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**A COMPARATIVE ANALYSIS OF
MANPOWER STRATEGIES ADOPTED BY
FIRMS IN THE CLEVELAND AREA: 1980-86**

BY

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**A thesis submitted for the Degree of Ph.D. from the University of
Glasgow by Hedley Malloch, Department of Management Studies,
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SUMMARY

The thesis attempts to answer three questions about the connections between manpower strategy and organisation strategy through a study of the experiences of 22 organisations located in Cleveland between 1980 and 1986. The firms included in the study were engaged in chemicals, steel, engineering, brewing, banking, local government, education, health and retailing. The questions are:

1. How are manpower systems adapted by managers to cope with a radically altered environment?
2. What competitive strategies are deployed by organisations?
3. What manpower strategies are adopted to implement the chosen competitive strategy?

The research strategy is a qualitative one; the research designs are: 10 semi-structured focused interviews with managers; case studies of changing manpower strategies in two firms; and an analysis of archive material held by a trade union and an employers' association. A notable feature of the research method is the use of event-state diagrams drawn on a personal computer to analyse interview scripts.

The issues involving the relationship between the environment and the organisation are analysed using the concepts of domain enactment, domain management and domain defence. Linear, adaptive and interpretive models are used to analyse the strategic process. The research takes Porter's models of competitive strategy as a starting point, and develops three distinct types of competitive strategy. It then traces the links between these competitive strategies and the firms' manpower systems.

The study considers the Institute of Manpower Studies' model ('the IMS model') of manpower strategy and assesses its descriptive and theoretical validity against the empirical evidence. The thesis contains a study of the strategic significance of subcontracting. This demolishes a central and previously unchallenged pillar of the IMS model, which views contracting as a 'distancing' strategy.

The findings of the research are:

1. There is a simple model of manpower strategy which conceptualises its formation as a product of the need to manage environmental pressures through adjustments to the firm's production, marketing and economic domains. These processes are shot through with concerns stemming from managerial judgments, personal and group interests, and perceptions of strategy.
2. That organisations sought to develop different types of competitive strategy. Three types are identified: a cost reduction strategy, a product market building strategy, and a service sector strategy.
3. Each type of competitive strategy gave rise to a differentiated type of the simple model of manpower strategy. These were derived from the demands each competitive strategy made on the firm's production and marketing policies, the attendant pattern of work organisation, and the need to control costs.
4. Different types of competitive strategy demand different manpower strategies. The issues in cost reduction strategies are the management of manpower reduction and redeployment; in product market building strategies there are problems of recruitment, retention and skilling; in service sector the issues are skilling, time management and the extent to which technology can provide a 'service.'
5. Manpower strategy was marked by a search for solutions to the problem of matching competitive strategy and manpower strategy to meet corporate economic objective; but it was also heavily influenced by managerial perception and normative judgements of managers.
6. Employment growth is associated with product market building and service sector strategies. The extent to which product market building also demands extensive

reskilling appears to depend upon the extent to which that strategy embraces customisation and problem solving.

The study concludes that:

1. Managers need to develop workforces which are flexible against the demands made upon the manpower system by these different competitive strategies.
2. The IMS model is not a good guide to build up workforces to tackle these problems. The model occasionally has descriptive validity, but it has limited conceptual or theoretical validity.
3. A major impediment to the development of product market building and service sector strategies is the lack of adequately trained manpower.
4. The relevance of skilling and employee development are matters of managerial perception, judgement and interpretation. This draws attention to the key role of management development.

CHAPTER 1

INTRODUCTION

THE AIM OF THE RESEARCH

The aim of the research is to examine the relationship between competitive strategy and manpower strategy at business unit level, through the experiences of twenty-two organisations in Cleveland over the period 1980-1986. The study is set in a part of the North-East of England, which over the period in question, was transformed from a relatively prosperous part of the UK into one of the most depressed areas in Europe. The central concern of the study is to analyse the connections between competitive strategy and manpower systems at a time of drastically changing business conditions. The study addresses itself to three related questions.

1. How are manpower systems adapted by managers to cope with a radically altered environment?
2. What competitive strategies are deployed by organisations?
3. What manpower strategies are adopted to implement the chosen competitive strategy?

THE SIGNIFICANCE OF THE RESEARCH

Between 1980 and 1986 organisations experienced a wide range of changes in their business conditions. These changes included the introduction of new technology; rapidly changing product markets; the increasing level of competition from developing countries; the increasing importance of quality of goods and services; high and volatile interest rates; high levels of unemployment; changing patterns of labour demand and supply; high energy costs and the influence of new management ideas. These trends were not confined to the private sector. The Health Service and both local and central government came under pressure to cut costs and to expand their services at a time of rapidly changing demographic trends. Issues such as privatisation and rate-capping all came to the fore. The study seeks to examine and explain why and how organisations in Cleveland adapted their competitive and manpower strategies

to meet these changes. It is concerned with the study of manpower management practices at a time of radical transformation.

Research into the problems of employment in Cleveland may seem inappropriate in a county where the unemployment rate averaged nearly twenty per cent over the period covered by the study; whose 1983 unemployment rate of nearly twenty-three per cent was the highest of any county in mainland Britain (Cleveland County Council, 1984(a)); and whose economic collapse was described as "spectacular and remarkable" (Foord, Robinson, and Sadler, 1985, p.2). It could be argued that the problems of those people who were still fortunate enough to be in employment pale into insignificance compared with the problems of those who were not.

The importance of the research rests on the assertion that a study of the problems of employment is just as significant as the problems of unemployment. From a managerial perspective the study is important because it focuses on the connections between organisational strategies and the manpower aspects of how these are implemented. In recent years there have been demands for organisations to review their competitive strategies. In particular there have been calls to abandon mass, low-cost production of undifferentiated commodities in favour of strategies of 'flexible specialisation' (Reich, 1984; Piore and Sabel, 1984) and for the introduction of concepts like 'service' and quality into manufacturing industry (Peters and Waterman, 1982; Peters and Austin, 1984; Peters, 1987). These strategies imply radical changes in firms' marketing, distribution and production systems and demand huge transformations in the quantity and quality of the workforce at all levels.

New competitive strategies have no utility unless they are implemented. Analyses may be conducted, decisions may be made, but all counts for naught unless the strategies can be realised by functional and operational action. Manpower is a vital means by which strategies are implemented.

So the study is concerned with the effectiveness of the change process. British managers have been widely criticised for failing to adapt to changing technologies and product markets (Mant, 1977). The speed and efficiency with which this is done affects the economic

performance of the country as a whole. The research is concerned with why and how managers cope with change.

A study of employment is important for other reasons. Employment determines the type of job and pay levels. There is a wealth of evidence at national (Black, 1980), regional (Townsend, Phillmore and Beattie, 1987) and county level (Cleveland County Council, 1987(a)) which connects mortality rates with the skill levels of jobs, as well as unemployment. Income influences access to cars and to telephones, and therefore to preventative medicine. Accordingly income affects morbidity rates. Income and job also determine place of residence. Cleveland County Council's study of health in the county (1987(a)) showed that the death rate in some parts of Cleveland was fifty per cent above national average, whilst in others it was forty per cent below. Life expectancy variations in the county were so large that people living in the best wards in the county could look forward to a life that was over ten years longer than those lived in the worst wards. These morbidity and mortality data suggests that employment relates to the quality and quantity of life in a much more profound way than that normally indicated in the personnel management and organisational behaviour literature.

Manpower strategy effects other aspects of society. It connects with the education system. In 1982-1983, over sixty per cent of school leavers were placed onto the labour market with educational qualifications equivalent to 4 'O' Level G.C.E. passes or less (Social Trends: Vol. 15, 1985 Edition: Table 3.10. School leavers-highest qualification: by sex and type of school, 1982/83 and Table 3.11. Intended destination of school leavers: by highest qualification achieved, 1982/83). If this educational level is taken to define those who are effectively unqualified, then it can be stated that historically the employment system has compensated for deficiencies in the education system by providing jobs and training for unqualified school leavers. If job demands change, then so will recruitment and selection standards and training systems. If these change in such a way as to exclude large numbers of young people from employment, then the question arises of how these young people are to be employed, trained, and consequently attain economic security and social status.

What happens when these processes fail, or are absent is described in the Scarman Report (Scarman, 1981). The Report identified economic insecurity caused by lack of work opportunities as being a major component in "a set of social conditions which create a predisposition toward violent unrest" (Scarman, 1981, p.16).

Manpower strategy and policy issues are closely related to some of the major divisions in society. Employment reflects and reinforces divisions by sex and class. If new forms of employment lead to increased organisational effectiveness, then they are likely to spread. In doing so they could exacerbate existing tensions and divisions. The alternatives are to seek for new forms of social, cultural and political adaptation to emerging employment systems, or to develop other manpower strategies and policies which are organisationally effective but which do not produce discrimination, insecurity and underprivilege (Watson, 1986).

In either event the research problem has political and social dimensions which extend far beyond the workplace.

KEY CONCEPTS AND DEFINITIONS

This study is concerned with the relationship between business strategy and manpower strategy: it embraces concepts such as 'strategic analysis', 'strategic decision making', 'strategic implementation', 'manpower strategy', 'manpower policy' and 'employment policy'. These are areas where there is no commonly agreed terminology. In order to clarify the ground covered by the study, these terms will be defined, as will the scope of the subject matter.

Strategy is normally conceived as a process occurring at a number of levels in an organisation. In the major U.S. and U.K. strategic management texts there is a clearly discernible standard model of the strategic process (see, for example, McGlashlan and Singleton, 1987; Howe, 1986; David, 1986; Ansoff, 1965, 1984; McNamee, 1985; Jauch and Glueck, 1988; Bowman and Asch, 1987; Greenley, 1989; Johnson and Scholes, 1989). This model depicts the strategy as a three-stage process. These are:

- strategic analysis;
- strategic decision making;
- strategic implementation.

Strategic analysis is concerned with an understanding of the organisation, its resources, and how it stands in its relationship to environmental change. The environment is depicted as a complex web of commercial, economic, legal, demographic, technical and ethical issues. Resources are defined in terms of plant, people, finance, management, expertise, product range, geographic coverage. Typically, the environment is seen as presenting potential opportunities to be exploited and threats to be countered or avoided. Resources are classified as buttresses, or possible strengths; or as millstones, or potential weaknesses. Environmental and resource analysis is often executed on a common SWOT (strengths, weaknesses, opportunities and threats) framework. Strategic analysis provides the foundation for making good strategic decisions.

Strategic decision making is concerned with the generation of alternative choices by which the organisation can exist and grow in its environment. These are essentially decisions about how the organisation intends to compete in its chosen market place. The decision making process requires the generation of alternative courses of action, the evaluation of these possible choices and the selection of a strategy.

There are three aspects of the strategic decision making process which are central to this study. Firstly, the strategic decision making process is characterised by a search for corporate economic rationality. This means that decisions are taken with the object of managing the relationship between the organisation's costs and revenues. This is assumed to be a major pre-occupation of firms' decision makers in any organisation in a capitalist economy. If costs and revenues are not managed correctly, the organisation will go out of business, or the decision makers will be replaced. There is a whole class of techniques to assist managers in the rational analysis and choice of strategic decisions mainly drawn from accountancy, finance and operational research; and finding expression in techniques such as decision tree analysis, sensitivity analysis, expected probable values, discounted cash flow, net present values, PERT and critical path analysis,

Secondly, there are different models of corporate economic rationality. The relationship may be managed by giving greater attention to the market place which generates the revenues, than to the production processes which determine costs. Or vice versa. Rationality is a relationship of costs and revenues. Decisions cannot be judged as rational or otherwise by looking at either costs or revenues singly.

Thirdly, corporate economic rationality is important in decision making, but it is not a complete explanation. The mental faculties of people are incapable of a thorough-going and comprehensive linear, rational analysis of major organisational problems. Numerous studies have indicated that managerial decision making is characterised by 'muddling through', (Lindblom, 1959); 'limited rationality', (Simon, 1960; Braybrooke and Lindblom, 1963) and thinking in small, incremental steps (Quinn, 1980). In times of crisis - and many of the firms in Cleveland were in a crisis during the period covered by the study - perceptual sets narrow, and responses ossify (Holsti, 1978). Rationalities other than those based on the management of corporate costs and revenues intrude. Decisions may be based on established patterns of response, (Grinyer and Spender, 1974); beliefs, (Donaldson and Lorsch, 1983); culture, (Peters and Waterman, 1982); managers' perceptions of the workforce and managerial values, (McGloughlin, Rose and Clark, 1985; Wilkinson, 1983); their training and habits of thought, (Senker and Beesley, 1986); personal greed, (Reich, 1984) and career interests at both personal and departmental level (Miles and Snow, 1978; Buchanan and Boddy, 1982).

Strategic implementation deals with the delivery of strategic decisions. This involves resource planning and developing appropriate organisational structures. It is at this stage of the strategic process that manpower issues such as training, recruitment and retention, motivation and pay are usually considered, often for the first time. Where manpower is discussed in a strategic context it is usually seen as a post-facto implementation problem (Legge, 1978).

The third research question deals with the issue of 'manpower strategy' What is it and how does it link with competitive strategy? For purposes of this thesis it is defined as the policies that are implemented to realise competitive strategy in the three key areas of manpower

management: organisation structure; work organisation and employment policy. It involves consideration of the following questions and issues.

1. How are organisation structures changed to implement competitive strategy?
2. What changes in work organisation occur to achieve competitive goals?
3. What models of employment policy are associated with these strategies?

The design of organisation structure, the patterning of work organisation and choice of employment policy are all areas in which managers have to manage in order to predict and control employee behaviour to achieve the organisation's strategic objectives.

Child (1984) has argued that organisation structure is concerned with issues of:

- job design;
- criteria for grouping jobs;
- spans of control;
- methods of co-ordination;
- systems of task allocation;
- levels of hierarchy;
- design of pay systems;
- systems of control.

Sorge and Streeck (1988) have defined work organisation to mean the functional division of labour; the hierarchial division of labour; the polarisation of skills, or the concentration of knowledge, expertise and experience into certain positions and the degree of rigidity in these forms of division of labour. Another important aspect of work organisation is manning, or the number of people who are employed by organisations to implement their competitive strategies.

Employment policy is concerned with issues of:

- manpower planning;
- recruitment and selection;
- equal opportunities policies;
- hours of work;
- training;
- performance appraisal;

- health and safety;
- training and development.

Manpower strategy is therefore concerned with the operational implementation of competitive strategy.

Strategy is a process that takes place at a number of levels in an organisation (Johnson and Scholes, 1988). It can take place at corporate level. This is an appropriate level of analysis for the head office of a conglomerate or a multi-national corporation (MNC). It is concerned with how the portfolio of business activities should be balanced and managed. A second level is conceived in terms of business or competitive strategy. Here the focus is how the organisation can grow in a defined market place, about the types of rational strategies it should chose, and about how it intends to respond to the competitive pressures which confront it. A third level is concerned with operational strategy, that is, with how functions such as manpower, marketing and finance contribute to competitive strategy.

This study is concerned with the choice of a competitive strategy, how the strategy is implemented through the manpower system, and the contribution that the manpower function can make to competitiveness.

THE CONTRIBUTION OF THE RESEARCH TO THEORY AND METHOD

The research deals with some questions which are both topical, timeless and interesting. It has as its centre-piece a consideration of the ways in which the use of manpower can be considered to be strategic. 'Strategic Human Resource Management' has been defined as possessing four meanings (Hendry and Pettigrew, 1986). These are:

1. The use of planning systems to link personnel programmes to business plans.
2. The deployment of a set of logically consistent coherent employment policies, often informed by a philosophy.

3. The matching of manpower strategy to an explicit business and competitive strategy.
4. The use of people as a key strategic resource for achieving competitive advantage.

This study is concerned with all but the first of these aspects. The research draws on Porter's (1980, 1985) work on business and competitive strategy for different models of competitive strategy and attempts to link manpower strategies to Porter's models. Of course, Porter's work is interesting and important in its own right. He, more than anyone else, has informed the language and the concepts of the debate on business strategy. This study attempts to link his models with manpower strategy. The research suggests that Porter's work offers a much better explanation of manpower strategy and policy than any of its competitors.

In developing models to explain these links the study makes some important contributions to theoretical knowledge. Firstly, the study proposes that what employers were looking for was a manpower system that was 'flexible', in the sense that it could cope with the uncertainties encountered in implementing competitive strategy. The aim of strategy might be to cut costs, the creation of unique products or the delivery of a service. These goals made demands upon the financial, production, marketing and work organisation systems. These functional systems in turn called for an appropriate response from the manpower domain. The ease and speed, or 'flexibility', with which the manpower system responded to these calls was crucial to the success of these strategies.

This was the type of flexibility that managers sought rather than the ability to shrink or expand headcount, earnings and hours of work at will. A simple model which outlines the process by which these strategic demands were translated into manpower strategy is presented in chapter 4.

Three differentiated versions of the simple model were discovered. The distinctions between the models are the types of competitive strategy adopted by the organisation. Porter's (1980, 1985) typologies of competitive strategy are linked to the organisations in the study. The major organisational concerns in implementing them are identified and the emergent demands

on the manpower system are traced. This study is the first time that Porter's (1980, 1985) work has been linked to manpower strategy.

The models were constructed from the evidence gained by interviews and case studies. The case study material relates to two organisations, the British Steel Corporation (BSC) and Tioxide and it is presented in chapters 6 and 7. Each of the three differentiated models is displayed in chapters 8, 9, and 10. The Tioxide case is particularly interesting. It centres on an organisation which made conscious attempts to restructure itself around the concept of an "excellent organisation" (Peters and Waterman, 1982). A criticism of the 'new wave management' literature is that it contains very little detail on how such strategies are implemented (Wood, 1989). The case attempts to fill this gap.

Secondly, there is the evidence presented in chapter 5. This is an analysis of contracting, an employment policy which is explained by the 'flexible firm' model as the major form of 'distancing' strategy and an important means by which a peripheral labour force is managed. The findings suggest that policies about contracting are better analysed as part of a strategy of competitive flexibility orientated to reducing costs or building up product markets or delivering a service. Concepts like 'distancing' may have no validity to describe their part in this process. Chapter 5 draws attention to the importance of the form of contracting as employment policy. Finally, the study of contracting shows the importance of management values as a driver of employment policy.

In denying the conceptual validity of 'distancing' and presenting an alternative explanation of contracting as employment policy, the study removes one of the central, and previously unchallenged, pillars of the 'flexible firm' model.

Chapter 5 is the pivotal piece of the study. It takes the simple model outlined in chapter 4 as its starting point, and in its analysis of contracting it suggests that the simple model contains some differentiated types. It is the bridge between the simple model and the differentiated versions in chapters 8, 9 and 10.

Thirdly, the study examines the implementation of employment policy. Two important models of employment policy, the 'flexible firm' (henceforth known as 'the IMS model' after the Institute of Manpower Studies where the model appears to have originated in its most recent popular form) and the 'excellent organisation' are considered and the empirical evidence is assessed against these. There is a feeling that many of the changes in manpower strategy and policy somehow represent a revolutionary change with the past. For example Brewster and Connock (1985) speak of:

"developments of sufficient consistency and magnitude to amount to a qualitative change in the nature of industrial relations" (p.11).

The essential argument underpinning the IMS model is that changed business operating conditions have created an uncertain environment. In order to cope with these uncertainties managers have sought to intensify existing forms of flexibility such as part-time work, subcontracting, homeworking; to develop new forms of flexibility, such as multi-skilled craftsmen; and to rediscover old forms like subsidised youth labour and the linking of hours of work and pay systems direct to product markets. Manpower policies have been revised to achieve this flexibility (ACAS, 1986; Brewster and Connock, 1985; Atkinson, 1984, 1985(a), 1985(b)).

The search for flexibility has resulted in the creation of new forms of segmentation or the intensification of old ones. The result has been to create a workforce of two distinct groups: a primary (or core) group and a secondary (or peripheral) group. Manpower policies for the primary group are characterised by relative job security, continual training in firm-specific skills, sophisticated recruitment systems, enlarged jobs, extensive fringe benefits, competence related pay systems, harmonised conditions of employment within the primary group, extensive systems to promote employee participation and career development. The strategic purpose of this group is to provide functional flexibility necessary for the development of new technology, new products and new businesses (Atkinson, 1985(a)).

The manpower policies for secondary groups are marked by insecurity of employment, little firm-specific training, output related pay, few fringe benefits, casual and informal recruitment systems, narrow task specific jobs, arbitrary discipline and no career development. These

manpower policies enable the firm to cope with quantitative changes in product markets and variations in cost structures. This is achieved by linking the internal manpower system to the external labour market and by a close matching of labour and product markets.

The study shows that the IMS model is not a good guide to practice. It has some descriptive power but its analytical abilities are limited. In particular, there is one important form of flexibility, which this study shows that employers sought and valued, but which the IMS model does not cover and cannot explain. That form is redeployment, or flexibility of place. The importance of redeployment, and the other component parts of the IMS model are explained by Porter's (1980, 1985) analysis of drivers of cost and the sources of differentiation.

For these three reasons this study is a ground-breaking piece of research in terms of its contribution to theory.

The models of employment policy implicit in the 'excellent organisation' (Peters and Waterman, 1982) are derived from analyses of the same set of business conditions, that is, the management of uncertainty. Yet the analysis and outcome is different from that depicted in the IMS model. Here employment policies are characterised by relatively permanent employment, harmonised conditions, 'pay for know' systems, decentralisation of decision making and the reduction of hierarchy. In particular, employees are viewed as a source of competitive advantage. It is through them that business competitiveness is achieved. They are the source of many important product innovations and it is through them that the firm stays in touch with its customers. The only echo that this finds in the IMS model is in the conditions offered to the 'core' workforce. This suggests that these distinctions may be as phenomenological rather than economic.

The research strategy is a qualitative one. The research designs are:

- semi-structured focused interviews with managers;
- case studies of local organisations;
- an analysis of archive material held by employers' associations and trades unions.

The study is interesting from the methodological perspective in that it analyses primary data sources using methods other than content analysis. The use of event-state networks to analyse interview scripts is described (Miles and Huberman, 1984). An innovatory aspect of the study is that it shows how such networks can be constructed with word processing and drafting software packages on a personal computer. The process is described and the results are presented in Appendix 1 of the study. These methodological innovations display much of the evidence for the theory which underpins the thesis.

EMPLOYMENT IN CLEVELAND

This is not a regional employment study, nor is it a regional economic history. Cleveland was chosen as the location because the research had to be executed with little research time and with no funds. But some background information on the structure of employment and labour markets in Cleveland is necessary for a proper appreciation of the findings of this study.

Cleveland was formed as an administrative unit in 1974 from those parts of the North Riding of Yorkshire and South Durham which surrounded the River Tees. It was a combination of heavily industrialised towns, such as Middlesbrough, Stockton and Hartlepool; pleasant, attractive hills and countryside; a coastline scattered with once popular and elegant resort towns, such as Saltburn, Redcar and Seaton Carew; and a hinterland containing ancient and affluent market towns, such as Guisborough and Yarm. It had four districts: Middlesbrough (94,870 people); Stockton (172,440 people); Langbaugh-on-Tees (150,430 people); Hartlepool (94,870 people). The figures in brackets indicate their populations according to the 1981 Census. The term 'Teesside' was the collective title for the first three of these districts.

Cleveland was one of the cradles of the Industrial Revolution. Its wealth was founded on the iron and steel industry, which was made possible by the presence of iron ore in the Cleveland Hills, South Durham coking coal and easy access to river and sea transport. The first public steam railway in the world was opened in 1825 between Stockton and Darlington. The iron

and steel industry gave rise to heavy engineering, shipbuilding and a wide range of foundry and metal manufacturing trades. A chemical industry was begun during the nineteenth century as a result of the discovery of brine and salt deposits in the Tees estuary. Its development was accelerated in the 1920s when ICI began production on the north bank of the Tees at Billingham. In the 1940s they extended their operations to the south bank when they opened a second works at Wilton.

In the 1960s and the early 1970s the outlook for Cleveland appeared to be spectacularly good. In 1965 Teesside's unemployment rate was less than two per cent. Cleveland was earmarked for a massive programme of industrial expansion, supported by infrastructure development by both central and local government. Population was envisaged to increase by 225,000 over the period 1965-1991 and 120,000 new jobs were to be created (Teesside Survey and Plan, 1969).

But, significantly, these new jobs and future prosperity were not to come from the existing base of steel, engineering, shipbuilding and chemicals. The prospects here were not thought to be good. The major process industries of chemicals and steel have always been dominated by mass-produced commodity products such as petrol, nylon, fertilisers and commodity steel and these were facing increasing competition from abroad. Many firms, and especially those in chemicals and steel, were investing in capital and had begun to shed jobs.

A good indicator of the level of capital formation was the level of investment subsidy paid to firms in the form of Regional Development Grants (RDG). This was an automatic subsidy for manufacturing investment made in areas for government assistance and development. Foord, Robinson and Sadler (1985) estimated that between 1976 and 1980, Cleveland took between twenty-five and thirty per cent of the total RDG allotment for the whole of the U.K. Between 1974 and 1984, ninety-five per cent of the investment in fixed capital in the county went to chemicals, petrol and steel (Cleveland County Council, 1984(b)).

The consequence was that the traditional industry base was well placed to shed employees when the need arose from 1979 onwards. Indeed, they had been doing so for some years before. New growth and new employment was to be created by attracting new industries and

services to the region. This was to more than compensate for the expected decline in employment in the traditional industries.

This growth never materialised. New industries and services were not attracted to the region. From 1975 onward employment fell, slowly at first, then accelerating rapidly as the post-1979 depression gripped the region's basic industries. The trends in employment in the county are shown on Table 1.1.

Table 1.1. Employment in Cleveland by Sector: 1975-1984

Sector	1975	1978	1981	1984
Primary	4800	5000	5500	4500
Manufacturing	105500	93500	71100	54800
Construction	22700	22200	14100	10700
Services	112500	114500	109600	114000
TOTAL	245500	235200	200300	184000

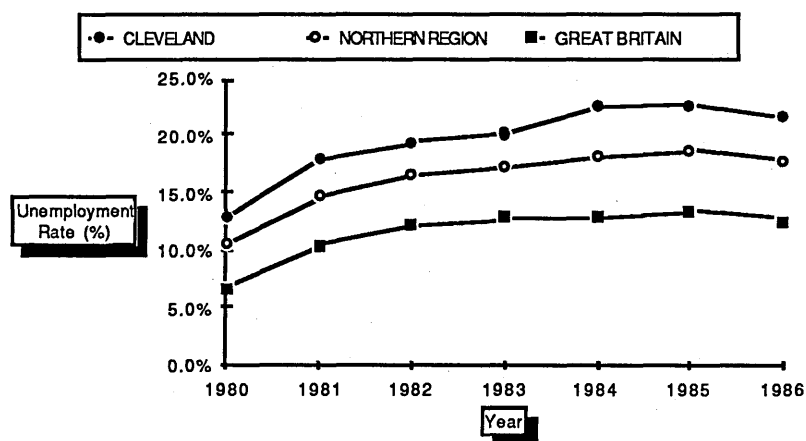
Source: Census of Employment:1975-1984

Employment in manufacturing in the county declined by fifty thousand jobs in the space of nine years. The apparent rise in importance of services from forty-five per cent of those employed in the county in 1975, to sixty-one per cent in 1984 was but another reflection of the decline of the manufacturing sector. The absolute number of those employed in the service sector barely changed. One important consequence of the fall in employment in manufacturing was a decline in the number of apprenticeships offered in the county from 1772 in 1979, to 310 in 1982 (Cleveland County Council, 1982).

To an extent these changes reflected changes in the structure and level of employment nationally, but the evidence suggests that these changes affected Cleveland much more severely than elsewhere. Between 1981 and 1984 the decline in manufacturing employment in Great Britain was twelve per cent: the figure for Cleveland was twenty-three per cent. Employment in construction nationally declined by five per cent: in Cleveland it fell by over twenty-four per cent (Cleveland County Council, 1984(a)).

But perhaps the most spectacular manifestation of these trends can be seen in the unemployment figures. The unemployment trends for Great Britain, the Northern Region and Cleveland are shown in Figure 1.1.

Figure 1.1. Graph to Show Movements in the Unemployment Rate in Cleveland, The Northern Region and Great Britain: 1980-1986.



Source: Cleveland County Council, 1988(a).

This gross figure for the county conceals many important variations. Between 1980 and 1986 the unemployment rate for men and women aged between 20 and 34 was always between forty and fifty per cent. The proportion of people who were unemployed for more than one year increased markedly from 23.8% in 1980 to 49.6% in 1986 (Cleveland County Council, 1988(a)). There were significant geographic variations. In 1985 unemployment by postcode varied between three per cent and sixty-two per cent (Cleveland County Council, 1985(a)).

These changes in the structure of industry and employment transformed the economic fortunes of the county. It has never been a typical depressed area characterised by low productivity, poor industrial relations and worn-out plant. An analysis of New Earnings Survey data show that throughout the 1970s Cleveland was second only to Hertfordshire in terms of average gross weekly earnings for all employees (Cleveland County Council, 1984(c)). Its high standing in the pay league reflected the fact that its major employers in steel and chemicals paid well. Figures for Gross Domestic Product (GDP) reveal a similar

picture. GDP is the value of the total output of an economy and it can be used to indicate the wealth of an area. In 1977, Cleveland was the fourth highest ranked county in the United Kingdom: by 1979 it was ranked seventh; and by 1984 it had fallen to seventeenth place (Cleveland County Council, 1988(b)).

It should not be assumed that the collapse in employment and the relative fall in the earnings league meant that local employers were dealing with a labour market they could bend to their wishes. There is fragmentary evidence of some firms reporting difficulties in recruitment. A survey of process plant and equipment manufacturers carried out in 1985 found that over half of the seventy establishments covered reported difficulties in recruiting engineering and design staff (Cleveland County Council, 1985(b)).

Attempts to offset the decline of the traditional industry base by encouraging small firms and high technology industry have not been successful. Johnson (1987) found that, compared to regions in the South-East, Teesside had fewer small firms and that their performance was worse than their counterparts in the South-East. They created fewer jobs and more than two-fifths of these are part-time and female. Williams and Charles' (1986) survey of the electronics industry in the North-East of England does not give separate figures for Cleveland, but it contains nothing to suggest that it differed from the rest of the North-East of England, where the electronics industry has shown a steady decline in employment accompanied by a rise in productivity. Charles' (1989) study of research and development facilities in the county concluded that Cleveland was not in a particularly favourable position concerning the supply of research and development facilities.

A report written in 1986 on the county's prospects for generating employment based on new technologies concluded that the local economy was characterised by a lack of product diversity, product innovation and consumer market-orientated companies (Cleveland County Council, 1986(a)) and that the best that the county could hope for from the adoption of new technologies was the protection of existing jobs rather than the creation of new employment.

The position in the county concerning industrial relations and collective bargaining arrangements appears to have been unexceptional. ACAS periodically provided the County

Council with an analysis of their work in Cleveland. Their last report reviewed their work between 1979 to 1987 (Cleveland County Council, 1988(c)). It noted that industrial relations in the Northern Region were marked by a search by employers for more flexible methods of working, especially for pay systems which linked pay to output; but that high levels of unemployment overshadowed industrial relations. The requests for conciliation in the county halved over the period 1980-1986, but ACAS noted that more significant numbers of these were related to discipline, dismissal and trade union recognition. But ACAS pointed out that this was a national, as well as, a regional feature.

To summarise, this research is concerned with a study of the relationships between strategy and manpower. This topic embraces questions of competitive strategy and its links with manpower strategy and employment policy. The issues are important ones from the point of view of economic recovery, but their significance extends well outside the workplace. The study is set at a time when conditions in product markets, factor markets and production technologies underwent major changes. It is set in an English county which, at a regional level, exhibits some interesting and paradoxical features such as chronically high and persistent unemployment, existing with high pay and suggestions of recruitment difficulties.

In seeking to explore the links between strategy and manpower, it was suggested that strategy could be viewed as a three-stage process. The links between each of these three stages and the manpower system will need to be considered. These links between strategy and manpower open up some highly topical and important areas of academic and practical concern. The next step is to examine how these matters have been discussed and analysed in the strategic management and manpower literature.

CHAPTER 2

LITERATURE REVIEW

INTRODUCTION

The central topic of the research is a study of the connections between manpower strategy and business strategy. Three sets of issues emerge from the research questions:

1. How do managers analyse, respond and adapt to a changing environment? What are the connections between strategic analysis and the manpower system? These are issues of **strategic analysis**.
2. Decisions are made concerning how the firm is to compete. How do these decisions translate into manpower strategy? These are issues of **strategic decision making**.
3. How is manpower strategy revealed as a series of decisions about organisation structure, work organisation and employment policy? These are issues of **strategic implementation**.

The review will be structured around these three sets of issues.

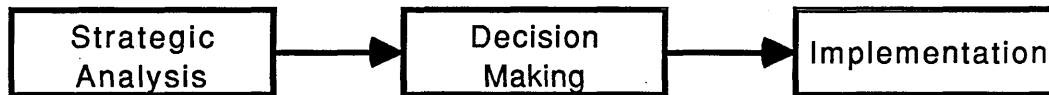
STRATEGIC ANALYSIS

There are three models of strategic analysis. The first conceives strategy as a linear process; the second as an adaptive process (Chaffee, 1985). The third is harder to define, but it is concerned with what Chaffee (1985) calls "interpretive strategy". This stresses the role of culture in strategy, of organisations based on a socially constructed reality, where relationships between organisation members are based on a social contract. Its most popular and influential manifestation in recent years has been with upsurge of interest in what has come to be known as the 'excellent organisation' (Peters and Waterman, 1982). It can usefully be discussed in that context.

Strategic Analysis as a Linear Process

The three component parts of strategy are often depicted in diagrammatic linear form as shown in Figure 2.1.

Figure 2.1. A Model of the Strategic Process



This model of the strategic process appears to have originated at the Harvard Business School as the framework for teaching business strategy courses (Bryson and Roering, 1987). It sees analysis commencing with a detailed analysis of the environment, goal setting, instituting planning systems and functions to achieve goals, and allocating resources for their execution. Structure and systems follow strategy (Chandler, 1962). It is a 'top-down', large-scale model of strategy which appears to have been consistent with the practices of profit-orientated, large multi-national corporations in the 1950s and the 1960s.

In this model manpower strategy is a matter of developing and deploying manpower to deliver the rational strategic goals as measured in profit or market share. The change process is one-off and one-way; the efficiency of the manpower system is assessed against the delivery of strategic objectives, which are defined as shareholders' interests. It is large in scale and scope and rational in focus. As indicated in chapter 1, the model makes demands on managers' cognitive and mental problem solving skills which cannot be realised. It is not a popular model: Chaffee (1985) indicates that interest in it waned from about 1975 onwards.

Strategic Analysis as an Adaptive Process

Adaptive models differ from linear models in several ways. They are concerned with developing a match between internal and external conditions, with the aim of achieving a satisfactory alignment of internal structure and external environment. Monitoring and change are continuous and simultaneous. The interaction between the three component parts of strategy is interactive and not linear (Miles and Snow, 1978; Johnson and Scholes, 1989).

Co-alignment and two-way interaction are stressed. They are based on open systems models of organisations where the metaphor of the firm is one of a living organism (Morgan, 1986) receiving inputs from, and exporting outputs to the environment across a highly permeable boundary. They are not so strongly focused on profit and market share: strategic behaviours embrace "style, marketing, quality and other nuances" (Chaffee, 1985, p.91). Finally, the question of power and interests in goal setting is much more complex than in the linear model. There are numerous stakeholder interests (customers, shareholders, employees, the local community) to be taken into account.

As far as the manpower system is concerned the key issues are:

- the need to deal with the environment;
- the concern with effectiveness rather than efficiency;
- how progress towards strategic goals is measured;
- the contribution of the manpower system to strategy.

Contingency theory and domain management address the issue of how organisations deal with their environments. Contingency theory is associated with Dill, (1958); Woodward, (1958, 1965); Burns and Stalker, (1968); Lawrence and Lorsch, (1969) and Lorsch and Morse (1974). They propose that organisation structure is contingent upon key environmental features. These include manufacturing technology and materials, (Woodward, 1958, 1965; Perrow, 1970); pressures for innovation, (Burns and Stalker, 1968); environmental uncertainty and diversity, (Lawrence and Lorsch, 1969) and size (Blau, 1970; Child and Mansfield, 1972; Pugh and Hickson, 1976). Variations in these environmental features require different forms of structure. The task of the manager is to align organisational sub-systems, such as technology, culture and politics, with discontinuous large-scale environmental events which trigger change (Beckhart and Harris, 1977; Tichy, 1983).

Contingency theory has been influential in the design of pay systems. It has been argued that pay systems can be designed to fit the environmental conditions, such as labour markets, product markets, manufacturing technology, the degree of task specification and cost

structures (Lupton and Gowler, 1969; Lupton, 1975). The effectiveness of particular pay systems is measured by the closeness of their fit to specified ideal measures of environmental conditions.

Alternatively, the environment may be managed. There are possibilities for organisations to manage or 'enact' their domains (Weick, 1979; Child, 1972). Managers do not have to accept them as given. They can choose their market segments. Galbraith (1967) argues that large corporations can manipulate demand for their products. Organisations faced with hostile, unfriendly environments can attempt to defend their domains, by turning the environment into one which is more receptive to their activities. In oligopolistic market conditions it may be possible for them to exercise control over their customers and competitors.

Miles' (1982) study of the U.S. tobacco industry shows how the cigarette makers controlled their collective environment by the formation of joint ventures and cartels, the creation and control of vital research information, and the lobbying and co-option of key institutions and policy makers. Reich (1984) points to the importance of political lobbying by U.S. steel companies, TV and car makers as a means of controlling competition in domestic markets from countries in the Pacific Basin in the period 1968-1980.

The conditions for a domain defence strategy are homogeneous product markets; an oligopolistic industry structure; a shared, negative fate which potentially affects all members equally; and, if the strategy is to persist over time, it must be legal. Many 'collaborative initiatives' have a potential to violate anti-trust and restrictive practices legislation. Such co-operative ventures are more likely to be seen as legitimate if their origins are political and institutional, rather than economic (Miles, 1982).

The literature does not refer to the implications of domain defence for manpower policy, but it is possible to make some plausible inferences. The essence of domain defence is to manage the environment rather than realign organisation structures. The response to competitive decline or crisis in the market place is not necessarily a radical change in products or processes. Attempts may be made to tailor the environment to suit the organisation structure, including its existing or preferred manpower strategies.

Quality of Work Life (QWL) shares the characteristics and concerns of adaptive approaches to strategic analysis. QWL stresses the concept of organisational effectiveness: short-run economic efficiency is not the sole criterion of success. Organisations must be judged by their ability to change over time and they must be assessed against a range of criteria including social responsibility. QWL is not just concerned with the work experience. The impacts of manpower management in organisations on the communities in which they reside need to be considered. Work organisation affects community issues like unemployment levels, the quality of the built environment and skill levels in the local labour market. QWL programmes embrace the management of these issues (Trist, 1981).

The management of organisational effectiveness and two-way flows involve values other than, and supplementary to, those used to measure efficiency. It is in these circumstances that 'deviant innovation' strategies might flourish. Legge (1978) argues that in 'deviant innovation' strategies the personnel specialist should act as an interpreter, and an advocate of society to the corporation, to make managers aware that the dominant efficiency-based values of the firm are not necessarily the same as those of the society in which the organisation is lodged. The manpower system which introduces deviant innovation strategies would find its policies assessed, at least in part, on non-financial grounds.

Strategic Analysis: the "excellent organisation"

The excellent organisation model is associated with Peters and Waterman, (1982); Peters and Austin, (1985); Peters, (1987) and Waterman, (1988). The metaphor is of the organisation as a 'culture' (Morgan, 1986). One of the problems in analysing the concept is that few writers define the term, though it seems to mean an organisation held together by individuals sharing common beliefs. Reality is seen to be socially constructed and common frames of reference are shaped and reinforced by ritual, myth and symbol. These define norms and help to map reality. The organisation is based on a social contract (Chaffee, 1985). The strategic model focuses on desired relations between stakeholders, rather than the goal orientation of the linear model, or the adjustment process of the adaptive model. The key relationships are those between the organisation, its customers and its employees.

The theme is the restructuring of management work. The analysis starts with the crisis in the product markets of the U.S. and European manufacturers. It is a crisis that is rooted in the changed environmental conditions outlined in chapter 1. They add up to "a world turned upside down" (Peters, 1987, p.17) The answer in some of the earlier excellent organisation literature is the creation of a culture in which employee autonomy and action are the watchwords. The later books (Peters, 1987; Waterman, 1988) are more concerned with structural characteristics than with beliefs, though it is not being argued that these can be separated. The emphasis shifts to the removal of hierarchy, decentralising decisions to more autonomous units, faster methods of innovation, becoming service and quality conscious and to the creation of a trained, flexible work force as the principal means of adding value.

The key to survival and growth is the differentiation of products by service, quality, speed of response and nichemanship. The route to sustainable differentiation does not lie in technological wizardry, gadgetry, lowest cost or being first to market. It lies in a knowledge of individual customers' needs. Firms have to redefine themselves as a problem solving service for customers. There is a careful distinction made between a customer orientation and a market orientation. This strong customer emphasis is coupled with a bias for action to create a pro-active problem solving orientation, which is reinforced through the reward system.

Firms who focus on this aspect of the business, rather than cost or operations, will secure large market shares, and hence larger profit. Peters and Waterman (1982) criticise U.S. industry for an excessive focus on lowering costs by manipulation of scale and experience curves and large-scale technology.

The implications for the manpower system are that "customer relations simply mirror employee relations" (Nemeroff, 1980), quoted in Peters and Waterman, (1982), p.166). They are characterised by devolution and autonomy, of empowerment of people to solve customers' problems. This strategy is developed by extending employees' problem solving abilities. Extensive training and intense feedback systems are developed, often reinforced by the rich use of symbols. Work should be structured around self-managing work teams, managed by fewer supervisors whose role is mainly that of facilitation. Lifetime employment

is to be guaranteed; incentive pay schemes are to be installed covering the entire workforce and rewarding competence and group achievement rather than individual effort. Employment policies are characterised by many of the features associated with 'core' employees in the IMS model.

