval period clearly were perceived as holding essential spiritual power. The suggestion here is that KIF, not Comte’s or Bell’s scientists, constitute the new dominant ideologists of the contemporary period.

The second theme argued briefly in chapter 4 was the idea that the Irish monks came to prominence in and were able to exploit a period of particularly high social anxiety, uncertainty and ambiguity (Barber, 1984:29). This 1,000 year *medium aevum*, a middle time between the end of the Roman Empire and the revival of classical ideals, was, at least at its start and end, marked by a high level of anarchy, uncertainty and fear (Russell, 1995:364). One view is that this context has fundamentally changed and similar opportunities are not available to any contemporary organisational form. The doubt, fear, inward focus and isolationism of the early Middle Ages have long since past and no comparable contemporary opportunity exists in which KIFs can flourish. This view can be debated particularly when one considers the monastic role in terms of the uncertainty. Barber (1992:24) talks of two fundamental social ideals pervading the medieval period. The first ideal was that society had a natural hierarchical order, as had heaven. Great rulers had a right to preside at the top of the hierarchy and the smooth functioning of society required that others uncomplainingly assumed their preordained roles. The second ideal was that decay and death were inevitable and so the spiritual and eternal were a dominant concern. Within this milieu, religious knowledge was paramount. Adherence to Christian beliefs was vital, a precondition for the membership of society and the only way to save one’s soul from eternal damnation. The clergy controlled religious knowledge acting as intercessors between the heavenly and earthly realm becoming the “...*exclusive guardians and interpreters of the truth*” (Barber, 1992:26). They also supported and propagated the hierarchical model of society assuming a prominent and central place in the hierarchy in their desire for a durable peace and Christian social order. Within the religious community, the highest expression of Christian life was

afforded to the monks. These austere, superior and strongly independent monastic communities played a key function as the sages, saints and sophists of local society and the growing tide of irrationality during the early Middle ages added to the considerable material and spiritual influence they commanded. Interestingly, it was the moral force of monastic reformers that played a key role in rebuilding of Western civilisation after 1000 AD (Russell, 1995: 394).

We thus come to the question as to whether it can be claimed that an epoch equivalent to the uncertainty of the early Middle Ages now faces contemporary KIFs. There is a diverse and confusing literature on the issues of contemporary uncertainty. Chapter 1 has already painted a picture of an increasingly complex and uncertain contemporary society. The contemporary confusion and ambiguity of the contemporary period is well captured in postmodern writings (Harvey, 1990; Lyotard, 1991; Rosenau, 1992:14; Crook et al., 1992) and its concern with “...*the fundamental uncontrollability of meaning*” (Alvesson, 1995:1051). The suggestion here is that the primary beneficiaries of this uncertainty are KIFs. The comments of one senior underwriter in Centre Re are appropriate here. When asked if business was contingent on uncertainty he said: “*If uncertainty disappears everyone goes out of business!*” KIFs have repositioned themselves as the mediators of this new uncertain order. They thrive because they bring valuable “expertise” to bear on uncertainty to create a temporary stability (at minimum by creating a level playing field within an industry sector). They absorb the uncertainty, hiding complexity and legitimising certain courses of action. In this way their role, in part at least, can be seen in symbolic terms (Czarniawska-Joerges, 1990, Alvesson, 1993, Clark and Salaman, 1996). Adopting this symbolic perspective one could argue that KIFs have developed a contemporary symbolic game of mutual relationships and associations so successfully undertaken by the Irish monks. They are the mediators between market institutions and firms and between competing firms themselves. Warren (1985) suggests that the anchorite within monasticism was seen not only as a passionate and uniquely religious individual but also a “...*carrier of the moods of*

contemporary society”(p.17). A similar view is expressed here in terms of KIFs and their knowledge workers.