Middle managers are to be reskilled, dispersed and relocated to the point of production to act as advisers and facilitators. Expert recruitment systems are required to identify those people who fit the model of the 'new' employee. Upper middle management who espouse Luddism are to be "ceremoniously" sacked or demoted (Peters, 1987, p.374).

Underpinning these marketing and manpower systems is the notion of a particular culture, or set of shared beliefs defining the firm's mission and its relations with suppliers, customers and the workforce. This structures the way people think, make decisions and act. It is represented by myths, rituals, legends and symbols. The founding fathers and chief executives play key roles in the creation and transmission of these beliefs. An important aspect of the culture is that it is highly unitary (Fox, 1966). Dissent and covert action are allowed, and even encouraged, but only as long as it is consistent with the concept of a problem solving marketing strategy, as for example, in 'skunk works'.

There is a highly focused sense of leadership and direction stemming from the top of the organisation. This does not permit alternative sources of loyalty, for example, to shop stewards; nor does it tolerate wider identities other than to people in the firm, as, for example, to the working class outside. It is no coincidence that many of the models of organisational excellence, such as IBM, Hewlett-Packard, Mars, Marks and Spencer and Wal-Mart are virulently anti-union. It is reasonable to conclude that these ideas have implications for trade unions, collective bargaining and therefore for employment policy.

The work of Peters, Waterman and Austin has attracted much criticism. The sample is restricted to large firms and the research design and method are not described in any detail. The research data are not reproduced in a form in which it can be analysed, leaving the work open to charges of advocacy rather than science (Yorks and Whitsett, 1985) with attendant inaccuracies and over-generalisations. It is not clear how the 'excellent firms' were selected

and there is a heavy reliance on secondary sources of data (Carrol, 1983). The parameters chosen to measure excellence focus on a narrow range of financial items which ignore the 'true' yardstick of excellence, the creation of wealth for shareholders (Johnson, Natarajan and Rappaport, 1985). Close inspection of the so called 'excellent' firms financial data has led some to conclude that they had not demonstrated superior economic performance as measured by stock-market performance (Johnson et al, 1985).

Nor has the model received support from researchers using quantitative strategies. Hitt and Ireland's (1987) survey is based on an analysis of the performance (based on stock returns) and strategies of 185 industrial firms, including 23 from the original Peters and Waterman (1982) sample. They found no significant performance differences between the 'excellent' and a 'non-excellent' sample of firms. Nor was there any correlation between the presence of the three of the four key excellence principles (leadership, close to the customer, and productivity through people) and performance. They could detect no difference between the adherence of 23 organisations included in the original Peters and Waterman study to the eight excellence principles, and the other organisations in their study. There was limited support for the fourth principle of innovation and autonomy and its connections with organisational performance. They conclude that the principles of organisational excellence are not applicable to all organisations due to internal inconsistencies between the eight characteristics. This is because Peters and Waterman formally eschewed some typical and important external growth strategies such as merger and acquisition. These are important sources of growth in firms smaller than those studied by Peters and Waterman.

This does not mean that no weight should be attached to these ideas. There is little doubt that the 'excellent' organisation literature presents managers with an appealing, easily understood message, and a simple framework which structures connections between environment, strategy and manpower. The sales figures for Peter's works run into seven figures per book: they regularly top the hardback non-fiction best sellers list in Europe and the U.S. They are backed up with videos and nationally broadcast TV. programmes.

The very fact that they have struck such a responsive chord with managers is significant because it opens up the possibility of enacted organisational cultures and environments

(Morgan, 1986). If sufficient people believe the organisation and its market place are (or should be) as described in the 'excellence' model, then their organisations may well take on some of its features. Managers who are under increasing pressure to adopt a 'strategy' to cope with 1992, or the Japanese challenge, or privatisation, will find one to hand, and one that is likely to be accepted by a Board of Directors, whose members also read and watch TV. Managers do not only sell things: they buy raw materials. A heightened awareness of quality, service and being 'close to the consumer', then start to enter their vendors' market domains.

These ideas become self-reinforcing; perception and reality become intertwined. In this way the idea becomes important. If some aspects of this model are already in place, such as the appeal of unitary organisations, and if other aspects are awakened by Government action in the form of anti-trades union legislation and action, and calls for an 'enterprise' culture, then managers are being served a very heady brew and one whose potency cannot be readily assessed by its academic credibility.

Against the evidence of the accountants is Wood's assessment (1989). He argues that there are shortcomings with what he terms 'new wave management', such as the fudging of political and conflictual issues, the lack of systematic research, no definition of culture and the limited number of examples. On the other hand, much of it fits in with received social science orthodoxy, especially Crozier's analysis of bureaucracy (1964); expectancy theory, which predicts inadequate performance where the perceived rewards are either inadequate or poorly linked to effort (Lawler, 1971); and the key roles of political and career systems (Burns, 1977) in strategic decision making and implementation. It is also difficult to disagree with Wood when he concludes:

"So much of the diagnosis rings true ... many organisations are awash with data, yet have little relevant information; objectives are unclear and performance is inadequately orientated to them; training, service and quality control are often poor; the role of labour is minimised and the demands for involvement are low." (1989, pp.400-401).

STRATEGIC DECISION MAKING AND MANPOWER MANAGEMENT

How does the choice of a competitive strategy link to manpower management? The first requirement to analyse these links is to develop models of competitive strategy. It is not sufficient to analyse the relationship in terms of "the contribution of HRM to business competitiveness" (Hendry and Pettigrew, 1986, p.3), or to analyse manpower management as a response to the catch-all of 'competitive pressure' (Hendry, Pettigrew and Sparrow, 1988). Much of the literature operates at this level of analysis (see, for example, Pettigrew, 1988). Other writers who use undifferentiated concepts of strategy or competition, and then try to link them to manpower or human resource management include Tichy (1983), Rhodes (1988), Butler (1988) and Lengnick-Hall and Lengnick-Hall (1988).

Such labels are too coarse to permit a useful analysis of manpower strategies. There are different routes to competitive advantage. Some more finely grained, better defined and more highly differentiated concepts and models of competitive strategy are required to describe and predict. Further, the model should be useful for the types of organisation included in this study. Attempts to analyse these links without such a framework are heavily descriptive, processual rather than substantive; abstract rather than concrete; prescriptive rather than analytical; normative, and usually focused on a narrow range of manpower policies, typically training and development, appraisal and pay (see, for example Tichy, 1983, pp.402-415). This is not to argue that such models should be adopted and maintained in an uncritical manner. They are needed as a starting point to analyse data and to generate further questions for enquiry.

What is required is a clear exposition of the alternative substantive competitive strategies relevant to a business unit and which, *prima facie*, could be linked to manpower policy. Three relevant books are Porter's book 'Competitive Strategy' (1980); his later work, 'Competitive Advantage' (1985); the third book is Miles and Snow's 'Organisation Strategy, Structure and Process' (1978). 'Competitive Strategy' and 'Organisation Strategy, Structure and Process' do relate their models of competitive advantage with manpower management issues and policies. 'Competitive Advantage' is not as explicit, but the model of competitive

advantage does permit the drawing of inferences and suggests lines of enquiry of how competitive advantage connects with the management of manpower.

Porter's (1980, 1985) argument is that firms facing a hostile competitive environment can adopt one, and only one, of three generic competitive strategies to secure a competitive advantage. The three alternatives are:

- overall cost leadership;
- differentiation;
- focus strategy;

Since a focus strategy is a highly defined version of either of the other two, this analysis will concentrate only on overall cost leadership and differentiation. Firms choosing overall cost leadership seek competitive advantage by offering the cheapest products. This involves reducing their production costs to the lowest point in their industry. Assuming prices are equal for all players, the lowest cost producer will be the one with the greatest margin, and therefore the highest growth rate. The strategy which delivers overall cost leadership is an incessant search for cost advantage by cost reduction.

Differentiation strategies involve offering customers goods and services which are unique. This can be achieved by some combination of product design, customer service, dealer network, customisation, quality, advice, image, branding, or technical superiority. These factors are reflected in the premium prices charged in the market place.

The pursuit of low cost cannot be undertaken irrespective of quality standards. Goods have to be produced as cheaply as possible, but with one eye on the quality standards being offered by the competition, and demanded by the consumer. Similarly differentiation cannot be pursued irrespective of cost. Differentiation costs money and there is a limit to the premium consumers will be prepared to pay. Cost management is important in differentiation strategies; a degree of differentiation may be possible in cost reduction strategies. Porter's position is that:

"A firm should always aggressively pursue all cost reduction opportunities that do not sacrifice differentiation. A firm should also pursue all differentiation opportunities that are not too costly. Beyond this point, however, a firm should be prepared to choose what its ultimate competitive advantage will be and resolve the tradeoffs accordingly" (Porter, 1985; p.20).

Porter is aware that the different strategies will make different demands on the manpower system. He concludes his initial discussion of the generic strategies by remarking:

"The generic strategies may also require different styles of leadership and can translate into very different corporate cultures and atmospheres. Different sorts of people will be attracted." (1980, p.41).

An important qualification to Porter's analytical work (1980, 1985) is that it is based on desk-research of secondary data written up and published separately as 26 case studies. (Porter, 1983). Field research may reveal other models of competitive strategy. These could be generically separate from, or distinct types of cost leadership or differentiation strategy. Such models could reveal totally different patterns of manpower strategy.

Manpower Management and Cost Reduction Strategies

In 'Competitive Strategy', Porter argues that cost reduction strategies (referred to as CR strategies hereafter) become central when the firm's product life-cycle enters a mature stage, when industry growth slows and competition intensifies. At this stage "competitive costs becomes [the] key" to overall strategy (Porter, 1980, p.159).

'Maturity' refers to that point on the product life cycle curve when sales growth slows and declines due to market saturation, increased buyer sophistication and the development of substitute products. Slow growth leads to intensified competition for market share, more technically efficient production systems, the primacy of cost as the basis for competition and increasingly sophisticated cost analysis. Market domains narrow as product lines are rationalised and as the customer list is pruned to leave only good buyers. Process innovation takes precedence over product development; cost control tightens and there is "less creativity and more attention to detail" (1980, p.250).

The manpower policies associated with cost leadership strategies are "intense supervision of labour" (1980, p.40) and centralisation of decision making to achieve the necessary

coordination across functions and among manufacturing units. He singles out the design of managerial jobs as a source of particular concern. He notes:

"The pressures industry maturity places on cost control may sometimes require the reversal of previous moves to create autonomous profit centres at the plant level and elsewhere ... industry maturity means that regional plants heretofore operating independently may well have to be tied together and better coordinated, requiring not only new systems and procedures but also major changes in the plant managers' jobs. ... A shift back to a more functional organisation increases central control, can eliminate substantial overhead, and can enhance the possibilities for coordination amongst units. Coordination may become more important than entrepreneurship in the mature business" (1980, p.250-252).

There is a need to re-educate and remotivate personnel at all levels in the face of restricted promotion opportunities and a decline in intrinsic job satisfaction. These issues have to be confronted against the backcloth of an organisation where there is less growth, less glamour, less excitement and where "the spirit of pioneering and uniqueness" (1980, p.251) is fading. He concludes that these developments raise problems for general management, not the least of which is the shift from an entrepreneurial to a professional outlook on their part .

There are parallels between Porter's analysis and the Defender model of organisational adaptation advanced by Miles and Snow (1978). Defenders are concerned with domain stability maintained by the narrowing of market domains, aggressive pricing and growth by increasing market shares. These goals encourage the development of a cost-efficient technology and an administrative system suited "to maintain stability and efficiency" (p.48); the consequent primacy of production and accounting groups; the emergence of functional job groupings, extensive division of labour and a high degree of formalisation; and intensive, cost-orientated, centralised planning and control systems. Miles and Snow (1978) do not specifically link Defenders to mature industries, but there is a clear correspondence between Porter's analysis and theirs.

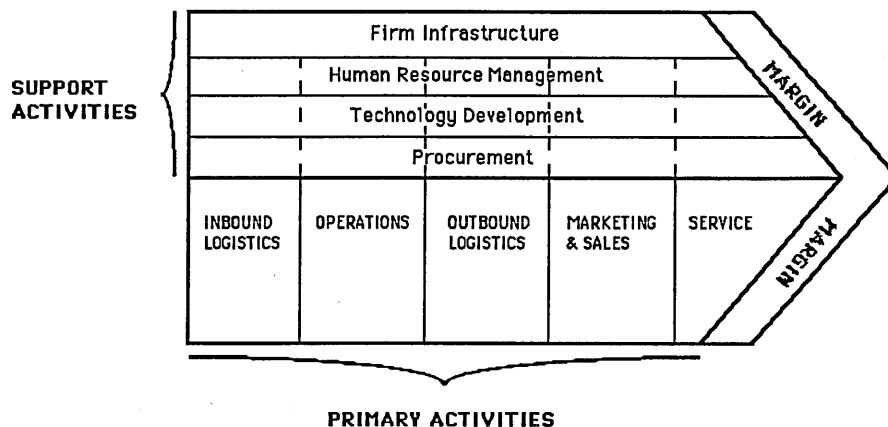
The importance of management work emerges in Porter's book, 'Competitive Advantage' (1985) where the major manpower issues associated with strategic implementation are factors such as executive selection and motivation (especially their reward systems), their responsibility for managing a culture appropriate to the generic strategy, and the importance of avoiding maladaptive managerial behaviour such as 'turf protection' and emotional attachments to outmoded strategies evolved in bygone times. In Porter's world, if any group

of employees is strategic, and therefore requiring central attention in any study of strategic manpower management, then that group is managers. The organisation of manual work is never mentioned.

This analysis is at odds with those (Lawler, 1986) who have described the manpower policies necessary to accommodate the rapid and huge shifts in business conditions in terms of decentralisation and devolution, of the emergence of smaller, narrower organisational structures where decision making is more evenly dispersed throughout the organisation.

To analyse the processes which determine cost in any firm Porter introduces two concepts. These are the value chain and cost drivers. The value chain is a set of activities performed in order to make, sell and service its products. Value is the amount buyers are willing to pay. Profit, or margin, is the price that buyers are prepared to pay less the cost of supporting the activities. Firms are profitable if they can create goods whose value is greater than their cost. Creating value for buyers that exceeds the cost of activities is the aim of any generic strategy. It is the creation of value rather than the analysis of cost that is the starting point for any competitive analysis. The concept of a value chain can be demonstrated in diagrammatic form. This is shown in Figure 2.2.

Figure 2.2. The Value Chain



The value chain consists of value activities and margin. Value activities are the five physically and technologically distinct activities a firm performs to create value for its customers. These are inbound logistics, operations, outbound logistics, marketing and sales, and service. Each

one of these primary activities is supported by purchased inputs (procurement), human resources and a technology. These supporting activities are ^{not} normally associated with the performance of a particular primary activity, hence they are indicated by a dotted line. Underpinning all activities is an infrastructure which generates information and provides common support and control systems across the organisation. Costs and margins are determined by how well each activity is performed.

This analysis raises questions about the contribution that manpower makes to cost generation and of its potential to contribute to a CR strategy. Research based on a large sample of U.K. manufacturing firms suggests that wage costs are at most fifteen per cent of total costs (Goudie and Meeks, 1986); a survey of 152 large manufacturers in Europe shows a figure of eighteen per cent for direct labour costs as a percentage of manufacturing costs (Ferdows and De Mayer, 1984). Pratten's (1971) study of costs in process and manufacturing industry reveals a range of between one-half of one per cent to forty per cent for labour cost as measured by a wide variety of financial parameters. Drucker (1988) estimates that manual labour in advanced manufacturing industry accounts for no more than twelve per cent of all costs. Gunn (1987) states that direct labour accounts for between three to twenty per cent of product manufacturing costs, and that in many plants it is now only one or two per cent. He predicts this will fall to between zero and six per cent over the next decade. Mills' (1988) estimate of direct labour costs is between five and fifteen per cent of manufacturing costs. Census of Production data indicate that pay-roll costs in British manufacturing industry were 23.2% in 1985 (Census of Production, 1985).

There is an increasing body of literature which suggests that accounting practice has failed to keep pace with new managerial practices such as JIT, CIM and quality management (Kaplan, 1986); and that labour cost figures are not a good guide for management action. The management of indirect costs and overheads are now far more important (Kaplan, 1984; Mills, 1988).

These data need to be handled with caution. The figures are not strictly comparable. They all use different parameters for labour and cost. They are all averages: in any organisation there

are likely to be labour-intensive pockets of activity. The figures refer to manufacturing. It is possible that a different picture would be found in the service sector.

Otherwise the message is clear. If the business need is to secure a cost advantage, then this cannot be achieved by cutting labour cost. If labour costs are as low as ten per cent of total costs, then a twenty per cent cut in labour costs is only going to produce a two per cent improvement at most. When labour costs form this low a proportion of total cost, then there must be questions about whether it is possible to cut them further and about the level of management effort needed to fund the task.

Costs are generated not by labour, but by material costs and manufacturing overheads. Ferdows and De Mayer (1984) suggest that these two items account for forty-nine and twenty-three per cent of manufacturing costs respectively. Mills (1988) states that plant and equipment costs now account for seventy per cent of total costs. Gunn (1987) argues that material costs are typically twice that of labour. Richardson (1988) indicates that in some consumer goods industries, purchased materials and supplies account for as much as eighty per cent of total costs, and that in parts of the service sector, such as retail distribution, the figure is just as high. These areas offer far better paybacks for cost-cutting efforts. If the manpower system is to make a contribution to cost advantage it will be in activities like procurement, operations, distribution, service, technological management and organisation. It should be expected that manpower strategy and policy will emerge from the management of these functions.

How can manpower contribute to reduced costs in these domains? The answers require an understanding of the concept of 'cost drivers' (Porter, 1985). These are the forces that determine the cost of both primary and supporting activities in the value chain. The cost of each activity may be driven by more than one driver and the drivers themselves often interact. These interactions may mutually support cost reductions or they may offset each other. An essential starting point for the management of cost advantage is a diagnosis of the cost drivers in each activity. Porter (1985) lists ten major cost drivers. These are:

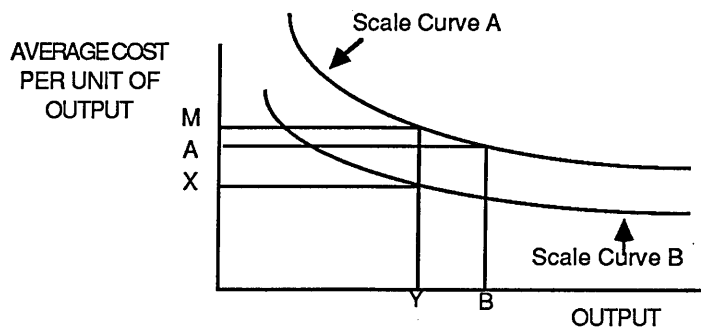
- Experience Curves;
- Economies of Scale;

- Learning;
- Linkages;
- Integration;
- Discretionary Policies;
- Institutional Factors.
- Capacity Utilisation;
- Interrelationships;
- Timing;
- Location;

Experience Curves; these express diminishing unit manufacturing costs as a logarithmic function of the accumulated volume of experience (see Hax and Maljuf, 1982, 1984; McNamee, 1985; and Sandretto and Daubert, 1981, for discussions of the concept and its operational applications).

Scale economy curves are identical to long run average cost curves and are shown on Figure 2.3 below:

Figure 2.3. Scale Economy Curves.



Scale curves have important implications for organisations facing declining or static output levels and needing to secure competitive advantage through cost reduction. Assume an organisation is producing output B at average unit cost per output A. If demand falls, from B to Y, then lower unit costs are not possible with the existing scale curve A. Output Y on scale curve A produces the average unit cost M. Faced with falling output, lower unit costs are only possible on a new vintage of scale curve. If the firm can generate a new vintage of scale curve (scale curve B), then output Y can be produced with a reduced average unit costs of X. This analysis applies equally to firms wishing to maintain existing levels of output at reduced cost; or those who are operating at the lowest possible point on the scale curve, and who wish to increase output while reducing costs.

The conclusion is that the search for cheaper ways of producing a changed output level is not just a question of resizing existing operations. The route to cheaper production does not lie in a smaller version of the status quo. Important changes of both a qualitative and a quantitative nature are involved (Slatter, 1984; Richardson, 1988).

Learning; the cost of activities can decline over time due to learning that increases efficiency. Learning is correlated with scale and experience: high scale means higher throughput and therefore experience. Thus learning can accumulate more rapidly.

Capacity utilisation; if a value activity has substantial fixed costs, then the cost of that activity will be affected by capacity utilisation. To put the problem another way, under-utilisation creates penalties.

Linkages; the cost of value activities frequently depends upon how other activities are performed. These links can be between activities in the firm's value chain; or they can link the firm's activities to its suppliers or buyers. How a firm's vendors or customers perform certain activities affects the cost incurred by the firm in dealing with them.

Interrelationships; interrelationships with other 'business units' affect the costs of activities. The most important of these interrelationships are with 'sister' units. If an activity is shared and the throughput of that activity is increased, then unit costs will fall. This is particularly important if that activity is sensitive to scale, learning or capacity utilisation. Interrelationships can increase an activity's capacity, give it greater scale and spread 'know-how'.

Integration; by changing the scope of vertical integration the firms can convert cost centres to profit centres. Any activity which involves external sourcing involves questions of integration. Integration and de-integration can be used to moderate the power of buyers and suppliers. Porter (1985) includes organised labour in his list of typical suppliers. He recommends that firms should consider all de-integration options and particularly in areas such as ancillary services and supporting functions. He also identifies suppliers 'bundling' strategies as a major constraint on de-integration options.

Timing; learning is linked to timing, since the earlier activities begin, the sooner learning can start. Firms who are first to market can have experience and learning advantages denied to late-comers. On the other hand, late-comers have the advantage of 'de-bugged' technologies and can tailor value chains to prevailing factor costs, such as younger, cheaper labour.

Discretionary Policies; this is a collection of policy choices which defy any other classification. Insofar as they can be grouped they would appear to represent choices about what sort of trade-off the firm wishes to make between costs and differentiation. Policies like product line mix, service and spending on research and development are all included. Porter also includes wages policies and "other human relations policies including hiring, training, and employee motivation" (1985, p.81).

Location; the location of a value activity can affect costs. Some factors of production are cheaper at some locations rather than others and some value activities can only be performed at some locations. Location affects transport costs, inventory and co-ordination whilst the need to have certain activities at different geographic points (to support different product lines or to minimise transport costs) is an important modifier of scale drivers. Location has manning implications: the more locations, then the more staff will be required to man them.

Institutional Factors; these concern government regulations, the tax system, tariffs and levies, grants and subsidies, and "unionization" (1985, p.83).

A criticism of Porter's classification of cost drivers is that it is too restrictive. A wider view of 'learning' and 'timing' could be taken. Learning could be seen in terms of expertise rather than experience. Timing could be defined as a problem of synchronisation or speed rather than being first to start an operation. Broader definitions do not damage his model, but permit a larger and richer range of factors to be taken into account.

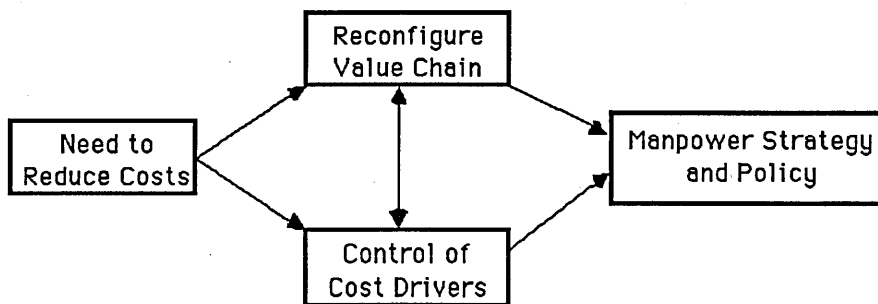
There are two main strategies open to a firm seeking a cost advantage over its competitors:

- to control the cost drivers, especially those which are a significant proportion of total costs;

- to reconfigure the value chain by adopting a different and more efficient method to design, produce, distribute or market the product.

On the basis of Porter's analysis it is possible to propose a model of manpower strategy and policy. This is shown in diagrammatic form in Figure 2.4.

Figure 2.4. A Model of Manpower Strategy and Policy Formation in CR Strategies.



Porter offers few clues as to how the need to reduce costs translates into specific manpower policies, but his framework appears to be a potentially fruitful one. The value of his work is that it points to the complexity of controlling costs, and it is possible to infer some of the difficulties for management control in such a complex system. For example, it is not given to managers to know everything, and their ignorance has important consequences. Porter (1985) describes the importance of managing links with vendors in the value chain. This assumes that managers have an accurate picture of their suppliers' activities and can trace the consequences for their own manpower systems.

There is contradictory evidence in the industrial relations literature. For example, Brown's (1973) study of piecework bargaining in the engineering industry analyses the causes of wage drift. He concludes that a major cause was unannounced, small incremental improvements in high-speed tipped machine tools, which had the affect of reducing down-time and therefore of boosting bonus earnings. Managers who bought the tools were ignorant of the changes.

A further point of tension is that employees are not like other factors of production: they bring their own expectations, values and objectives into the workplace and these have important consequences for management control systems, such as job design, (Wilkinson, 1983); pay systems, (Lupton, 1963; Brown, 1973) and closeness of supervision, (Gouldner, 1954). These expectations can be a function of a static general work orientation, (Goldthorpe et al, 1968); or they can be part of a portfolio of expectations whose precise importance varies with context (Cotgrove et al, 1971; Daniel, 1973; Watson, 1986). Such tensions and conflict will mediate the implementation of manpower policy.

Miles and Snow (1978) link their models of strategic adaptation to three dominant models of manpower management. These are the Traditional model, which is similar to McGregor's (1960) Theory X; the Human Relations model; and the Human Resources model, which corresponds to McGregor's Theory Y. They conclude that it is possible for a Defender type organisation to be managed by all three types of manager, though a Human Resources manager would focus on the connections between human abilities and CR, and would do so in an organisation which was considerably less centralised than in a Traditional model.

Manpower Management and Product Market Building Strategies

The concept of a Product Market Building (PMB) strategy embraces part of Porter's (1980) differentiation model; Miles and Snow's (1978) Prospector model of strategic adaptation; and the 'flexible specialisation' model of production and markets (Reich, 1984; Piore and Sabel, 1984; Hirschhorn, 1986; Schonberger, 1986; Lawler, 1986). Their common theme is that organisational growth is sought by locating new markets and new products; the creation of uniqueness through design, process or ingredients; technical performance; conformance to specifications; broadening the scope of activities offered to create unique bundles of goods and services; the provision of credit; the wide range of products offered; advice on product use; customisation; branding and image. The consumer problem solving role in the 'excellent organisation' is a PMB strategy.

One aspect of Porter's differentiation model which is not included is the exclusive search for competitive edge through these policies. Porter is quite explicit: these strategies are being pursued to gain a "sustainable differentiation" (1985, p.125). For this to be achieved it must

not be possible for any other firm to imitate them. Some combination of the the methods referred to above are a necessary condition to establish the existence of a differentiation strategy, but their presence alone is not sufficient. To conclusively demonstrate the existence of a differentiation strategy as defined by Porter (1980, 1985) it would be necessary to demonstrate that no other firm in the industry was following such a strategy. This would require an industry wide competitive analysis for each organisation included in this study.

This is too wide a task. But it should be relatively easy to pick up PMB strategies without having to prove them part of a differentiation strategy. In any event the concept of differentiation puts too narrow a focus on the problem. There may be much to be learned from the experience of firms who are catching up. An exclusive differentiation focus would ignore these firms. PMB refers to these policies of uniqueness, superior performance, customisation and service, but without the need to establish a differentiation strategy.

An important theme is the centrality of the manpower system to the implementation of this strategy. Not all of these writers attach the same weight to this connection. It is probably least highly developed in Porter's books (1980, 1985). Some of Porter's methods of PMB such as branding and advertising would not appear to have any connections at all. PMB, like costs, has a series of drivers. These are:

- Policy choices;
- Timing;
- Interrelationships;
- Scale;
- Linkages;
- Location;
- Integration;
- Institutional Factors.

Some of these can be cost drivers, but here they are deployed in the interests of PMB strategies. Porter (1985) does not spell out the implications of these sources of differentiation for the manpower system.

A common theme is that PMB strategies involve the rejection of management systems based on mass-production for commodity markets. They need to be very responsive to consumer demands and a rapidly changing market place. Miles and Snow (1978) and Reich (1984)

argue that PMB strategies involve continually redefining the market place and consequently operating with short product life cycles. Organisations must therefore avoid becoming locked in to long-term commitments to any single type of production technology or product line. They are not interested in technical stability and efficiency. What is important is the ability to switch products and markets rapidly. This is achieved by employing skilled people who can work a non-standardised technology in a wide variety of ways to make a particular product. It is the employees who make the technology adapt to new outputs and it is they, rather than the technology that is indispensable. They conclude by saying:

"Extensive human discretion is required to operate a nonstandardised technology leading to a workforce that is largely capable of directing and controlling its own technological operations. This people intensive approach maximises flexibility while minimising standardisation." (Miles and Snow, p.59).

Advanced planning is difficult, and if customers needs are to be met it should be done by people involved in the production process rather than by a specialist group. Training is of the 'on the job' variety because it cannot be programmed; it needs to be learned within the milieu of the work group and to become absorbed as part of a collective skill. Organisational structures are typically flat.

This analysis links with Galbraith's work on uncertainty and organisation design (Galbraith, 1974); Mintzberg's typologies of organisations, (Mintzberg, 1979); and with Woodward's work on the structure of organisations (Woodward, 1965). Their common theme is that the uncertainty generated by product markets leads managers to control work by specifying outputs rather than by attempting to control production processes. Effective responses to uncertainty in product markets require operator control of processes. They cannot be standardised or formalised by managers. It is not economic to do so; and since it may discourage precisely the sort of deviant behaviour which PMB strategies require, it may not even be desirable.

Organisational control systems tend to be decentralised to ensure a rapid response to a changing market domain; jobs tend to be grouped around product divisions; there is less extensive division of labour and less structural formalisation than in cost reducers. A reversion to production principles based on craft production is essential (Piore and Sabel,

1984). With regard to managerial skills, Miles and Snow (1978) argue that PMB strategies demand that primacy be given to entrepreneurial activities over the engineering and the administrative. Managers are needed who are familiar with the market place; who can scan it, monitor and evaluate a wide range of environmental conditions, trends and events; and locate opportunities for developing and selling new products before the competition. Simplicity in production requires fewer staff departments and a radically changed facilitating role for those that remain. Devolution and decentralisation of management structures are common themes (Piore and Sabel, 1984; Schonberger, 1986).

Miles and Snow (1978) argue that any of their three types of management, that is Traditional, Human Relations and Human Resources can support a Defender strategy, and by implication a CR strategy. But only a Human Resources manager can support a Prospector strategy. It is:

"highly unlikely that a Traditional or Human Relations manager can function effectively as head of a Prospector organisation. The prescriptions of the Traditional model simply do not support the degree of decentralised decision making required to create and manage diversified organisations" (p.126).

These ideas can be traced in the work of Thompson, (1967) and Burns and Stalker, (1968). But they have received fresh impetus from the 'flexible specialisation' school, (Reich, 1984; Piore and Sabel, 1984; Schonberger, 1986; and Hirschhorn, 1986). There is a common story told by these writers. It concerns the demise of mass-production systems for commodity markets, an accompanying crisis in the advanced capitalist economies which they nurtured, the need to search for new products and new ('post-Fordist') methods of production; and the need to develop new social infrastructures (especially Reich, (1984) and Piore and Sabel, (1984)) and manpower systems to support them. The crisis in the product markets rests on the decomposition of existing markets into many highly defined segments. Standardised products can no longer span them.

The new management systems are aimed at increasing quality, extending product ranges and developing low-cost responses to changing output levels. This can be done by the adoption of 'world class manufacturing' (WCM) concepts (Schonberger, 1986). There are three pillars to WCM: total quality control (TCQ); just-in-time manufacturing (JIT) and total preventative

maintenance (TPM). The application of TCQ, JIT and TPM enables waste and machine downtime to be minimised, better use of raw materials, a reduction in working capital and an increase in product quality.

A responsive manpower system is vital for the success of these policies. All argue for the abolition of the distinction between those who think and those who do and for the promotion of employee involvement in the redesign of production systems. The breakdown of distinctions between direct and indirect work is another important theme. Schonberger (1986) advocates involvement; Piore and Sabel (1984) contend production should revert to craft-based methods of production. But there is general agreement that substantial reskilling of the workforce is demanded by the need for employees to take responsibility for monitoring, recording and analysing the production system.

Pay systems should reward competence rather than effort (Schonberger, 1986; Piore and Sabel, 1984; Hirschhorn, 1986) and encourage continual improvement. Information is treated as a an important strategic resource to be shared throughout the organisation. Schonberger (1986) emphasises training in simple techniques and practices of production system analysis and maintenance. He advocates plentiful training in relatively simple techniques focused mainly on monitoring the production system where results are coupled to immediate action. Schonberger (1986) recommends both 'top down' and 'bottom up' strategies; the extensive use of line managers in training to signal commitment; and the development of all employees as trainers.

Another aspect of 'specialised flexibility' which impinges on manpower policy is that of supplier relations. 'Specialised flexibility' is built on co-operative relations: suppliers are business partners requiring incorporation. If the fruits of the scale curve and differentiation policies are to be harvested, then cross-firm activities need to be synchronised. Information on requirements should be freely available; there should be shared knowledge between vendors' and suppliers' employees; joint systems of quality control need to be established; vendors should be trained in firms' requirements and practices and the suppliers' managers trained in vendor relationships. Carefully selected suppliers need to be embraced in a network of long-term contracts, information, training and financial assistance.

A workforce composed of thinkers, analysts and problem solvers working in an organisation demanding rapid responses to a changing market place demands broad job classifications and continual redeployment. This is a radical prescription for change in organisations based on Tayloristic principles of separating thinking from doing, planning from execution, and the implementation of management's predetermined solutions through a system of highly specialised, low discretion jobs. These principles were propounded by Taylor, but dominated managerial thinking about work organisation in both capitalist and non-capitalist industrial economies (Bendix, 1963; Reich, 1984), leading some to conclude that they are an essential instrument of management control in both capitalist and unreformed socialist economies (Braverman, 1974).

These changes are made possible by new technology. They offer flexibility and low cost by the speed with which they can be re-programed and by their multi-functional general purpose nature. Set-up time is reduced and machines can perform a variety of functions. Braverman (1974) argues that automation in a capitalist society involves the removal of worker understanding, initiative and conceptualisation. Bright (1958) suggests that automation controls the worker, that automatic machines tie the worker and restrict their freedom of movement.

PMB writers offer a contrary view. Piore and Sabel (1984) argue that the computer used in flexible production is "a machine which responds to and extends the productive capacities of the user" (p.261) and that it has ended the subservience of semi-skilled and unskilled labour to inflexible machines, enabling progress to be redirected down the path of craft production. Hirschhorn (1986) argues that Tayloristic job design principles have been combined with computer-based control systems to create the concept of work organisation as a self-regulating machine system. In theory these systems can function in a wide range of environments without the intervention of human intelligence.

Hirschhorn (1986) proceeds to argue that such a concept is a chimera, an illusion of Utopian thinking. Owing to the technical and mathematical complexity of the system's operating parameters, engineers are rarely able to model the behaviour of the systems they are set to

manage. Gaps in scientific knowledge mean that not all of the parameters are understood or can even be identified with certainty. The system itself is in a state of continual evolution through uneven rates of technical development and wear and tear. The environment is impossible to predict. These factors mean that work can never be structured as a self-regulating system. Attempts to make it so merely exacerbate these problems.

What is required to manage such systems is a production technology under the control of a highly skilled workforce who can rapidly intervene to correct and repair an error prone, highly problematic technology working at the limits of its flexibility and capacity. These workers need a heightened awareness of the production system's functioning and to be able to give selective attention to critical aspects of system performance. These abilities demand a deep understanding of the physical processes and a heuristic and theoretical knowledge of production processes. The learning environment which is best able to support these skills is one based on socio-technical systems approaches. The function of management is to provide, monitor and control 'developmental tension', that is, an environment which will continually provide employees with new learning opportunities.

What criticisms can be made of these analyses of the links between PMB and manpower strategy? Firstly, all of these works are dominated by manufacturing industry. Hirschhorn (1986) makes one reference to a bank, but there are no other examples from the service sector. Such restricted evidence can only partially inform the debate. Consequently PMB strategies are discussed in terms of the technical and physical properties of the product. For example, service as a PMB strategy is ignored. Porter (1985) is much stronger on the manpower implications of CR strategies than on PMB, but he does draw attention to the importance of intangibles such as service in PMB strategies.

Secondly, there is a haste to declare the death of mass-production. Is it true that the mass-production of commodities has no part in an advanced capitalist economy? If so, this is serious news for an economy like Cleveland which was built on precisely these industries and which, as was suggested in chapter 1, shows no signs of developing new ones. But by 1985 the chemical and steel industries in Cleveland were giving every indication of making record profits. The idea that Great Britain cannot profitably make mass-produced commodity goods

at a profit would appear to be seriously misplaced. Similarly many of the industries which declined and closed in Cleveland over the period of the study, such as shipbuilding and heavy engineering, were craft based and flexible in the range of goods they could manufacture.

Thirdly, many conclusions are based on limited evidence. Piore and Sabel (1984) cite steel as an industry illustrative of flexible specialisation. Mini-mills are presented as an alternative method of producing steel. But mini-mills can only be used to produce a limited range of sheet and thin-plate steels. They have no technical capability in the production of many commodity steels such as sections or beams, a major part of every steel industry. There will be problems in generalising from one sector of the industry and relating these developments to every firm.

STRATEGIC IMPLEMENTATION AND EMPLOYMENT POLICY: THE IMS MODEL

The concept of the IMS model has been developed by Atkinson, (1984, 1985(a), 1985(b)); Atkinson and Meager, (1986); Institute of Manpower Studies, (1984); and Brewster and Connock, (1985). Its importance as an employment policy has been noted by those agencies who monitor trends in employment policy (ACAS, 1986). Although it has been presented as a new analysis of manpower strategy and policy, it has its intellectual roots in earlier ideas on labour market segmentation (Edwards, 1976; Doeringer and Piore, 1971; Loveridge, 1983; Wilkinson, 1981; Burawoy, 1979; Pfeffer and Cohen, 1984).

The concept of the flexibility underpinning the IMS model is one of labour cost flexibility (Rubery et al., 1987). The argument is that changed business operating conditions have created an uncertain environment. In order to cope with these uncertainties employers have sought a closer match between their demand for labour and their product markets. In particular they have sought to:

- co-ordinate the numbers employed to changing patterns of demand by the use of part-time workers, temporary work, changed overtime and shift hours and outwork. These forms of flexibility are known as 'numerical flexibility'. The use of agency staff, self-employed and subcontract work can also be used to match demand to numbers. These are called 'distancing strategies' (Atkinson and Meager, 1986).
- develop a more effective use of full-time employees by broadening their skills to cover a wider range of tasks, thus enabling the firm to cope with a changing composition of production and with the operation of new processes. This is known as 'functional flexibility'.
- readily adjust their pay levels and structures to labour market conditions. This is called 'pay flexibility', (Atkinson and Meager, 1986); or 'financial flexibility' (Atkinson, 1985(a),(b)).

The principal writers associated with the IMS model claim that:

"This numerical/functional/financial distinction is one which explains virtually all the important dimensions of innovation in manpower management in Britain in recent years." (Atkinson, 1985(b), p.26).

What are the issues raised by the IMS model? Firstly, it is a labour cost minimisation strategy. It is aimed to "improve productivity and to cut unit labour costs" (Atkinson and Meager, 1986, p.2) and to offer cheap ways of coping with market volatility, uncertainty and technological change. Brewster and Connock (1985) write of a continuing recession where management are forced to control the labour costs of their operations because :

"even in the most technologically advanced industries, labour is one of the major operating costs" [where] "an unplanned 10 per cent increase in such costs can mean the difference between survival and closure" (p.31).

But the evidence presented earlier in this chapter on the relative proportions of costs accounted for by labour, materials and capital suggests that in manufacturing at least, control of labour costs is not central to strategic success. This point is often conceded by labour economists who then maintain the case on the grounds that labour is a variable cost which can be controlled, whilst the costs of raw materials, energy, taxes, rent and rates are fixed and cannot

be controlled (Craig and Wilkinson, 1985). Therefore, labour cost is a fit and proper object for management attention. Indeed, on this logic it is the only one.

This argument is flawed. Firms' bills for energy, raw materials, and machinery depend upon how well they are used. Reich's (1984) analysis of 'paper entrepreneurialism' suggests that even tax might be better treated as a manageable cost. Management can and do control scrap, and plant utilisation and therefore manage the total cost they pay for non-labour items. The argument that these areas offer better prospects for cost cutting measures is still intact. Secondly, the cost of any item is meaningless without assessing its quality. This is a central precept of quality management and it applies to labour just as much as any other item of production. Cutting labour costs brings quality control problems in terms of loss of control, increased supervision, labour turnover, disaffection and the quality of the final product (Rubery et al, 1987). Cheap labour may be very expensive.

In its singular attention to the problems of labour cost management and the implied primacy it gives to strategies based on CR, the issue arises of how far such a model can meet the needs of PMB firms. Their manpower needs demand training, problem solving, integration, team working skills and a highly motivated staff capable of solving customers' problems, who promote a positive image of their firm. How relevant is the IMS model to their needs? To what extent can these strategies be promoted through a segmented workforce, where firm-specific training is the preserve of the few, where teams contain members who are 'peripheralised'; that is, low paid, untrained and insecure. Problem solving in teams demands an integrated culture and not a segmented one (Kanter, 1984).

PMB organisations require flexibility, but their definitions of flexible working may be different and contradictory to one rooted in the need to minimise labour costs. This may be the need for skilled and rapid interventions in a rapidly evolving technology or the development of customised solutions to buyers' problems. These flexibilities may depend upon the diffusion of learning of the types identified earlier in this chapter. How does the IMS model relate to these needs? Significantly, Atkinson and Meager state that there are problems with part-time work where quality of service is important (1986, p.26).

The high labour cost organisation so clearly targeted by the proponents of the IMS model may not be common in manufacturing, but examples can be located in the service sector. The flexible firm literature makes some reference to the service sector. For example, Atkinson and Meager (1986) present evidence from financial services and the retail distribution sector. But these are the only examples. The public sector is ignored. Major employers such as local government, hospitals, education are not mentioned. Brewster and Connock's examples are drawn largely from the private sector. The only public sector examples to which they refer are in the industrial public sector. As Pollert (1987) has remarked, the omission of the large public sector professional bureaucracies is a "serious lacuna" (p.32) in any model of manpower strategy which addresses itself to the employment problems of large firms.

Alternative explanations view the flexible firm as a strategic industrial relations policy, or as an institutionalised response to manpower management questions. As an industrial relations policy it can create a fragmented and acquiescent workforce which is divided against itself (Edwards, 1976), or maintain a 'core' workforce in 'peripheral' conditions (Lawson, 1981). As an institutionalised response these approaches to labour management are best seen as part of a fixed pattern of response which:

"...come to be taken for granted, normatively sanctioned, reasonable and rationale and hence as legitimate" (Pfeffer and Cohen, 1984, p.555).

These issues raise another problem and that concerns the role of rationalities other than those rooted in the need for the firms' profits to be maximised, or for its costs to be minimised. Manpower strategy is not just a question of a search for rational solutions to corporate economic problems. The whole process is shot through with alternative and competing rationalities representing the interests of groups of stakeholders and individuals. These are often founded on moral judgements rather than positive economics. How do these influence manpower strategy? If, as Pfeffer and Cohen (1984) suggest, they can support the concepts of segmentation, they can also stay its hand. On these matters the proponents of the flexible firm are largely silent. It is true that Atkinson and Meager (1986) give one example of cultural forces influencing manning practices in a building society, but this is mentioned as an aside and is regarded as an exception to the general pattern. The issue of competing rationalities is not considered.

The evidence on the extent to which the IMS model has been implemented in practice is mixed. Even the chief architects of the model have equivocal views. On the one hand it is offered both as an historical explanation, (Atkinson, 1985(b)), and of a strategy whose time has come (Atkinson, 1985(a)). Subsequently, and often in the same publications, its descriptive powers are denied. Atkinson and Meager (1986) offer it as an analytical model which is:

"...helpful, not because it describes the situation of any actual organisation, but because it contains all the main parameters of change observed ..." (p.3).

A study of an unstated number of firms in hosiery and knitwear, footwear, furniture and domestic electric appliances found little evidence of new labour market strategies designed to increase numerical or functional flexibility of labour (Rubery et al., 1987). What changes were observed were to be explained by technical, organisational and other developments. However, they did find some firms who adjusted to changing market places within an existing technical and organisational framework, and this category embraced some unspecified features of the IMS model. They noted that the benefits of this strategy were limited by the existing technical and organisational structure.

Pollert (1987) argues that changes in temporary work and part-time work can be explained by sectoral shifts and cyclical changes and that there has been no discernible increase in outworking, contracting and self-employment. Evidence of the creation of a 'core' workforce is missing. Indeed, there are conceptual problems with definitions of 'core' and 'peripheral' work. These are matters of interpretation, and in the final analysis they are labels which represent the way in which the workforce is perceived rather than objective descriptions of strategic centrality. She argues that these changes do not add up to a search for a coherent policy. Yet she suggests that the IMS model may well become established in the future if only as a self-fulfilling prophecy. Against this evidence is the 1987 ACAS survey which suggested that flexible working practices, as defined in the IMS model, were becoming more widespread, particularly in manufacturing industry (ACAS, 1988(b)). Hakim (1987) estimates from Labour Force Survey data that in 1986 one-third of the entire workforce was engaged in peripheral-type work.

The evidence is in conflict. What can be said is that the evidence to support the model is largely, but not totally, based on survey material (ACAS, 1987; Hakim, 1987); while the interview evidence which formed the backbone of Atkinson and Meager's (1986) study was largely derived from respondents based in the personnel function, not all of whom were located at establishment level. This is a narrow and potentially remote base from which to explore the evolution of manpower policy and especially its connections with technology, product markets and work organisation. In particular, there is an absence of case study material which might provide the type of rich, detailed longitudinal analysis which would give insights into the forms of manpower strategy and the motives behind them.

As well as the problematic nature of the evidence to support the IMS model there is the fact that many organisations have set up on greenfield sites, or taken over ailing firms, and have transformed them without much resort to the manpower policies of the IMS model (Lawler, 1986; Wickens, 1987; Hague, 1989). In Wickens' (1987) account of the start-up of the Nissan factory in Sunderland the only manpower policy recognisable from the IMS model is the use of temporary work, and there it was used not for numerical flexibility, but as a recruitment screening device. In both his account and in Lawler's description of high-involvement management (1986) the key manpower policies appear to be:

- a prestigious role for the first line supervisor,
- an egalitarian culture;
- 'flat' organisational structures;
- problem solving task forces;
- continual on the job training;
- attendance control;
- the delegation of process control and quality management to the work group;
- expert recruitment systems;
- competence related pay;
- a perception of shared information as a critical strategic resource;
- communications.

These policies do not find much of an echo in either the core or the periphery of the IMS model. Similar remarks could be made about Hague's (1989) account of Komatsu and Sumitomo Rubber in County Durham.

SUMMARY

A major unresolved problem emerging from the literature on strategic analysis concerns the reaction of firms to a 'turbulent environment'. The 'new wave management' literature suggests that this means a move to flatter, decentralised organisations peopled by autonomous decision makers. Alternatively there may be the option for key decision makers to enact their domains by selecting niches they can dominate. Another possibility is collaborative action with rivals to manage their domains, but there is no suggestion of how this strategy is translated into manpower strategy. This research will explore these issues.

A further issue emerging from the analysis of strategic adaptation is that the search for adaptation and effectiveness involves a wider range of criteria for assessing organisational success than efficiency measures and profit. One possibility is the use of non-efficiency based measures to assess the validity of manpower strategies. What are these and how do they connect with the manpower system?

The review pointed to the existence of two models of competitive strategy, one focused on CR and efficiency, the second on PMB and flexibility. The literature suggests that different manpower strategies might be appropriate in each case. Porter (1980) connects CR strategies with the centralisation of decision making, the reorganisation of managerial work, the redesign of managerial jobs and a general tightening of employee control. Is this true? It was suggested that where companies are concerned to reduce costs, then in manufacturing at least, there is little competitive edge to be gained by cutting manpower costs. Porter's (1985) work suggests that the keys to understanding manpower strategy may be found in an analysis of the constellations of value chains and cost-drivers.

On the other hand, PMB strategies seem to require human asset building strategies embracing competency, team-building, the development of information systems decentralisation, empowerment and integration of all employees. Different competitive strategies would appear

to demand different manpower strategies. The research will attempt to explore and clarify these issues.

A brief but important point was signalled in this chapter relating to the completeness of Porter's (1980,1985) taxonomy of generic strategy. Are PMB and CR the only two generic strategies that are open to firms? If other distinctive types do exist, what are they and what manpower strategies do they require?

The review has highlighted the problems with the IMS model. To what extent has it been implemented? How relevant is it to the problems of PMB firms or CR firms whose cost structures are dominated by non-labour items. It may be relevant in labour-intensive organisations, but other issues intrude. Chapter 1 drew attention to the existence of rationalities other than those of corporate economic rationality.

There are operational issues. How are these strategies implemented? A problem with the 'excellent organisation' is that there is little actual guidance as to what should be done, or indeed, of the wider organisational conditions necessary for successful implementation. There is disagreement on whose work is to be restructured. The IMS model concentrates on blue-collar manual work, but Porter (1980, 1985); Miles and Snow (1978); and 'new wave management' clearly single out management work as the principal target.

This is the ground to be covered in the research. But first there is the problem of investigating the world of strategy and manpower management. How is such a world to be opened up for investigation, analysis and explication? These are issues of methodology and they are discussed in the next chapter.

CHAPTER 3

METHODOLOGY

THE RESEARCH QUESTIONS

The research is concerned with a study of changes in manpower management experienced by Cleveland firms between 1980 and 1986. The questions under investigation are:

- How are manpower systems adapted by managers to cope with a drastically altered environment?
- What competitive strategies are deployed by organisations?
- What manpower strategies are taken to implement the chosen competitive strategy?

THE RESEARCH STRATEGY

The range of available research strategies are:

- A quantitatively-based research strategy;
- A qualitatively-based research strategy;
- A mixed research strategy.

The research strategy adopted is a qualitative one. This decision has been taken in view of the aims, constraints, content and context of the study. The choice of a research strategy depends upon the:

- aims of the research;
- units of analysis being investigated;
- relationship between theory and method;
- types of issue to be explored;
- kind of data needed to explore the research issues;

- fit between research method and research setting;
- need for flexibility.

The aims of the research; these have to take account of the the lack of any previous knowledge about the development of manpower strategy in Cleveland. There are three employment studies of the area, but these deal with unemployment (Foord, Robinson and Saddler, 1985; Robinson, 1988; Withington, 1989). They do not focus on the problems of managing those in employment.

A more positive argument concerns the aims of management research. Legitimate research can be concerned with hypothesis generation; theory inspection and evaluation; generating rich data; communicating the general nature of the phenomenon; abstracting and classifying elements; and with developing themes of interest and importance. This study has these aims. Whether or not such strategies generate and tests theories in a positivistic and objective manner is irrelevant: such studies are interesting and important in their own right. There is no shortage of research in this tradition (Gouldner, 1954, 1965; Lupton, 1963; Burns and Stalker, 1968; Benyon, 1973; Kanter, 1984). Small samples that are richly described and rigorously analysed do permit insights, suggest connections and present an alternative base for a research strategy.

This is not to deny the contribution of writers on organisation and management who have worked on positivistic survey-based research; or to suggest that a research strategy cannot encompass both positivistic, logico-deductive based approaches with methods that are subjective, inferential and ideographic. There is clearly an impressive tradition of research which refutes such an assertion (Trist et al, 1963; Rice, 1958; Woodward, 1965; Pugh and Hickson, 1976). It is merely to argue that there are a number of models of research strategy of equivalent legitimacy. Explication is as important as enumeration.

For example, Ravetz (1971) argues that the model of research strategy developed for the experimental natural sciences, mathematics and philosophy may not be appropriate for less 'mature disciplines'. Here knowledge is not likely to appear as a statement of natural law, but

as aphorism, as a statement of principles. Such knowledge is distilled rather than deduced and it has a developing rather than a fixed character (Weick, 1979).

Campbell (1984) has argued that these processes lie at the heart of any scientific enquiry. He suggests that the core of scientific method does not lie in experimentation, but is best seen as a strategy for producing plausible rival hypotheses. This process may start in an armchair or by data inspection, and advances by evaluating the hypothesis and its implications against different data sets. This strategy involves making explicit the implications of the hypothesis for other data sets and examining how other rival explanations fit. On this basis some hypotheses will be developed by ramification; others will be condemned to extinction as negative evidence emerges. This strategy will never produce positive proof as defined by logical positivism, yet it is the basis by which successful scientific communities attain consensus and achievement. It is the characteristic of validity-seeking research in any field of intellectual activity.

The units of analysis being investigated; this is a study of the connections between organisational strategy and manpower strategy. This is an intensely human process and it demands an approach which teases out the views of managers, articulates their conceptions of their world and their perceptions of their choices. The need is to determine how managers subjectively determine their world. The strategy must recognise that the focus of organisational study is the action of men, and not natural law (Berger and Luckman, 1971). The human world is fundamentally different from the physical world (Wirth, 1949; Filstead, 1970). It is a world where reality is selectively perceived, arranged cognitively, and where understandings are negotiated interpersonally (Weick, 1979); a world where actions are matters of interpretation (Becker, 1963, 1970; Hughes, 1971). This is especially true of a study of managerial strategy, a field of enquiry which highlights concepts such as 'choice', 'decision making' and the 'management of uncertainty'. Men do not behave like inanimate objects, who are subject to impartial forces beyond their ken and control. They bring their own and other people's definitions of their roles to their work. These need to be exposed and articulated before they can be analysed and explained. A strategy and methods are required that will allow first-hand access to their perceptions and meanings and which minimise the

intrusion of the researcher's preconceptions into the world of the manager and onto the emergent data (Morgan and Smircich, 1980).

The relationship between theory and method; quantitative methods work best where there is an accepted paradigm which seems to explain much of the problem under investigation. They are weaker at handling research problems where there are conflicting and competing theoretical perspectives. This is the case in this study. Since 1980 there have been a number of different explanations offered to account for how firms have restructured their manpower strategies: these embrace concepts such as 'the flexible firm', 'the excellent organisation', the 'Japanisation of personnel management' and 'strategic human resource management.' Some aspects of these models appear to conflict, others appear to overlap.

The types of issue to be explored; the issues are concerned with how manpower strategy has been shaped and delivered in history. The research strategy must recognise that this process is complex, problematic and institutional in context, and therefore not amenable to a study based exclusively on structured survey instruments (Glaser and Strauss, 1968; Walker, 1985(a)). Some aspects might involve unethical or illegal behaviour. Other issues such as redundancy are likely to be sensitive. The research does show that illegal and ethically dubious behaviour occurred, and that manpower strategy cannot be explained without reference to it. A qualitative strategy does not guarantee revelation of such action, but it is much more likely to be exposed using this approach. Survey-based methods are unlikely to tease it out. Managers are most reluctant to commit this data to writing, or to give it to people they do not know through the post or by telephone. For a limited range of purposes managers find themselves bracketed with deviants and as such are suitable for ethnographic approaches to investigation (Becker, 1963; Humphreys, 1970; Agar, 1980; Fielding, 1981; Davis, 1982).

The kind of data needed to explore the research issues; the research is of a retrospective nature. It is not concerned with prediction, but with understanding the past. The data are locked away in archives, organisational histories, and managerial experiences and memories. These data will need to be extracted by interview and reading, and reconstructed in narrative forms. This calls for a qualitative rather than a quantitative approach.

The fit between research method and research setting; the study will be conducted in organisations and requires the co-operation of people who work in them. There are access problems. There is some evidence of a growing resistance by organisations to research (Buchanan et al., 1986; Bryman, 1988). In general, managers do not respond well to research into their systems of manpower management (Benyon, 1988; Crompton and Jones, 1988). Bryman (1988) suggests that difficulties in obtaining access appear to be linked in part to the use of survey methods. Access problems can be partly overcome by a choice of research strategy.

Nor do these problems disappear when access has been negotiated: managers do not warm to research strategies based on survey methods. These are seen to be devices which are too inflexible to capture the rich, wide range of their experiences. Neither do managers respond well to interventions which cast the researcher in the role of the expert, on what is their world and their business. In these settings there is a need for a research strategy which is plastic to their experiences, and which suggests that in the field the researcher should have a role more akin to an apprentice than an expert.

The need for flexibility; the strategy should be sufficiently flexible to accommodate the unpredictable nature of the research process. Some discoveries may be of a serendipitous nature: access may be denied or granted at short notice; the unanticipated may present itself in unexpected places. It may be impossible and undesirable to keep to predetermined timetables based on linear models of the research process, which may only represent a reconstructed logic (Bryman, 1988; Silverman, 1985; Buchanan et al., 1986). The strategy calls for a methodological approach which continually reviews the implementation of the design and method in the light of the emerging findings, and is constrained only by considerations of ethics, reliability and validity, and the need to produce interesting and worthwhile research.

In conclusion, a research strategy is needed which is to work on a product whose precise specifications are not known, whose production is likely to be susceptible to unpredictable opportunities and threats, whilst using variable and problematic raw materials and simple multi-purpose tools. To carry the production engineering analogy further, what is required

for this task is research strategy which is more akin to a qualitative jobbing shop than a quantitative flow-line assembly production unit.

RELIABILITY AND VALIDITY IN QUALITATIVE RESEARCH

A qualitative strategy can focus on data generation, phenomenon description, abstraction, classification and analysis of processes and elements. It can develop themes of interest and importance which stress concomitance over causality and explication over enumeration. What it cannot do is abandon concern for objectivity: research goals must be met in a manner acceptable to the academic community.

To be objective the research must satisfy the criteria of validity and reliability. Reliability is the extent to which a measurement procedure yields the same answer however and whenever it is carried out. Validity is the extent to which it gives the correct answer. Measures can be unreliable, but relatively valid; or reliable and invalid ('the party line').

"Objectivity is the simultaneous realisation of as much reliability and validity as possible. Reliability is the degree to which the finding is independent of the accidental circumstances of the research, and validity is the degree to which the finding is interpreted in a correct way." (Kirk and Miller, 1986, p.20).

Theoretical validity can be established by checking that the theoretical paradigm rightly corresponds to observations. Kirk and Miller (1986) argue that this is difficult to determine by methods other than qualitative research. The fieldwork commitment involved in qualitative research means that understanding is constantly checked against a whole range of possible errors. If the researcher's understandings or those advanced by other workers in the field are invalid, then it is soon revealed. In this sense qualitative research is marked by a search for negative evidence to disprove hypotheses and theories. Thus qualitative research shares one of the central features of scientific research based on a logical positivistic strategy, that is, the search for negative evidence (Popper, 1961).

What are the sources of validity error? The most common source, and the most difficult to detect is asking the wrong questions, The check against this is diversity of method and plasticity of technique. 'Triangulation' (Denzin, 1970) is the manifestation of diversity of

method. Face-to-face contact enables assumptions to be questioned and bridges to be built between the world of the researcher and the researched. In some situations there is no other check on validity other than personal contact (Kirk and Miller, 1986) which allows the researcher to 'get close to the data'. (Wirth, 1949; Filstead, 1970). In this way misconceptions can be detected and the trust and rapport can be established that will overcome distortions based on lies and indifference (Manning, 1982).

Reliability is more problematic, but the concept of reliability is different from that employed in quantitative research. Reliability is concerned with the degree to which measurement of a variable changes between observers and methods over time. In the social world unvarying measurement of any variable would suggest 'the party line', or rehearsed information; that is, information that was reliable, but not valid. By definition, socio-cultural phenomena do change over time. For this reason, too, they may be better described as aphorisms, rather than natural law. The real issue here is if, and how, data derived from interviews, case studies and archives can be related to a larger universe; and in particular, what aspect of the phenomena need to be made 'reliable'.

Kirk and Miller (1986) argue that the solution is to recognise a different model of reliability, one in which data can only be reported in terms of some explicit or implicit theory. If this view is accepted, and if scientific enquiry is seen as a search for explanation, and not a preoccupation with experimental method, then there is a way in which qualitative strategies can be considered to be reliable.

The strategy can seek to generalise from the method to the theoretical proposition under consideration. A quantitative approach would be to generalise the proposition to a given population or universe; in that one event one case or 11 interviews, would not represent an adequate sample. But, as Yin (1984) notes, this analogy to statistical generalisation is incorrect. Qualitative method relies on analytical generalisation, or the degree to which a particular set of results can be generalised to some broader theory. Yin (1984) writes in the context of case study research, but this idea can be extended to other qualitative strategies.

Since theories differ between and within communities, data reporting will differ. All views are partial and deal with perspectives. This does not mean to say that they are not objective, but that they are perspectivistic rather than comprehensive. But one check on reliability is to check data findings against some body of theory.

It is these links between data and theory and this definition of reliability that are central to the competent execution of qualitative field work. Managing these concerns prevents qualitative analysis from generating into little other than long descriptions of varying levels of interest, a charge to which qualitative research has long been open. It is the interplay between hypothesis, the implications for triangulated data sets, inspection, and ramification or rejection of hypotheses which give the qualitative process its claim to analytical rigour; and which provides a framework for extracting, analysing, and communicating about the phenomena to the rest of the intellectual community. It is this which lifts the reporting from description to analysis. These are the concerns that mark out science from other disciplines and not the apparent concern for experimental method.

A second check on reliability is to test the strength of the data with a full revelation of the processes by which it was obtained. This involves a full account of the procedure, inspection of field notes, and background data on the observer. Kirk and Miller conclude that in the final analysis, what reliability means is:

" whether or not (or under what conditions) the ethnographer would expect to obtain the same finding if he or she tried again in the same way." (1986, p.69).

Others have argued for a relative approach to the problem of reliability. Reitzel and Lindmann (1982) and Hughes (1976) argue for a concept of reliability anchored in the knowledge, methods and shared meanings of defined academic communities, where methods of enquiry are recognised as 'reliable' when they yield knowledge that people of similar training can recognise as valuable and use it in their own studies; or where the work is carried out by people recognised in the community as competent (Goodenough, 1964). This aspect of reliability is also important in the mature sciences (Ravetz, 1971).

THE RESEARCH DESIGN

The research design has three parts:

1. semi-structured focused interviews with managers of organisations;
2. organisation case studies;
3. an analysis of archive materials.

The aim of the strategy was to try to generate a rich array of data, using multiple methods with each approach generating data to answer the research questions. Multiple sources have been used to obtain concept validity (Yin, 1984) and as a between-method triangulation strategy (Denzin, 1970). This could be justified on the grounds that the flaws in one method were offset by the strengths of others, though it was possible that they may have reinforced each other's failings or potential for bias (Bowey et al., 1982).

The research methods used at each stage varied. The interviews were semi-structured, tape recorded, and focused on the manager's perceptions of his organisation's manpower policies and strategies between 1980-1986. The case studies drew upon tape-recorded interview material, company documentation, newspaper cuttings and literature sources. The archive material used both employers' association and trades union material to build up a rich and diverse picture of change. Thus the design gathered qualitative material from very different sources, both internal and external to employing organisations, and used different materials in both the public and the private domain to explain the phenomena. The strategy can be regarded as one which used multiple sources and different designs in order to arrive at a mutually supportive interpretation.

1. Semi-Structured Focused Interviews

The aim of this research design was to find out what managers did and why they did it. This design was included because it was the major source of qualitative data on manpower change in Cleveland. Semi-structured focused interviews with managers (hereinafter referred to as 'the interviews') of local organisations were considered to be an essential research design.

Competently conducted interviews would give the managers a chance to relate their experiences in their own words and offer the researcher a chance to probe any significant and unexpected emergent points. There were eleven interviews with managers. While they were drawn from different industries and from different functional and technical backgrounds there is no claim that the sample was statistically representative. The sample size was small, but the data collection method was time consuming. All interviews were tape recorded and all tapes were transcribed by the researcher to ensure maximum reliability.

This aspect of the research design was planned to allow the researcher to 'get close to the data', to listen to what the managers had to say, to analyse their evidence, and to see what model of manpower strategy and policy emerged. In this sense, the interviews can be seen as the starting point for a process of analytic induction (Glaser and Strauss, 1967). This model could be continually tested against new data, gathered either from within the interview design, or from the case studies and archive search designs.

2. Case Studies

Two case studies of manpower change in Cleveland organisations are included:

- British Steel Corporation's Teesside Works;
- Tioxide's Pigment Division's Cleveland operations.

The British Steel Corporation's Teesside Works case is a study of manpower strategy in steel, an industry marked by intense competitive pressures at a time of great technological development and profound market changes. It is concerned with manpower management problems in an organisation which, in 1979, was Cleveland's largest employer with 23,000 people. By the end of 1986 it employed just over 7,000. The changes made by the British Steel Corporation (BSC) to their employment policies have been described as "at the forefront" of initiatives such as flexibility (Brewster and Connock, 1985, p.57). The case looks at a major part of an organisation which incurred losses of more than two billion pounds between 1980-1984, but which made profits in both 1985 and 1986. It is a case study of a major organisational turnaround achieved in the context of impending privatisation.

Tioxide's Pigment Division's Cleveland operations is a case describing policies of the creation of a skilled and adaptable workforce based on team working; the devolution of responsibility and decision making in the organisation; and the incorporation of the workforce into a unitary organisation.

These cases were chosen to focus on the 'how' and 'why' questions of changing manpower policy and strategy. They were included because they:

- undertook significant organisational and technical change;
- represent Cleveland's basic industries of chemicals and metal manufacture;
- faced bankruptcy in the early 1980s;
- represent cases of corporate turnaround of the first magnitude.

In 1987 Tioxide won the IPM and Daily Telegraph Award for Excellence in Personnel Management. Throughout the mid-1980's BSC's Teesside Works achieved world performance standards for various aspects of iron and steel production. Yet their manpower policies were very different: BSC pursued policies of demanning and labour flexibility which were thought to correspond to the IMS model. Tioxide systematically imported new management ideas in the form of 'the excellent organisation'. But both sets of ideas appear to work.

The timing of the case study execution was difficult. These organisations presented themselves as research opportunities at a very early stage (Spring 1986) of the research. It was decided to write the case studies first and then conduct the interview stage. As a result they were written when the issues, problems and models which became central to the research were not well defined. The timing of fieldwork is not an easy problem to resolve. In these cases early intervention gave access to 'live' issues; later intervention might have produced a more tightly defined framework, but restricted data sources. In BSC's case the period 1987-88 was dominated by the issue of impending privatisation, an exercise which absorbed large amounts of managerial time. It was not an ideal environment in which to try and write a case. One problem with qualitative research is that respondents and gatekeepers move, retire, forget and die: by 1987 two key respondents in the Tioxide case had moved on.

These practical aspects of case writing raise difficult questions. There are no 'right' answers. The strategy adopted was to be flexible and opportunistic and to take opportunities as they came.

3. The Archive Search

An archive search of material held in a local employers' association and the regional offices of a trade union was included because it offered the prospect of rapid access to centrally collected qualitative data. A problem with a qualitatively-based strategy is that entry and access has to be negotiated with the individuals and organisations who hold it. This is time consuming, and there is no guarantee of success. It is small-scale with a separate set of negotiations being required for each archive source. Employers' associations and trades unions offices appeared to offer economies of scale. One set of successfully completed negotiations could deliver records pertaining to many companies, as well as expert opinion and background information from the full-time officers and their staff.

There was another advantage and that was concerned with the industrial relations aspects of the study. Many aspects of manpower policy and strategy were the subject of negotiations and consultation with trades unions and staff associations. Employees had the right to dispute managements' manpower decisions. Procedures existed to process these disputes. Trades unions and employers' associations were set up to represent their members' interests and to manage the disputes procedure. Their records of disputes were seen as a potentially valuable source of information.

The archive sources included in this study were:

- the records of disputes between the North of England Engineering Employers' Association's (NEEEA) Cleveland establishments and the Confederation of Shipbuilding and Engineering Unions (CSEU); henceforth these will be referred to as 'the NEEEA files';

- the records held in the Northern Regional Office of the Banking, Insurance and Finance Union (BIFU) Concerning the relationship between BIFU and the major high street clearing banks; these will be called 'the BIFU files'.

The NEEEA files were included because they offered information on manpower change in engineering, a major sector of the Cleveland economy. They displayed it in the context of the agreements made by the largest employers' body, the Engineering Employers' Association, and the largest trades union confederation in the United Kingdom. It was expected that certain issues would surface in the records of a disputes procedure covering highly differentiated multi-union factories at a time of depression and technical change. Demanning, redundancy, flexibility and pay questions were expected to appear.

The BIFU files were chosen because banking is one of the best examples to study manpower policy and strategy in the context of the environmental changes mentioned in chapter 1. The introduction and spread of information technology, deregulation, the collapse of industrial boundaries, intensifying competition, and new product development can all be seen in banking. It is also a study of employment in the white-collar private service sector, one which is not well represented in the other research designs.

Access to the BIFU files yielded an unexpected bonus: they contained a number of highly confidential management strategy documents, which appear to have been leaked by 'moles' in banking circles. There were suggestions in evidence emerging from the other research designs that managers did commit long-term manpower strategy to paper, but these were never revealed, leaving strategy to be inferred as realised, emergent strategy, to be analysed as a pattern in a stream of actions (Mintzberg and Waters, 1985). But some of the BIFU documents offered access to intended strategy statements.

What are the contributions that these research designs can make to the research? The interviews and the case study can be regarded as primary data sources. They were collected by the researcher with the research questions in mind. The sources could be directly interrogated. There is a closeness and relevance of data which enables them to be treated as a

valid source of material for explanation of the phenomena under question. They are appropriate sources of data for developing models and hypothesis building.

The archive material is not in the same class of validity. It does not have the same degree of accuracy, coverage or comprehension. Therefore it has to be treated separately. But the usefulness of archive sources in qualitative research does not rest on their claims to objectivity and reliability and they should not be regarded as a literal account of what happened. This is especially true of documentary sources concerning relations between management and trades unions where many documents are written with one eye on future interpretation. Documentary sources are best used to corroborate and augment evidence from other sources (Yin, 1984). In this study the archive material was used to search for material which corroborated or denied the model of manpower strategy which had emerged from the other two stages of the research design. Archive sources can serve as a valuable check on the validity of issues which have surfaced in other stages of the research design. They can be used to corroborate models, concepts and hypotheses discovered in data produced by other designs. Archive data can be an important quality control in the research strategy when it is used in this way.

THE RESEARCH METHOD

The Interviews

There are four aspects of the interview stage of the research design to be outlined. These are:

- The interview sample;
- How the data were gathered;
- How the interview data were analysed;
- How the cross-site data was analysed.

The interview sample; the managers were all male and their ages ranged from the early thirties to the mid- sixties. Brief details of their jobs and employing organisations are as follows:

- an Engineering Manager in a chemical company, Nyco;

- a Personnel Manager in a Potash Mine;
- an Administration Manager in a Local Education Authority;
- a District Personnel Manager in an Area Health Authority;
- a Construction Engineer in a chemical company, Chemco;
- a Contract Manager for a firm of Contract Electricians;
- a Managing Director of a Contract Engineering firm;
- a Personnel Director of a chain of Builders' Merchants;
- a Management Services Officer in a local Borough Council;
- a Personnel Manager for a Brewery;
- a Plant Manager of a Plastic Floor Factory.

Their employers included both public and private sector organisations, family owned firms, holding companies, joint ventures and multi-national enterprises in the primary, manufacturing and service sectors. They worked in organisations which varied in size from about 100 employees to over 11,000 people. At the time of the interview all but one still worked for their employer. Background details of their employing organisations are given in Figures 3.1(a) and 3.1 (b).

Although the sample was small it covered a wider range than could be found in larger pieces of research. A notable omission from the major pieces of work commissioned in recent years has been any specific reference to the public sector. For instance, the influential research commissioned by the National Economic Development Office (NEDO) and the Department of Employment, and carried out by the Institute of Manpower Studies into recent changes in working practices and employment policies, covered only four industrial sectors: food, drink and tobacco; retailing, engineering and financial services (Atkinson and Meager, 1986). Warwick University Centre for Corporate Strategy's research into corporate strategy change and human resource management, sponsored by the Manpower Services Commission, was concerned only with changes in engineering, automation and computing, retailing and retail banking and financial services (Hendry and Pettigrew, 1986). There was no reference to Local Authorities or to the Health Service. These two organisations employed a significant proportion of the employed population of Cleveland over the period of the study. Managers in the public sector may have had a different story to tell, and given their importance as

Figure 3.1(a). Details of the Employing Organisations of the Managers Participating in the Interview Stage of the Research Design.

ORGANISATION	BACKGROUND	BUSINESS OBJECTIVES & MANPOWER ISSUES
THE CONTRACT ENGINEERS	A long established family owned firm; specialist heavy engineers performing subcontract work for leading firms in aerospace, nuclear engineering, mining, oil, & defence. Substantial investments in CNC from mid 1970's. Employment fell from 150 in 1980 to 125 in 1986.	To gain a competitive edge by: <ul style="list-style-type: none"> • offering a unique combination of CNC & heavy engineering skills to clients; • providing a problem solving service to clients.
THE BUILDERS' MERCHANT	A chain of Cleveland based builders' merchants taken over by a multi-national corporation to spearhead their entry into the builders' merchant and retail DIY market. Rapid expansion of depots and employment from 1982.	To expand annual turnover from £53 million to £300 million by: <ul style="list-style-type: none"> • increasing depots from 25 to 100; • increasing product range; • developing 'one stop' DIY shops; • servicing customers with credit & advice; • take over of rivals; • IT based integrated stock holding systems.
THE PLASTIC FLOOR FACTORY	A branch factory of a multi-national corporation. Recession from 1980-82; rapid growth from 1982. Share of UK market rose from 11% in 1980 to 36% in 1986. Employment rose from 150 to 230 over same period.	To cut costs and to develop a better quality product range by: <ul style="list-style-type: none"> • installing a new mixing process; • new IT based process control system; • use of new raw materials; • developing quality awareness in employees; • launch of new, better quality products.
THE BREWERY	A large regional brewer. A brewery in Cleveland and over 500 pubs in the North-East of England. Family owned until 1976; twice taken over in the next decade. Falling sales from 1980; improving profitability from 1982.	To improve profitability by reducing costs through: <ul style="list-style-type: none"> • rationalising distribution; • eliminating marginal business; • entry into new, high volume, low margin outlets; • rationalisation of tied premises.
CHEMCO	A large multi-national producer of bulk commodity chemical based products: main products include, nylon, vinyls, plastics and other oil derivatives. Heavy losses in early 1980's; recovered after 1982; employment fell from 12,000 in 1980 to 6,000 in 1986.	To improve profitability by reducing costs through: <ul style="list-style-type: none"> • improving technology; • reorganisation; • demanning; • increasing job size
NYOO	A large producer of intermediary chemical products: sold by US owners in 1985; acquired by new owners as part of a vertical integration strategy. One third of 950 strong site workforce employed by contractors. Steady increase in output and slight increase in employment 1980-86.	To increase output by: <ul style="list-style-type: none"> • recommissioning plant; • increasing plant efficiencies.

Figure 3.1(b). Details of the Employing Organisations of the Managers Participating in the Interview Stage of the Research Design.

ORGANISATION	BACKGROUND	BUSINESS OBJECTIVES & MANPOWER ISSUES
THE BOROUGH COUNCIL	A Labour controlled Local Authority committed and elected on a programme to 'Put People First'. Strong emphasis on improving terms and conditions of employment. Increasing Central Government monitoring and control of budgets and activities. Employed 2,500 in 1986, a slight increase on the 1980 figure.	To improve services to the local community; To manage budgets within reduced cash limits; To maintain or expand employment levels and to deliver : <ul style="list-style-type: none"> • equal opportunity policies; • harmonisation of conditions; • job security.
THE LOCAL EDUCATION AUTHORITY	A Labour controlled Education Authority facing falling birth rates and school rolls. Responsible for the management of all schools and colleges in Cleveland. Employed 11,000 in 1986.	Major themes include: <ul style="list-style-type: none"> • rationalising schools through merger closure and modernisation; • launching new products such as YTS courses, nursery education; • legal changes in school government; • the delivery of equal opportunities and no redundancy policies.
THE AREA HEALTH AUTHORITY	Rising demand and falling budgets leading to incessant pressures to reduce costs and maintain services.	The need to save cash leading to: <ul style="list-style-type: none"> • pressures to contract out; • reorganisation; • flexibility of time; • recruitment difficulties; • managerial skills; • reform of pay systems.
THE POTASH MINE	A deep mining operation beset by technical difficulties and intense low cost foreign competition. Faced bankruptcy and closure in 1980; recovered under new owners and management. Manpower fell from 1200 in 1980 to 900 in 1986.	Saving costs and the implementation of new production systems and product improvement. Emergent Issues included: <ul style="list-style-type: none"> • compulsory redundancy; • new shift patterns; • new pay systems; • training; • new management styles.
THE CONTRACT ELECTRICIANS	Part of a multi-national conglomerate. Provided electrical engineering maintenance for a chemical complex.	Competitive advantage through cost reduction. New technology seen as essential. Issues include: <ul style="list-style-type: none"> • training; • task flexibility; • safety.

employers in Cleveland, it should have been heard. The sample included managers employed with Local Authorities and the National Health Service.

'Getting close to the data' was attempted by asking managers to participate in the research on the basis of personal knowledge of them, or where this did not exist, through a mutual acquaintance. None of the participants was the product of a 'cold call'. The assumption was that descriptively valid data would come from interviews where rapport that had been established either direct or by friends and acquaintances. Blauner and Wellman observe that "neutrality and distance are not always the best method for in-depth interviewing." (1982, p.108).

How the Interview Data were Gathered

Interviewees were visited prior to the interview and the purpose of the interview was explained to them. The proposed structure of the interview was outlined and they were given a typed list of seven questions around which the interview was to be conducted.

The questions were:

1. Please describe your present job to me. How has it changed since 1980?
2. In your opinion what have been the major changes in business conditions in your company since 1980? Are they still continuing?
3. What have been the major manpower problems your company has had to face over the last six years?
4. How has your organisation attempted to tackle these problems?
5. Can you describe the most difficult manpower problem your company has had to face over the last six years?
6. What was it about this problem that made it so difficult to solve?
7. How have the experiences of the last six years influenced what you do today?

A date was then arranged for the interview to be held. The interviews took place either in the manager's place of work or in their homes. These preliminary visits were seen as essential

for establishing trust and rapport. Trust is essential for getting valid data, but it is a very personal relationship: people are either trusted or they are not trusted. Trust was more likely to be granted on the basis of the managers' observations of how the researcher conducted himself in their presence, rather than on written explanations conveyed by letter (Whyte, 1955; Wax, 1977; Agar, 1980). To this end, dull, negative and threatening language such as 'research', 'publication', 'survey' and 'polytechnic' were avoided. (Buchanan et al., 1986).

The interviews were used principally as vehicles to allow the managers to tell their own stories in their own way, but a check-list structured around the cycle of personnel management activities was used. This featured prompts and probes on:

- organisation design and development;
- hours of work;
- recruitment and selection;
- performance appraisal;
- equal opportunities policies;
- consultation and bargaining arrangements;
- job design and work structuring;
- manpower planning;
- pay systems;
- harmonisation;
- health and safety;
- training and development.

The interview was allowed to flow into areas the respondent thought important. Prompts from the check-list were used when the flow began to ebb. All the questions were phrased in the past tense thus placing some psychological distance between the managers and the events they were relating. This was useful in talking about incidents which were painful or embarrassing to them such as redundancies, disputes, fatal accidents, major hazard alarms, industrial tribunal cases. It also helped some of them talk about actions which were possibly illegal. Notes were taken in the interviews about how the managers were reacting to the questions in terms of their non-verbal communication. These notes were used later to assess the descriptive validity of particular responses.

The interviews were taped and all were transcribed by the researcher thus ensuring maximum possible accuracy. An unobtrusive small portable cassette tape recorder and a miniature battery powered microphone were used. There were no equipment failures. It is recommended that such tapes be immediately transcribed (Miles and Huberman, 1985), but

this was not always possible, though the interview notes were always written up on the day of the interview. After the interview the researcher occasionally went for lunch with the manager, or just talked with him in his office. Invariably, the discussion would return to the research topic and further information would be volunteered which elaborated and expanded on the information offered in the interview. The managers were asked if this information could be incorporated as an addendum to the interview transcript. Permission was always granted. Notes were made on these items immediately after the interview.

The transcribed scripts were sanitised; that is, verbal idiosyncrasies were removed, and they were presented in a manner appropriate to a written rather than a verbal form. The scripts and notes were offered to the managers for their comments and agreement. The managers were given the opportunity to make alterations to the script, but 'Hansard Rules' were applied in assessing any alterations they wanted to make. This meant that the interviewees could demand grammatical refinements or elaborate on points, but they could not change the substance of what was said. Notes were made on possible codes, emerging themes and relationships as the transcripts were typed. The result of the interviews was over 400 typed sides of transcript, addenda and notes.

How The Interview Data Were Analysed

The techniques used to analyse the data were:

- content analysis,
- event-state networks,
- site narratives.

The main problem in content analysis was the selection of categories or pigeonholes into which the content units are to be classified (Holsti, 1968). The general principles of category construction advanced by Kerlinger were used where possible, to analyse the contents of the interview transcripts (Kerlinger, 1973). These principles were:

- categories are set up according to the research problem and purpose;
- the categories are exhaustive;
- the categories are mutually exclusive and independent;

- each category is derived from one classification principle;
- any categorisation scheme must be on one level of discourse.

Categories have to be derived from the research problem. Six gross categories were initially set up. They were:

- | | |
|-------------------------------------|------------------------------------|
| 1. motives; | 2. technical transformations; |
| 3. product transformations; | 4. demands on the manpower system; |
| 5. manpower policy transformations; | 6. implementation. |

A seventh became necessary as the coding proceeded. This was:

7. organisational transformations.

This last category held all the data on the emergence of new organisational forms and patterns of work organisation. At the conclusion of coding these seven gross categories held fifty-one sub-categories. Not all of the data could be coded, but those which could were assigned to a category. Where data related to more than one category it was assigned to all appropriate categories. Most of the sub-categories were generated as the analysis proceeded. In order to ensure exclusivity and independence many sub-categories had to be split and some material had to be re-coded. Discourse on one level is very difficult to achieve. The managers would often reply to more than one question; answers spanned earlier and later questions. So any given content unit of analysis could have data which related to more than one question. This is unavoidable in exploratory and relatively unstructured interviews.

The unit of analysis was any text which linked a category and a question. All were sized between a sentence and a paragraph. The procedure described by Turner (1981) was followed, but using word processor files instead of a box of 5"x8" cards. Category files were set up on a word processor and all units of analysis relevant to a category were electronically pasted from the transcripts into the file. Where units belonged to more than one category they were cross-referenced.

The end product was over fifty files of text. They were unsatisfactory because they did not convey a rich picture of manpower systems in flux over time. It was difficult to discern in the files either the process or the dynamics of manpower policy change which were so vividly conveyed in many of the interviews. All content analysis did was to retrieve and post text in a manner which was systematically linked to the research questions through the coding framework. Problems of interpretation remained. A search was begun for methods of analysis which showed the processes of complex manpower change unfolding over six years.

Event-state networking is a technique which has been developed by Miles and Huberman (1984) to show the development of changes in organisations over time. It has been commended as being useful for analysing the change process where the metaphor of the organisation is one of flux and transformation (Morgan, 1986); that metaphor is highly relevant to this research. It analyses change as a series of specific events or happenings, such as a law being enacted, new people arriving, the introduction of a quality control system or the launch of a new product. Some events are produced by other events; but some are a response to 'states'. States differ from events in that they persist over time. Concerns over rising costs, business strategies and falling production are examples of states. Events and states are connected, often in a non-linear looped way.