The final issue to be raised in this concluding chapter concerns issues of time, in particular the issue of linearity and circularity in history. Ireland can claim to have once been an influential knowledge society and is currently laying claim again to this title. Stehr refers to ancient knowledge societies such as ancient Israel, “...*a society structured by its religious law-like Tora-Knowledge*” and ancient Egypt as “...*a society in which religious, astronomical and agrarian knowledge served as the organizing principle and the basis of authority*” (1994:9). While the contemporary knowledge epoch has some clear differences compared to periods in the past, the bland linearity of many of the claims concerning the emergence of a new knowledge society are clearly misleading and short-sighted. Similarly, claims as to the innovative nature of contemporary KIFs are equally misguided and need to be grounded in a more historical frame of mind. One simple example of recent vintage concerns the establishment and running of Station X, the codebreakers of Bletchley Park (Smith, 1998). The issues of the selection, control and motivation of these exceptional knowledge workers and on the nature of the knowledge they used are of direct relevance to the sophisticated knowledge worker of the late 1990s. Clearly there remains a vast and largely hidden potential of early and premodern organisational experience to enlighten contemporary organisational and managerial thought.

To conclude, KIFs are a meaningful, identifiable category of firm that while prevalent and highly influential in late modernity have clear historical precedent both in terms of appearance and type and range of activity. Their success is attributable to a combination of factors, environmental, structural and communal and the tensions and contradictions that arise from their interaction. Their management practices represent a complex and dynamic mix that do not lend themselves to singular or all-embracing classification and that, once again, have historical resonances. Their complexity reflects the complexity of the total organisational arrangements.

Appendix 1

Research Methods

The methodology adopted in this study can be examined at a number of levels. Initially, the development of the generic theoretical framework in chapter 2 can be seen as a form of synthetic case review (Roche, 1997:119) using existing case studies to develop original theory through rearranging or recombining existing findings in new ways. The empirical core of the research, however, involves the use of multiple exploratory case studies to investigate the utility of the generic framework developed in chapter 2. This approach is aimed at obtaining an holistic insider-perspective on a certain number of themes surrounding the management and design of knowledge-intensive firms and, ultimately, at evaluating the broad claims as to the emergence of a new paradigm of management within knowledge work. It is not intended to engage in a detailed account of the established pedigree of the case study methodology (Porter, 1980; Kanter, 1983; Pettigrew, 1985; Hamel, 1991) or, indeed, a justification of its legitimacy as this latter issue has been and continues to be extensively debated elsewhere (Yin, 1991, 1994; Morgan and Smircich, 1980; Burgess, 1982a, 1982b; Van Maanen, 1983; Pettigrew, 1985; Bryman, 1988; Miles and Huberman, 1991; Pettigrew and Whipp, 1991). Rather, the intention here is to provide information on, and a justification of, the steps taken and issues examined.

Given the complex and dynamic character of the issues under consideration, coupled with the undeveloped nature of both theory and literature on the topic, a qualitative case study approach was deemed most appropriate. The approach used semi-structured, on-site interviews across the three cases (Whyte, 1982; Eisenhardt, 1989). The interviews were based around a relatively precise set of research questions drawn from an explicit conceptual framework. The informal interview schedule used to guide the semi-structured interviewing process is detailed below. The main headings in the interview schedule were treated as non-directive and open-ended questions and the subsidiary headings treated as probes. The probes were used to follow up on the responses and to focus the interviewees' mind on areas deemed significant (Patton, 1990: 327). The structure of the generic framework from chapter

2, combined with the narrative within and across the interviews, were the primary mechanisms for structuring and reporting the data gathered. The original interview material was supplemented by a range of secondary sources that were used to triangulate between the literature review material and the primary data and to cross-check inferences.

Developing further the view of the methodology adopted, it can be argued that the exploratory study can be seen as following a multiple case design involving a replication strategy (Yin, 1994:36). The focus here is on seeking to extend the scope of the case-based generalisations as widely as possible and improving the validity of these non-statistical generalisations. This is achieved by stratifying case selection in a number of important respects. Each of the three case studies can be clearly regarded as falling within the narrow definition of a KIF outlined in chapter 1. Each is a professional service firm engaged in the provision of tailored services to corporate clients with its employees' problem solving capacity being espoused as its primary and most valuable asset. The three cases also adopt a global orientation to conducting business. Despite these strong similarities the three cases also differed in important ways. Each of the firms is involved in a relatively distinct core line of business (management consultancy, finite reinsurance and software development) and would be more likely to co-operate than compete in dealing with a common client. This diversity of activities was deemed important in terms of testing the limits of the KIF category, in particular, attempting to push it beyond the stereotypical management consultancy/research think-tank image prevalent in much of the literature. The core knowledge of the firms was also considered to be different ranging from generic management and information technology knowledge (Andersen Consulting), to knowledge of underwriting and actuarial issues (Centre Re), to mathematics and cryptography (Baltimore). The three cases also varied in size ranging from 20 to 300 at the level of the local Dublin office and from 80 to 43,000 if one views the firms as integrated global entities.