Each script was analysed and a list was made of all the events and states that appeared to be present in the manager's account and were relevant to manpower policy. The category files and the transcript were consulted and connections between the events and states established where possible. The states and events were drawn as numbered boxes and the connections shown as arrows. Where the states and events take the form of variables it was often possible to specify what was happening to them by using adjectives like 'high', 'low' or 'falling'. Similarly causal links could be shown. Miles and Huberman (1984) use event-state networks as a first step in the construction of a causal network. These link states and events in an organisation in terms of both causality and direction, that is, in having positive or negative effects. Causal networks require a case study approach to the organisation utilising cross-sectional data, longitudinal analysis, interviews and observation by teams of researchers.

Many of these ingredients were missing. In the case of each organisation the information was one interview transcript with one manager which dealt with events in retrospect. This was not a strong enough platform upon which to construct a causal network. But it could be used as a basis for a simple cognitive mapping exercise. The transcripts, notes and category files could be regarded as statements as to how the managers perceived events and states unfolding in their organisations. These could be mapped in diagrammatic form to show managers perceptions of events and states as an interconnected flow over time.

According to Miles and Huberman the distinction between events and states is that "states or conditions are not as time limited as events" (1984, p.130). States are general conditions that persist over time, such as falling demand; events are time-bounded, such as the passing of an Act of Parliament. If this distinction was sometimes difficult to apply, then this normally reflected the fact that the phenomena under consideration contained elements of both state and event, or more than one element of each class. Here progress could usually be made by splitting the phenomena into two or more discrete parts and labelling each part as 'event' or 'state'. For example, 'new management values' could be seen to contain both elements of state and event. But closer investigation might reveal that the new management values were associated with the recruitment of a new cadre of managers (an event) who brought with them very different values as to how the workforce should be managed (a state). In any case the distinction between events and states is important only for choosing how they are to be represented on a diagram. They are not labels which alter the outcome of the analysis in any way.

Events were mapped on the event-state networks as boxes with solid lines and sharp edges to convey specificity; states were shown as having hatched lines and rounded corners to show their more diffuse and 'fuzzy' nature. The networks can be drawn using a personal computer with a multi-tasking environment such as 'Windows', 'Switcher' or 'Multifinder'. These enable the personal computer to simultaneously display several data files drawn from different programs. Thus the event-state network can be drawn on a drawing package, or a project planning package in conjunction with the word-processed interview and category files. Modifications to the network can be made quickly and easily. Using a personal computer enables these charts to be drawn with a speed, ease and flexibility that is not possible if using

flip-chart paper, card, strings and drawing pins on a wall. The research demonstrates that personal computers have a hitherto unrevealed use as a research tool.

Ten such networks were drawn. The transcript from the contract manager of the Electrical engineers was not rich enough to sustain one. Manpower policies were seen as emerging from this network of events and states. The end result was a drawing showing the events and states and manpower policies contained in the script. This was an excellent technique for showing the process of transformation, demonstrating the consequences and antecedents of particular events and for developing a generalised understanding of why things happened the way they did.

Similarly they helped to demonstrate the irrelevant. In any interview there are problems of reflexivity and personal interests. The managers had axes to grind; they found some of the questions interesting, others boring and responded appropriately. Some questions would strike a responsive chord and would be vigorously pursued. As a result the interview transcripts contained the odd red herring, issues which were not relevant to the main questions. Event-state networks exposed these blind alleys and helped identify the important from the interesting. By revealing centrality and showing the irrelevant, event-state networks helped to focus the research effort.

A site-narrative is a short text, usually a side of A4 paper, which describes the event-state network. It served as an aide-memoir and this was the first document to be consulted when analysing a transcript.

The event-state network and the site narrative offered a rapid, simple solution to the problem of how to reduce prodigious amounts of non-standardised material to manageable proportions without distorting the data. Their use enabled nearly four hundred pages of transcript to be collapsed to twenty-four rich and highly condensed pages, but with a display format which makes them easy to assimilate and understand. The event-state diagrams and the site narratives for all ten interviews form an important part of the evidence by which the data theory underpinning this thesis was generated. They are reproduced in Appendix 1.

While qualitative researchers have long been recommended to undertake cross-site work (Glaser and Strauss, 1967), the techniques for analysing cross-site phenomena are not well developed. The problem is to abstract the relevant themes for analysis while still having regard for the organisational context that gives them their meaning. This is a difficult problem and there is no easy solution. The approach taken was to choose a relatively simple method of cross-site analysis, an unordered meta-matrix (Miles and Huberman, 1984) and to use that as a sorting table onto which the data could be collapsed and partitioned into four main categories. These were:

- pressures for change;
- business needs;
- manpower policies;
- implementation issues.

'Pressures for change' and 'business needs' were concerned with a more finely grained breakdown of the 'Why?' question. The respondents tended to answer this issue in two parts. For example, they would talk about 'pressures for change' in terms of falling demand, legal changes, reorganisation, the need to save money; then they would then talk about what the business needed to do to meet these pressures, for example by improving product design, cutting back production or the reorganisation of management work. 'Manpower policies' would be discussed in terms of the changes that were made in the manpower domain to meet the business needs. 'Implementation issues' emerged when the managers discussed the problems of installing their manpower policies. So to a large extent these four categories reflected the partitions imposed upon the research problem by the participant. The data relevant to the four main categories was assembled on an unordered meta-matrix. An extract from this is shown in Figure 3.2.

This process of recording and classifying data served to clarify a simple model of manpower strategy which had been formed during the interviews, transcription, conducting the content analysis, constructing the category files, drawing the charts and writing the narratives.

Figure 3.2. Extract from Unordered Meta-Matrix.

ORGANISATION	PRESSURES	BUSINESS NEEDS	MANPOWER POLICIES	IMPLEMENTATION ISSUES
THE PLASTIC FLOOR COMPANY	Poor Quality Products Falling Demand Slow Response Times Rising Demand	Launch New Products More Flexible Product Mix Increase Product Quality Need to Reduce Costs	New People Compulsory Redundancies Added Value Plan Reskill Supervisors Quality Training Redeployment Technical Training Introduction of Shiftwork Increased Overtime Recruitment	<ul style="list-style-type: none"> • Reduce Manpower: 1980-1982 • Increase Manpower: 1983+ • Reskilling • Redundancy • Slow Rate of Adoption to CIM • Labour Hoarding
THE BOROUGH COUNCIL	Local Unemployment Legal: The '86 Act Etc.....	Improve Environment Reduce Unemployment Etc.....	Redeployment Equal Opportunities Etc.....	<ul style="list-style-type: none"> • Municipalising Work • Managing Subcontracting Etc.....

The Case Studies

The methods used to collect the information for the BSC case were:

- semi-structured interviews with the five managers from BSC's Teesside Works; these included two personnel specialists, two production managers and a supplies and services manager.
- a directed-focus interview with a group of BSC shop stewards representing craft and production workers from Teesside Works;
- a guided tour of the Teesside Works;
- an examination of BSC's documents;
- an examination of literature, journals and newspaper sources about the company.

The methods used to collect the information for the Tioxide case is based were:

- semi-structured interviews with six managers: these comprised four personnel managers, the works manager and the organisation's general manager;
- an examination of literature, journals and newspaper sources about the company;
- an examination of company documentation;
- a tour of the Company's Greatham works.

All of the case interviews lasted between one and one-quarter hours and two hours. They provided information about the company, its product markets, technology and changes in manpower policy. All interviews took place in the managers' offices. They were recorded, transcribed by the author and returned to the interviewee for agreement. The cases were fed back to the 'gatekeeper' in each organisation.

The Archive Search

In 1986 NEEEA had over 170 members in the North-East of England employing some 30,000 workers. Membership was by establishment rather than firms. NEEEA was one of sixteen regionally-based engineering employers' federations which comprised the Engineering Employers' Federation (EEF). Through its national agreements with the Confederation of Shipbuilding and Engineering Unions (CSEU), it helped to regulate the terms and conditions of employment of about two million manual and staff workers. In 1980 the CSEU consisted of 14 unions representing manual employees, and six representing white-collar employees.

Most items of pay and conditions of both manual and staff workers were settled at plant or company level. Manual workers' national agreements regulated minimum pay, the standard length of the working week, shift and bonus premiums. In addition to the main national agreement there were no fewer than twelve more specialised agreements covering different groups of employees, such as foundry workers, pattern makers, toolroom personnel; and specialised sectors of the industry such as lift manufacture and mechanical construction.

The archive source was the files of the establishments of NEEEA's Cleveland members. Separate annual files were kept for each establishment. They held data about disputes between management and employees which entered the External Disputes Procedures agreed between the EEF and the CSEU: these external stages involved the attendance of full-time officers from NEEEA and the relevant unions at Conferences to try and resolve the disputes. The source consisted of:

- written notes and reports of conferences created by NEEEA staff who attended them;

- notes, reports and minutes drawn from management files of attempts to reach domestic or internal agreement ;
- notes and written briefs composed by factory management for NEEEA staff;
- where the dispute concerned redundancy or unfair dismissal there were copies of correspondence with the Office of the local Industrial Tribunal and the Department of Employment.

The only written sources to be systematically collected in the files were the written notes and reports of Conferences. Other information was present on file if it was supplied to NEEEA by the firm. The differences in the availability of information surrounding disputes appeared to be due to the complexity and importance of the dispute, and the 'house style' of the establishment's industrial relations management.

There were records for four major firms in Cleveland who had 11 establishments as full members in 1980, and who were still operating in some form in 1986. One firm was a group which owned eight establishments in 1980, seven of which closed during the period 1981-1984. In that year the group went into liquidation and the surviving factory was taken over by another company. The Federation's files were directly related to the surviving establishment only. There did not appear to be records of what had happened in the other seven factories, foundries and offices. But since the firm dealt with some industrial relations issues at group rather than establishment level, the surviving factory's files contained information on what was happening elsewhere.

The remaining three were all owned by well-known Cleveland firms. During the period covered by the research, two of them changed ownership, being absorbed by large multi-national engineering companies. Some of the factories enjoyed an international reputation in specialist heavy engineering, foundry work and steel casting. Brief details of the firms are given below:

1. A Steel Tube Factory which made piping for petrochemical plant construction. Part of a national engineering concern, one factory in Cleveland. Employed 137 in 1980; 103 in 1986.

2. A Lift and Escalator Factory offering a construction and service facility; a family owned firm comprising a factory in Cleveland where lift and escalator equipment was manufactured; and a construction arm which installed the new equipment on the building sites of new offices, shops and housing developments throughout the U.K. In 1983 there was a reorganisation which produced a third branch to service existing installations. The factory employed 174 in 1980; 163 in 1986.
3. A Steel Castings Foundry. Part of a multi-national engineering concern which employed 371 in 1980; 174 in 1986.
4. A Process Plant Foundry making iron castings; in 1980 it was part of a Cleveland-based group making process plant, pressure vessels, iron and steel plant and modules for off-shore work. Seven establishments closed between 1981-1984 with a loss of 1300 jobs. The remaining factory employed 279 in 1980; 193 in 1986.

The firms represented Cleveland's heavy engineering activities. The Federation files offered an insight into important manpower issues in a key sector of the Cleveland economy.

The BIFU files were located in the Northern Regional Office of BIFU. They consisted of:

- minutes of union meetings;
- minutes of negotiating and consultative meetings;
- correspondence with the banks' management;
- correspondence with the union head office;
- correspondence with lay officers, shop stewards and union members;
- copies of management policy documents and minutes and reports of bank management's meetings.

Industrial relations in banking were highly fragmented. The main employers' body was the Federation of London Clearing Bank Employers representing Barclays, Lloyds, NatWest, Midland and Williams and Glynn's, but this body appears to have steadily declined in

influence since the termination of national bargaining in the late 1970s. The smaller high street banks (TSB, Yorkshire Bank, and the Co-operative) were not represented by any collective organisation.

Employees were represented by BIFU, ASTMS and staff associations. BIFU organised clerical and managerial staff; ASTMS represented technical and service staff such as electricians, porters, messengers; staff unions organised anyone they could lay hands upon. The staff associations competed vigorously for members with BIFU and ASTMS.

BIFU had company-level agreements with all the clearing banks. The grades of staff covered by these agreements varied, but in general they included clerical, administrative and some managerial grades. The degree of recognition varied: BIFU had agency shop and closed shop agreements with the TSB and the Co-op, but elsewhere they seem to have been dependent upon their own organising ability for membership. Relationships with individual banks varied. They seem to have had good relations with the smaller high street banks and with the Midland. Here the bargaining and consultative machinery was well developed at both regional and national level.

The data have relatively little in the way of a specific Cleveland dimension to the problem. The manpower and strategy issues were analysed and implemented at company level. The operational implications of these actions for specific regions were rarely spelled out; and where they were indicated, the regional groupings adopted by the Banks and BIFU rarely corresponded with those of the research. However, there was no evidence to suggest that the trends in banking in Cleveland were any different from those experienced elsewhere, or that different policies were implemented there.

The files were organised by employer. There were two files per employer: one contained union business, correspondence, minutes of consultative committees; a second held correspondence between BIFU and the employer. Scattered throughout both files were copies of documents relating to management discussions concerning strategy and manpower issues. Some of these appeared to be confidential and had been made available to BIFU on an unofficial basis. These were management briefing papers, reports of meetings, and reports of

conversations. These had arrived at the Regional Office direct or as copies circulated from BIFU's headquarters

Many of the key developments contained in the files were not implemented until after 1985. Indeed, the process is still in train. But the logic, the analysis, and the mould of the shape of things to come are all clearly articulated in the files.

CONCLUSION

This chapter has established the case for a qualitative research strategy using primary data from interviews and case studies and secondary data from trade union and employers' association archives. The problem with cross-site qualitative research utilising different designs is to demonstrate results in a cogent, precise way which is acceptable to the scientific community, and which remains faithful to the data. Science is concerned with description, classification, conceptualisation and understanding; cogency (and brevity) forbid total reproduction of all the interview and archive files.

A useful way to make progress is to develop a model which can be used to conceive and explain the links between competitive strategy and the manpower system. The model should be based on the primary data and should be corroborated from the secondary data. Such a model has been developed. But the phenomena and the links it describes and analyses are complex and capable of analysis at a number of levels. Organisations sought to develop different types of competitive advantage. Accordingly there are some differentiated versions of the model. The remainder of this thesis is concerned with describing and analysing the model and its differentiated versions, and linking its analysis with the empirical observations cast up by the research designs. Its explanations are also compared and contrasted with those of competing models.

In chapter 4 the simplest version of the model will be presented. In chapter 5 a more finely-grained analysis will be advanced, focusing on one manpower policy, subcontracting. This begins to link the simple model to its differentiated versions, which are illustrated by the case study material in chapters 6 and 7, and analysed against all the data in chapters 8, 9, and 10.

CHAPTER 4

A SIMPLE MODEL OF MANPOWER STRATEGY

INTRODUCTION

The model of manpower strategy was developed by constructing an unordered meta-matrix from the event-state diagrams and site narratives reproduced in Appendix 1. The matrix contained five categories of behaviour that were present in the primary sources. These were 'Pressures', 'Business Needs', 'Management Issues', 'Manpower Policies' and 'Implementation Issues'. These categories reflected the order and manner in which the managers responded to the interview schedule. They were present on the event-state networks and the site narratives.

For example, they talked about 'pressures' for change. These were mainly located in the environment and concerned changing levels and composition of demand, legal changes and reduced budgets. The interview would then turn to 'business needs' or what the pressures were deemed to mean in terms of strategic action. This category included the need to upgrade quality, diversify the product range, to live with reduced budgets, reorganise work, develop the concept of a service, or improve the local environment. 'Management Issues' refers to the implications of these pressures for managerial action. There were four categories of management issues. These were:

- the need to reduce costs;
- changing production systems;
- changing marketing policies;
- new systems of work organisation.

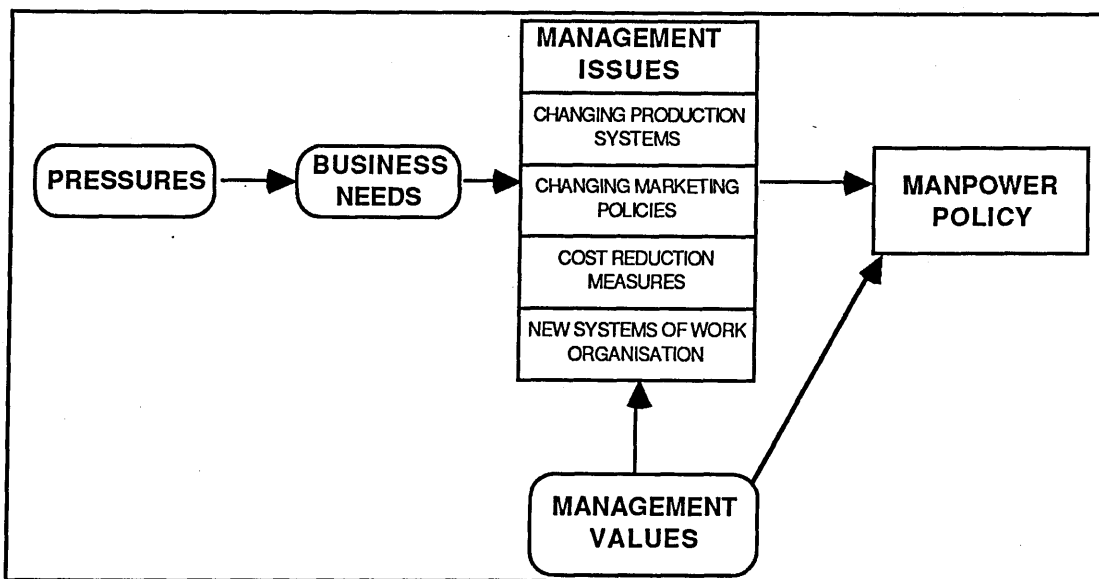
'Manpower policies' were seen as emerging from this web of pressures and needs. It was in this context that the managers would talk about issues of organisation structure, work organisation and employment policy. Interwoven with their accounts of the installation of manpower policy were discussions of the implementation difficulties they encountered.

This constellation of pressures, needs, issues, policy and implementation issues represented a search for solutions to the problem of reaching corporate economic objectives through the management of corporate costs and revenues. But this was not the whole story. There was evidence of other concerns affecting managerial decision making. These were rooted in corporate culture, 'policy' decisions, political commitments, morality, and the interests of managers, both as individuals and as a group. Often they could be seen as part of an established pattern of response to problems. This broad category of behaviour driven by rationalities which were alternative to, and often competed with the rationality of managing corporate costs and revenues, was labelled 'management values'.

Management values made manpower policy decisions independent of the pressure - business needs - management issue process. Many manpower policy decisions mentioned by the managers were rooted in values. They did not need to be justified against the economic needs of the business; they reflected the normative aspects of decision making and the search for other types of rationality.

The constellation of pressures, needs, issues, policies and values can be configured as a simple model of manpower strategy and it is shown in diagrammatic form in Figure 4.1.

Figure 4.1: A Simple Model of Manpower Strategy



The model shows manpower policy as the product of a response to the four management issues and management values. Unless external pressures or business needs were translated into at least one management issue they did not result in any manpower policy change. Management values influenced policy in two ways:

- they helped to define the four management issues;
- they influenced manpower policy direct.

Management values structured the managers' perceptions, and in doing so they helped to clarify what these pressures for change mean for the four management issues. Examples included 'technological fanaticism', attitudes to competition, definitions of market domain and the morality of substituting capital for labour. Management values influenced policy directly by defining a range of manpower matters which did not have to be justified in terms of a management issue. Some equal opportunity and harmonisation issues fell into this category. Many manpower policies were driven solely by management values.

The model predicts and describes the formation of manpower policy. It predicts how environmental pressures will be transformed into manpower policy. Nothing will find expression as manpower policy unless it is perceived as a pressure for change, giving rise to a set of business needs and management issues. There is one exception to this process and that is manpower policies which are rooted in management values.

The model describes how policy is formed: manpower policy can be regarded as an outcome of this process. The remainder of this chapter consists of a description of the powers and characteristics of the model. This will be shown by considering how:

- one 'pressure', legal change, was translated into manpower policy;
- the manpower policy of holiday entitlements was managed in the engineering industry.

This approach examines the process from the perspective of both 'manpower policy' and 'pressures'. The NEEEA files will be used as the data source for the holiday entitlement

issue; the interview data will be used for an exploration of the impact of law on manpower management. The use of secondary data to examine the holiday entitlement issue is justified on the grounds that the NEEEA files give extensive coverage to this issue and that the evidence within them points to the crucial importance of the management of holiday entitlements as a key part of time management and the search for flexibility. It is a neglected, under researched, but vital area.

THE MANAGEMENT OF HOLIDAY ENTITLEMENTS IN THE ENGINEERING INDUSTRY

The management of holidays is a manpower policy issue which is of interest for a number of reasons. Firstly, it is an area where there were major changes over the period of the study. These are shown on Table 4.1.

Table 4.1: Changes in Basic Holiday with Pay Entitlement for Manual Workers

YEAR	<u>Percentage of Manual Workers With:</u>	
	<u>4 weeks or less</u>	<u>Greater than 4 weeks</u>
1980	45	55
1981	38	62
1982	28	72
1983	22	78
1984	20	80
1985	17	83
1986	14	86

(Based on: 'Table 3: Holidays with Pay' in 'Recent Changes in Hours and Holiday Entitlements - Manual Employees', Department of Employment, Gazette, March 1987, pp.131-133)

'Basic holidays' are defined as the minimum laid down in collective agreements and other arrangements which determine the individual's contract of employment. They are distinguished from 'actual' holidays which includes additions for public holidays, seniority and local arrangements.

In 1986 the average basic holiday entitlement was 22 days. Between 1980-1986 the proportion of manual workers on more than five weeks holiday rose from one per cent to

twenty-three per cent. This trend toward longer holidays is likely to continue. According to one of the few sources to monitor data on holiday entitlements, the evidence suggests that "industries are progressing towards five weeks' holiday a year for manual workers" (IDS, 1987, p.2).

These changes have made holidays an important feature of the time management portfolio. Given an average holiday entitlement of 30 days a year and a five day working week, then holidays account for eleven per cent of time attended. Assuming a basic working week of 39 hours, and an actual working week of about 43 hours, then overtime also accounts for eleven per cent of time attended. On these figures the management of holidays appears to be at least as important as the management of overtime, a subject which has attracted a great deal of attention.

Secondly, it is a neglected issue at the theoretical and analytical level. It is clearly an aspect of time management, but this subject is discussed in the literature in terms of reducing the working week, (NPBI, 1970; White, 1982; Brewster and Connock, 1985); annual hours contracts, (Wyles, 1983; IRRR, 1984(a); Brewster and Connock, 1985); the management of part-time work, (Robinson and Wallace, 1984; Clark, 1982; IRRR, 1984(b)) and the search for new shift patterns, (NEDO, 1980; IRRR, 1983; IRRR, 1984(c)). Most of the recent major empirical surveys of changing manpower policies do not refer to the subject at all. The 1984 WIRS data (Millward and Stevens, 1986), the Warwick Survey (Brown, 1981), and the ACAS survey (ACAS, 1988(b)) are wholly silent on the matter. The major industrial relations texts (Bain, 1983; Clegg, 1972) treat the subject in a manner which is cursory, passing and descriptive. A common view is that holiday entitlements are well-regulated by national agreements.

Two notable exceptions are Blyton (1985) and White (1980). Blyton devotes a chapter of his study on changing working patterns to holidays, but his account is mainly historical and comparative. White's study of 400 establishments in the food, chemicals, engineering and the clothing and footwear sectors is more analytical. His study suggests a strategic context for holiday management. Both he and Blyton point to the relative inflexibility of holiday entitlements caused by the annual 'shut-down', a period which can be used for maintenance

work. White (1980) found that those establishments who used an annual 'shut-down' worked twenty-five per cent less overtime than those who did not. It also made production planning easier.

When the problem of time management is discussed solely in terms of reducing the working week, annual hours contracts, part-time work, shift work and temporary work, then it is fair to conclude that there is an assumption that all time management problems are problems of managing hours of attendance, rather than those of controlling days of absence.

This theoretical and analytical neglect finds an echo in the paucity of statistical data on the subject. Annual labour market surveys, such as those carried out by Incomes Data Services and the Department of Employment refer to annual changes in levels of holiday entitlement, but only in a very selective way. The ACAS Survey on labour flexibility did not include a question on the management of holiday entitlement (ACAS, 1988(b)). The Department of Employment publish the major changes in basic holiday entitlements in the Basic Time Rates and Hours of Work statistical series. But these only refers to basic entitlements for manual workers. There is no reference to actual holidays or to the holiday entitlements of non-manual workers. The IDS data is heavily reliant on the Department of Employment surveys, and is supplemented with some of their own ad-hoc survey data.

Thirdly, the management of increased holiday entitlement presents issues unique to the time management domain. Other time management strategies can be changed to produce labour inputs which are potentially cheaper. Costs can be cut by intensifying part-time work, the use of temporary contracts, designing new shift patterns more closely matched to demand and rearranging work rotas to eliminate premiums. It is this flexibility that makes these options such attractive propositions to managers. But this is not the case with holidays. If other things are equal, then Table 4.1 indicates that as far as holidays are concerned, then change means more, and more means greater costs.

Fourthly, the issue of holiday entitlements is close to the hearts of many employees. Holidays are of strategic importance to workers. Paid time-off has a central role in some people's lives to the extent that they plan the rest of the year around their holidays. The

quantity of work life is just as important as the quality, and freedom from the workplace is as desirable (and more attainable) than freedom at work. There is evidence that increases in holiday entitlement are more important to some employees than reductions in the working week (Best, 1978; Blyton, 1985; Hill, 1987). Best's (1978) survey of nearly 750 employees examined their willingness to trade-off leisure for income. They were asked to state their preferences between five equally costly options ranging from a two per cent pay increase to early retirement. Eighty-five per cent preferred less working time to a straight pay increase; and nearly fifty-six per cent wanted the extra leisure in the form of paid holidays.

Finally, it is of interest because there are virtually no legal restraints on employers in the management of holidays. Most employees have no legal entitlement to any holiday, not even to so-called 'statutory', public or bank holidays (IDS, 1987). The little statutory protection that was offered to some pockets of workers was removed by legislation. The 1986 Wages Act withdrew the power of Wages Councils to fix holidays; the 1986 Sex Discrimination Act repealed those requirements of the 1961 Factories Act which required young persons and women employed in factories to be given time-off for all bank holidays. There is nothing in law to stop an employer offering a contract of employment which requires employees to work 365 days a year.

In the context of this study, the management of holiday entitlement can be seen as providing a contrast with the other theme which is developed in this chapter, of how legal changes influenced manpower policy. The law is not relevant to the management of holidays. But the same simple model of manpower strategy can be used to analyse and explain both. The information used in this section draws on the NEEEA archive material. It relates to three of NEEEA's four Cleveland member establishments: the Lift and Escalator Factory; the Steel Castings Foundry; and the Process Plant Foundry.

In 1979 the EEF and the CSEU agreed to increase the basic holiday entitlement for manual workers in the engineering industry from 22 days to 25 days. The implementation of this agreement saw holiday scheduling emerging as the main time management issue. Table 4.2 shows the cause of time management disputes traced in the NEEEA files.

Table 4.2 An Analysis of The Cause of Disputes Concerning Time Management in EEF Federated Establishments in Cleveland: 1980-86.

<u>ESTABLISHMENT</u>	<u>TIME MANAGEMENT ISSUE</u>			
	HOLIDAY SCHEDULING	NEW SHIFTWORK SYSTEMS	TEA BREAKS/ WAITING TIME ALLOWANCES	OTHER
Steel Castings Foundry	6	0	0	0
Steel Tube Factory	0	1	1	0
Process Plant Foundry	1	0	3	1
Lift & Escalator Factory	3	0	0	1

(Source: NEEEA Files)

The agreement was to be implemented by one day per year for each of the three years beginning in 1981. Table 4.2 indicates that the scheduling of holidays was the dominant time flexibility issue. The arguments persisted for up to three years between 1982 and 1985 as various groups pushed disputes through procedure. The principle of three annual increments of one day in the holiday entitlement guaranteed that the trades unions would be offered an annual opportunity to raise the problem.

These disputes related to how the increases should be implemented. In all three cases they sprang from management attempts to gain greater control over holiday scheduling. The increased holiday entitlement did not 'cause' the disputes; instead it seems to have acted as a catalyst for a number of other management concerns which were seen as pressing. In all three cases managers attempted to standardise the criteria which would determine when holidays were taken. These criteria were closely related to the achievement of corporate objectives. In one case they probably offered workers greater choice or flexibility as to when they took their holidays. In the other two cases there was almost certainly less flexibility; worker discretion was removed.

In the Lift and Escalator Factory, holidays had historically been patterned to suit the construction arm of the business. This entailed both the construction operation and the factory shutting for three separate weeks scattered throughout the year. The lift service industry is one in which a very simple form of service is highly developed, that is, the need to provide a continuous call-out and repair service. An immediate response does not matter in the fabrication and installation ends of the business, but it is vital in the service of existing installations. People who are trapped in lifts have to be released as and when breakdowns

occur and these events are impossible to predict. Given the strategic importance of lifts in modern buildings any faults have to be rectified as quickly as possible. The emergence of this service-orientated strategy meant that the existing pattern of fixed shut-downs was not perceived by management as appropriate.

These issues came to a head in 1982. Managers wished to move from fixed shut-downs to rostered holidays to enable the factory to supply continuously the installation arm who at that time were responsible for service. This caused a dispute. The notes of the External Conference held in February 1982 leave no doubt about the nature of management's motives for seeking a change. A management representative said that the pattern of fixed shut-downs:

"... caused problems for the Company concerning the installation people. It was embarrassing for the Company to have a breakdown out in the field when the works were closed ... The Company was very much involved in a service industry and with the number of holidays it was becoming more and more difficult to maintain a proper service" (NEEEA File E81/82).

From 1982-1984 the Company's industrial relations history was dominated by a series of issues and disputes with both staff and manual workers focused on the firm's right to fix holidays.

The same question of management's right to fix holidays emerged in the in the Steel Castings Foundry. But here management wished to move from rostered holidays to fixed annual shut-downs, or in precisely the opposite direction to that taken by the Lift and Escalator Factory. In 1982 management argued that they needed to control the roster of holidays. Redundancies and demanning had produced a smaller workforce. With fewer numbers employed, the management of cover became more difficult. Greater care was therefore needed as to who was away at any one time. (NEEEA file E66/82).

In 1986 management formally proposed a move from rostered holidays to fixed annual shut-downs. This led to a dispute which culminated in an External Conference. At this conference the unions argued for more 'flexibility', meaning a greater choice for their members to choose their holiday periods. Both management and the local association officials seem to have accepted that the unions' position was one of greater 'flexibility' in

holidays, but that what the business required was less rather than more flexibility. The External Conference Notes state:

"It was the experience of the Association representative that the trend in the last two or three years had been toward more fixing of holidays. By removing flexibility of choice the company could synchronize its shut-downs with its customer holiday closures; coordinate its maintenance work; and avoid the cost of employing extra people. The answer to flexible holidays, was, therefore, no." (NEEEA File 66/86).

Management strategies to exercise their prerogatives as to when holidays were to be taken in order to standardise works closures were also discovered in the Process Plant Foundry (NEEEA file E86/80), but here the data were not sufficiently detailed to be able to discern management's motives.

ANALYSIS

These issues were observed in engineering, a key sector of the economy, and in the largest national industrial relations system in the United Kingdom. They arose because of the strategic significance of the management of holidays, due to the way in which holidays related to :

- changes in product markets;
- changes in production systems;
- the need to reduce costs;

The links with changing marketing strategies can be seen in both companies. The Lift and Escalator organisation was developing the concept of a 'service' in the form of rapid attendance to breakdowns and repairs. Ohmae (1982) notes that the lift industry is one in which this form of service has to be highly developed.

Both the Lift operation and the Steel Castings Foundry required closer coupling of their outputs to their customers' demands. The castings industry is characterised by 'tied' owners, that is, they are owned by firms who themselves machine and assemble the castings. The

Steel Castings Factory was known to have been a member of such a firm. Cost reduction was important, but the key to this was changing the production system by the introduction of planned maintenance work as well as keeping manning levels down.

The IMS model cannot analyse these changes. Holidays are not included in the folio of time management options. But in terms of its ability to generate disputes, the NEEEA files suggest that over the period in question it was the major time management issue in the largest single national agreement in the United Kingdom.

The evidence raises questions about the meaning of 'flexibility'. In the case of the Steel Castings Foundry it was the unions who were pressing for 'flexibility', or the retention of discretion as to when holidays were taken, and management who were insisting on the removal of this choice on grounds of efficiency. They quite specifically stated that corporate strategy required rigidity of working time patterns. The Lift works management wanted to move away from shut-downs to rostered holidays to provide a more 'flexible' response for a changed marketing strategy based on the concept of service. The NEEEA files contain evidence of two establishments who moved in completely the opposite directions with respect to the management of holidays. Yet it was possible for both of them to justify their actions under the banner of 'flexibility'. It is small wonder that some writers have described 'flexibility' as a "notoriously slippery concept" (Atkinson and Meager, 1986, p.2).

What does explain these moves, and reconciles the apparently different directions in which these firms were moving with respect to holiday management, was the development and implementation of competitive strategies. These were management issues. Their principal objective was to construct manpower policies which would help to meet these goals. Both required a closer coupling of their production systems and their markets. Their consumers were sister organisations, who were concerned to manage their marketing strategies and costs. The issues emerging to shape and constrain holiday scheduling were:

- timing;
- interrelationships with sister units;
- the management of vertical integration;

- linkages with vendor and supplier value chains.

These are the drivers of cost and the sources of differentiation according to Porter (1985). These provide an explanation of how holiday scheduling became so important and was resolved in the way it was. There is another important aspect of this evidence. The evidence points to the Lift and Escalator company following a PMB strategy while the Steel Castings Foundry appeared to be deploying a CR strategy.

The evidence is not solely concerned with employment policy. It has something to say about organisation structure as manpower strategy. Other commentators (ACAS, 1988(a)) have identified strategies of 'devolution' in manpower policy management. This is often formally linked to the search for 'flexibility' and it appears to mean a strategy of allowing managers at lower hierarchical levels decide manpower policy. But both cases point to policies on holidays being closely linked to the delivery of corporate strategy rather than business strategy, and involving the coordination of more than one establishment located in different parts of the firm. This indicates the centralisation of decisions on holiday policy within the organisation structure, rather than to devolution. The object was to manage time to produce a closer 'fit' between corporate strategy and the scheduling of holidays.

MANAGEMENT ISSUES AND LEGAL CHANGES

The simple model of manpower strategy predicts that if law is to influence manpower policy it must either affect at least one of the four management issues, or be supported by management values. Law which is aimed at the manpower system direct, and which does not change the four management issues, or have the support of management values will not alter manpower policy. The limited evidence on the relationship between the law and manpower policy supports this hypothesis.

The evidence will be considered under the following headings:

- changing marketing policies;
- changing production systems;

- the need to reduce costs;
- new systems of work organisation;
- management values;

Changing marketing policies; EEC law proved particularly influential in this area. The most striking example of law influencing manpower policy by its effects on product markets concerned the Brewery. The EEC sought to regulate competition in the beer market by regulating brewers' control over their sales outlets. European brewers sell through three types of outlet: free trade, franchises, and managed houses. The free trade is not relevant to this discussion. The U.K. tenancy system is a franchise system. The tenant pays the brewer rent for the pub, buys beer from the brewer and hires staff. The brewer pays for the advertising, supplies beer and maintains the outside of the pub. In a managed house the landlord is an employee of the brewer. He works for a wage and a share of the pub's profits. Typically British brewers ran mixed systems; some of their pubs were managed, others had tenants.

The effect of the EEC regulations on the liberalisation of beer markets was progressively to outlaw mixed systems. A brewer's outlets could consist wholly of tenancies, or wholly of managed staff, but not both. Some breweries, like John Smith's, were opting for all managed houses; others, like Samuel Smith's were adopting franchise systems. But all brewers were having to consider a fundamental question of manpower policy: were the people who would be running the pubs to have employed status or not?

Changing production systems; all managers interviewed were asked about the major legal changes which had affected manpower management. Three of the respondents gave answers which were viewed with some scepticism:

"Probably one of the biggest changes will be associated with Control of Industrial Major Accident Hazards regulations. This has arisen because of Flixborough and Seveso." (Engineering Manager, Nyco).

"I think the Factory Inspector has become much more strict in enforcing the rules and regulations. I think the Inspectorate has been increased in staff and they are becoming much more zealous in the operation of the job." (Contracts Manager, Contract Electricians).

"The Health and Safety at Work Act brought a lot of extra pressures to bear on us; we have certainly found there are more Factory Inspectors. We are plagued with them." (Construction Manager, Chemco),

These comments provided a sharp contrast with the responses from the other managers in the survey. Safety was not given the same importance. Another reason was that the statements contained information which was false. The Factory Inspectorate had not increased in staffing. The number of inspectors employed in the Factory Inspectorate had declined from 702 in 1980, to 563 in 1986 (Employment Gazette, Vol. 95, p.626). But three people, all working in the chemical industry stated that they thought the opposite was the case. So this information was reliable, but was it valid? Finally, it was not clear why they should refer to the Health and Safety at Work Act and the Flixborough disaster as a source of concern during this period. Both were six and eight years old in 1980. The managers themselves were unable to supply the information to lift their answers above the level of impressions: safety, which they saw as a manpower policy issue, was taking a lot more time and seemed to be much more important.

To illuminate these issues an interview was held with the Inspector of Factories with special responsibility for the chemical industry in the North-East of England. He said that since 1980 there had been a number of EEC regulations and Health and Safety Executive initiatives which, in his words, had "clobbered" the chemical industry. He produced a pile of about three dozen codes of practice, approved codes of practice, regulations and orders which were aimed at the chemical industry and which had been implemented since 1980. He compared this figure with the single code of practice he knew had been introduced into Cleveland's other traditional industry, iron and steel making. He said that the regulations targeted at the chemical industry fell into three areas. These were: The Code of Three Regulations; Notifiable Installations Handling Hazardous Substances (NIHSS); and the Control of Major Accident Hazards (CIMAH).

The Code of Three Regulations referred to The Road Tanker Regulations, 1981; the Classification and Packaging and Labelling of Dangerous Substances Regulations, 1984; and the Packaged Goods Regulations, 1986. These were encouraged by the EEC because they had implications for the international transport of goods; they represented a synthesis of a number of EEC regulations. They were backed up with a number of Approved Codes of

Practice and were a very complex body of regulations governing the bulk movement of chemical feedstocks.

The Seveso disaster had prompted an EEC Directive (EEC, 1982). This, and the HSE response to the Flixborough disaster lay behind NIHSS. The Seveso Directive placed a general requirement on member states to notify major accidents to the EEC; required member states to advise people in the area of a plant handling notifiable hazardous substances of measures to be adopted in the event of an accident. Member states also had to produce regulations concerning handling of hazardous substances. This involved the Factory Inspectorate in direct supervision of management. Sites had to be inspected, appraised and a lengthy written report produced.

CIMAH was introduced in 1984. It was a response both to the Seveso Directive and to the Advisory Committee on Major Hazards set up after the Flixborough disaster. It required major hazard sites to be identified. There were 17 in the North-East of England, 14 of which were in Cleveland. Local authorities were to produce Off-Site Emergency Plans and the firms had to draw up On-Site Emergency Plans. These required considerable management effort and time. The reporting requirements were particularly heavy. The managers of CIMAH sites had to write a safety report indicating their recognition of the hazard, give details of the hazards and what could happen if safety management failed; and to have taken appropriate measures to minimise danger should an accident occur.

The managers interpreted these regulations as safety, and in their construction of reality safety was a manpower issue. But they are better analysed as production management problems. They were directed at the regulation and monitoring of the firms' production and distribution systems, not their manpower systems. The Health and Safety Executive showed that they were well aware of this distinction when they wrote that these matters were concerned with "the management of safety on site, but not day to day management/employee relations" (letter from HSE, 29.7.88). But as far as managers were concerned they produced an array of problems which qualified for the label of 'manpower'.

The need to reduce costs; there were many and legal regulations which effectively amounted to a demand for organisations to reduce their costs of production. 'Rate-capping' affected both the Borough Council and the Education Authority and drove manpower policy changes in manning and working hours.

Systems of work organisation; there were numerous examples in the public sector of legally driven changes in work organisation, which produced changes in manpower policy. One of the most striking examples was the 1986 Education Act. The Principal Administrative Officer in the Education Authority described the processes by which this Act produced changes in work organisation, and consequently changes in manpower policy:

"The Education Act 1986 devolves a lot of real power to the School Governors in the appointment of staff. They are going to have to include more parents on their governing bodies and they will have to deal with staff discipline and grievances. Clearly these are going to be fundamental changes with staffing and manpower implications; the more power that might be devolved in this way, particularly in relation to discipline and the appointment of staff, the more oversight there might have to be here to make sure that they all do it right."
(Principal Administrative Officer: Education Authority).

This was a work organisation issue concerned with the division of managerial work. To cope with it the Education Authority had to rewrite their selection, disciplinary and grievance procedures.

Management values; in the managers accounts there were striking differences between organisations on the uptake of equal opportunities legislation. This was a measure which applied to all organisations with equal force. In the Education Authority and the Borough Council it appears to have been applied with a degree of commitment and rigour that was not apparent elsewhere. This was not a public sector versus private sector issue; the policies were not as fully developed in the Health Service as they were in the other two public sector bodies. What marks these organisations out is the range of the policies. For most firms equal opportunities meant the employment or the pay of women or black workers. In the public sector the policies were addressed to a broader range of groups and a wider range of manpower issues. For example, they normally included the disabled workers and were considered to be inseparable from broader problems of harmonisation of conditions. The policies were more comprehensive in terms of their internal cohesion. Procedures were

overhauled and monitoring was introduced. The main explanatory factor was the presence of a strong political commitment to equal opportunities. Without this drive little progress was possible, because the managers did not see equal opportunities as a management issue.

Without this underpinning in management values, law directed at the manpower system took on a discretionary aspect. Much has been made in this section of the importance of EEC law, and equal opportunities law was an area that concerned the EEC. One manager talked of the effects of the EEC rulings on equal value on the company's decision to abandon their job evaluation scheme:

"But the approach that we've adopted is not to shake the thing up, but to leave it lie until it's necessary to deal with it. We don't necessarily believe that the EEC is right. What is right is that we continue to be a high paying, high performing company. Why should we disturb relativities that appear to be OK? We will react when the pressures arise." (The Personnel Manager, the Potash Mine).

The question could be asked: what pressures? The simple model of manpower strategy holds the answers: changing production systems, marketing policies, the need to cut costs, work organisation and management values.

CONCLUSIONS

The model of manpower strategy and policy making that emerges from this description and analysis is of manpower policy reflecting business strategy. There are a number of aspects to this strategy-linked model. There is a need for the manpower system to adjust to strategies designed to increase profit margins or reduce losses. These manpower strategies originate in changing marketing and production policies; these in turn give rise to new production systems and the new patterns of work organisation necessary to serve them. This analysis is consistent with the argument that the starting point for any analysis of manpower strategy determination is a consideration of the organisation's product markets (Rubery et al, 1987; Sorge and Streek, 1988; Hyman, 1988). Their arguments and analysis are concerned with industrial relations, but they can be widened to a broader range of manpower policy issues. Product markets influence a wide range of skilling and organisation issues: it is marketing policies and product manufacturing strategies that are central to the determination of manpower policy rather than technology and work organisation.

The simple model of manpower strategy indicated in this chapter is one of strategic manpower management. It suggests that manpower policies are rooted in the organisation's strategic concerns. This involves the need to manage corporate costs and revenues, whilst acknowledging the importance of value-driven concerns. The evidence from the NEEEA files indicates support for the proposition advanced in the review of the literature that there may be different models of rationality. It also suggests that Porter's (1980, 1985) analysis of the sources of cost reduction and product differentiation might offer a better framework for an understanding of manpower strategy than the IMS model.

However, the evidence drawn from the debate concerning the scheduling of holidays; and on the relationships between law and manpower policy, describe this simple model in an attenuated manner. The holiday issue has no value dimension; and whilst consideration of the role of the law draws attention to the process by which manpower policy is produced, it does not elaborate on the consequences for manpower policy. What is required at this stage of the presentation of the argument is a richer and more detailed elaboration of the model of strategic manpower policy. One area where all these issues and concerns can be seen in greater detail is in the decision to subcontract labour. This manpower policy is fully discussed in the next chapter.

The evidence presented in the next chapter points to the existence of differentiated types of the model of manpower strategy and it does so through the medium of an analysis of contracting, an area of activity of great importance in the Cleveland economy. The analysis also refutes one of the central postulates of the IMS model, that is, the concept of subcontracting as a 'distancing' strategy.

CHAPTER 5

STRATEGIC MANPOWER MANAGEMENT AND THE DECISION TO SUBCONTRACT

INTRODUCTION

In the previous chapter it was suggested that manpower strategy was characterised by a search for solutions to the problem of how to meet corporate economic objectives. These objectives were concerned with the search for growth and competitive advantage. The review of the literature in chapter 2 suggested that there were different models of growth and competitive advantage: growth is achieved by managing the relationship between costs and revenues. There were different competitive strategies that could be taken to secure competitive advantage. There was more than one way in which these relationships could be managed. The simple model of manpower strategy showed that these competitive strategies were translated into manpower policy through changes in production systems, marketing policies, cost reduction measures and new systems of work organisation. Chapters 2 and 4 also drew attention to the important role of management values in manpower strategy.

Two such models of competitive advantage were discovered in the literature. But this study has found three relevant models rather than two. The remainder of this thesis illustrates two of these models through the medium of case studies, and it describes and analyses the processes by which manpower policy was produced in all three of these models. The substantive content of the manpower policy is also described.

The three models of competitive strategy were:

1. A PMB strategy;
2. A CR strategy;
3. A Service Sector strategy.

PMB and CR strategies have already been described in chapter 4. A Service Sector strategy was a form of a CR strategy, but it was sufficiently differentiated to deserve separate treatment. It was differentiated by the importance of labour costs and by the fact that the managers defined their products as a 'service' rather than goods or commodities. The production and distribution of a service gave rise to some unique manpower problems.

Organisations were largely seeking a flexible response from their workforces in terms of these strategies and that 'flexibility' could only be understood mainly in terms of these competitive strategies. In turn, this requires an understanding of the sources of PMB and CR strategies, and the delivery of a service. In this chapter these themes and issues of the connections between competitive strategy, management values, pressures, business needs, management issues and manpower policy are further developed through a detailed examination of one employment policy, subcontracting. The evidence presented draws mainly from the interview stage of the research design.

Subcontracting has been defined as "the displacement of an employment contract by a commercial one as a means of getting a job done" (Atkinson and Meager, 1986, p.54). Subcontracting has been chosen because:

- of its relevance to the Cleveland economy;
- it is both topical and under-researched;
- it poses some interesting problems of implementation;
- it is an especially rich and diverse policy area.

It is relevant to a study of employment in Cleveland because a large but unspecified number of Cleveland people worked in subcontract industries. The economic development of the region was based on steel and heavy engineering, and these industries spawned contracting firms in steel erection and engineering construction. Many major employers in Cleveland such as Cleveland Bridge, Head Wrightson, Davy Ashmore, Whessoe and ITM were contractors. These firms gave the local labour market an international dimension: many local people worked in the Middle East, Africa, Asia and in the North Sea oil fields. When local employment collapsed in the early 1980s, the contracting industries continued to employ many people both inside and outside Cleveland.

Surveys of the local economy carried out during the period of the research noted that it was only the relative buoyancy of this heavy engineering contract sector that prevented an even steeper decline in numbers employed (Cleveland County Council, 1982, 1984(a)). Precise numbers of people who lived in Cleveland, but who worked outside the county on contract-type work over the period 1980-1986 are impossible to obtain, but one forecast estimated that in 1987 the number of employees who were living locally, but working elsewhere was 5,500 (Cleveland County Council, 1986(b)). The forecast noted that the bulk of these were working outside the UK. This figure exceeded those employed in the primary sector (4,600); was about half of those engaged in construction; and was more than ten per cent of those working in the county in the manufacturing sector. The figure was an underestimate as it did not include those people who were both resident in Cleveland and working inside the county on subcontract work.

The presence of such a large and comparatively well-paid section of the workforce employed away from home on contract-type work was responsible for the county being described as a 'remittance economy', and causing it to be compared to Southern Italy and Eire.

It is topical because it is a key part of some of the debate on current changes in labour markets and employment policy. It is central to the concept of the 'flexible firm': Atkinson and Meager describe it as the "dominant form of distancing strategy" (1986, p.55). It addresses a manpower issue which has been recently highlighted as the major obstacle to growth in industries like construction: cohorts of skilled male labour (The Guardian; 28.7.88., 1.8.88., 2.8.88). In doing so it reaches those parts of the labour market which are not touched by other forms of distancing strategy: temporary work and part-time work are both mainly female-intensive and low skill (Pollert, 1987; Atkinson and Meager, 1986). It is likely to grow in importance as firms experience difficulties in recruiting skilled male labour. It does not appear to have attracted the degree of research enjoyed by temporary work and part-time work; and many of the judgements made about it appear to be impressionistic.

Its richness and diversity can be gathered from the fact that seven of the 11 firms who employed the managers included in the interview stage of the research design had an interest

in subcontracting. One, the Contract Engineer, was both a provider and a consumer of the service. Six of the organisations were either increasing or maintaining their involvement in the field, while the Borough Council was bringing all contracted work in-house as part of its policy of 'municipalising' work.

The evidence on contracting and competitive strategy will be analysed in terms of each of the three differentiated models of manpower strategy. The analysis also highlights the significance of the form of the contract relationship and implementation issues.

CONTRACTING AND PMB STRATEGIES

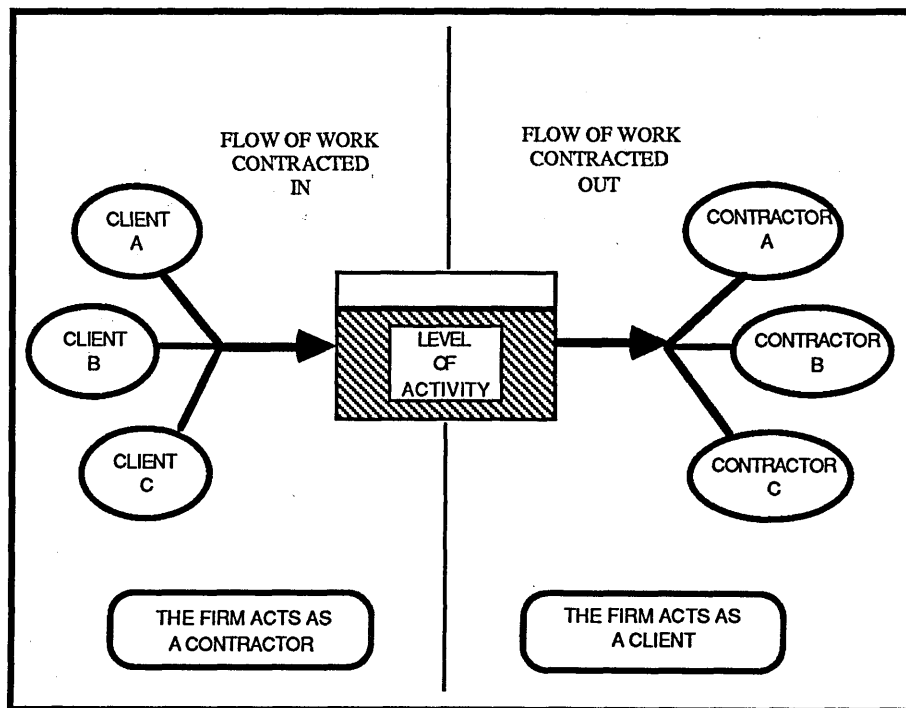
The data here relate to the Contract Engineers. They performed specialised, new technology based, high precision, heavy engineering services on contract for a range of blue-chip engineering concerns. They had themselves contracted work out in areas like welding, heat treatment, surface coatings and materials procurement. This was not work that had previously been done in-house. The company had developed these services to improve its market position with its customers. In 1986 this activity accounted for one-quarter of the firm's turnover. This was due to the Managing Director of the firm adopting a 'bundling' strategy, the aim of which was to package or bundle a number of discrete goods or services and to sell them as one unit. This was a form of non-price competition which bound the customer to the supplier. He described the strategy's development and its connections with subcontracting:

"We used to see ourselves as a machine shop, but increasingly we are coming to realise that we are subcontract problem solvers. We cut metal: that is the actual process we perform, but what we actually do is to take somebody's problem off them and sort it out. If he has a problem which is largely metal cutting, but which is also welding, heat treatment, painting, packing, shipping, then the more of the problem we can solve for him, the happier he will be. And the greater the expertise we develop on his products and his processes and his procedures and specifications, then the more we bury ourselves in his woodwork. We are more difficult to replace when we can solve six problems with one telephone call." (Managing Director, Contract Engineers).

This was a PMB strategy. The Managing Director was offering a problem solving service to his customers. The type of contracting he developed to deliver this service is known as 'two-way contracting'. This is where the firm acts as both a supplier and a consumer of a contract service. Lowry (1967) describes how this policy can be used as a means of

stabilising employment or gradually to build up output. Contracting in and contracting out acts as a pair of valves controlling flows of work into and out of the firm. This serves to adjust the level of internal activity towards the achievement of some employment levels or efficiency goals. This is demonstrated in Figure 5.1.

Figure 5.1. Two-Way Contracting.



If contracting in general poses the firm with problems of co-ordination and control (Rubery et al., 1987), then these are acute in two-way contracting. The 'two-way' contractor has to plan and schedule some complex work flows into and out of his factory. To do this he needs an accurate picture of both his clients' requirements and of his contractors' capacities and capabilities. The role demands close liaison and synchronisation of activities to ensure that orders are put out and returned on cue. Lowry (1967) builds up a picture of complex, close and highly interdependent relationships between the contractor and his "valued vendors" (p.49).

The co-ordination and control problems arising from the management of these mutual dependencies were seen by the Contract Engineer as a lucrative business opportunity. These very close relationships, and the high degree of co-ordination between contractors and

clients is obscured by titles like 'plug-in jobs' (Atkinson, 1984); a term often used to describe jobs which appear to the outsider to be readily interchangeable. Some of the firms who used contractors built up close relationships with them and many of the contractors developed an intimate knowledge of their clients' production systems and procedures. Labels like 'distancing' have no conceptual validity to describe relationships such as these. It is impossible to have a relationship which the contractor is both 'distanced' and 'buried in the woodwork'. Numerical flexibility is irrelevant to this problem.

'Two-way' contracting is better analysed as a PMB strategy which is targeted at one of the major sources of differentiation. Porter (1985) cites the management of supplier linkages as a major driver of uniqueness and clearly this is the function that the Contract Engineer was performing. The management of timing and integration are other sources of uniqueness that are involved.

Just as the Contract Engineers were using subcontracting to deploy a 'bundling' strategy, so other organisations in the study were falling victim to them. The Borough Council had a deliberate policy of 'municipalising work', that is, retaining work in-house instead of putting it out to the private sector. This policy of internalising work was part of the ruling Labour Party's commitment to maintain employment levels. Consultancy and external capital works expenditure had all been reduced. In other areas, such as cash collection, security and central heating systems they had not made progress as the Council did not have the necessary technical expertise. One area which looked very promising was office equipment maintenance on items such as furniture and typewriters. On further examination it was found that maintenance agreements were often part of the original sale. 'Municipalising work' was not possible in this area.

CONTRACTING AND CR STRATEGIES

A major reason why many of the organisations had considered contracting out certain activities was as part of a general strategy to reduce costs. For some of the CR firms there was little to be gained by a policy which relied solely on cutting manpower costs. If money was to be saved it would be through savings in expensive raw materials or by 'working smarter' rather than working cheaper. For the CR firms these questions raised issues of :

- changing production systems;
- patterns of work organisation.

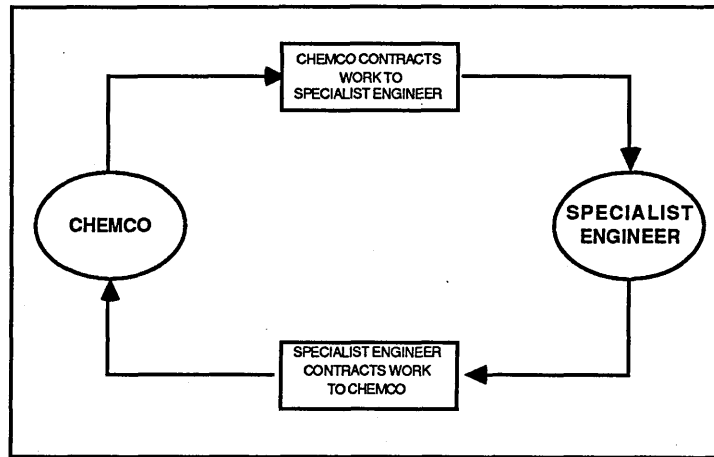
These areas offered far better paybacks for cost cutting efforts and the decision to contract in some areas of manufacturing was directly connected with them.

Contracting and changing production systems; the substitution of cheaper raw materials had helped intensify subcontracting in Chemco, a prominent local chemical firm. In the chemical industry pressures on costs had encouraged engineers to experiment with the use of thin-walled metal pipes. These could be used, but required unique forms of engineering which could only be supplied by subcontractors:

"There are pressure on costs in the chemical industry. We use a lot of standard wall thickness pipes - expensive stainless steel pipes. We found that we could use thinner ones, but the standard bending techniques couldn't be used on them: they could only be bent using induction pipe bending. This is highly specialised, and there's some art as well as science in it. There are only two people in the North of England who do it." (Construction Engineer, Chemco).

The drive for cheaper costs did not necessarily mean cheaper labour costs: in this example Chemco were not concerned with minimising labour cost, but with the substitution of a procurement activity for an engineering activity. They were reconfiguring their value chain (Porter, 1985) to produce a lower product cost.

The search for CR strategies produced its own exotic forms of contracting. One of these was 'reciprocated contracting' and it involved Chemco acting as both client and contractor for the same piece of work. A package of work was contracted out to a specialist engineer by Chemco to save costs; the contractor, in turn, hired Chemco's workshops to perform the job. This deal saved money for both Chemco and the contractor; but saw them both adopting the role of client and contractor. This relationship is demonstrated overleaf in Figure 5.2. Once more it is difficult to square this type of relationship with the concept of 'distancing'. Mutual cost cutting required cooperation and close working relationships.

Figure 5.2. Reciprocated Contracting

Contracting and patterns of work organisation; Nyco, an international chemical operation, had a system of work organisation designed to deliver a CR strategy. Nyco's policy was to concentrate their management skills on production management and engineering. All maintenance activities were contracted out. This allowed them to develop a competitive edge by increasing their production and engineering expertise free from the distraction of managing a maintenance workforce. It offered them a one-union plant, thus facilitating more orderly industrial relations, and made the labour management of the maintenance workforce the contractor's problem. This was contracting as a form of comparative advantage (Atkinson and Meager, 1986) delivered by reducing plant down time during maintenance periods. Nyco's Engineering Manager explained the advantages:

"One of the disadvantages is that you pay more for contractors; about ten per cent more and you won't get it cheaper. The advantage is that it gives complete flexibility to fetch people in during a shut-down. In a large chemical plant a shut-down can cost a million pounds a week. Two or three days off a shut-down by having extra labour, and planning the job to use that extra labour, means that those costs can be recovered. It relieves the engineering staff of the labour management problems: they are dealt with by the contractors. Your engineering management can get on with the technical problems on the site." (Engineering Manager, Nyco).

This evidence confirms the point that managers were concerned with controlling total costs and benefits in the contracting decision. They were not merely concerned with minimising the labour element.

Some writers have commented that strategies like contracting are not just pursued because they can help production directly, but because they segment the workforce, and in doing so weaken trade union influence and power (TUC, 1985, E.T.U.I., 1985; Rubery, Wilkinson and Tarling, 1981; Edwards, R., 1976). Nyco were clearly aware of the advantages the arrangement gave them in the day-to-day management of site industrial relations:

"We don't employ any maintenance labour direct, it's all done indirectly through contractors. We've not really had any large labour problems on the site. There is no interaction between them and the maintenance people; maybe they don't feel that they have the same sort of clout that they would have if it was an integrated labour force on the site. But that wasn't the reason why we put it in. We wanted to put our negotiations through quickly with one union and it doesn't take much longer than six weeks to come to some sort of deal." (Engineering Manager, Nyco).

It became apparent that some of the firms developed very close relationships with their contractors as they worked together over many years. The contractor's workforce developed a knowledge of the client's plant and products and as such achieved a degree of centrality. In Nyco's case they had been using some contractors for over fifteen years. Nyco's Engineering Manager explained:

"We've not found it necessary to change our main contractors. That would be a big upheaval to us because a lot of those fellows who work for us know all the short cuts and we'd lose out. We'd have to start again. It would be difficult." (Engineering Manager, Nyco).

Here contractors were a sizeable proportion of the workforce. Nearly thirty per cent of the site workforce was employed by their contractors. This evidence directly challenges views of contract work as 'plug in' work directed at tasks which are interchangeable and in some sense peripheral to the organisation. Insofar as it describes the contract workforce developing firm-specific skills it raises another interesting question: what is a 'core' job? If the "central characteristic" of the core group consists of people who "possess skills and experience specific to the firm, which cannot readily be bought in" (Atkinson, 1985, p.15) then Nyco's contract maintenance workers fit that description. This is not to deny the importance of the contracting process to all concerned. After all, what is the point of having firms on contract if the client does not wish to be seen to be in a position to terminate it? But the evidence presented here suggests the reasons may not be rooted in a desire to segment

the workforce, minimise labour costs per se, or in any conscious desire to create a 'core' and a 'periphery'.

In other cases the route to cost reduction in CR did lie in directly addressing the manpower system. Brewing provided a good example. Beer sales wilted under the impact of the recession in the early 1980s, which sent local unemployment well over twenty per cent and the Brewery was not well placed to counter it. Its markets were regional, it had little in the way of new products to offset falling beer sales, existing products were aimed at male manual workers. The recession came on top of many unfavourable long-term trends in the beer market. Given the state of the product market place, cutting costs was the main way to achieve financial viability. There were several clearly identifiable pockets of labour-intensive activity. Contracting offered a quick route to cost reduction by cutting manning levels. In 1982 all of the distribution, office cleaning, building, pub outfitting and building works were subcontracted with over 300 redundancies.

Contractors could provide some services more cheaply because they could spread the fixed costs of production over a larger market and because they were not bound by the same industrial agreements as their clients. In the Brewery pub outfitters were covered by a company agreement which provided higher rates of pay for craftsmen than the Building Trades J.I.B.

CONTRACTING IN THE SERVICE SECTOR

The Borough Council and the Area Health Authority (AHA) were service organisations. They both provided the clearest demonstration of the direct strength of management values on any manpower policy. The context was the enforced competitive tendering process.

This started in the Health Service in 1983 under the direction of central government working through the DHSS who required AHAs to save money by contracting out ancillary services such as cleaning, portering, maintenance and catering. At the same time the government abolished the Fair Wages Resolution, thereby removing the need for potential contractors to observe NHS rates of pay and conditions. The ancillary departments could tender for what had previously been their own work, but their bids had to be compared with those offered

by outsiders. In 1986 Health Authorities were, in effect, instructed to accept the lowest tender offered by a contractor.

In Local Government the process began with the 1980 Local Government Planning and Land Act which forced Authorities to put engineering and building work out to tender. These legal provisions were intensified by the 1986 Local Government Act which extended compulsory competitive tendering to refuse collection, street cleaning, catering, estate and vehicle maintenance services. If the work was not put out to tender, or if an Authority was considered not to have acted fairly in the tendering process, the Department of the Environment could instruct the Authority not to give the contract to its own in-house Direct Labour Organisation. In short, there could be privatisation by order. To these legal incentives were added to the encouragement of the Department of the Environment to Authorities to test the cost-effectiveness of their services in the market place; and by the publication of norms, performance reviews and guide-lines from the Audit Commission. This body was established in 1972 to ensure that Authorities conformed to their financial obligations as laid down in law. The abolition of the Fair Wages Resolution affected them similarly to the NHS. This came against a background of reductions in rate support grants, and a rising expectation from rate-payers about the levels of service that should be provided.

In both organisations there was a determined commitment to prevent contracting growing beyond its present boundaries. In the case of the AHA this meant excluding it altogether; within the Borough Council contracting had to be confined to its existing narrow base in engineering and building. In both cases the opposition was driven by a number of motives. An important objective for the Local Authority was security of employment and good terms and conditions for its employees. Much of its opposition to subcontracting and other forms of manpower policy can only be understood in this light. The Borough Council's policy was summed up by a manager:

"The Council's committed to do all it can to create more jobs, more services, and to improve the earnings of the low-paid against the backcloth of expenditure cuts. Consequently, they regard value for money exercises as being in conflict with their basic philosophy. The Council is not willing to see options which would be seen to be to the detriment of low-paid employees. They do have a certain sympathy with, as they see it, the plight of manual workers; and they certainly won't encourage officers to undertake assignments which appear to chase the lower paid." (Management Services Officer, Borough Council).

Managers in both organisations thought that subcontracting did not 'fit' with their organisation's market domains. They were concerned that there should be some symmetry between their manpower policies and their product markets. The Health Service defined their product as a service. The main characteristic of a 'service' is that it cannot be stored. It has to be consumed at the moment of production and the customer is closely involved in its production. This produces some complex quality control problems (Lovelock, 1985). Contracting was not seen to be well suited to their solution:

"If you are running a Health Service you've got to be able to control your laundry and your linen supply. If it's being done by somebody else, and they fail there's nothing you can do. You can sue them, or you can seek some financial settlement, but what about the poor patients in the beds? It's a question of the direct control over services. It's a service issue." (District Personnel Officer, AHA).

These product market links were present in the Borough Council. They were committed to improving conditions in the local community and they considered that these pledges were incompatible with marginalising sections of the workforce. A manager commented:

"The Council feels that as part of its policies that it should do something about what's happening outside. It's done all in its power to provide support for special employment schemes; and feels that it should manage its affairs internally so that they are compatible with what it's trying to do outside. So it doesn't see its role to lessen the number of employees internally to make the situation worse outside. I think those policies are compatible with each other. And it does move the way that we operate, and the attitudes that we have to manpower in the Authority." (Management Services Officer, Borough Council).

There were personal concerns overlaying these issues. Many managers had a direct interest in the decision to contract: their jobs and careers were threatened. If the service was contracted out, then their jobs disappeared. Contracting mobilised opposition at all levels; managers, policy makers and workers united in a concerted effort to ensure that contracting was strangled at birth.

How this was achieved was a tribute to the fecundity of the managerial imagination. It generated a whole class of managerial activity known as 'tactical tendering'. This involved the managers complying with the letter of the law, but tendering the work in such a way that contractors would find it a very unattractive proposition. Tenders could be over specified:

for example, managers could ask contractors for a grass cutting contract price based on twenty cuts per season; the in-house tender price was based on thirteen cuts, a figure that was known to be adequate. Work could be bundled up in lots which were too big for any potential contractor to handle, or too small to be profitable. Timing was used: work would not be offered for tender until the last moment, leaving interested contractors little chance of submitting a bid. Geography played a part: work would be offered in packages which involved contractors having to contemplate servicing split sites many miles apart. The redundancy costs of the client's workforce were added to all contractor's prices. Finally, all contractors were advised that all contracts would be rigorously monitored and the slightest case of non-compliance would be met with instant termination of the contract.

It would be wrong to argue that the clients did not pay any attention to their costs and manning. Whilst managers were generally hostile to the idea of contracting, they applauded some of the implicit assumptions of sheltered low-productivity employees who needed to be exposed to the rigours of the competitive labour market. These views in themselves were quite revealing about whose interests were advanced by these strategies. Competitive tendering inspired large changes in manpower utilisation in both organisations; in both cases managers thought that the process had forced their organisations to look very critically at labour costs and deployment. This, in turn, involved them in disputes (including strikes) with their workforces. The evidence in the interviews is consistent with the argument that one managerial objective was to use competitive tendering to increase managerial control over work (Sheaff, 1988).

But the interview accounts leave no room for doubt. Contractors were not to be allowed in at the expense of existing Direct Labour Organisations in the Borough Council, or the ancillary departments in the AHA. At the time of the interviews both organisations had a combined total of eleven years experience of competitive tendering. Not one contract had been awarded to an external contractor outside of the areas where, historically, contracting had always been used, such as road making, security and building. In the Borough Council employment actually expanded over the period 1980-1986.

The experiences of the Health Authority and the Borough Council stand as the most impressive testimony of the strength of management values to influence manpower policy in

the face of government pressure, law and costs. In both cases values were blocking change; but if they can block forces backed with the moral authority of the state, and the financial imperative of economics, then what power can they have to promote change? It can be safely concluded that any account of manpower policy must have management values as one of its main explanatory variables and that explanations of manpower policy rooted in positive economics and technological determinism must be regarded with scepticism.

THE FORM OF THE CONTRACT

Contracting has been treated in recent accounts of manpower policy as though it is a single entity (Atkinson and Meager, 1986, Brewster and Connock, 1985; Atkinson, 1984). It is not. Studies of manpower policies have concluded that the form of the policy is important for understanding how employers can use it and its significance for employees. For example, it has long been recognised that there are different forms of part-time work. Job sharing is normally distinguished from conventional part-time work: as a form of part time employment it is not considered to have the same discriminatory effect as conventional forms (E.O.C., 1981). There are different forms of contracting, each of which has a different significance as manpower policy.

During the course of the fieldwork, reference was made by different respondents to two generic types of contract and desk-research revealed a third. Each of these has very different implications for subcontracting as a form of manpower policy. The three generic types of contract are:

- fixed-price contracts;
- schedule of rates contracts;
- reimbursable contracts.

With a fixed-price contract the client controls the job by specifying the contract in the form of an output (numbers of dustbins to be emptied, wards to be cleaned, meals to be provided); bids are invited, and a contract is signed with the successful bidder. Once the contract is signed, the client relinquishes any say in the direction of the contract. The responsibility for delivery rests with the contractor: he must be allowed to do this without

further interference from the client. In this form of contract manpower management is the sole concern of the contractor. Manning, pay and training of the contractor's workforce are no concern of the client, who may not even know how many people are employed by the contractor on the tendered work.

This is 'distancing' as a form of manpower management, par excellence. Fixed-price contracts were the only type encountered in BSC; as a matter of policy they would not contract work on any other basis. There has been one study of contracting in BSC at Port Talbot which concluded that contracting had led to a deterioration of employment and working conditions (Fevre, 1986). There is no reason to dispute this conclusion, but if BSC's contract letting policy was similar in both Wales and Cleveland, then Fevre's study (1986) only relates to fixed-price contracts.

In a schedule of rates contract the client controls the work by specifying the inputs such as the type of labour required, materials and capital equipment. The contract is drawn up as a schedule of rates: £x for each grade of labour, £y for each light bulb changed or foot of cable laid, £z for each hour a crane is used. The client is free to vary the amount of each input during the course of the contract, but the price is fixed in advance. The contract relationship only applies to the specified items.

A reimbursable form of contract (sometimes known as "cost plus") is one in which the contractor is given a free hand to obtain whatever inputs are required for the completion of the job. Prices or quantities are not specified. These may not be known when the contract is tendered, or the client may wish to retain complete flexibility in the method of contract delivery. The contractor charges all the costs to the client, plus a per centage of the costs for his profit.

These forms of contract arrangement can be regarded as forming a continuum of risk bearing arrangements. At one end are fixed-price contracts. Here the contractor bears all the risk. If the contract overspends, then the loss is borne by the contractor. He can seek no recompense from the client. At the other end of the continuum are reimbursable contracts. These lay all the risk for contract overspend on the client. The contractor gets his money no matter what happens. In a schedule of rates contract the risk is shared. If the rates are

incorrect, then the contractor pays the difference; if the quantity ordered is wrong, the client foots the bill.

Because they shed the burden of risk in different directions they permit different degrees of client involvement in the manpower management of the contract. With a fixed-price contract no client involvement is allowed. The client specifies the output, the contractor decides how it is to be delivered. With a schedule of rates contract the client has some say, but he must specify his needs in advance. If he wants the job to be done by certain types of labour, or they are to be provided with certain sorts of equipment or training, then the contractor can allow for these when drawing up his schedules.

With reimbursable contracts the client can, and does, intervene freely in the management of the contract. He can specify numbers, quality of labour and write the contractors' employees terms and conditions of employment. Clients may need to do this if they are employing large numbers of contractors who are employing similar types of workers, organised in the same unions; for example, in power station and oil refinery construction. They wish to provide a common framework for terms and conditions of employment, site amenities, safety equipment, and training. Reimbursable contracts are not the only way this can be done, but they are an option. The point is that they permit the client to intervene in the contractor's manpower management to a greater extent than in either fixed-price or schedule of rates systems.

Clients prefer fixed-price contracts, because they know the full extent of their commitments. As a general rule, contractors prefer reimbursable contracts. All their costs, including the wages paid to their employees, and their profits are guaranteed. Reimbursables are widely regarded as a license for the contractor to write his own cheques. Far from restricting their employees' wages and conditions, contractors have a direct financial incentive to concede them. They recover all costs plus a markup.

At this stage of the analysis there is something to be gained by slightly broadening the field of enquiry. No reimbursable contracts were uncovered in the research, but there are written accounts in existence which are concerned with the manpower management implications of reimbursable contracts. These were written on the subject of industrial relations problems

on large scale construction sites during the 1970s and they traced these problems, in part, to the use of this contract form. The inclusion of this source can be justified on the grounds that leading firms in Cleveland had extensive interests in this sector, both as clients and suppliers of the contracting service.

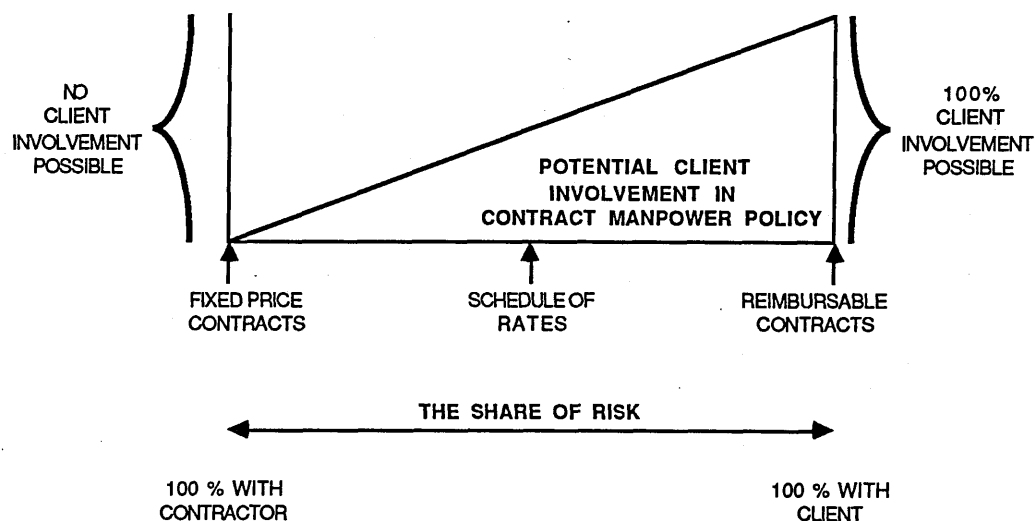
One report which addressed the subject of reimbursable contracts on large scale construction sites noted their implications for contractor and client relationships:

"This form of contract requires an unusual relationship between the client and the contractor. Perhaps the biggest difficulty, however, is that the client, to protect himself from costs running away, may be forced to intervene in the contractor's labour policies on site". (National Economic Development Office, 1970, p.17).

The NEDO Report (1970) specifically recommended that clients commissioning large scale construction sites should make greater use of reimbursable contracts precisely so that they could intervene in the pay and personnel policies of their contractors. It is difficult to reconcile this evidence with views of contracting as a cost-effective distancing strategy which makes labour management and flexibility "somebody else's problem" (Atkinson and Meager, 1986, p.54).

The degree of client intervention in manpower policy is represented on Figure 5.3.

Figure 5.3. Risk Bearing, The Form of the Contract and Client Involvement:



Of course reality is more complex; contracts may be tendered in parts, some parts at fixed-price, others as schedule of rates or as reimbursables. Materials, capital equipment and labour may all be let separately, each on a different form of contract. Some arrangements are inflation-proofed, others are not. Where contracts are placed on the risk bearing continuum depends upon a variety of factors including the technological complexity of the contract, the demand for the contractor's services, the length of the contract, expected inflation rates, the extent to which the contract can be specified, and the control that the client wants over the contractor's policies.

Some of the managers in the study were well aware of these subtleties. A favoured tactical tendering ploy used by the Borough Council was to specify tenders for some contracts as a schedule of rates. This placed a heavy burden of work on any interested contractor. Contractors had to employ estimators to break the contract down into labour categories and materials and prices had to be estimated for each item. This ensured that contractors faced a cost for submitting a tender.

This analysis points to some very complex relationships between contractors and clients that are obscured by labels like 'distancing' and assuming that manpower policies are "somebody else's problem" where contractors are employed. This may be true of fixed-price contracts, but it is not obvious that they are valid in describing the relationships between contractors and clients where other forms are present. For example, Nyco used schedule of rates contracts with some of their contractors. As a result an electrical contractor was asked to carry out apprentice training on Nyco's behalf. Nyco's Engineering Manager explained:

"We train instrument mechanic apprentices. There were two reasons for that: there was a chronic shortage in the Seventies and the Company was concerned about the unemployment problem, and we thought we should be trying to do something to alleviate it. We asked our main electrical contractor to take on about twelve apprentices on our behalf. They agreed, and we foot the bill."
(Engineering Manager, Nyco).

Management values again emerge as a theme shaping manpower policy, but the main conclusion is that concepts like 'contracting' need to be handled with care. The label

conceals many different forms and it is these different forms, and their interplay with management values and strategic objectives which determine what they mean for specific manpower policies such as training.

IMPLEMENTATION ISSUES

The implementation of contracting raises some important issues of manpower policy. These fall into three related areas:

- the effects of contractors on existing employees;
- management skills;
- the close relationships between clients and contractors.

The effects of contractors on existing employees; in two of the organisations the contracting process had a long-term conditioning effect on existing employees. In both Chemco and the AHA there were problems for management. In Chemco the increasing use of contractors was seen as a threat to the directly employed workforce. The resulting insecurity was not allayed by guarantees of no compulsory redundancies and as a result Chemco were finding it difficult to make progress in a number of important areas, particularly in the area of craft flexibility.

In the AHA there were no contractors, but the competitive tendering process had a corrosive effect on employment relationships and directly contributed to the creation of employee attitudes which presented management with problems. Ancillary departments had to tender for their own jobs. Management invited fixed-price tenders for catering, cleaning and portering. Working practices, manning, shift and rota patterns were reviewed to reduce costs to support a competitive bid; in doing so competitive tendering shifted the relationship between the Authority and its employees from one of incorporated employment to one of a displaced contract. It was irrelevant that the contract was awarded in-house. Employees' contracts of employment were now firmly located in a context of a three or five-year fixed-price contract. The process was highly educational. Trades unions realised the implications of the new relationship for managerial action. The District Personnel Officer explained:

"We are in some difficulty because they are now bound up with three or five year fixed-price contracts so we can't economise in manpower in those areas or manage the bonus schemes. I mean you can only do it once. Once you've come to an agreement and made the contracts, you can't touch those areas. So the dilemma that we now face is that these areas are now withheld from us because we've taken all the action that we can within the method we've adopted for getting savings out in the past. ... What we are now coming up against is the view that the trades union negotiated a contract with management. They say that they have an agreement with us about manning levels and cost. These agreements have become tablets of stone to some extent, whereas management might argue that there's quite a bit of saving yet to be had".

Many writers on contracting point to the content of contracting presenting control problems for the client. Contracting is said to present quality problems and hidden costs (C.O.H.S.E., 1984). But this evidence suggests that control problems are inherent in the process as well the outcome. There are clear parallels here between the AHA's experiences and Gouldner's (1954) analysis of the consequences of bureaucratic rules for defining minimum acceptable standards of performance. The evidence suggests that far from promoting 'flexibility', the process of contracting can produce more rigid working patterns than would otherwise have been the case. In this example contracting would appear to be incompatible with any type of management control strategy.

By contrast the process does not appear to have had that effect in the Borough Council. One reason for this appears to have been the methods of implementation. The competitive tendering process was accompanied by an extensive overhaul of the joint consultation system and what was described as a team briefing system for shop stewards. The Labour Party was a link between the trades unions and the senior officers of the Council. These factors place it in a very different political milieu to the AHA. An additional factor was management skill. Unlike the AHA, the Borough Council had experience of contracting. Many officers had been recruited from contract firms and they knew how the contractors worked. Consequently they seem to have been much more successful at keeping contractors at an arm's length.

CONCLUSIONS

The evidence presented on contracting refutes in the strongest and most direct way the conceptual validity of a key component of the flexible firm. It does this by dismissing the notion that contracting is a form of 'distancing' labour market problems. It is better

analysed as manpower policy which helps the organisation deliver different types of competitive strategy.

The evidence from the Contract Engineers states that contracting can be a PMB strategy, concerned with product differentiation through 'bundling' and the creation of switching costs. The AHA defined their products as a 'service' and saw contracting as incompatible with the quality control problems and customer involvement implicit in the production of a service. The Borough Council regarded employment not just as an input, but crucially, as an output, as a product, and as a service to the local community. The use of contracting was at odds with the achievement of these value-driven goals. But it is only by regarding contracting in the strategic context of these organisations' different strategies that it is possible to explain policies toward contracting. Manpower policies are not built in the abstract, or to some ideal of labour cost minimisation. They cannot be understood outside their strategic context and it is not possible to assume, *a priori*, what this is likely to be in each organisation.

The concepts of two-way contracting and reciprocated contracting point to close relationships between contractors and clients. Far from being 'distanced', these forms of contracting demanded close working relationships. The evidence here supports those writers who have seen the development of close working relationships between firms and their vendors as essential to support quality improvement, (Garvin, 1988); cost reduction, (Richardson, 1988); and product differentiation, (Schoenberger, 1986).

The evidence from Nyco suggests that the work status of many contractors is similar to so called 'core' workers. This questions the conceptual validity of the 'core' worker. The experience of both organisations is that while certain work may be of strategic importance it is a mistake to identify such work as the sole preserve of certain groups of workers. The IMS model cannot explain these phenomena, because it takes as its starting point a set of assumed management objectives rooted in the drive for labour cost minimisation and where normative considerations have no part. The starting point for the analysis of manpower strategy is organisational strategy.

Similarly, the experiences of Chemco and the Brewery show that contracting can be used to reduce costs. This does not necessarily mean that this will take the form of substituting cheaper forms of labour for more expensive. It is true that this was a theme in the Brewery's history, but it was not the case at Chemco. The search for cheaper forms of production involved the use of new production systems, new suppliers, different forms of work organisation and new raw materials. The use of labour is only a part of a larger configuration. The focus for management attention is unit product cost and not unit labour cost.

The evidence contains the most impressive testimony to the strength of management values in shaping manpower policy. No account of changing manpower policy can be complete without it. It draws attention to the role of choice and timing in management decision making. The parading of values is a statement of choice; while the evidence from both Nyco and the Borough Council suggests that there is more choice at certain times than others. Nyco had more choice when the site organisation was set up. They could freely choose whether or not to contract or to source in-house. Fifteen years later and their choice is restricted. They have built up a dependency on their contractors. The Borough Council found they had more choice at sometimes than others. They were locked into some contracting arrangement by law, and only at intervals did they have the chance to withdraw.