A final comment on the methodology adopted is that the three cases chosen can be considered 'critical cases' (Yin, 1994:38) within the narrowly defined context of the study. Each of the three organisations is regarded as highly successful in their respective fields

based on a number of external objective criteria (external reports, international awards, etc.,). As such these highly successful firms represent exemplars within this narrowly defined category of firms and should represent a compelling test of the validity of the generic framework and provide useful insights into the area of knowledge work generally. They are exemplified by their success and so represent appropriate critical cases (Miles and Huberman, 1994:28). At the same time, as the study confines itself to successful professional service KIFs its generalisation potential is limited. Further research into the nature and activities of moderately successful and unsuccessful KIFs would be necessary to establish whether the features identified in this study are unique to successful KIFs. Such a study would represent a useful extension of this research.

Three organisations, all based in or around Dublin, Ireland, were chosen as case studies. The cases were Andersen Consulting, an international management consultancy, Centre Reinsurance International Company, an international financial services company engaged in the provision of reinsurance and insurance and Baltimore Technologies, an international software development and consulting firm specialising in information security. Access was personally negotiated through a range of sources. Initial 'friendly' informal contacts proved vital in all cases. Indeed, access proved to be the most problematic aspect of the entire research project requiring a range of telephone and written communications in each case. Given the sensitive nature of the topic under investigation (the core activities and knowledge of these firms) and the relatively small size of the Irish industrial and service sector, all three companies were concerned not to leave themselves exposed to adverse publicity or to the potential of breaches of client confidentiality. In the end these matters were successfully resolved to the satisfaction of all parties involved. The data gathering and fieldwork began in early 1996 and progressed in a sporadic manner until completed in early 1999. The extent and disjointed nature of the time taken to complete the field-work is a reflection of the difficulties encountered in negotiating access to the relevant firms and, once access had been negotiated, in arranging individual interviews with employees who spend most of their working time outside the country.

The concentration of this study on the Dublin offices of the three firms may possibly have introduced an element of national bias in the findings particularly in so far as descriptions of culture and community were concerned. Replication studies of equivalent overseas offices would be necessary to investigate this issue further. While desirable, access to undertake a comparative study of this nature was not available to the author. Two issues which counter this potential national bias are worth mentioning. First, a number of the interviewees were non-Irish nationals and they and others interviewed had worked abroad with the firm in other offices. These interviewees did not distinguish the Irish operation as significantly different from other overseas operations. Second, drawing on Hofstede's (1991) study into national cultural differences, Ireland falls into a clear individualist/masculine quadrant of the study (p.99). Hofstede's research could be used to argue that the high communitarian outlook in the three Irish case studies is somewhat counter-cultural and could be used to argue against any possible national bias in the study.

A number of visits were made to each company. In each case an advance visit was made to obtain a broad overview of the nature and activities of the company and to acquire any available company documentation. Further secondary source material was acquired by the author through library, data-base and Internet searches. This material consisted of internal company reports, company publications (publicity, marketing and other internal client material, publicly available external company evaluations (e.g. Gartner group/Dataquest reports), books, academic, professional and trade journals and magazines and newspaper and business/economic magazines articles. The duration of the interviews ranged from one to two and a half hours. Given the limited access available to the author in all three cases it was considered crucial to gain access to key informants. These long standing employees were normally quite senior within their respective firms. While the quality of the informants is a clear strength of this study, it could be argued that heavy reliance on senior managers runs the risk of the interviewer being fed a company line with the interviews being treated as a form of a public relations exercise. While accepting that the views expressed have a strong managerialist perspective the author had no sense of being fed