The evidence points to the importance of the form of the manpower policy. 'Contracting' is a generic term embracing three different types of policy, each of which has a different potential for client involvement. It can also be concluded that contracting is compatible with human asset building policies. The policy itself contains nothing which automatically marginalises, deskills or exploits employees. Its potential here is a function of the objectives of those who use it and the context in which they deploy it.

The account of the AHA underlines the importance of the implementation process. For some purposes it is irrelevant whether these policies are actually implemented; the fact that the organisation is seen to be considering them at all is seen as a statement to the employees about what management consider to be important. The evidence of the AHA states that unless this process is handled very carefully, then management can end up with the worst of both worlds, that is, a full-time permanent workforce who have a fixed-price contract

mentality. The procedure for handling contracting can present control problems just as big as the contracting act itself. The Borough Council suggests how this might be done by developing integration devices like joint consultation, team briefing for shop stewards, and political alliances between stakeholders. Management skills are also important. The managers of the Borough Council knew "the rules of the game". By dint of common experiences and shared training gained in the contracting trades, they knew how the contractors worked and thought.

In this chapter and in the previous one a simple model of manpower strategy has been outlined. This has shown that manpower policy was deployed in pursuit of competitive strategy and appeared to be directed at features of the production system and work organisation which reduced costs, differentiated products or helped deliver a service. All of these features of the model have been demonstrated with reference to the decision to contract. It has also been stated that there are differentiated versions of this model; one geared to CR strategies; a second focused on the delivery of PMB strategies and the last concerned with competing as a service.

The study now switches to a detailed study of these differentiated models. They will be introduced by way of a case studies. The BSC case (chapter 6) is concerned with a firm pursuing a CR strategy. The Tioxide case (chapter 7) describes a firm who adopted a PMB strategy. The cases describe the firms' strategies and their effects on their production systems and patterns of work organisation, together with an analysis of their manpower strategies. Each case concludes with an analysis of the evidence under each of the three research questions.

CHAPTER 6

CASE STUDY: BSC GENERAL STEELS DIVISION: TEESSIDE WORKS

BACKGROUND

Three aspects of the background of the case need to be highlighted:

- the management traditions of the industry;
- Government plans for the expansion of steel laid down in the 1970s;
- changes in world steel markets.

The management traditions of the industry; historically, the industry was not efficiently managed. It was dominated by a handful of large firms producing bulk commodity-type steels for use in civil engineering, heavy engineering, shipbuilding and cars. They did not see unrestricted competition as either desirable or necessary to secure profit. Instead they developed strategies of backward vertical integration and the formation of cartels.

The cartels controlled output, prices and restricted imports. This resulted in close relationships with the Government, culminating in two periods of nationalisation; the first between 1949-1951; and the second from 1967-1988. Cartelisation produced inefficient, uneconomic methods of production. The standard history of the iron and steel industry described management's attitude to solving the industry's problems as 'make-do and mend' (Burns, 1939). The industry was slow to adopt new techniques, scrap obsolete plant and to integrate and concentrate production. This resulted in the British steel industry occupying an historical position of a high cost, inefficient producer. It did not develop modern steel production techniques until the 1970s when attention was first given to problems of scale economies and the development of integrated plant.

In 1972 the Government produced a White Paper which laid out the future shape and size of the steel industry (British Steel Corporation, 1973). Demand was expected to rise by

four to five per cent between 1973 and 1985. Existing capacity would be outstripped. The industry needed produce 38 million tons of good quality liquid steel by 1985.

An important strategic aim was to minimise costs. This was to be achieved by the economies of scale offered by bulk iron-making and by the introduction of two comparatively new methods of bulk steel-making called Basic Oxygen Steel-Making (BOS) and Continuous Casting (Concast). Steel-making was to be concentrated on five fully integrated iron and steel works, each with an annual capacity of over six million tons of liquid steel. Smaller, uneconomic plants were to be closed. Teesside was reorganised and re-equipped to play its part in this plan. A new 14-metre blast-furnace was built at Redcar; a deep water ore terminal and dock system were constructed; coke ovens, a sinter plant and a pellet plant were built to feed the blast-furnace. A railway network was laid to carry the molten iron to the steel-making unit at Lackenby where Concast and BOS methods were being expanded.

Changes in world steel markets; steel was an industry which was capital-intensive with high fixed costs and demanding enormous investments. The demand for steel was closely linked to the state of the business cycle. There were strong pressures continually to produce to capacity to reduce the fixed costs per ton element of total costs. Profits depend upon a high capacity fill. Sagging demand led to under-utilisation of capacity, which resulted in plummeting profitability. One strategy for keeping plants running at high levels of utilisation was to export the product. This strategy required a degree of ruthless price cutting which in turn depended upon low production costs (Pratten, 1971).

Product market changes included: the decline of major market segments such as coal, shipbuilding, heavy engineering; the increasingly volatile nature of other segments, such as construction and off-shore oil extraction; the development of substitutes for steel such as plastic, aluminium, glass and new metals; the rise of low-cost producers in the Far East and Pacific Basin; a tendency for small, relatively advanced economies to develop their own small steel-making facilities to satisfy internal demand; restricted access to certain markets, such as the USA, through import quotas; and the closure of certain national markets for certain types of steel. The international steel community was characterised by

a web of 'gentlemen's agreements' whereby the main steel producers agreed not to sell in each others' domestic markets. A notable development during the period of the study was the rise in importance of quality in selling steels. Quality was defined in parts per million of impurities such as hydrogen, sulphur and phosphorous.

The economics of production and the generally declining nature of saturated markets added up to an unfavourable strategic setting (Porter, 1980). By 1979 there was world excess iron and steel-making capacity following three decades of high levels of capital investment by the major world producers. This resulted in over-production, gluts, dumping and fierce price competition in what was seen as a commodity market. But the British steel industry was marked by lack of investment and it was technologically backward. Key production methods such as continual casting, oxygen steel-making and high-speed rolling had only been introduced in the 1970s. Production facilities were small, dispersed and uneconomic. In 1979 there were over 100 production sites in the United Kingdom when only as few as five sites were needed (Meredeen, 1988). Labour productivity was low and the political will to tackle these problems was missing. The rationalisation that was required to transform BSC into either a large-scale producer of commodity steels or a smaller, more specialised steel-maker would have had far reaching effects on the communities where steel was made. BSC sat on 58 Labour Party seats and there was a strong political dimension to all strategic decisions (Knobel, 1988). The Steel Closure Review carried out in 1975 recommended the deferment of many closures on social grounds (Beswick, 1975).

THE TEESSIDE WORKS IN 1979

Three features of the Teesside's Work's position in 1979 need to be considered. These were:

- its financial position;
- how steel was made at Teesside Works;
- management - union relationships.

The financial position of BSC in 1979 was poor. It lost £300 million in 1978 compared with £143 million the previous year (BSC Annual Report and Accounts for 1979). In that year the Teesside Division accounted for sixteen per cent of Corporation's manpower, but for nearly thirty per cent of its losses. Its performance placed it second from bottom in a 14-strong BSC league. The Division employed about 27,000 people to produce 3,120,000 tons.

There were serious problems on other fronts. By 1979 world demand for steel had collapsed in construction, (forty per cent of the Division's 1979 output was for structural steel products); shipbuilding and heavy engineering. European over-capacity in steel-making led to threats of a price war by BSC's competitors in the EEC. Output in 1978 was 16.8 million tons and a further decline was projected. In the autumn of 1979 BSC announced that:

- it had 2 million tonnes of spare capacity,
- manpower was to be cut nationally from 152,000 to 100,000,
- manpower was to be cut on Teesside by 6,000,
- there was a need for rising productivity and decreasing output.

But the new production systems necessary to deliver the steel output demanded by the Ten Year Development Strategy were already in place. In 1979 the Redcar blast-furnace was lit. The iron-making complex cost one billion pounds and was described as the "most expensive ever single project by B.S.C" and as "Europe's largest blast furnace." (Northern Echo, 13.10.79). It gave the Redcar iron-making complex a rated capacity of 10,000 tons per day. In the same year a £100 million expansion of the Lackenby steel-making facilities was commissioned (Metal Bulletin, 13.09.78., p.42). British Steel Teesside Works entered the 1980s with expanding potential capacity, but with a rapidly declining order book.

How steel was made at the Teesside Works; there were three stages to the making of steel. These were iron production, steel processing, and steel finishing. The two basic ingredients for iron-making were coke and iron ore. Coke was to be produced in two

new coke ovens; iron ore was mixed with coke, fluxes, water and lime; the mixture was fired, dried, crushed and cooled to produce sinter. Pelleted ore, sinter and coke were then conveyed to the blast-furnace. A new complex of docks, a pellet plant and a sinter plant were built in the late 1970s to feed the new blast-furnace. Hot iron was continually tapped from the furnace into ladles which were conveyed by rail to the Lackenby steel-making plant.

Conversion from iron to steel was a two-stage process. The molten iron was first treated in a BOS plant. Here cold iron and scrap were added to the hot iron; carbide was injected and the smelt heated with oxygen. The resulting high temperature enabled impurities to be burned off. The second stage began when the smelt was taken to the Concast plant, a bank of machines allowing steel to be continually cast (hence the term 'Concast'). Steel was cast from the ladle to a 'tundish' whence it was continually extruded, rather like toothpaste from a tube, cooled and cut into 'slabs' or 'blooms'.

The alternative method of casting steel was to produce ingots. This produced steel which was more expensive and inferior to the Concast method. There was an ingot-casting facility at Lackenby which was used for special orders, or when the Concast facility was not available.

Concasting was the strategic production operation in the Teesside Works. It held the key to good quality, cheap steel, but the process was technically more difficult to manage than ingot production. The proportion of steel produced by the Concast method was regarded by the international steel community as a litmus test of technical efficiency and management know-how. One report noted:

"Continuous steel casting is a good measure of the ability to make steel competitively. At the end of 1984, 40% of American production was continually cast; Japan's level was 89%, West Germany's 77% and Britain's 52%" (Financial Times, 16.10.85.).

In 1980 the proportion of steel made by Concast at Lackenby was about thirty-five per cent.

There were four markets for the steel slabs and blooms produced by the Concast plant. Firstly, some were sold direct to other divisions of BSC. Secondly, slabs and blooms could be passed to the Lackenby Mills to be rolled into sections, beams or coil plate. The third and by far the smallest market, was for BSC's specialist plants located in other parts of Cleveland, such as Skinningrove. Lastly, slabs and blooms were sold to buyers on the world market for conversion into finished products. This was the semi-finished steel market. It was a market characterised by depressed prices and low profits. (Hudson and Sadler, 1985).

Milling involves reheating the slabs and blooms in soaking pits and squeezing them through rollers to the required shape and size. The Lackenby mills made beams and coil plate. The No. 10 Beam Mill could produce unique products with the potential for premium pricing by virtue of the simple fact that it could produce the biggest columns and sections of any beam mill in the world. By contrast coil plate was very similar to a strip mill: the only difference between the two was one of gauge and here the difference was minimal. Strip was a basic commodity-type finished steel for which there was world over-capacity throughout the 1980s. Commenting on BSC's plate facilities, Mr. Ian McGregor noted:

"Our biggest problem is the lack of strip business. We have three major strip mills [Ravenscraig, Port Talbot and Llanwern] and one light plate mill [coil plate] at Lackenby, so we have essentially four strip mills. We have business for one probably, running flat out" (Ian McGregor, BSC Chairman, para. 54 of Evidence to Industry and Trade Committee, 1983; (quoted in Hudson and Sadler (1985)).

Management-union relationships; these were characterised by a high degree of mutual interdependence. The Iron and Steel Trades Confederation (ISTC) was the main union representing production workers. It organised about fifty per cent of BSC's manual grades. There were two other much smaller production unions; the National Union of Blastfurnacemen (NUB) and the British Roll Turners Society (BRTS); these organised skilled workers in iron-making and finishing respectively. All three were 'closed' with no membership outside iron and steel-making. The internal organisation of all of these unions combined both strong centralised control together with branch autonomy. Items such as basic pay, standard hours, patterns of work, were regulated in National

Agreements and strictly enforced by the National Executives of the unions. On the other hand, the workplace-based branches enjoyed great autonomy on matters such as bonuses, job allocation, and conditions allowances.

There were ten craft unions in 1979. These comprised unions representing the engineering trades (the AUEW, the Boilermakers, the EEPTU, the Patternmakers and the Sheet Metal Workers) and a multiplicity of construction unions representing the 'red brick' and refractory trades. All were represented on the TUC Iron and Steel Committee.

Collective bargaining was well developed and it was backed up by a comprehensive system of joint consultation. All this reflected the mutual dependence between employers and the employed. Other developments, such as Worker Directors, have been seen as a product of this relationship. (Brannen et al., 1976). BSC was the first large company to have these. None of this should be taken as pointing to a relationship characterised by paternalism or a 'soft' management style. But in the final analysis both managers and workers recognised their mutual interdependence. Relationships have always been marked by co-operation. There have been smallscale strikes from time to time, but in 1979 there had not been a national dispute since 1926. There was never been any dispute about the strategic direction of the steel industry. Meredeen (1988) described the unions response to the Ten Year Strategy as "hardly enthusiastic but it was certainly not obstructive" (p.179). It was no coincidence that ISTC was the only example of a public sector union not to oppose the proposals to return their industry to private ownership. Disputes concerning strategy were about means and tactics, not about ends and direction.

THE STRATEGIC RESPONSE

What strategies did BSC adopt to cope with these crises in their product markets and production systems? This can be analysed by examining:

- their marketing strategies;
- their production strategies.

Their marketing strategies; BSC did not see unrestrained competition as a useful response to the collapse of their product markets. This view was shared by other European steel manufacturers and the collective response to their problems was to form a cartel under the auspices of the EEC. In October 1980, the European Commission used its powers under the Article 58 of the Paris (European Coal and Steel Community) Treaty to declare a crisis in the industry and established a system of production quotas for steel. The responsibility for devising and administering the system was given to Viscount Davignon, the European Commissioner responsible for the steel industry. The system of quotas, minimum prices, guarantees and the management of trade flows bore his name. The plan was developed from 1980 to 1983: its objective was to give the industry time to 'restructure', to get rid of surplus capacity and unwanted workers

It covered mandatory quotas of output, established minimum prices on a wide range of steel products, controlled and monitored state subsidies, planned cuts in capacity, established import controls on steel entering the EEC and established a comprehensive system of verification procedures and fines for infringements. It also entered into trading agreements with the EEC's main trading partners. Significantly, the Plan dictated the future pattern of BSC's investment: capital could be spent on improving quality and efficiencies, but not on increasing capacity. Over the period of the study the ECSC budget was substantially increased to finance social measures to ameliorate the worst social effects of the contraction.

This package proved irresistibly attractive to both Governments and the European steel manufacturers, institutions who in terms of their public pronouncements on economic policy, were firmly committed to free enterprise and liberalised markets. These attitudes persisted despite the revival of demand for steel from 1984 onwards. There were arguments about production quotas, the phasing out of subsidies, and the aspects of company performance the Plan should reward. But these were essentially arguments about how the misery should be shared: they never amounted to serious proposals to abandon the Plan. The Davignon Plan ended in 1988. Its effect was to make the market environment more predictable and therefore easier to manage. In doing so it made all aspects of BSC's activities easier to manage than would otherwise have been the case.

BSC's managers spoke of how the programmes of quotas, output restriction and plant closure had worked to give more stable prices and an improved commercial position.

Their production strategies; these were the close-down of unwanted plant, improving the efficiency of existing plant and channelling production through the remaining, technically more efficient plant. Between 1979-1980 BSC closed an integrated steel works (Consett), three blast-furnaces, three steel plants, and three section mills at Clay Lane, the Cleveland Works and Lackenby. These closures resulted in the loss of over 7,000 jobs. But there was no reduction in total output. It was all channeled through the new blast-furnace at Redcar and the BOS/Concast complex at Lackenby. Table 6.1 shows the output of liquid steel for both BSC as a whole, and for the Teesside Works.

Table 6.1. Liquid Steel Production: BSC and the Teesside Works: 1980-1986 (Million tons).

<u>Year</u>	<u>BSC</u>	<u>Teesside Works</u>
1980	14.1	no data
1981	11.9	no data
1982	14.1	2.8
1983	11.7	2.3
1984	13.4	2.8
1985	13.0	2.8*
1986	14.0	3.0*

* Production restricted by re-line of Redcar blast-furnace.

(Source: Figures supplied by BSC management).

Plant efficiencies were raised by capital improvement schemes which introduced new techniques such as vacuum de-gassing, ladle arc treatment and de-sulphurisation plants; and major alterations to heating processes in the form of furnace relining and re-heating furnaces. A search of the specialist engineering and metal manufacturing trade literature traced expenditures of £100 million between 1980-1986 on plant upgrades at the Teesside Works.

A major part of management's efforts were devoted to making existing plant operational. There were two areas where this was important. These were the Redcar coke ovens and the BOS/Concast complex. Both were described by the managers as 'new technology'.

The Redcar coke ovens were commissioned between 1976-1978, but acute operating and technical difficulties limited output to fifty per cent of capacity. The ovens were closed and rebuilt in 1982.

By 1978 there were three Concast machines in operation, but they were not operating to full efficiency. Since the Concast route was considerably cheaper than the ingot route, then this was a problem that had to be resolved if the Teesside Works was to curb its losses. Between 1980 and 1986 the proportion of steel made by Concast increased from thirty-five per cent to ninety-five per cent. This was achieved by technical improvements and planned maintenance.

What were the effects of these changes on efficiency? The Teesside Division of BSC lost £91 million in 1978, and over £40 million in the first six months of 1979. Thereafter figures on the financial performance of BSC's Cleveland operations were impossible to track. The Teesside Works' management would not divulge historic financial performance data. In these circumstances use had to be made of what information was publicly available.

The newspaper cuttings produced some fragmentary information. Throughout the spring and summer of 1981, there were reports of losses running at £1 million a week (Evening Gazette, 1.4.81, 30.7.81). By the autumn the weekly loss had dropped to £250,000 (Evening Gazette, 29.9.81, 19.10.81). Thereafter, there were no further references in the local press to the Teesside Works profits or losses, a fact which in itself may be significant. A reasonable conclusion which could be drawn was that whatever else was happening in other parts of BSC in 1982 (when the Corporation as a whole recorded a loss of £318 million), the Teesside Works broke even that year and from that point onward began to make profit. This assertion was supported by the one performance figure which was consistently available, the man-hours taken to produce a ton of liquid steel. The amount of work required to make a ton of steel declines sharply after 1981. These are shown in Table 6.2.

Table 6.2. Man-hours per Ton of Liquid Steel: Teesside Works: 1979-1986.

<u>Year</u>	<u>Man-hours per Ton</u>
1979/80	14.0*
1980/81	12.0*
1981/82	7.3*
1982/83	6.8*
1983/84†	6.0*
May 1985	4.6**
October 1986	4.4***

† = estimated figure

(Sources: *'Steel News' December 1983; ** 'Steel News' June 1985; *** 'Steel News' November 1986).

These measures of the efficiency of labour reflected both the state of demand of the order book and the availability of plant to process work. There were problems in both of these areas in the early part of the study. At the end of 1980 the coke plant was operating at half capacity at best; iron-making was at seventy per cent of capacity; steel-making was at fifty per cent of capacity; and certain sections such as the Rod Mill were suffering from a total absence of orders (Northern Echo, 8.10.80). But these facts indicated the fundamental problem of large scale commercial steel production: unless order books and plant availability were such that production was filled near to capacity, then the Works would run at a loss.

But these figures mask qualitative changes in milling capacity at Lackenby. The milling capacity was that was closed between 1979 and 1986 is shown in Table 6.3.

Table 6.3. Loss of Secondary Milling Capacity at Lackenby:1979-1986.

<u>Mills</u>	<u>Products</u>	<u>Weekly Capacity (tonnes)</u>
Cleveland No. 7	Billets	10,100
Cleveland No. 9	Joists, Angles & Channels	6,000
Lackenby No. 12	Bar	7,100

(Source: Northern Echo: 7.1.80; Evening Gazette: 26.9.80; Hudson and Sadler,1985.)

The effects of these closures in secondary milling was to reduce the Teesside Works ability to offer differentiated higher value added products. The arithmetic of the steel-making and milling capacities speaks for itself. By 1986 the Lackenby steel-making

complex was producing 90,000 tons of steel a week. Roughly speaking, all of this was processed through the Concast route. Details of the secondary milling capacity available on Teesside are given in Table 6.4.below:

Table 6.4. Analysis of Teesside Works Secondary Milling Capacity: 1986

<u>Mill</u>	<u>Weekly Rated Capacity (tonnes)</u>
Universal Beam Mill, Lackenby	11,300
Coil Plate Mill, Lackenby	29,600
Section Mills, Skinningrove	5,100
Total Secondary Milling Capacity	46,000

(Source: Hudson and Sadler,1985.)

This left a weekly balance of 44,000 tonnes of slabs and blooms which could not be milled at Lackenby, and which had to be sold direct on the world semi-finished steel market. About two-thirds of the 46,000 tonnes milled at Lackenby was coil plate. The large overlap between coil plate and strip steel and the commodity-type nature of the strip steel market has been noted. By 1986 over eighty per cent of the Teesside Works output was being sold in fiercely competitive, low-value added commodity steel markets. The Works was both more efficient and profitable, but was essentially a commodity producer.

This was an important theme in the development of the Teesside Works. It has been raised by Hudson and Sadler (1985) and it was an issue in the interview with the manager of the Lackenby steel-making plant. He commented:

"The biggest change is that we're supplying more and more of our products in a semi-finished form. In other words we're not rolling it at Teesside, or even within BSC, to the finished product. We are selling it as a semi-finished product ... Whilst it's good business for us it's a little bit sad that we don't have the finishing mill capacity here at Teesside, or within BSC to process this steel. Because the more processing you do on the steel, the better the profit at the end of the day." (Manager, Lackenby Steel-Making)

THE MANPOWER STRATEGIES AND POLICIES

There were eight major aspects to the changing manpower policies at the Teesside Works between 1980-1986. These were:

- reorganisation;
- the 1980 steel strike;
- demanning;
- the use of contractors;
- revision of pay and bargaining systems;
- managerial liaison with Nippon Steel;
- initiatives in training and development;
- a policy of job flexibilities.

Reorganisation; BSC reorganised in the early 1980s. They moved from a regionally-based structure, where works were grouped by geographical area irrespective of their product lines, to one based around product groups. Thus the Teesside Works was part of the Teesside Division in 1980; by 1982 it was part of the General Steels Group. This regrouping of jobs was implemented to increase external accountability and to bond employees to product lines.

The 1980 steel strike was a watershed event in the history of British Steel. The dispute centred on BSC's management's reply to a claim lodged by the steel unions in the autumn of 1979. The claim for a twenty per cent increase in basic rates was described as "ambitious, but not wildly extravagant" (Meredeen, 1988, p.181) at a time when inflation was running at seventeen per cent. BSC's reply was that it would not make any offer at national level. Henceforth, national pay awards were to be abandoned in favour of agreements made at Works or Division level linked to improved financial performance. Furthermore, to meet the slump in world steel demand and to halt the growing losses, BSC intended to reduce steel output from 20 million tons to 15 million tons by 1980; to close all inefficient and loss making plants as soon as possible; and to reduce manpower

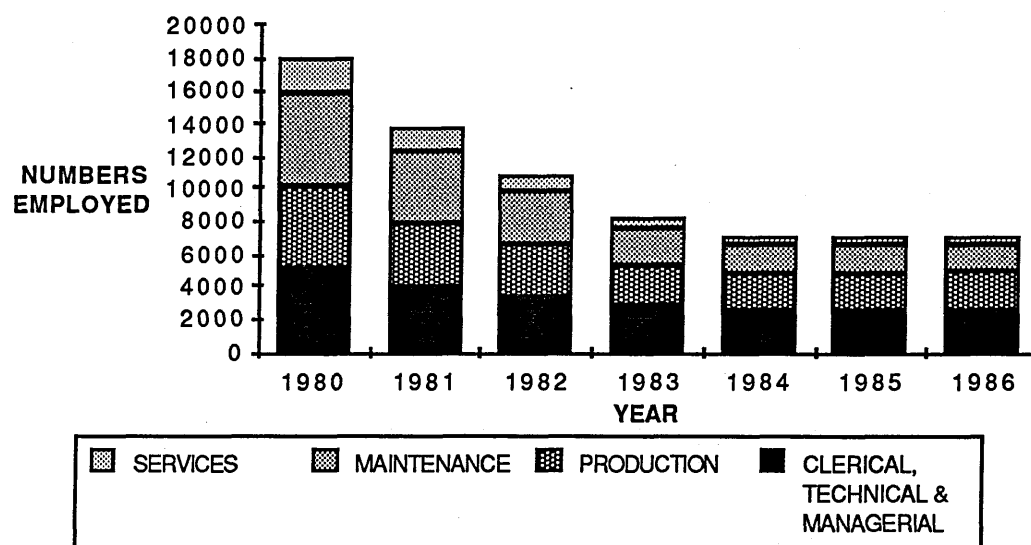
from 150,000 to 100,000 in 1980. Management invited the steel unions to co-operate in achieving these goals.

The response was a 13-week strike from December 1979 to March 1980. The course of this strike has been documented elsewhere (Hartley, Kelly and Nicholson, 1983) and it is outside the scope of this study. The strike was settled for an increase of around sixteen per cent. This was an apparent victory for the unions; in cash terms they got more or less what they wanted. But it was a strategic victory for managers. Acceptance of the 1980 settlement tied the unions to a wide range of conditions which effectively restructured collective bargaining by abolishing local bargaining on conditions and bonuses. The settlement abolished national pay bargaining and installed centralised bonus systems which tied future pay increases to improvements in operating performance of the Works. It spelled out that the principal method of achieving these improvements was to be by manpower reductions. They secured this at a cost of £200 million (Knobel, 1988), but it proved to be cheap at the price.

Many lay officials regarded the 1980 settlement as a betrayal of their members' interests by the union leadership. One consequence was that they were among the first to leave in the redundancies which swept Teesside Works in 1980, thus further eroding opposition to management's manpower strategies.

Demanning; the extent of the demanning process which occurred in the Teesside Works over the period of the study can be assessed from Figure 6.1.

Figure 6.1 BSC Teesside Works Changes in the Numbers Employed by Category of Employee: 1986-86



(Source: BSC Teesside Works Personnel Department Manpower Statistics)

Not all categories of employees were equally affected. An index series of movements of numbers of employees by category shows this point more clearly:

Table 6.5 BSC Teesside Works 1980-86: Index Series of Numbers of Employee by Category.

Category	1980	1981	1982	1983	1984	1985	1986
ALL	100	76	60	46	40	39	40
Administrative							
Technical and							
Managerial	100	77	65	56	50	49	49
Production	100	80	65	50	46	46	47
Maintenance	100	77	58	39	31	30	29
Service	100	65	41	28	24	24	26

(Source: BSC Teesside Works Personnel Department Manpower Statistics)

Figure 6.1 and Table 6.5 show that between 1980 and 1984 there was a massive reduction in staff. Sixty per cent of the number employed in 1980 had left by 1984. The

reduction was particularly marked in the maintenance and service groups, but for all grades the number at least halved over the first four years.

But the manpower statistics suggest that this trend was not continuous. Between 1984 and 1986 the rate of decline fell and showed a slight increase in 1986. The need to reduce numbers diminished in importance. Other 'asset building' policies start to emerge. This was due to the need to run a large plant with about one-third of the numbers employed four years previously. Demanning solved some problems, but it exposed others, such as the quality of the remaining workforce.

The new manning targets were set in a top down, cost-driven manner. After the 1980 strike the product portfolio was examined and the ex-works price of each product was identified. They were then compared with the target figure, which was the ex-works price of the leading West German producers. This became the objective measure of the Teesside Works performance. The price was broken down into plant-related cost centres and plant management were asked how they intended to match it. What followed was a reiterative process whereby plant management submitted plans which were not accepted until they matched the German figures. The plans embraced fuel utilisation, plant yields, operating performance and manpower.

The manning reductions were implemented by plant closure, contracting and job flexibility strategies. Plant closures accounted for about 3,000 jobs on Teesside. There were no accurate figures for the number of jobs displaced by contracting, but the managers' estimates were that between three and seven per cent of the workforce in the Works at any one time were employed by contractors. Assuming an average Works size of 12,000 and an average of five per cent displacement, it can be concluded that contracting accounted for 600 lost jobs. The remaining balance of about 7,000 jobs were eliminated through a process of work restructuring.

Manning reductions were achieved through a policy of voluntary redundancy and redeployment. Both were financed by the EEC funds. Along with those offered to coal miners and dock workers, they ranked as the most lavish redundancy and redeployment

payments made to ordinary working people. Workers who volunteered for redundancy were offered lump sum payments based on earnings and years of service. These payments were not subject to any maxima and were supplemented by a condition-free premium of between twenty-five and fifty per cent. There were generous retraining allowances.

This package proved irresistible to many workers. There were agreements made at Works level which ostensibly provided for agreement between plant management and the plant-based union branches, but in practice it was difficult for the unions to control the voluntary redundancy process. Lists of volunteers were maintained by plant management. There were reports in the interviews with managers of them persuading workers who were not seen as central to the plant recovery programme to volunteer for redundancy. The shop stewards reported that while many of them saw a uniform Works policy as essential for the control of the voluntary redundancy process, the fragmented branch structure did not produce the necessary cohesion to manage the process.

A noticeable feature of the demanning procedure was the extent to which it was delegated to the union branches. In the early 1980s managers seem to have been little interested in who went and who stayed. They would approach a department, ask for volunteers, often for numbers running into hundreds and never had any difficulty in securing the number of voluntary redundancies they required. The selection of employees for redundancy was left to shop stewards, full-time officers and the workforce to decide.

A shop steward described the process from his point of view:

"It's all right BSC saying that they negotiated redundancies. But what they do is get the unions in across the table and say that X number of people were to go and how were we going to do it? We could say that we don't have any men to go but BSC have voluntary lists of people who want redundancy. In our department there were over one hundred names. BSC came to us and say they wanted six to go. If we started arguing that we didn't want six to go, they would put the list on the table and say: "There are one hundred people who want to leave this plant."

Local branches were threatened with legal action by the members if they did not approve of some redundancies. There was one report in the local press of men complaining because the redundancies were not proceeding fast enough (Evening Gazette, 12.11.80).

Redeployment was the means by which 'no redundancy' promises were delivered. When jobs disappeared employees were 'cross-matched'; this meant that if they wished to remain in employment, volunteers on waiting lists in other part of the Works could take their place for redundancy. This was not a difficult process given the extensive waiting lists in all parts of the Works. The second aspect of redeployment was the dissolution of plant maintenance and service teams and the creation of centralised engineering and service groups. Workers in these functions were withdrawn from plant they had known, and were expected to be mobile over the whole Works. This strategy presented particular difficulties for production workers whose pay and status was closely connected to the operation of seniority lines. Pay was guaranteed for up to 78 weeks. After that period the worker lost his seniority rights and his pay was reduced.

The use of contractors; these had always been used both for a variety of 'peak-logging' and construction operations. Over the period of the study its use was intensified and extended in the areas of maintenance and services. The use of contractors was undertaken for a variety of reasons including shortage of capital, but the main reason was an opinion that contractors would provide a cheaper and more expert service than in-house facilities and that competition would provide a spur to BSC's own employees to operate more effectively. The policy was implemented by putting out to tender work that could be specified sufficiently for a fixed-price contract. Other work was retained in-house. Contractor prices were compared with in-house prices and the job was allocated on the basis of price. Employees and functions working in service and maintenance functions were asked to tender for their own jobs against what one manager termed "the chill wind of competition".

The revision of pay and bargaining systems; the key feature of the 1980 strike settlement was the Teesside Works Agreement. This provided for Works level bargaining. National bargaining was abandoned; sectional bargaining within plants on issues other than

tonnage bonuses ceased. All pay was regulated at Works level and increases were to be determined by the Works ability to pay.

The policy was implemented by a series of what were called 'lump sum bonus agreements'. These were Scanlon or Rucker-type cost reduction plans where a 'something for something' bonus was paid to all employees in an establishment based on savings on some cost norm. The scheme had three noticeable features. Firstly, the norm varied over the period of the study. Secondly, gains won by the workforce were never permanent, but had to be negotiated afresh each year. Thirdly, the key features were all regulated by multi-union bargaining at Works level, permitting little sectional bargaining.

From 1980 to 1982 the norm was geared entirely to manning reductions. Manning targets would be set and a lump sum bonus would be paid if these targets were met. From 1982 onwards the operation of the norm became an increasingly complex composite of a number of different aspects of plant and Work's performance. Man-hours per ton of liquid steel produced, value added and a range of plant yield indices were all included in the norm which drove changes in the value of the lump sum bonus.

The parameters used in the agreement were chosen by management to reflect what they saw as the main business needs at different points in time. Manning figures were chosen in the early stages because the business plan demanded significant manpower reductions. Man-hours per ton was introduced in 1983 at about the same time that the Works was starting to make a profit. This focused worker attention on the performance of the best plants in the world. Value added was initiated to draw attention to the important role of material and energy costs in Works profitability. Plant yield rates effectively concentrated effort on throughput and plant utilisation. Once the targets had been met and payments made little, if any, of the lump sum bonus would be consolidated in basic rates. Negotiations would start afresh from zero on the next tranche of manpower reductions, value added, plant yields and so forth. The lump sum bonus would revert to zero until a new agreement was reached.

The Teesside Works Agreement committed all unions to negotiate collectively at Works level. The Lump Sum Bonus Agreements placed a moratorium on sectional bargaining. Plants and sections were expected to contribute to savings on the basis of potential for improvement rather than sectional reward. The Teesside Works Agreement also set up a series of plant committees which took the emergent proposals from the Lump Sum Bonus Agreements and examined the method of implementation in each plant. The objective of these procedural changes in pay determination was the elimination of sectional bargaining in order to control employment costs.

The managerial liaison with Nippon Steel; the poor trading position of the Teesside Works in 1983 prompted an approach to Nippon Steel to ask them to act as consultants on the Teesside Works recovery. That they should employ their major competitors as consultants was of itself the clearest sign of the desperate situation in which the Works found itself. But Japan was the world's leading cost producer with a cost advantage of thirty per cent per ton over the leading European producers. Clearly much could be learned from such an exchange. About a dozen senior staff from the Teesside Works were sent to Yawata-Tobata, the oldest and biggest integrated steel plant in Japan. This was followed by a delegation from Nippon Steel to Teesside to conduct an in-depth study.

The Japanese demonstrated key areas for improvement, often in basic areas such as good housekeeping. This in itself was significant because it appears to have shown that there was no proprietary strategic magic unique to the Japanese in competing in world steel markets. The Japanese exchange occurred in 1983. After this date many of the issues and approaches start to change. Some remain constant, particularly the incessant pressure to reduce numbers and to contract out, but new problems can be discerned. In part this can be related to the recovery in world steel markets as international trade and domestic demand grew. The strategic measures described earlier began to bear fruit. But the Japanese exchange also played a part. One manager explained:

"Between 1980 and 1983 we began to learn that we weren't good enough. We weren't working in the right way; perhaps we didn't know enough. We did a lot to find out. We spent money on lots of kit and then there was an awakening that maybe the worker quality was not high enough. Without referring to the Japanese too much, they said that. The first sentence in their report was: "Worker quality is low." (Manager, BOS Plant).

Initiatives in training and development; after 1983 attitudes toward training and development change and it emerges as a central pillar in the Teesside Works' manpower strategy. The reasons are not difficult to discern. Firstly, it was no longer possible to use recruitment as a solution to problems of employee competence. Secondly, not all of the people who left in the early 1980s were bad. BSC lost much experience and expertise. 55 was the age for at which many workers maximised their severance pay. The knowledge of older workers was lost. Historically, apprentices were the only group for whom job-specific training had been provided. Before 1980 training for production staff was 'sitting next to Nellie', specific training for 'one-offs' and there was no competency testing. Craftsmen had no training after the age of 21; and there was no training on new technology. New apprentices knew more than the people who supervised them.

A key event in the promotion of training and development was the closure and rebuilding of the coke ovens in 1982. Among the many reasons for the failure was the quality of the workforce recruited for the plant. Due to poor working conditions, it was an area which had not attracted a high calibre of labour. Policy decisions were made to upgrade recruitment standards. When the new coke ovens were opened a higher standard was enforced by a rigorous application of existing selection procedures, a refusal to employ ex-employees, a refusal to employ anyone under the age of 25, and six to eight weeks rigorous and intensive training before the plant went live.

The quantity and quality of training at all levels was upgraded from 1983 onwards. There was better training on job specifics, training for job knowledge, total quality training, open learning and training for flexibility. The training for job knowledge programme can be taken as indicative of both the general thrust and as representative of the method of implementation of these programmes.

The programme was introduced 1985 to broaden job and business knowledge. Many old people who had left in the demanning drives of the early 1980s had broad knowledge acquired through their experience and training. Many had attended City and Guilds night class courses on rolling, steel and iron-making. Younger employees had not seen night

classes in local technical colleges as relevant and this source of training was threatened. Many of the courses were seen to be irrelevant and rooted in ways of iron and steel manufacture, such as ingot steel production, which had long since ceased to have any relevance.

Staff from Teesside Works re-wrote the syllabuses and assessment papers to reflect modern developments. They restructured the methods of delivery in such a way as to internalise the training. After 1985 the bulk of lectures were delivered by managers, a move seen as valuable staff development for them. It symbolised the improved the quality of management as it enabled them to demonstrate their expertise, knowledge and competence. Some 40 people attended every year. The course was open to anyone and course members ranged from shopfloor personnel to graduate trainees. It became the model for the rest of the Corporation.

A policy of job flexibilities; the managers estimated that about fifty per cent of the job losses incurred over the period of the study were as a result of the policy of job flexibilities that had been introduced since the late 1970s. These had taken place within the craft area and between the craft and production workers. These were negotiated within the Lump Sum Bonus Agreement.

The objective of the flexibility strategy was to minimise numbers of employees required to work an increasingly complex and capital-intensive production system whose economics demanded that it be continuously operated; and whose integrated flow-production system demanded a rapid response to disruptions to production. All the different flexibility initiatives can be traced back to some combination of these three needs, that is, minimum manning, continuous production and rapid repair. The initiatives consisted of inter-craft flexibility such as training electricians to be fitters, fitters to isolate motors, generic welding and burning skills, and the creation of mobile working teams. The plant-based craft teams were disbanded and reorganised in a central organisation which offered a common service to all plants.

But the managerial concern for flexibility was focused on the production-craft interface. It was here that the major gains were to be made in terms of the ability to meet the three main objectives of flexibility. The long-term aim was to substitute craft workers for those in the production departments. Craft workers were seen as better candidates for the new, bigger steel worker jobs. They understood the new, more technically sophisticated plant better and were thought less likely to adopt working practices which would damage plant. Their training and knowledge was such that they were better placed to return the plant to service more quickly than their production counterparts. Similarly it appeared to offer a better way to reduce manpower. Training craftsmen for production jobs was both more practical and quicker than training production workers for craft roles.

These initiatives were given the title of 'the super steelworker'. At the time that the study was written there was no sign of the implementation of this strategy. It remained an aspiration. But this was the long-term strategy and the many initiatives which had been undertaken both within and between the craft and production area since 1980 were seen as steps to this ultimate goal.

The flexibility programmes were negotiated under the umbrella of the Teesside Works Agreement and supporting agreements such as the Group Working Practices Agreement. Management policy was that once the operator had training, then his newly-acquired skills were to be deployed. Refusal to do so was a disciplinary offence. A manager explained:

"Workers will undertake jobs that we consider them to be capable of doing. If the quality of what they've done is less than it should be, then they will be subject to the normal disciplinary procedures. We say that a production worker will undertake a job that at one time was done by a pipe fitter. The fact that he's not a pipe fitter, but that he's a production worker, has no bearing on anything. If he does the job and it's not right, then he'll have the same disciplinary measures taken against him as would a pipe fitter."
(Manager, BOS Plant)

The shop stewards' perception of events broadly agreed with this view. One steward representing production workers commented:

"You can do anything now as long as you've had the training. If they give you the training in a specific task, then you will go and do that as under the Flexibilities Agreement. A couple of weeks ago we had a dispute about a job that is not in our job description. It's never been written into agreements that

we've got to do that job. All management have said to us is that it's in the Quarterly Bonus as part of a flexibility agreement. What happens in disputes about flexibility? How do management handle that? It's easy. They sack you."

FUTURE DEVELOPMENTS IN STEEL-MAKING

Future developments in steel-making were likely to embrace a number of related themes.

The main ones were:

- energy conservation;
- direct steel-making;

Energy conservation; Morris (1989) has argued that one of the most significant events of the 1970s was Nippon Steel's announcement of a five-year energy conservation programme. Control of energy costs was considered to be a major factor in competitive success in the years to come. In the financial year of 1986/87 energy expenditure in BSC accounted for £516 or eighteen per cent of the £2928 million in total expenditures. Employment costs were £716 million, or twenty-four per cent.

But these figures related to all BSC's operations. Fragmentary evidence on the performance of operating units suggests that energy was a more much important component of production costs. Minutes of a Plant Review and Operating Committee Meeting for the Coil Plate Mill stated that fuel costs for one month in 1987 were £823,000, compared with £421,000 for wages and salaries. The Coil Plate Mill was not a particularly fuel-intensive operation. Pratten (1971) noted that in steel-making the main source of economies of scale was in furnace operations.

The key to controlling energy costs was seen to lie in minimising re-heating operations. At a tactical level this required the elimination of re-heating furnaces, closer control of heating processes in existing plant and equipment, the installation of automatic control systems to recycle heat and exhausts, and the development of substitutes for heating, such as micro-alloying.

At a strategic level the search for lower heating bills meant even more highly integrated and faster production systems, where the breaks between the discrete operations of steel manufacture were to be eliminated. There were developments which were trying to move to 'direct steel-making' where steel was to be made in one continuous operation. These feature: the continuous charging of iron furnaces with raw material; eliminating the sinter and coking processes; continuous-continuous ('Concon') steel-making, that is, a combined BOS and Concast plant in one sealed unit; and 'net shape casting' or casting to final shape, eliminating reheating and rolling. These developments were not abstract, theoretical speculations: they existed in pilot plants in Japan and Germany.