a pre-prepared company line. Across the three cases there was little if any evidence of prior briefing among interviewees as to the nature of the investigation. The author was also satisfied that he had established an adequate level of trust and rapport with each interviewee (Patton, 1990:317) and considered the interviewees to be surprisingly frank and open. In addition, in all three cases a limited number of junior employees were interviewed but did not express views that contradicted those of their senior managers. The presence and impact of sub-cultures within the three firms was investigated and is considered in the three case descriptions. While all three cases admitted the presence of sub-cultures in a mild form they were not considered to run counter to the dominant ethos of the respective firm. On the issue of establishing the relative success of the three firms use was made of external validation sources (Gartner reports, Dataquest studies, international awards, etc.,) and these are identified in the relevant case descriptions.

All interviews started with an overview of the proposed study and an explanation of the concept of knowledge work. Some interviewees were specialists in or had detailed knowledge on one specific issue under investigation (e.g. the technology in use in the organisation). While interviews of this nature tended to focus on the relevant specialist topic, the interviewees were encouraged and prompted to offer views on and to make connections with other related issues (e.g. technology and knowledge sharing, technology and control, etc.,). 'Freewheeling' was also encouraged. The interviews were recorded by means of either taping or the writing of detailed field notes depending on the preferences of the individual firms or interviewees. All the interviews were subsequently transcribed and coded around the six design strands of the generic framework. The focus of the interviewing was to try and capture the nature of the company through an examination of the complexity of its internal and external management practices. Case descriptions and analyses were developed and refined over several rounds of field visits. At a practical level an informal "purposive" sampling design (Lincoln and Guba, 1985) emerged. Successive subjects were chosen on the basis of the need to extend the level and nature of information already chosen. Selection was focused and refocused on an emergent basis as data and insights accumulated and until

relative information saturation or redundancy was achieved. The quality of the data gathered was continuously corroborated through repeated checking with different interviewees (Denzin, 1978). In the final comparison and analysis of the three cases use was made of a matrix display (Miles and Huberman, 1991:239).

In chapter 2 the point was made about the difficulty in representing the dynamic and integrated nature of the literature on KIFs in a one-dimensional diagram. This initial conceptualisation of the issues involved turned out to be a mixed blessing in undertaking the fieldwork. The concrete, integrated and non-controversial nature of the generic framework aided in gaining access. The framework presented a range of simple issues that were of ongoing concern to each organisation and sidestepped issues of client confidentiality. A downside of the framework was that once clearance had been gained, the interviewer tended to be directed to specialists within each of the six areas. Fortunately, the semi-structured nature of the interviewing facilitated the necessary freewheeling and integration between the six design topics. A number of the employees interviewed also had extensive experience in various functional areas and disciplines within their respective firms. These factors aided the development of a more holistic and integrated picture of the functioning of the firms.

A further downside of the framework, one alluded to already in the introduction to the thesis was that issues of structure and design were clearly relegated in importance relative to the two other foci of the research, namely a community and monastic perspective. This was a conscious decision in that refusal of access was anticipated if these more nebulous themes of monasticism and community were highlighted in the study. There was, however, sufficient scope within the structure of the generic framework to validly and openly raise issues directly relevant to the consideration of the communitarian and monastic perspectives. The approach was somewhat underhanded but deemed expedient under the conditions being faced. The general guidelines followed in undertaking the interviewees are reproduced below.

Interview Guidelines and Framework

Interview No.

Date:

Time: Start: Finish:

Name:

Organisation:

Position/Grade:

=====

1. Introduction:

- My background
- The idea of a KIFs
- The broad purpose of my study
- Assurance about confidentiality issues

2. Themes:

Structural Issues

- Structural design:
 - National/international
 - Overall configuration
 - Hybrid?
- Legal form:
 - Partnership
 - PLC
 - Other
- Use of teams:
 - Prevalence

- Types
- Size
- Selection criteria
- Staffing structure (grades):
 - No. of levels
 - Core and periphery?
 - Clerical and admin. Staff
 - Purpose of the hierarchy
- Co-ordination mechanisms:
 - Need for co-ordination?
 - Rules, Procedures
 - Social control
- Nature of the internal and external network:
 - Extent of networking
 - Internal
 - External
 - How facilitated?
 - Why developed?
 - Nature of your relationship to clients – ideal scenario