Birat (1987) endorsed the importance of these process developments, but he linked them to the need to produce better quality products as well as to save on energy costs. He described a related and overlapping class of innovations called 'new continuous casting' processes concerned with the development of technologies which both differentiated products and saved heat. These included: new types of strand caster which could cast slabs to a wider range of sizes and thicknesses; direct feeding to mills eliminating reheating; the development of direct steel-making routes such as 'carousel' steel-making; and the extension of the 'Concon' principle to embrace iron-making, steel-making casting and shaping in one closed unit.

THE EMERGENCE OF A NEW MODEL OF EMPLOYEE

The case has identified some of the key issues and trends in the implementation of production and marketing strategies in BSC. To some extent they were representative of the steel industry as a whole. There were two strategic themes: a crisis in the market place and the continually and rapidly evolving nature of the production technology. The result of the technical changes to the production system was to accelerate the steel-making process and to shift it to 'trust automation'. In trust automation the processes became closed and the operators could not see what was happening to the production process. Sensory faculties (sight, smell, hearing), which were essential to understanding the 'black art' became largely redundant. Operators had to trust instruments and they had to learn to "live in a world of signals and signs rather than objects and materials" (Hirschhorn, 1986,

p.83). It was from this web of concerns that the managers talked about a new model of employee of a sort not historically associated with BSC.

"We have to ensure that our people are properly technically qualified for what they do; that they understand the technical processes for which they have responsibility. We have to get rid of the black magic mentality. Traditionally the steel industry was centred on the old black magic. Open hearth steel-making had a large element of black magic and little technical understanding. It's had a bad image. There's been an idea that the steel industry could recruit anybody, because they come in at the bottom, go through the traditional promotion lines learning by sitting next to Nellie. That's no longer good enough. We're putting a considerable amount of effort into ensuring that our people do understand the technicalities of the process and that they understand what the customer requires." (Personnel Manager, Teesside Works).

"There's been a tremendous change in the steel industry. It used to be very arduous work with no automation. A very strict regime developed; a black art, a mystique; first hand, second hand, third hand, fourth hand, fifth hand and sixth hand sample passers. The deadmen's shoes syndrome was very, very prevalent twenty years ago. But modern steel-making is fast. We have crews now where the average age is around 22, 23 years old, running fifty percent of the total Works steel-making capacity. The changes that we've seen have dramatically reduced that." (Manager, BOS Plant).

"Traditionally the steel industry has tended to look for guys who were, strong and willing, but not necessarily too bright, because there was a feeling then that if you got them too bright, they could be trouble makers. So broad-backed, tall lads, willing to do anything. Because there was still, at that time a lot of brush, heavy shovel, wheelbarrow, heavy work, even on a BOS plant. There wasn't this demand from the customers for sophisticated steels, so you didn't need people who were all that bright. Now it's absolutely clear that you've got to have people who can understand the process and can understand the technology and who can move with us on what we're trying to do." (Manager, Steel-Making).

The managers were talking about a model of post-industrial work and the post-industrial worker. Such work was going to be inherently problematic and error prone due to inadequate understanding of taken-for-granted scientific processes; tools wearing at an uneven rate; the uneven rate of technological development; the increasing flexibility of production systems; and the impossibility of predicting how and when failure would occur. These problems would be particularly marked in systems which were continually being pushed to the limits of their technical capacity.

The evidence on the future of steel-making suggested that a major concern in future years was thought to be the management of fuel costs. Many processes, but especially Concast, were prone to overheating. They were carried out at temperatures which were higher than

those which were technically necessary. Given the evolving nature of the cost structure of steel-making, there would be major competitive advantages for steel companies who had the workforces that could manage these types of problem. All of these problems had to be solved against a background of sharply falling operation times. Foreshortened time horizons were incompatible with the separation of planning and doing. If management did want to save costs by reducing fuel and cutting expensive scrap, responsibility for many operational and technical decisions would have to move to the point of production. What was required in the future was work structured around teams of skilled operators possessing high diagnostic skills, based on the ability to reason synthetically and possessing dense perception of physical processes.

Training was an essential pre-condition, but it was training aimed to produce integrated diagnostic skills rooted in density of perception, breadth of supervision and control and depth of theoretical understanding. There was not sufficient information in the case to evaluate how the training programmes launched after 1983 stood in comparison to these bench-marks, but there was some evidence that these training initiatives were proving difficult to sustain. Some managers hinted at difficulties:

"We're trying to work our way through. I suppose there will always be people in that situation who will be very difficult to persuade to come along. But nevertheless we are aiming for that. We are trying to get them all through. We've discussed with the unions. What we would like to do is to make it a condition of working on the plant that they've passed their City and Guilds Steel-Making. They're not keen on that at all." (Manager, Steel-Making).

"Is it our plan to put everybody on the BOS plant and the Concast plant through these courses? That's an interesting question. Such things at the moment remain voluntary. If we had our way we would make it mandatory, but education remains voluntary in this outfit. Shall I just say that it is now in its third year and we've had no trouble getting the third year course - another thirty-odd people - and "voluntary" in this area can sometimes mean "voluntary" like in the Army. Do you take the point?" (Manager, BOS Plant).

But it was not difficult to see why there may be such problems. There were clearly tensions between development and demanning. Why should employees have committed themselves to this type of firm-specific training when they could be asked to leave at any time? What was the incentive to acquire new skills when a failure to deploy them on demand left the employee open to possible dismissal? Both shop stewards and managers

were agreed on this point. In short, it was impossible to sustain these initiatives in isolation.

ANALYSIS

What light do the experiences of BSC's Teesside Works between 1979 and 1986 shed on the research questions? The first question concerned the relationship between a drastically altered business environment and the manpower system: it concerned issues of strategic analysis. The case points to an adaptive relationship between the environment and the manpower system. The mode of adaptation was one of domain management, characterised by a strategy of domain defence and domain enactment.

The case referred to the efforts of the European steel manufacturers to control their common domain under the auspices of the Davignon Commission. The conditions facing the European steel industry would appear to have satisfy those specified by Miles (1982) for a successful domain defence strategy: homogeneous product markets, an oligopolistic structure, a shared negative fate and legal approval. Under the Davignon Commission, BSC controlled output and prices in a European market which was relatively sheltered from the attentions of fitter predators located in the Pacific Basin.

A secure European market gave them a base upon which they could recover, and from which they could re-launch attacks on the open world markets as they recovered their competitive powers. The managers testified to the stability that these arrangements offered them. Equally profound were the rules that the Commission laid down regulating the pattern of capital expenditure. These stipulated that money could only be spent on technological improvements and not on expanding output. The consequence was that roughly the same output was produced by a more efficient stock of plant. These two developments were related. A well-defended domain gave the necessary security to underwrite the quite considerable investments described in the case. This account was quite consistent with Miles and Snow's analysis of Defender modes of strategic adaptation. The case indicates another aspect of enacted domains when it described how BSC chose to concentrate on a narrower range of products, thus increasing its dependency on

undifferentiated commodity-type steels which it had to sell on the world semi-finished steel market.

These processes of strategic adaptation had profound consequences for the manpower system. The most obvious effect was to reduce its size commensurate with increases in efficiency. The other consequences were less obvious, but no less direct. Plant closures and concentrations of production on more efficient units meant that the workforce was dislocated from its old point of production. Redeployment emerges as an issue.

The second research question concerns the competitive strategies made by the organisation. This case unquestionably illustrates a CR strategy and it was one which was being deployed within the context of a cost structure in which labour costs were small, but by no means insignificant. It is a CR model of competitive strategy. The route to cost reduction lay in the search for new vintages of scale curve, but the case also suggested a concern to manage another cost driver, to which Porter (1985) did not specifically allude. That cost driver was economies of joint operation focused on the need to reduce heating costs. The evidence presented concerning future developments in steel-making suggested that the importance of fuel economies to BSC's cost reduction strategy was to grow.

Managing fuel costs involved questions of scale, particularly in the heating operations in the blast-furnaces, BOS plant and mills. But it also involved other drivers, particularly location and timing. If fuel costs were to be minimised, molten iron had to be processed into steel as quickly as possible. This involved the management of speed, synchronisation of operations and minimum work-in-progress. Questions of scale and joint economy of operation drove the concern for integration of the production process and it is these which provided the germ of the emergent new model employee.

A concern for quality was present and it grew towards the end of the period covered by the case, but it was insignificant compared with the incessant drive to reduce costs which permeated all aspects of the business. As one manager remarked: "Costs are our creed". This was a very powerful statement. Many managers in other stages of the research remarked on the importance of costs, but none attributed a quasi-religious significance to

them. It suggested that positive economics and morality were intertwined; that corporate economic objectives could be expressed as articles of faith and vice versa. It also masked the apparent lack of any 'management values' in this case. On the surface there were no non-corporate economic concerns. But such a judgement would be superficial and false. 'Management values' were present, but they were deeply rooted in the economics of the business and articulated in the language of finance, accounts and plant efficiencies. Positive economics was the morality. To put it another way, costs were the creed.

The case showed how the policy of commodifying the product was tracked by a policy of commodifying the labour force. The case did not establish a causal link, but it did suggest concomitance. It can be seen in its clearest light in the manner in which the demanning exercises were handled in the first two or three years of the study. The labour force was seen as an undifferentiated commodity: it did not matter who left.

The manpower strategy which was associated with a cost reduction strategy in a managed domain is one of centralising the organisational structure. The case did not give a rich picture of this aspect of BSC's affairs, but the evidence was consistent with this conclusion. A regionally-based structure, the Teesside Division, was abandoned in the early years of the case in favour of one based on product groups, General Steels. The maintenance and service functions were stripped out of the plants and managed by central departments. This permitted better monitoring of work costs, which in turn, facilitated the contracting process; but also permitted more intensive use of these workers through policies of deployment, or spatial flexibility, across the entire Works. The BOS plant and the Concast operations were merged under a single manager during the period. The reform of pay systems was undertaken to control costs by eliminating sectional bargaining and by formally linking everyone's pay to parameters of Work's output and efficiency.

These issues are consistent with the themes identified by Porter (1980) when he wrote about the organisational effects on management structures of the transition to a mature industry. He identified these as moves to centralise co-ordination, reductions in plant autonomy, a move to functional organisation. In terms of strategic implementation, the model of strategy was the linear model (Chaffee, 1985). The environment was managed

through defence and enactment and uncertainty was reduced. The competitive world was apparently made safe for technological and engineering solutions to the problem of reducing costs. The organisational structures were consistent with that of the 'Defender' (Miles and Snow, 1978).

However, on other important aspects of manpower policy Miles and Snow's (1978) analysis is faulty. On the key issue of the division of labour they concluded that the Defender would be characterised by more extensive division of labour; with employees becoming more highly specialised; and who, by implication, were less skilled, because they could be easily substituted and interchanged. This permitted individual workers to be quickly inserted into the production process with a minimum of interruption. By employing individuals who possessed limited and specialised skills, the Defender kept its wage bill, training costs and turnover costs to a minimum. They further argued that Defenders develop a need for highly formalised and codified job behaviours and operating procedures, with a consequent insistence on rigid job behaviours by organisational members. They argue that given the emphasis on stability and efficiency, deviations from prescribed behaviours cannot be tolerated.

This analysis did not square with the evidence in the case. This evidence related to a concern for functional flexibilities, the training initiatives or with the perceptions of the managers themselves. Many of their comments suggested a new and emerging model of an employee which could not be reconciled either with that suggested by Miles and Snow (1978), or with that which had been traditionally associated with British Steel employees.

How can these contradictory perspectives be reconciled? Miles and Snow (1978) confuse stability and efficiency with the a particular form of work organisation. 'Stability' is a state of an object or process relative to its environment: 'efficiency' is a technical or economic relationship between inputs and outputs. What is being discussed here is the way in which work is structured to deliver efficiency and to ensure that the production process is as stable as possible. It does not follow that this is best done by a low-cost, compliant, deskilled and non-intellectually enquiring workforce. Keeping a process like

iron and steel-making stable in an efficient manner may demand a workforce which is highly skilled, adaptable and integrated.

What were the demands that steel-making made on the manpower system and what were the emergent models of employee behaviour? Efficiency demanded better, but less plant: lower numbers of employees were required. But linked to this quantitative change was a qualitative one: better quality employees were demanded. As more than one manager pointed out, problems of employee competence could no longer be solved by simply recruiting more people. Fewer numbers exposed problems of employee competence: qualitative and quantitative manpower issues were interlinked. The evidence from the Japanese visiting party to Teesside suggests that, as far as they were concerned, employee competence was the major problem.

A second and more profound point relates to the limitations of the process of creating 'stability' by domain management. Miles and Snow (1978) saw this as an essential buffer which would provide the conditions under which management could concentrate on engineering solutions to the problems of growth. The difficulty with this analysis was that this type of 'sealing off' could never be a complete answer to the problem. It was impossible to design 'closed' systems: cartelisation addressed the problems of prices and output. Issues of quality, the evolving nature of production systems and input prices still remained. Competition was taking place on grounds of quality, and this aspect of product performance was still very much in the hands of the steel companies to deliver. The uneven moves to 'trust automation', speed of response and integration demanded flexible skilled responses from the workforce. Finally, cartelisation could not control factor prices, particularly energy costs. The evidence presented relating to future trends in steel-making suggests that fuel costs were emerging as the most important factor of production rather than labour costs.

This analysis reveals the limited theoretical perspective offered by Miles and Snow (1978). Although it is ostensibly a book on organisational strategy, close examination of its analysis against this empirical evidence suggests that it is a book about the connections between marketing strategy and structure, rather than organisational strategy and structure.

The difference is that there is more to organisational strategy than managing the connections between product markets and organisational structure. Competitive strategy aimed at cost reduction involves managing input prices, factor markets and a production technology which is not fixed, but which is constantly evolving. Paradigms of work and workers based on Tayloristic assumptions of centralisation, control and the separation of planning from doing fail against this rich constellation of strategic considerations. It is given to no-one to control the Universe, and managers who set up strategies and systems which implicitly assume that they can, are guilty of wishful thinking

What models of employment policy explain the observations contained in this case? BSC's experiences present a conundrum, which will be raised here, but because it was common to many CR firms, it will be analysed and explained in Chapter 8. This conundrum is that employment policy was marked at all levels by a search for labour cost reduction, when rationally there appeared to be no great strategic need for it. The manpower systems at British Steel were utterly transformed over the period of the study and the dominant employment policy was demanning. Yet between 1980 and 1986 employment costs as a proportion of total costs fell by only eight per cent, from thirty-two per cent to twenty-four per cent. The traumatic costs of securing this advantage seem to bear no relation to the meagre benefits on offer.

There was extensive evidence of BSC 'peripheralising' many activities, particularly in the service and maintenance activities. On the other hand, there was little sign of any emergent group of 'core' employees. Managers expressed an interest in the idea of 'the super steel worker', or a production worker with a craft background with a good understanding of the plant, but there was no indication that this was anything other than an aspiration. There was no evidence of any operational steps taken to realise the concept. There was absolutely no evidence that any group was offered lifetime employment. In the craft sections of the workforce there were some marginal developments on the sharing of work on the craft boundaries, but it could not be argued that there was any wholesale restructuring of work to create functional flexibility. The evidence also points to a new model of employee, one which closely corresponds to that described by Hirschhorn (1986), and the evidence suggested that a continued emphasis on demanning, and the

formal linking of the question of task flexibilities to discipline was impeding progress toward the realisation of this concept.

CHAPTER 7

CASE STUDY: TIOXIDE U.K. THE PIGMENT DIVISION

INTRODUCTION

The case study was undertaken in the Cleveland factory and offices of the Pigment Division of Tioxide U.K., the U.K. operating arm of the Tioxide Group and the largest of Tioxide U.K.'s three divisions. The Pigment Division made pigment, a light dispersant material used in the manufacture of paints, papers, roller-coatings, fabrics, textiles and toothpaste. Its largest customers were major paint manufacturers such as Berger, ICI and International Paints. They accounted for sixty-nine per cent of Pigment Division's £135 million income in 1985.

The company began production of pigment in the U.K. in 1934 at Billingham in Cleveland. The company also housed some of its administration and its Central Laboratories at Billingham. In 1949 a factory was opened at Grimsby; its capacity of 100,000 tons of pigment per year made it the largest factory in the Group, and one of the largest pigment factories in the world. In 1971 Tioxide opened a new factory at Greatham, a coastal site in Cleveland. Greatham's initial capacity of 25,000 tons per year was increased to 55,000 tons in 1981.

In 1985 Tioxide U.K. recorded trading profits of £17.1 million, compared with £12.5 million in 1984. Each division's contribution to these profit figures was not known. But since the Pigment Division generated sales of nearly £135 million in a Tioxide U.K. turnover of £142 million in 1985, it can be concluded that the vast bulk of Tioxide U.K.'s profits were derived from pigment.

Tioxide U.K. recorded losses every year between 1980 and 1983.

MARKETING AND PRODUCTION STRATEGIES

There were five major aspects of Tioxide's marketing and production strategies central to any analysis of their manpower strategies:

- the world pigment market;
- how pigment was made;
- Tioxide's changing product market strategies;
- the decision to change feedstocks;
- the development of the chloride stream.

The world pigment market; Tioxide estimated that in 1985 world production of pigment was 2.5 million tons. Tioxide produced seventeen per cent of this in eight factories throughout the world. The world's largest producer was DuPont who were estimated to have produced twenty per cent of world output. DuPont were considered to be better placed to sell in the U.S., while Tioxide dominated European markets. Since 1981 Tioxide had bought out small producers in Spain and Italy to add to their existing network of factories in Australia, South Africa and Canada.

The supply of pigment was inelastic; price was thus extremely sensitive to fluctuations in demand. When demand fell in the early 1980s, prices fell sharply. In 1980, the world pigment market was in recession and remained in that state for three years. World markets recovered strongly from 1983 and by 1986 demand for Tioxide's pigment had outstripped supply. A major strategic concern of Tioxide's management from 1983 onwards was that they did not have the capacity to supply orders for lucrative overseas markets, especially those in the Far East and the Pacific Basin, where premium prices could be obtained. This was due to a strategic decision to give domestic and European consumers priority.

Over the period consumers began to demand the higher quality pigment produced by the chloride process rather than that made by the sulphate process. Of Tioxide's eight factories in the world only Greatham produced pigment by the chloride process. The other seven were

sulphate process factories. Greatham accounted for ten per cent of the Tioxide's world capacity.

On the other hand, DuPont made all of their pigment by the chloride process.

How pigment was made; the established method was the sulphate process. In this method titanium ore was dissolved in sulphuric acid. Pigment crystals were grown by heating the material up in an oil or gas fired rotating cement kiln. The particles dried and grew. Material was processed in batches. This method was simple and easily understood; it was described by one manager as: "good, solid 'A' level bucket chemistry stuff."

The alternative method was the chloride process. It had four stages: chlorination, oxidation, finishing and packing. In the chlorination plant titanium bearing ores were chlorinated in carbon to produce liquid titanium-tetrachloride. The liquid was distilled and oxidised using a high temperature oxygen plasma. Titanium dioxide crystals were 'grown' during this stage in a process lasting fifty milliseconds; the chlorine was recovered for re-cycling; the crystals were milled and coated to meet different grade requirements; the finished product was packed into sacks, semi-bulk bags or bulk road-tankers.

The sulphate and chloride processes differed in important ways. These are summarised on Figure 7.1 .

Figure 7.1. The Sulphate and Chloride Methods of Pigment Production Compared

VARIABLE	SULPHATE PROCESS	CHLORIDE PROCESS
Date First Used	1934	1972
Number of Plants	7 in the World	1 at Greatham
Production Process	Batch	Interdependent Streams
Reliability of Plant	High	Low
Means of Increasing Production	Add Plant	"De-Bottleneck" Plant
Key Production Task	Process Batches	Recover Chlorine
Raw Materials	Ores, LPG, Oil, Sulphuric Acid	Ores, Chlorine Oxygen
Waste Disposal	Lethal. Hard to Treat and Dispose	Lethal. Easy to Treat and Dispose

The sulphate process was akin to batch production, whilst the chloride process was organised in three interdependent streams: chlorination, oxidation and finishing. If one part shut down, the others followed. The output of chloride plants was increased by raising temperatures and pressures at key points in the process. For this reason much attention was paid to the engineering problems of 'de-bottlenecking' the plant. The chloride process was unreliable and unpredictable. The chlorination and oxidation processes involved the use of aggressive chemicals and gases at high temperatures and pressures. The plant fabric had to work under the most adverse conditions. Key pieces of equipment often failed. One manager described some of the problems:

"So you get holes appearing in the sides of vessels, you get the bottom dropping out of reactors and God knows what. And it's trying to get over those basic engineering problems that is the problem there. Not so much the technology in the chemical engineering sense." (Personnel Manager, Tioxide).

For these reasons the chloride process was regarded by Tioxide's management as 'new technology'. Greatham was the focus of three types of problem solving activity: production, maintenance and process development. These problems were not fully understood and had to be resolved in a factory which was a production unit and not a pilot plant.

These problems meant that between 1972 and 1985 Greatham had never operated at more than seventy-eight per cent of capacity. This was seen to be the cause of Greatham's lack of profitability. Profit depended upon high levels of efficiency and the economies of scale offered by high levels of output. The importance of scale economies was realised early in Greatham's life and it was the reason for doubling Greatham's capacity from 25,000 tons per annum to 55,000 tons.

The chloride process had two advantages over the sulphate process. It gave a better quality product and caused fewer environmental problems. The sulphate process produced large quantities of lethal wastes whose dumping was controlled by E.E.C. Directive and by the Water Authorities. It also attracted the attention of environmental pressure groups. In 1983 Greenpeace occupied part of the Grimsby factory amid much publicity. Cleaner systems of waste disposal were possible but expensive.

Tioxide's changing product market strategies; Tioxide sought to develop its competitive ability through a strategy of quality products. This was partly driven by changing customer requirements, especially by the paint manufacturers. Tioxide also came under pressure to become 'B.S. 5750 registered'. Some major customers insisted that Tioxide had their quality assurance systems audited, approved and registered by and with the British Standards Institute.

But the most important driving force for improved quality was the competitive strategy adopted by members of new management cadres appointed during the early 1980s. Many of them saw the future of the company depending on the quality of the product. One commented:

"I think that once we accept that our product is a commodity we are halfway down the road to death. We strenuously keep our quality image to the forefront; people still are buying pigments on the basis of quality and how well they do in the application, not just on price. That's why we have such a big Technical Service Department supporting customer needs and that's where we intend to stay. Other manufacturers, and I put DuPont in amongst those, go for consistency rather than particularly high-performing products." (General Manager, Pigment Division).

Depressed trading conditions persisted until the middle of 1983. Up to that time both Greatham and Grimsby ran well below full capacity. Product markets revived in 1983 and by 1985 Tioxide could not make enough pigment to satisfy demand. Between 1983 and 1986 Tioxide's main concern was with increasing pigment production in a cost-effective manner. But the economics of the pigment industry and the technology of pigment production combined to make this a difficult problem to solve.

World pigment supply did not vary much with price; the technology of production did not permit large, short-term variations in output. Major additions to output were only possible through the commissioning of new factories. Another consideration was that the world supply of pigment was produced in relatively few plants. For example, in 1986 Greatham and Grimsby's combined capacity represented six per cent of total world output of pigment. Building another plant of their size would represent a substantial addition to world pigment capacity with a generally depressing effect on world prices. The key to profitable production

increases was to expand output in a controlled manner, maintaining the balance between demand and supply whilst avoiding the large outlays of capital associated with new factories.

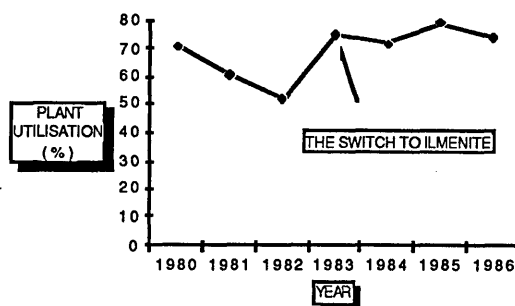
The solution to this problem was seen to be de-bottlenecking. This involved improving key pieces of plant and process to remove bottle-necks to higher levels of production. De-bottlenecking allowed capacity to be increased at a very controlled rate. Thus output could be expanded and high prices maintained.

The decision to change feedstocks; a major economic problem was derived from the fact that supply of rutile, the most expensive key raw material used in pigment production, was inelastic. The demand for rutile was derived from the demand for pigment. The Works Manager succinctly summed up the implications of this relationship for profitable pigment production:

"The largest single cost item is rutile, a naturally occurring substance mined out of beach sand. Its demand exactly matches the demand for the final product. So at times of high demand of final product there is no prospect of making any improvements in profitability because this material price will go up as well."
(Works Manager, Greatham).

Therefore one strategic problem for Tioxide was to stop extra profits from being passed on to their rutile suppliers. At Greatham the answer was to use a substitute called ilmenite. This decision led to technical difficulties; a fall in production and inter-departmental conflict. This is quite clearly shown on a chart of Greatham's plant utilisation figures in Figure 7.2. 'Plant utilisation' shows output as a percentage of the plant's rated capacity.

Figure 7.2. Tioxide's Greatham Works' Plant Utilisation Rates: 1980-86.



(Source: Based on data supplied by Tioxide's Management)

The conflict involved the three plant managers, (one each on chlorination, oxidation and wet treatment); the maintenance managers; and the development engineers who worked on the plant. Plant managers decided when the plant would be shut down for maintenance and when the development engineer could use the plant.

In a plant whose processes were still being developed, and whose maintenance was a problem, there was both the scope for functional conflict and the need for co-operation. All three activities - development, production and maintenance - were mutually dependent. All were separately organised into different departments. There were many conflicts concerning the release of the plant for maintenance and development work, which were referred to higher levels for resolution. The decision to use ilmenite beneficiate appears to have brought these conflicts to a head. The Works Manager recounted:

"Immediately we ran into major technical difficulties with the use of that feedstock and we started to drop in terms of the overall productive capability of the factory." (Works Manager, Greatham).

The technical difficulties associated with the use of ilmenite led to a downward cycle of falling production, defensive behaviour and the emergence of warring factions within the management team. The technical aspects of these problems were resolved fairly quickly, but the behavioural difficulties still remained. According to the Works Manager:

"people had started feeling ultra-defensive about what they saw as criticisms of their own part. Management would blame process for not operating the plant as it should be operated and process would blame maintenance for the fact that the plant was not maintained and could not be run. That's why we got to this situation." (Works Manager, Greatham).

The development of the chloride stream; in 1986 work began on a £30 million programme called the Chloride Development Stream, to develop chloride processes at Greatham. This involved substantial modifications to equipment and processes. These were aimed at making the process more flexible through the development of three independent standby streams which would enable the factory to produce if particular pieces of plant were stopped. The costs of failure were large. The Chloride Development Stream was essential to the successful manufacture of chloride-based pigments. If the chloride process could not be made to work,

then Greatham's future development was in doubt. Tioxide would concentrate on the sulphate process. But the environmental issues and the demands of the market place meant that the Chloride Development Stream would have to succeed. As one manager remarked:

"So the Chloride Development Stream has got to work or we are up shit-creek. I think that's what it boils down to on chloride."

TIOXIDE'S MANPOWER POLICIES

Between 1983 and 1986 Tioxide embarked on a comprehensive strategy totally to recast their manpower strategies. The policies they implemented were both rich and diverse and permeated every aspect of organisational life. They can be considered under six main headings:

- the reorganisation of managerial work;
- the development of participation strategies;
- harmonisation and changing policies on collective bargaining;
- manning;
- pay systems;
- job design.

The reorganisation of managerial work; a major change in organisation design was a regrouping of jobs to obtain better integration of specialist engineering activities. This stemmed from organisational problems following the switch from rutile to ilmenite beneficiate in pigment making. The answer to this problem was to regroup the jobs of development, maintenance and plant engineer into a group based on the plant and known as Area Teams. From 1984 the responsibility for the day-to-day running of the plant, including maintenance shut-downs and the release of plant for development work was decided in advance by the Area Team. The establishment of these teams was regarded by Tioxide's managers as a major act of decentralisation of decision taking.

This strategy of regrouping jobs was subtly complemented by the introduction of two linked management bodies: the Improvement Council and Juran Groups. The Improvement Council

was established at Greatham in 1985. It consisted of the senior managers. Its remit was to identify and examine areas where improvements could be made in performance. Its first two projects were Safety and Customers. The Improvement Council defined problems using brain-storming techniques and paired comparisons to identify and prioritise problems.

Once areas for improvement had been identified Juran Groups were established by the Improvement Council to investigate the problem. A Juran Group would consist of a plant manager, engineers, a shift superintendent and others who appeared to be relevant to the problem. Juran Groups were associated with the ideas of Edward J. Juran (1974) to implement his programmes of quality control. They differed from other approaches to improving quality by the way in which they stressed team work and by the importance they attached to quality circles and shop floor participation in the quality process. Juran Groups were described as quality circles for managers. The General Manager explained the reason for their introduction:

"Juran was something we got into and it's saying that we've got a tremendous wealth of talented people; that we have come nowhere near tapping all of that creative talent; that we have problems that we need to solve and decisions that need to be made. We want to move towards situations where people's accountability and responsibility depends primarily on their ability to contribute to a decision rather than on their position in some kind of hierarchy." (General Manager, Pigment Division).

The Juran Groups co-opted other managers depending upon their ability to contribute and whether they would be involved in the problem or its solution. It formed them into multi-functional task forces. Its attraction to many managers was that it looked to be the complement of the quality circles programme operating elsewhere. Juran operated at a higher level and related to wider issues.

The Juran Group identified improvements in performance, gathered data and identified parameters that had an impact on the problem. Methods of altering the equipment and procedures were identified and evaluated. An improvement would be chosen and installed. These processes were couched in esoteric language ('control' and 'breakout' mode) but did not involve any major new developments in management analysis or technique.

Those involved with the Improvement Council and Juran Groups saw these innovations not just as devices for technical problem solving, but as a means for the effective management of organisational change and as a way in which decision making could be decentralised within management. The use of techniques such as brain-storming and paired comparisons to determine problems were attempts to ensure that a few people could not unilaterally define a 'problem' or determine the agenda. Although the Improvement Council consisted of senior managers, it was chaired by a junior member. The Juran Groups systematically involved a wide range of people in solving the problem. By the time the solution had been devised there would have been few people who were likely to be concerned in implementing the solution who had not been involved.

The development of participation strategies; the most striking feature of the manpower changes was the widespread introduction of quality circles. These were part of a strategy to introduce problem solving methods of participation. In 1986 there were 28 quality circle groups in the Greatham factory, and half a dozen more in the offices and laboratories at Billingham. Their arrival was associated with the appointment of the new General Manager in 1983. He said of their introduction:

"It is fair to say that that has nothing whatever to do with the recession problems or any changing environment that we've been in. That has to do with the fact that I passionately, but passionately, believed that as a company we were getting nowhere really in significant terms with participation and with problem solving. Far, far too many examples of our living with chronic losses. We would have started circles irrespective of what kind of an environment we'd been in. I can say this with real honesty. I passionately and strongly believed that we had a fantastic resource in the people who worked for us. A fund of ideas, of creative talent which we were nowhere near remotely tapping. People came into the factory and they hung their brains on the gate and they picked them up again when they went out. I felt very strongly about that. It was a principle that we started them. We would have done it anyway. ... You may say circles programmes are started up in a recession because things are looking desperate. Well, not really because when you start circles, if there are redundancies then that is not a very good environment to try and start them up. You get involved in a recession and redundancies, then the last thing you are going to be able to get through easily is a circles programme." (General Manager, Tioxide).

He felt that one reason quality circles were needed was that the normal bureaucratic systems of management were incapable of responding to suggestions for change which originated from the bottom of the organisation. In his view suggestions for improvements were freely made by the workforce but were lost in the bureaucracy of works suggestion schemes, or dismissed

by management who felt that workers did not understand the technicalities of the problem or the solution. Even if the suggestions passed these hurdles they remained the priorities of the workforce rather than management. He also saw circles as a method of training and development.

For other managers the attraction of circles was the improvement in systems of employee commitment. When asked what he expected from quality circles the Works Manager said:

"The main attraction to me, I must be truthful, was commitment. . . I did not believe that there would be too much that they would come up with that would be significant in cost saving terms. That belief has been tempered since. What I wanted really was an improvement in morale and an improvement in commitment." (Works Manager, Greatham).

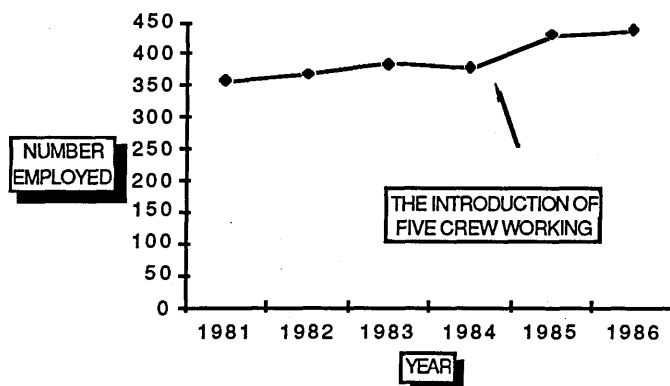
Underpinning both of these thrusts for the reorganisation of managerial work and quality circles was a desire to restructure work away from jobs designed around individuals to team working.

Training; between 1980 and 1983 training virtually stopped. Key staff left and were not replaced. Between 1983 and 1986 the function was revived. Two important developments were the installation of a distance-learning course leading to City and Guilds qualifications for chemical operators; and the application of Coverdale-type training to develop team working skills for plant operators. Both of these developments were intended to underpin the creation of technically competent, flexible work teams.

Manning; in 1986 Tioxide employed about 1900 people in the U.K. Of these about 1000 were employed by Pigment Division in Cleveland, of whom 435 were employed at the Greatham factory. A significant feature of the manning was that numbers employed at the Greatham factory have consistently increased every year since 1981. Details are charted on figure 7.3.

The decision to increase manning in 1984 was prompted by a deterioration in plant performance in that year. Plant output, plant utilisation and output in tons per head all fell. This was attributed by management to the problems associated with the use of ilmenite and because the Greatham Plant moved from four-shift to a five-shift system. Four-shift working

**Figure 7.3. Chart Showing Manning Levels at Tioxide's Greatham Works:
1981-1986**



(Source: Based on data supplied by Tioxide's Management)

made the development of teams difficult. 'Spares' to cover for absenteeism, holidays and sickness had to be built into each shift. Quite frequently, the shift superintendent would not know who was doing which job on what shift. A five-shift system meant that all 'spares' are taken out of the shift. A fifth shift was scheduled. Holidays and days off were rostered by shift rather than by individual worker. All this was done to strengthen the team concept.

While some work had always been contracted out at Greatham and Billingham in the areas of electrical instrumentation and control, office cleaning, building work and transport, there was no evidence that Tioxide had sought to intensify its use of contract work. Some work which was normally associated with contract work such as security had been expanded since 1980, but this had been done through recruiting full-time employees.

There were about two dozen part-time workers employed in catering and clerical work. There was no evidence that this had increased over the period of the study, or that Tioxide's management saw this as a useful solution to their manning problems. Greatham's Works Manager pointed out the reasons for their apparent reluctance to intensify the use of these peripheral workers:

"We don't need them. Even if we did, we would take on permanent staff. We get better quality, better commitment and we can afford to make an investment in them. We are out of the pairs of hands business; we are into the minds business. We would prefer to meet the numbers problem by expanding the capabilities and responsibilities of existing staff."

One manpower policy the company were not willing to repeat were the redundancies and recruitment 'freezes' of the early 1980s, when in one year alone Tioxide had lost 400 employees from its Cleveland operations. Redundancies and 'no recruitment' policies were seen as counter-productive and incompatible with attempts to build up a skilled, team-based workforce who were learning to work a 'new technology.'

Harmonisation and changing policies on collective bargaining; between 1980 and 1986 Tioxide management moved from a policy of determining wages and conditions by collective bargaining to one of unilateral determination by managers. This policy was closely linked to that of harmonising conditions of employment. In 1980 the terms and conditions of employment of technical white-collar staff were negotiated with ASTMS at Company level; other white-collar workers' conditions were determined by national and company agreement. Tioxide were a conforming member of the Chemical Industry Association (CIA), the employers' association for the chemical industry. The unions representing the Weekly Staff were the TGWU, who represented process workers; and the AUEW and the EEPTU, who organised the maintenance workers. All establishments in Cleveland and the Grimsby factory were post-entry closed shops. Up to 1980 Tioxide employed an Industrial Relations Manager to co-ordinate industrial relations policies and practices within the company.

The principal changes in industrial relations between 1980 and 1983 can be briefly summarised. In 1980 Tioxide's Industrial Relations Manager left and was never replaced. In the same year Tioxide withdrew recognition from ASTMS. In 1981 Tioxide ceased to be bound by national agreements. The Board decided that it could not afford a nationally negotiated increase in base rates. Extra wages would have to come from self-financing bonus schemes to be negotiated at factory level.

After 1981 the control of industrial relations passed from the central personnel function to the two Works Managers. They employed process and maintenance workers, the grades of labour for whom industrial relations were most problematic. From 1983, the General

Manager of the Pigment Division was also involved in the formation of industrial relations policies. At plant level each Works Manager was supported by a Works Personnel Officer in charge of a well-staffed and expert personnel department. From 1981 all negotiations were conducted at plant level. There was no company-level bargaining because of what management saw as technical differences between the plants.

Between 1980 and 1985, differences in conditions between white-collar and manual workers narrowed further. Differences in basic hours were ended in 1985 when manual workers' hours were reduced to 38. In 1985 the principal difference in conditions of employment between them was pensions. A manual worker with full pension entitlement would receive one-half of his pensionable salary as a pension; the proportion for an identical staff member was two-thirds. In 1982, the manual workers' unions began to press for parity of pensions. Management accepted that the pension schemes should be the same for both groups, but sought to use this as an opportunity to advance their own objectives. They argued that if demands for 'staff status' were conceded there would be greater flexibility, less demarcation and better team spirit, which would result in greater productivity.

The pensions issue presented Tioxide's managers with an opportunity to redefine their relations with the process and maintenance workers. Conditions would be harmonised; pension entitlement would be harmonised and backdated. But the manual workers would be required to forgo collective bargaining. Management argued that the staff were not represented by any union (ASTMS having been de-recognised in 1980) and that blue-collar workers would have to agree to an identical arrangement in return for 'staff status.'

The stated reasons for this strategy were cost and flexibility. Equality of pensions was estimated to add an extra eight per cent to the manual wage bill. On the other hand, with greater flexibility of labour, less demarcation and better team spirit, manpower reductions were possible. But flexibility was not thought to be possible as long as conditions were negotiated collectively. Changes in working practices would only be nominal if the people concerned were not directly involved. Collective bargaining was not an effective method of tackling demarcation problems, the concept of team working, that was to get individual group

members to cover for each other and to gain their commitment to group tasks, might be a more effective policy.

To the General Manager, there seemed to be better, alternative ways of conducting collective relationships with employees:

"All that plus all the things we'd got going by then on the participation stuff and all these other value-driven things, the "In Search Of Excellence" stuff and the Juran things said : "What do we need all these outside people for?" We're looking for change. We know the road we're going down."

In the autumn of 1986 manual workers at Grimsby and Cleveland were offered staff conditions of employment, including membership of the staff pension scheme with retrospective membership from the commencement of their employment, in return for forgoing trade union recognition and representation. Grimsby's workforce was older than Greatham's and pensions were consequently more important to them. The Grimsby shop stewards agreed. Tioxide's management's reaction was one of astonishment. They did not expect this response and they privately considered that they were asking for too much. For example, they would have conceded trade union recognition and representation for disciplinary issues. They literally received more than they were prepared to bargain for. To what did management attribute their success? The changed economic and legislative environment was thought by some to have conditioned employees' views about the effectiveness and the desirability of trades unions and collective bargaining.

During the autumn and winter of 1986-87 the entire Grimsby manual workforce and 47 manual workers employed mainly by Tioxide's TIL Division at Billingham accepted a transfer to staff conditions in return for giving up their right to have their trades unions recognised. Greatham shop stewards were offered a transfer to staff conditions, but rejected the offer. In 1987 the process and maintenance workers at Greatham were the only Tioxide employees in the U.K. to be covered by collective bargaining. Some managers believe that the move to Non-Agreement Staff conditions and the removal of trade unions at Greatham was only a question of time. They argued that the workforce would naturally be driven in this direction by the other initiatives such as quality circles, Juran Groups, team building, training and better communications.

Pay systems; the company were intending to introduce profit-sharing in 1987. The wages and salary policy would be to cover cost-of-living increases by basic pay increases. Any extra was to be linked to the financial performance of the company, as defined by their half-yearly profit figures. All employees would be covered by this scheme. The decision to introduce profit-sharing was to retain staff when business was good, and more important, to avoid redundancies when business was bad.

Job design; the ultimate aim of team working was the development of a policy of 'bigger' jobs. This was to be rendered possible through a planned development of functional flexibility. The ultimate objective is the creation of a chemical plant operator who was both capable of running and maintaining the plant. The aim of flexible work practices was to save on the numbers of people employed and to ensure a rapid response to any plant failures.

The intended outcome of these was expressed in the following terms:

"We make some estimates of the number of people we save and that's all pay-back stuff. But we're going to get into a situation then where we have a small, very highly skilled, very highly paid work force who are stable. They will need a lot of skills, a lot of flexibility, they'll be highly paid. This is what we are working towards. And they'll be paid in such a way so that if we do get into a downturn we do not automatically talk in terms of making a large percentage of them redundant because we've gone into a recession and everyone says: "There is so much fat around"; and so on, which is so counter-productive later on." (General Manager, Pigment Division).

ANALYSIS OF THE TIOXIDE CASE

The competitive strategy that was being deployed in this organisation was a PMB strategy through the creation of better quality products. The emergent form of organisation structure and adaptation was that of the Prospector (Miles and Snow, 1978). This strategy and process were both driven by, and deployed in, the context of a highly developed and clearly articulated set of management values. These values linked the competitive strategy and the organisation adaptation process to a comprehensive strategy of human asset building.