Strategic Issues:

- Strategic mission/vision? Formal or informal
- Purpose of the firm's activity vis a vis clients
- Nature of the strategic planning process:
 - Limited action planning
 - Planned or emergent
 - Complex or simple
 - Level of involvement of staff and their reaction

- Scope and time frame
- Problems encountered?
- Growth Strategies:
 - Existing level of growth
 - Why is there a concern with growth
 - How achieved?
 - Rainmakers?
- Impact of competition:
 - Extent and nature of competition
 - Impact
 - Response
- Nature of the marketing function
 - How undertaken
 - Image put out to clients
- Service product range:
 - Number
 - Linkages
 - Level of uniqueness
 - Faddish?
- Importance of environmental and client uncertainty to the success of the firm
- How does the firm cope with this uncertainty on behalf of the clients

Knowledge Issues

- Nature of the work:
 - Single or multiple roles
 - Level of variation across projects
 - What does the firm bring to a project
- Descriptions of the knowledge being used:

- Where acquired from
- Necessary skills to do the job well
- Importance of experience
- Importance of expertise and status within the firm
- Core competencies (per expert or the firm as a whole)
- Practices for the development of knowledge within the firm:
 - In-house training
 - Knowledge development programmes
 - On-the-job
 - Minimising staff turnover
 - Links to academic institutions
 - Other?
- Protection of Knowledge within the firm:
 - A concern? Why?
 - Staff retention practices
 - Conversion of knowledge into physical capital and routines
 - Legal protection
 - Other?
- Nature of sharing and networking of knowledge within the firm:
 - Important? Why?
 - How achieved?
 - Prioritise
- Monitoring and measuring knowledge assets:
 - Any measures of knowledge asset size, growth and quality?
 - Any measures of return on knowledge capital
 - Any sense of assessing knowledge risk?

Control Issues

- Is control important?
- Control of what?
- How is control achieved:
 - Hard or soft
 - Surveillance devices
- Difficulty in controlling experts?
- Cultural control:
 - Describe the culture of the firm – core norms, principals
 - Any distinctive subcultures?
 - How are subcultures balanced?
 - Where did the culture emerge from?
 - Is it being managed? How?
- Leadership:
 - Important function
 - By whom?
 - Roles and responsibilities of the leader
 - Is self-leadership a concern?
- Quality control:
 - Formal system?
 - How assessed and monitored?
 - Extent of follow up and evaluation
- Nature of Financial Control:
 - Key performance measures
 - Billing system
 - Impact on behaviour
- Nature of control of external relations (clients and suppliers)

- Any suppliers?
- Co-operation agreements?
- Confidentiality agreements with clients
- Ethics code?
- Control of clerical and admin staff – different?

Human Resource Issues:

- Staffing profile:
 - Average age
 - qualifications
 - Turnover
 - Core/periphery?
 - Managers and experts?
- Recruitment and selection processes:
 - Selection criteria
 - What is an ideal employee
 - Use of experienced hires? Any problems with this?
 - Main method of selection
 - Image of firm put forward to new recruits
- Motivation and remuneration policies:
 - Main methods?
 - Role of extrinsic motivation
 - Self or intrinsic motivation
 - Golden handcuffs
 - Variations across different groups/grades?
 - Egalitarian?
- Training and development practices:
 - How?

- Any unusual practices?
- Organisational or individual responsibility or both?
- Career Planning and outplacement:
 - Formal career path?
 - Are employees dismissed?
 - Any outplacement service?
- Stress management:
 - Any formal management of work stress

Technology Issues:

- Nature and architecture of the technology in use
- Purpose(s) of the technology
- Regulating of behaviour?
- Important and primary role of the technology
- Issues within inter-computer communication:
 - How do experts communicate
 - How technology used to share knowledge and aid joint problem solving
- Nature, purpose and extent of software tools
- General impact of the technology on employees
- Role of computer support staff.

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The Harvard system of referencing has been used in this thesis.

This thesis has been prepared according to the guidelines within University of Warwick Graduate School – Guide to examinations for higher degrees by research (September, 1996).

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