The first point to make about the case is that it shows a PMB strategy being accompanied by a strategy of building a workforce which was also characterised by high performance. The PMB strategy was being tracked by a human asset development strategy. What are the characteristics of the Prospector and how did they relate to this case? The characteristics are:

- growth through the development of new markets and new products;
- monitoring of a wide range of environmental conditions, trends and events;
- the development of prototype products;
- the creation of multiple, flexible technologies;
- broadly skilled employees as a source of competitive advantage rather than hardware or technology;
- hiring of key executives from outside.

Growth through the development of new markets and new products; in Tioxide's case these have been identified by management. The chloride process offered a superior product which was new to Tioxide, but which was the standard product offered by their major competitor. There was evidence in the case that they aimed to expand in Europe. Crucially, they were being forced to turn down extremely profitable business in new overseas markets because they did not have the capacity to supply it. The data on plant utilisation suggest that the potential capacity existed; the problem was that they could not run the plant at full capacity.

An added complication was their weak strategic position with regard to a major supplier. These problems can be analysed using Porter's 'Five Force' model. Porter (1980) views the essence of competitive strategy as a plan by the firm to retain its profits in the face of threats from new entrants, powerful buyers, substitute products, suppliers, and from rival firms. Tioxide's strategic problem until 1983 was that they were unable to harvest the fruits of a potentially profitable and rising pigment market because they were in the hands of a powerful supplier of rutile. Their solution was to break his power by developing ilmenite as a substitute source. It was their attempts to use ilmenite, which triggered the crisis in their production systems which in turn precipitated the manpower strategies outlined in the case.

The keys to unscrambling these problems lay in the development of the chloride process, debottlenecking the plant, and using substitute feedstocks. At one level the case was about Tioxide's attempts to use manpower as a source of competitive advantage. Running parallel with these issues were environmental and safety management issues. Most of the manpower changes described in this case were driven, in part at least, by these corporate economic and environmental concerns. Probably the most important of these was the chloride process. It held the solution to the problems of competing on quality and environmental management; Greatham was Tioxide's only chloride plant they had at a time when they were opening new plant across the globe. They had to learn to make pigment with this technology.

But these changes were only partly driven by economics and the environment. They were also value-driven. In an operational analysis like a case study it is very difficult to disentangle these separate strands. They are better regarded as different aspects of the same phenomena, rather than as separate and discrete elements. The market orientation and the product differentiation strategy were also reflected in the choice of Juran and quality circles as the means of raising quality. Garvin (1983, 1986) has argued that Juran stresses definitions of quality based on 'fitness for use', which is a consumer-driven definition of quality. It stands in contrast to definitions of quality based on conformance to known technical standards, an approach which is demonstrated in the work of Crosby (1979) and his 'Do it Right First Time' approach.

Lawler (1986) alludes to this distinction between Crosby's methods, and approaches which are more market-driven and participative. He comments:

"For example, a number of companies have moved to the Crosby approach. It is more comfortable because it is clear that management is in control and it is congruent with the management practices in most traditionally managed organisations." (p.57).

Monitoring of a wide range of environmental conditions, trends and events; the first job given to Juran groups was the question of safety. Environmental matters were sensitive at Tioxide. The organisation was attracting the active attention of Greenpeace. The increased importance of CIMAH and increased surveillance by the Factory Inspectorate of the Cleveland chemical industry was noted in chapter 4. Greatham was one of the 14 CIMAH sites in Cleveland.

The development of prototype products; the importance of the chloride process has been noted.

The creation of multiple, flexible technologies; Miles and Snow argue that the Prospector is less likely than the Defender to integrate all of its production processes into a single core technology. It develops multiple technologies for different products: these are relatively self contained and they can be added to, or discontinued with only minor disruption. There were elements of this strategy in the development of the chloride streams.

Pratten (1971) argues that the concept of scale economies is less important for multiple-stream plants than it is in single-stream plants, because with multiple-stream plants capital costs are continually being replicated as output expands. Therefore, strategies based on the concept of economies of scale have less potential and are likely to be seen as less relevant to the control of costs. The effects of the Chloride Development Stream were to convert Greatham to a multiple-stream plant. It can be seen how this shift away from scale as a source of economic advantage complemented some of the observations of management which suggested that the product was better conceived as a service rather than a commodity. These technical developments buttress perceptions of the product as a differentiated item and underscore their denials of commodification strategies.

Broadly skilled employees as a source of competitive advantage rather than hardware or technology; Miles and Snow (1978) argue that the Prospector protects technological flexibility by employing people who have a variety of skills and who can exercise judgement in selecting which skills to apply. Extensive human judgement is required to operate a non-standardised technology, requiring a workforce which is capable of controlling its own operations.

It can be seen that some of the properties of the production system at Greatham gave rise to this model of the employee. The chloride system was fast and error prone. There were two pillars which supported high plant utilisation. The first was to have the plant operated by workers skilled in reading signals and interpreting problematic technical systems; the second

was to develop a social system where the signals and the functioning of the technology could be interpreted and questioned. Technical failings were as much a product of the social system as of hardware failures. Operators were required who were possessed of dense theoretical knowledge, who could analyse synthetically and who had good perception of events on the fringe. Social systems were required to facilitate these types of operator behaviour, systems which would support investigation and questioning by technically competent operators.

This is the model of employee behaviour which has been advanced by Hirschhorn (1986). It stresses the strategic importance of a workforce who are both informed and enabled to act; the type of management that is required is essentially a participative one (Lawler, 1986). It was these needs and these models of employees that partially explain the developments in Tioxide. Developments like Juran, Area Groups, quality circles, open and distance learning, Coverdale all supported this model.

The second pillar which supported high plant utilisation was rapid intervention and repair when plant fails. Because it will fail. It was impossible for Tioxide's management to design and run an error free plant. There was normal wear and tear. If management were successful in planning and technical application, then plants could be run at full capacity. Such conditions exposed the plants' operating limits and rendered them more likely to failure. Capacity was expanded at the margins by de-bottlenecking, an indeterminate process which ensured that the production system could never be standardised. Successful de-bottlenecking created and exposed new bottle-necks. Here was the paradox: successful de-bottlenecking created new sources of failure and error. As one manager remarked about Greatham's operations:

"There are too many problems here for management to solve."

Planning against error was not an alternative. Error and failure would occur. Attention was best devoted to the problems of quick repair. Teams of flexible workers organised around plant, and not by central technical function were the low-cost solution to problems of rapid intervention. The unpredictability of process production made individual job descriptions either difficult to write and/or costly to operate. Managerial attention focused on work groups

as the basis for work allocation. (Kelly, 1982) Institutions and groups, which represented technical specialism and which could oppose such changes, such as trades unions and functionally-orientated managers, had no place in these arrangements.

Miles and Snow's (1978) conclusion that broadly skilled employees are a source of competitive advantage in Prospector operations is correct if not always for the reasons that they advance. The chloride technology was known to their competitors and could be copied by anyone. The markets were open to all. So how were firms to compete, if not through the use of their employees?

None of this is to argue that these models of employees and work are technology led. These changes do not occur spontaneously in response to compelling economic and technical need. The issues in this case were present in Tioxide for many years before 1983, but nothing happened. It was not until new value-driven senior managers emerged that these policies were implemented

Hiring of key executives from outside; Miles and Snow (1978) argue that this is because Prospectors require a 'cosmopolitan' management team who are familiar with important developments in the industry. This case shows that Miles and Snow are incorrect. Most of the important managers were long-established Tioxide employees. This raises the question of how these new patterns of response evolved if they were not imported from outside? The interview transcripts point to an answer. In the course of the research about 22 in-depth interviews with managers were held, recorded and transcribed. These transcripts held the names of about 20 important management thinkers. Some were well established 'traditional' figures of management thinking, such as McGregor and Herzberg; others such as Peters and Kanter, were currently fashionable; some were obscure. They were referred to on about three dozen occasions.

They were all in the transcripts of the interviews with Tioxide's managers.

This is the clearest possible evidence that management thinking at Tioxide never ossified and that a continual programme of management development which began prior to 1980

contributed to this process. When the new wave of managers arrived in Cleveland in 1983 with new ideas they had a relatively receptive audience. Of course, the 'new wave' were not only the heirs to this tradition; as insiders they were also the products of it. What really matters about Prospecting is the managers' thinking, and not whether they are cosmopolitan or local.

The case has some important statements to make about some of the issues which are currently central to the debate on the restructuring of manpower strategy both at firm and at national level. There is no sign in the case that managers were attracted to manpower strategies based on the IMS model. They were not interested in adopting low-cost solutions to the problems of uncertainty by creating 'core' and 'peripheral' workers, and in the pursuit of distancing strategies such as contracting. These employment forms existed in Tioxide's Cleveland operations, but there was no evidence that their use had grown, or that they had any attraction for the managers. On the contrary: the Works Manager specifically repudiated this model as a policy option.

The reasons for this are not difficult to discern. The problems of uncertainty faced by Tioxide sprang from debugging an error-prone plant and the necessity to develop new products. The forms of flexibility on offer from the IMS model were irrelevant to this problem. Indeed, some of its forms, such as temporary work and contract work would have made them more difficult to resolve as they would have been a source of instability in the workforce. Labour cost minimisation was hardly relevant in the context of a capital-intensive operation. The case records increases in manning levels, in order to create teams who could run the plant in a manner consistent with their asset building strategies. Nor did the values of the managers appear to be consistent with the search for this type of flexibility.

The case also has some important implications for industrial relations strategies and trades unions. The evidence in the case strongly suggests that after 1980 managers saw collective bargaining as increasingly irrelevant to their needs. The withdrawal of recognition from ASTMS, and the decentralisation of industrial relations control from Head Office to the Works Managers can be seen as a further weakening of collective bonds.

The vision senior managers had of the future culture of Tioxide was also important. The managers were well-informed about current management thinking. In particular they were impressed with the work of Peters and Waterman and Rosebeth Moss Kanter (Peters and Waterman, 1983; Kanter, 1982). Their books were described by the General Manager as: "obligatory reading for people who are in production." These books depict organisations built on employee loyalty to the firm; large-group cohesiveness; total and exclusive commitment to the employing organisation, shared goals and shared values. Many of the firms cited are anti-union. Unions stress a different focus of loyalty, wider commitments, different goals and values, and membership of a much larger group of people.

But it would be wrong to overstate the influence of this literature. The move away from collective bargaining began in 1980, and not in 1983 when the new managers arrived. Nor do the ideas contained in the 'new wave management' literature automatically exclude the idea of union representation and collective bargaining. Many of the firms cited in this literature are anti-union, but not all of them. Peters and Waterman, (1982); Peters and Austin, (1985) and Kanter (1984) all contain examples of firms who have reconstructed their product market strategies and employee relations in unionised plants. These ideas are better seen as having struck a responsive chord in Tioxide's management, of accelerating trends already in motion. The real appeal would appear to lie in the prospect of managing employee relations without the involvement of trades unions.

It was never made clear why the withdrawal of trades unions' negotiating rights was a necessary condition for developing the types of changes they wished to implement. The managers were asked to provide specific examples of resistance to changing working practices being rooted in trades union membership and collective bargaining arrangements. None were forthcoming. Nor was it clear why the whole issue of trades union recognition should be tied so specifically and unequivocally to such an important item as the retirement pension. At one level the whole strategy was reminiscent of that followed by employers many years ago, who channelled staff pension funds through the Foremen and Staffs Mutual Benefit Fund, an organisation which denied its benefits to trades unionists.

The importance attached by Tioxide's managers to the retention of labour and to the idea of lifetime employment may also be relevant to explaining their attitudes to collective bargaining. The skills they required from the process and maintenance workers were firm-specific. Such workers cannot be recruited direct from the labour market. Turnover has to be minimised to avoid the high training costs of replacements. (Doeringer and Piore, 1971). Consequently employee control systems are designed to close the employee off from the external labour market. In this context withdrawal of union recognition could be construed as rational.

In this case about 700 people were removed from the scope of collective bargaining in return for a higher pension. Seventy-six per cent of those affected agreed in a ninety-three per cent poll (Kennedy, 1988). These were mainly in Grimsby, but 47 were in Cleveland. There was no industrial action; nor even any involvement by full-time trade union officers. Some of these workers were organised in craft unions; all belonged to a closed shop. By any standards it was an impressive demonstration of the power of managers to fashion industrial relations to their desired pattern.

Over the period of the study Tioxide's industrial relations policy shifted from a model resembling what has been termed "sophisticated moderns"; to one of "sophisticated paternalism." (Purcell and Sisson, 1983). In the former model, unions are recognised and encouraged by employers because of the unions' ability to promote consent, communicate with the workforce, handle change and promote stability. (Fox, 1974). They are the means to a more effective management of the workforce and it is against these criteria that management assess their utility. Management considered that they had built up their own lines of communication with the workforce through quality circles, the focus on team work and other initiatives. In the context of the construction of an organisational culture based on shared values and common loyalties, trade unions were regarded as a source of instability. Management came to regard unions as, at best irrelevant, and at worst obstructive to the achievement of business objectives.

This aspect of the case would appear to confirm the analysis that given an instrumental attachment to unions by their members, then union membership may lose its appeal. As Atkinson has argued:

"The extent to which they enjoy employment security, merit pay and single-status, and are not subject to authoritarian and hierarchical work discipline, is the extent to which they may abandon collectivism for incorporation." (1986, p.50)

This analysis has identified the competitive strategy that was deployed by Tioxide and described the manpower strategy that was taken to implement the PMB strategy. The case contains valuable evidence on how such decisions come to be taken; on how choices of competitive strategy were made and how connections were established between the competitive strategy and the manpower system. The case points to the central role of management values in these processes. The strategy was a PMB strategy, but pigment was by any standards a mature product. It could have been defined as a commodity for whom CR competitive strategies were appropriate. The fact that the problem was not seen in those terms was that, in the final analysis, these decisions were policy choices taken by managers. Therefore they reflect the interests, values and perceptions of key decision makers. The case is a good demonstration of the importance of management values.

These influences can be seen in the choice and implementation of manpower strategy. The chosen strategies involved considerable expenditures during a period of economic uncertainty. The pay-back could neither be measured; nor was it guaranteed. The measures were implemented despite prevailing business conditions.

CHAPTER 8

THE COST REDUCERS

INTRODUCTION

In chapter 5 three differentiated versions of the simple model of manpower strategy were proposed. The models were differentiated by the type of competitive advantage sought by each organisation. Chapters 6 and 7 presented case study material to demonstrate two of these types. The Tioxide case showed PMB strategy; the BSC case a Cost Reduction, or CR strategy. The next three chapters will describe the manpower strategies in each of the differentiated types. These chapters will show the processes connecting competitive strategies and manpower strategy. They will draw on the interview data, the case study material as primary data. The archive material will be used to corroborate the model emerging from the primary sources.

This chapter identifies those organisations which could be classified as CR. These were organisations where competitive advantage was defined in terms of cost reduction, but where labour costs were low. A pivotal concept underpinning this model is that of 'plant loading'. For many firms this linked the business environment to the manpower system. Manpower strategy can be seen as the means by which the manpower system delivered the strategy of plant loading. Because of its centrality, the concept and significance of plant loading is described and explained. The chapter then turns to a more finely-grained analysis of manpower strategy by organisation. Five aspects of the empirical evidence on manpower strategy; that is, manning, work organisation, pay, time management and human asset building are singled out as being of theoretical and practical interest. Finally, the theoretical implications of the data are considered.

THE CR ORGANISATIONS

The following organisations were following CR strategies:

- the Potash Mine (1980-1982);
- the Brewery;

- Chemco;
- the Plastic Floor Factory (1980-1982);
- the Contract Engineers (1980-1981);
- BSC;
- Nyco.

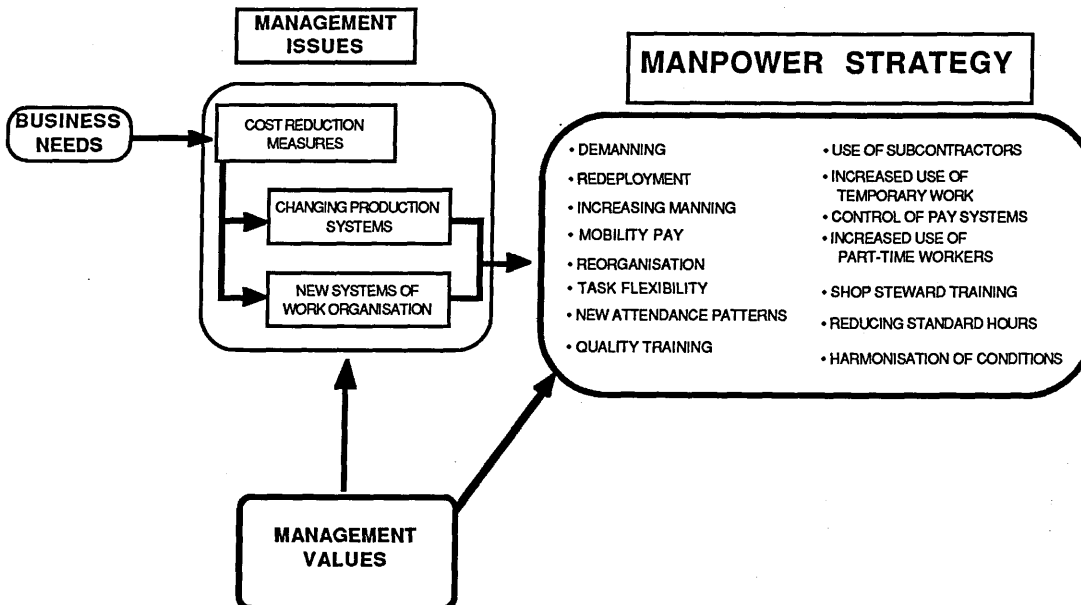
In these firms labour costs appear to have been less than forty per cent of total costs. Labour costs were never stated in the interviews, a fact which may indicate their relative lack of importance. The interviews with managers of organisations in the service sector contained frequent references to their high labour cost. According to Pratten's (1971) data, the most labour-intensive operations were the iron and steel castings operations: here labour costs were forty per cent of unit costs. The least intensive were the chemical plants: labour costs on ethylene plants (a common feedstock produced on Chemco's Works) were about one-half of one per cent. Census of Production data (Department of Trade and Industry, 1985) indicates that in 1985, payroll costs were of 23.7% of input costs in manufacturing industry, and 21.3% of input costs for all production industry. In BSC they could be tracked in the Annual Reports and Accounts. Here it is known that employment costs fell from just over thirty per cent to around twenty-three per cent of total costs over the period of the study. Pratten's (1971) data are a quarter of a century old. Assuming a gradual decline in the importance of labour costs in manufacturing as numbers employed have fallen and as technological levels have increased, then Pratten's (1971) figures can be taken to represent maximum values.

These data need to be interpreted with care. In all organisations there are likely to be pockets of labour-intensive activity. The approach which management take to cutting costs in these areas may well be different to that employed in the rest of the business.

Manpower strategy was linked to organisational strategy in CR firms by the process shown on Figure 8.1. Many CR firms needed to reduce costs because trade was recessed; for some it persisted throughout the period; for others such as the Potash Mine, the Contract Engineers and the Flooring Company, the need was confined to 1980-1982. The model shows that CR firms attempted to reduce costs by restructuring their production systems and patterns of work organisation. The answer to lower costs lay in developing newer and better production systems and new patterns of work organisation. There was little to be gained by cutting labour costs directly. This explanation is consistent with the analysis advanced in chapter 2

which pointed to centrality of the management of non-labour items in cost reduction strategies in manufacturing organisations.

Figure 8.1. A Model of Manpower Strategy and Cost Reduction Strategies.



The concept which underpins the moulding of new production systems and systems of work organisation is 'plant loading'. It is a pivotal concept because, on the one hand, it links the firm's production system with its response to a changing environment. On the other, it links the production system with the manpower system. There are three reasons why the concept is of theoretical importance. Firstly, it is a bridge which spans the three arches of organisational strategy; analysis, decision making and implementation. Secondly, at each stage it helps to cast the manpower strategy. Thirdly, it is the key to understanding phenomena observed in the manpower systems of these firms which are otherwise inexplicable.

COST REDUCTION AND PLANT LOADING

There were three questions to be answered about plant loading. These were:

- what was it?
- why was it important to CR strategies?
- how did it relate to the strategic process in CR strategies?

What was it? It was a category of management behaviour which emerged during the analysis of the interview data. 'Plant' is used in the same sense as Pratten (1971) uses the term, as units of plant such as kilns, furnaces and tanks; or as a group of units of plant, which because their operations are similar or form part of the same sequence of operations, are commonly regarded as part of the same works. Examples could include a steelworks or a refinery. Faced with a need to reduce costs CR firms identified key pieces of plant which were extensively modernised, or even built anew. All production was then concentrated, or 'loaded', onto this plant. Old plant was closed.

CR firms were left with a stock of plant, which was smaller, but technically superior to its forbears. This was used to produce a declining or static volume of production at a reduced cost. Economic salvation was to be found in better utilisation of a reduced stock of more technically advanced plant. One conclusion that can be safely drawn is that cost reduction was not to be found in a smaller version of the status quo. As both Slatter (1984) and Richardson (1988) have argued, cost reduction means fundamental change.

This phenomena was detected at Nyco, the Potash Mine, Chemco, and it was an important part of the Brewery's strategy for rationalising its distribution facilities. It was a strong theme in the BSC case. It was not unique to these firms, but it was in the low-labour intensity firms that it emerged in its most highly developed forms.

Why was it important to CR strategies? Plant loading was relevant to CR in three ways:

1. Production was concentrated on fewer units of plant, allowing old plant to be closed. Thus it saved both fixed costs and variable costs.

2. Production was concentrated on more efficient plant, thus offering lower marginal and variable costs.
3. By channelling a reduced output through fewer plants, utilisation rates could be increased thus offering lower marginal costs irrespective of its technical state.

The concept of plant loading explains one of the paradoxes of the interview data: this concerns the lack of change in manpower policy when product demand improved, as it did for some, from about 1983 onwards. Plant loading was not only the solution to reducing costs in a recession, but to controlling costs when demand expanded. Nyco were part of a vertically-integrated MNC chemical conglomerate. Their mission was to supply cheap feedstocks to sister organisations. They had secure markets, but needed low costs. Plant loading was central to this policy. Nyco's Engineering Manager explained:

"You don't make anything on these units when you're running at an eighty per cent loading. Once you start to get above that you start to make an impact on profitability. Anything over ninety per cent, then you cream it off." (Engineering Manager, Nyco).

Plant loading represented the search for new vintages of scale curves and relocation of production upon them. It explains some apparent paradoxes, such as that of firms both losing money and markets, yet spending vast amounts of money on plant refurbishment. This was a major theme of all the CR firms. Plant loading was an explanation of 'jobless growth'; of increasing productivity and declining numbers of people employed. This can be seen in the BSC case and it was a theme in the interviews.

There was another aspect of plant loading that was important. Closing and opening new plant was at the heart of plant loading. The workforce was uprooted and dislocated. Work may still have been available, but not where it had been previously. Work was moved; the point of production was relocated. Its management involved questions of location.

How did it relate to the strategic process? It is significant because it suggests that the answers to lower costs were to be found in the domains of technology and engineering. This draws attention to another apparently paradoxical feature of plant loading and cost reduction. What CR firms faced was not a 'failure' of their production systems, but a crisis in the market

place. Plant loading does not appear to address this issue. The implication is that these firms had solved their product market crises, and in doing so they have created an environment in which engineering and technologically-driven solutions can work. Unless they have solved these crises then their large capital investments are at risk. This is a dilemma facing 'Defender' type organisations: how can the productive core be sealed off from a turbulent environment?

These are questions of strategic adaptation. The strategy adopted by at least three of these firms, Chemco, Nyco, and BSC was one of domain defence (Miles, 1982). They managed the market place in collaboration with their business rivals. There were overt and covert variants of this strategy. In BSC's case it was overt, in the form of the Davignon Plan. In Nyco and Chemco's case it was covert. In the interview with Chemco's manager there was a reference to "EEC restricts production" (see Chemco's event-state diagram: event-state no. 4). The full significance of this remark was revealed in a newspaper report (Financial Times, 22.12.1988: "Chemical groups fined by EC for rigging prices"). According to this report, Chemco and Nyco were members of a cartel of 23 West European chemical companies who were fined for illicit price fixing of polyethylene and polyvinylchloride, two widely used plastics which comprised Chemco's and Nyco's main output. The cartel started in the early 1980s when the chemicals sector was depressed. Directors of the companies met regularly to agree market shares and established a "posted price" which was accepted as the market rate. The report further noted that in recent years demand and price had recovered, in part due to a large reduction in plastics production capacity. Companies had cut overheads by concentrating on "newer, more efficient plants and reducing labour costs."

Domain defence was not an option for all CR firms, such as the Brewery and the Potash mine. They did not satisfy the conditions identified by Miles (1982): they lacked an oligopolistic structure, homogeneous product markets and a shared, negative fate. Nevertheless plant loading can be detected in the Brewery in the form of the rationalisation of distribution facilities. It can be seen as the implementation of a domain defence strategy focused on growth through cost reduction. If prices and output were controlled, then cost reduction was the only means open to grow. Plant loading has one foot in the realm of strategic analysis and adaptation: it was the engineering aspect of a strategy to make the commercial world a fit

place for technological solutions to the problem of cost reducing growth. But its other foot was in the manpower system. What were the implications of such a policy for the organisation and management of manpower?

MANPOWER STRATEGY IN CR ORGANISATIONS

The policies with regard to organisation structure, work organisation and employment in CR organisations are shown in Figure 8.2. This chart was constructed by extracting all the manpower policies from the event-state charts, the site narratives for the CR firms; and from the BSC case study; and classifying them by organisation. It shows all aspects of manpower strategy, including those driven by management values. These manpower policies are categorised under five headings. These are:

- | | |
|------------------------------|----------------------------|
| 1. Organisation Structure; | 2. Manning Issues; |
| 3. Work Organisation Issues; | 4. Time Management Issues; |
| 5. Pay and Conditions; | 6. Other. |

Organisation Structure

The Brewery, Chemco, and BSC all reported reorganisation. In the case of the Brewery and Chemco this could be specifically related to plant loading policies. In order to keep its production capacity fully utilised, the Brewery was now forced to compete in retail markets, a sector dominated by powerful buyers, where the key to profitable production lay in strict control of costs. Reorganisation of the company was required to focus management attention on the increasingly divergent needs of production as compared with marketing. The Personnel Manager explained:

"We're now in the grocery business along with food manufacturers working on very slim margins, and where efficient production is the key to profit rather than just bunging the price up every year. The company was split into two main divisions and a service division: the two main divisions were the Brewing Division and the Inns Division. That organisational change was in response to the marketing and production needs. The company's view was that if they focused people's attention in the two prime teams to look in different directions, then that would be more and more effective." (The Personnel Manager, the Brewery).

**FIGURE 8.2. MANPOWER POLICY IN
CR ORGANISATIONS**

ORGANISATIONS								
	The Potash Mine: 1980-82	The Brewery	Chemco	The Plastic Floor Company	The Contract Engineers: 1980-81	British Steel Corporation	Nyco	
Regrouping Of Jobs		X	X			X		ORGANISATION STRUCTURE
Centralisation Of Decision Making		X				X		
Reduction In Manning	X	X	X	X	X	X		MANNING
Increase In Manning /Recruitment							X	
No Compulsory Redundancies			X			X	X	
Redeployment		X	X			X	X	WORK ORGANISATION
Task Flexibility		X				X		
Use Of Subcontractors		X	X			X	X	
Increasing Part-time Work		X						TIME MANAGEMENT
Increasing Temporary Work		X						
Increasing Working Hours							X	
Reduction In Basic Hours			X					
Mobility Pay		X	X					PAY SYSTEMS & CONDITIONS OF EMPLOYMENT
Control Of Pay Systems		X		X		X	X	
Harmonisation Of Conditions			X				X	
Training		X	X				X	OTHER
Joint Consultation							X	

Chemco was a multi-divisional site which consisted of a number of integrated works producing organic and polymer-based products for the parent divisions. Each Division had its own Board on site; each works had its own management, maintenance and production workforce. From 1980 onwards all production and maintenance was centralised and Divisional Boards were disbanded. Every Works Manager on the site was removed and the whole site was placed under the control of one Site General Manager. It was thought that management planned to extend the process further, to unify all the Company's sites in the North-East of England into one regional management structure, to secure the economic potential of common resources on an even wider scale.

"Management see their role as manufacturing chemicals as cheaply and as efficiently as they can. It's a question of market forces. I've talked about cross-site mergers of labour forces and mergers of Divisional interests. Now they are looking at cross-Tees activities from a planning point of view. I can't believe that they are looking at that without considering the movement of labour across the river. It would make sense, wouldn't it? If you've got major shut downs going on in the Summer on one side, and in the Winter on the other, it would be pointless having two labour forces under-occupied for two big lumps of the year." (Construction Engineer, Chemco).

BSC reorganised in the early 1980s. They shifted from a regionally-based structure, where operating divisions were grouped by geographical area to one based around product groups. Thus the Teesside Works was part of the Teesside Division in 1980; by 1982 it was part of the General Steels Group.

Manning Issues

Five organisations were demanning. The sixth, Nyco, was recruiting as it brought mothballed plant back on-stream as output expanded. There are two important questions:

- What was the significance of demanning as a manpower strategy?
- How was it implemented?

The most noteworthy feature of demanning was that it was so common. If any employment policy had claims to strategic centrality to CR organisations, then that policy was demanning. Its key role is underlined by the fact that for the Contract Engineers and the Potash Mine, it

was the only response. In the Plastic Floor Company, it was one of only two policies deployed to reduce costs. In these three firms there was no sign of any large scale reconstruction of production systems to reduce costs.

The importance attached to demanning appears to challenge the view that control of labour costs was of no strategic significance in CR strategies. An explanation is required which accounts for demanning and leaves the model of manpower strategy intact. There are three possible interpretations and they are not mutually exclusive. These view demanning as:

- irrational;
- opportunistic;
- important, but for reasons other than those of competitive strategy.

Demanning as an irrational act; demanning could be viewed as an idiosyncratic response by individual managers, or as part of an established pattern of response in an industry (Grinyer and Spender, 1979). These explanations are not valid. Demanning cannot be dismissed as an individual irrationality when all but one firm were pursuing it so assiduously. Nor can it be seen as part of an established pattern of response at industry level. Quite the contrary: In many of these industries, particularly the chemical industry, job security was prized (Gill et al., 1978). The fact that demanning was so widespread points away from firm and industry-based explanations, to causes located in the wider economic structure.

Demanning as managerial opportunism; demanning occurred as managers took chances to control a variable cost. The routes to lower costs may have lain in better production systems, more effective work organisation, lower manufacturing overheads and cheaper material costs, but cost reduction was not merely a matter of the technical organisation of work. Plant loading offered potential for manning reductions. Manpower costs might not have been significant, but they were controllable. Demanning was a reactive response to other initiatives. This does not explain why in three companies it was the main response, and in two of them the only one observed.

The view that demanning was pursued because it was important, but non-strategic, rests on the premise that a central economic concern in organisations in a capitalist society is the division of the surplus product between capital and labour. The surplus product is the gross value added by capital and labour. The major economic issue influencing manpower management is labour and capital's share of the net take, and not the proportion of total costs consumed by employment.

Consider the following hypothetical figures: a firm has a sales revenue of £100; a materials bill of £80 and a labour cost of £10. The gross value added is £20 (£100 sales minus £80 material costs). Labour costs as a proportion of total costs are £10/£90; that is, roughly 11%. But labour's share of gross value added is £10/£20; or fifty per cent. Capital's share is the residual fifty per cent. If the firm enters a depression and sales revenue falls, and assuming that wages are 'sticky' downward, then a way open to capital to maintain its £10 money take of the gross value added is to shed labour in line with a diminished output. Demanning is explained not by strategic considerations as they have been defined for this study, but by the conflicting interests of labour and capital.

This argument has recently been advanced by Williams et al (1989), although it can be traced back through Marx to Ricardo. It is a persuasive argument. Demanning was the only strategy that two of the CR firms were pursuing. It explains the phenomena of demanning, but leaves the model linking competitive strategy and manpower strategy intact. A clear inference is that not all manpower strategy was linked to organisational strategy as has been defined in this study. Manpower strategies can be implemented for non-strategic reasons, but still be very important.

So demanning can be explained not as part of a cost reduction strategy, but as part of capital's strategy to maintain its cash take of gross added value. But if this is the objective, then this share could be more easily maintained by managing non-labour items. In Williams' et al (1989) account there are two assumptions. The first is that labour is the only variable cost and that it can be dispensed with at will. This is not true. The labour force is not the only variable cost and it cannot be reduced indefinitely. Unless managers address themselves to the management of non-labour items, then they run the risk of generating an increasingly

enfeebled response to these competitive pressures. Managing the non-labour items will have to be addressed sooner or later. The second assumption is only partly true. The organisations in the study were reluctant, or unable to dispense with the workforce at will. This raises issues of the implementation of demanning policies.

The interviews and the case study revealed that demanning was implemented by natural wastage, voluntary redundancy and early retirement. Compulsory redundancy was reported only in the Potash Mine in 1980. Management may have begun a demanning exercise by announcing compulsory redundancies, but they were usually changed to redundancy on a voluntary basis during the course of negotiations. All firms had well-developed systems of collective bargaining and Chemco, Nyco and BSC had a formal, 'no compulsory redundancy' policy. Demanning was only one concern for the majority of CR firms. They were introducing new production systems, new systems of work organisation and trying to exploit new market opportunities in the face of unionised workforces. The co-operation of employees was essential. Managers were loathe to hinder progress on these fronts.

There is evidence from other sources which suggests that those managements which have bilateral approaches to redundancies which negotiate rather than impose redundancies, experience higher levels of workforce co-operation in introducing new working methods and technologies than those who do not (ACAS, 1987). Put in the context of the organised and highly visible resistance which might be provoked, then 'softly, softly,' and long time frames were the order of the day for implementation of demanning policies. There was no shortage of volunteers for voluntary severance schemes. Managers did not need to resort to compulsory redundancies. The BSC case showed that, if necessary, management could conduct the exercise over the heads of the union, consigning shop stewards to the role of helpless bystanders. If all else failed, managers could always put pressure of varying degrees of subtlety on individual employees to 'volunteer'. This was an issue in the BSC case and at Chemco. To secure volunteers Chemco appealed to the work ethic of workers whose jobs had disappeared, but whose employment was secure:

"A large canteen in the middle of the complex was set aside to house surplus staff. Here they could drink coffee, play cards, darts, read the papers - and wait. This was a conditioning process. They could see for themselves that they were underemployed. Guys spent days on end in there playing cards. They

knew it was wrong. In the end they just got up and went - most of them to Saudi. None of them were pushed." (Construction Engineer, Chemco)

The overall picture is one of voluntary redundancy, with little organised resistance, and with no recourse to many of the legal protections given to workers under threat of redundancy.

Work Organisation

Figure 8.2 indicates that the four work organisation issues were:

- Redeployment;
- Task flexibility;
- Reorganisation;
- The use of subcontractors.

The use of subcontractors in CR strategies was discussed in chapter 5.

Redeployment was connected with issues of location. Old plant was closed, new plant was created at another location. One of the main discoveries of this research is the importance of redeployment, of a search for geographical or spatial flexibility, as manpower policy. It connected with other manpower policies, such as reorganisation and mobility payments. Redeployment is 'the forgotten flexibility' and it was the central manpower policy by which some aspects of CR strategies were to be delivered. It was an overarching manpower theme which occurred in the context of manpower strategy motivated by a changing composition of production as well as by the need to reduce cost. It meant moving workers between offices, works and sites with no, or only marginal change, in job content. It can be viewed as a means of raising labour productivity by moving labour from areas of low productivity to places where the potential for higher productivity existed; and by offering greater capacity utilisation of the workforce itself. Two managers revealed it as the major manpower issue which they had faced, or would have to face in the future.

"The biggest problem there was redeployment. Management, by and large, wanted to bring some fresh people in at that stage. But, obviously, the union wanted us to redeploy." (Personnel Manager, the Brewery)

"The biggest change was that all the men that I had on construction work, who were dedicated to engineering projects, were organised into a totally mobile workforce with maintenance workers. They ran down the numbers of fitters and plumbers and put them into a central organisation. They so organised all of the various shut-downs, so that when they completed a shut-down on one Works, they could go to another." (Construction Engineer, Chemco).

It was an issue in the BSC case arising from the centralisation of engineering work: here maintenance and service workers were stripped out of plants where they had worked for many years and placed in a central organisation which covered the entire works.

Redeployment is of conceptual and theoretical significance for two reasons. Firstly, it suggests a distinction between job security and employment security. These terms are often used interchangeably by both academics and practitioners alike; but the concept of redeployment suggests that they are analytically separate. The price many workers paid for employment security was job security. Secondly, the evidence adds up to a statement about the type of flexibility employers found important. The flexibility debate focuses on four types of flexibility: functional, time, numbers and pay. Redeployment suggests that there is a fifth form: geographical flexibility.

What was the appeal of redeployment to these organisations, especially to those whose markets were contracting? At first glance it looks as if redeployment was the price paid by employees for employment security and by employers for 'no compulsory redundancy' guarantees. Reality was much more complex. Three organisations were identified in this study as managing both contraction and redeployment. In all three cases the total value of the goods or services produced was shrinking, or constant, but this went hand-in-hand with one or more of the following:

- developing new products;
- developing new markets;
- installing new methods of production and work organisation.

The Brewery's traditional markets were shrinking rapidly. To counteract this trend it built up its output of canned beers for sale in retail outlets, whilst intensifying its marketing efforts in the free trade. These were products and markets which needed different methods of

production, distribution and marketing. Chemco's response to a decline in demand for its commodity chemicals was to reduce costs and manning by reorganising production and centralising the organisation of engineering maintenance work. A reduced value and changing composition of output, to be delivered at reduced cost called for new systems of production, marketing and work organisation. Resolution of these problems revolved around issues of location, shared learning, interrelationships, capacity utilisation and timing.

Redeployment underpinned strategies to resolve these problems in a highly cost-effective manner. Staff could be relocated without the need for reskilling, with minimal retraining, and avoiding an expensive recruitment effort. The supply of labour was relatively secure: the organisation was dealing with workers who were already employed and trained. In merging similar engineering functions, such as maintenance and construction and relocating their workers in the same buildings, there were opportunities for increased mutual learning and for work of a better technical quality. By drawing these functions together and stripping engineering workers out of plants into a central engineering organisation, worker availability could be managed. Capacity utilisation of plant could be improved by devoting more workers to maintenance programmes. This reduced plant downtime. It improved the capacity utilisation of the workforce itself. Careful scheduling of maintenance work and redeployment offered the prospect of more work from fewer people. Redeployment went hand in hand with an increasing intensity of effort. In these types of operations, planning and timing were paramount. Greater attention to timing the activities of the redeployed workforce could improve utilisation of a number of related plants.

It was an attractive policy from an industrial relations viewpoint. Managers could present it as a policy of preserving employment, whilst simultaneously securing change. They could offer 'no compulsory redundancy' guarantees - provided that the workforce accepted redeployment. Finally, it avoided the need for some costly, lump sum redundancy payments at a time when there were cash flow problems.

At the end of the redeployment exercises the overall numbers employed might be reduced either by natural wastage or by voluntary severance. And, as productivity rose faster than product demand, then overall quantity of labour demanded would be cut. But manpower

numbers was only one aspect of the problem. New products, new markets and new methods of work organisation required a redistribution of manpower between departments and production units. To achieve the new balances of numbers and skills, the organisations relied upon redeployment. The need for redeployment did not stem from a need for job security on the part of the workforce, although it undoubtedly helped managers deliver on promises they made to their employees about continuing employment. A better explanation is to view it as a cheap and efficient manpower policy which addressed itself to the key cost drivers, whilst enabling the managers to staff the new production and administrative arrangements demanded by cost reduction strategies. The people who most needed redeployment were the managers of the organisations in the study.

Task flexibility; it was in Chemco that the most interesting and comprehensive attempt at task flexibility was discovered. It was directed at increasing plant efficiency rates with fewer people. Inspired by Japanese examples of chemical plant management, it was an attempt to create a 'manager' or a plant manager who was a mixture of a manager and an engineer.

The 'manager' represented functional flexibility applied to managerial work to produce plant managers who could run a plant without specialist engineering staff on plant to assist them. Job rotation was used to train engineers. Specialist engineers, such as instrument, electrical and mechanical engineers, were given jobs as project engineers. They were responsible for installing or refurbishing plant. This involved them in supervising engineering functions different from their own. They were appointed as maintenance engineer on the plant, or one similar. Promotion followed and for a time the manager enjoyed on-the-spot engineering management support. After a time this was withdrawn and he was left to run the plant and to provide his own engineering support. Downtime was minimised and there was a faster response to breakdowns. The advantages were explained:

"It develops people who understand the plant. They are not technical engineering specialists, but they don't need to be. They need to know when the plant is running well, when it is running badly, what they can fix, those things for which they need help and where to find it." (Construction Engineer, Chemco).

This example concerns managerial work as a suitable case for functional flexibility. In terms of breadth, scale and objective there were no comparable examples to be found in manual

work. BSC, Chemco and the Brewery were concerned to develop task flexibilities in manual work, but in these cases it was within the craft group and centred on a narrow range of long-standing issues, such as fostering a generic range of welding skills in the 'black' trades; and minor issues on the frontiers of engineering and electrical work, such as decoupling electric motors. There were no other task flexibility issues mentioned in the context of cost reduction strategies. Whilst many managers desired 'super steel workers' or 'super process workers', that is, craft maintenance workers who understood the plant and trained to work as operators, there was no sign of these policies being implemented.

Time Management Issues

There was an increasing use of overtime in both Chemco and Nyco. For Nyco increased overtime applied to process plant operators and it was used to expand production rather than to recruit. In Chemco overtime for engineering workers was increased to cope with an increased programme of plant refurbishment necessary for their plant loading strategies. In Chemco's case increased overtime was not driven by a desire to minimise labour costs, but by the need to get production technologies working more effectively.

The Brewery increased part-time work, but this was confined to clerical work in the offices. Both the Brewery and BSC had intensified the use of temporary workers. In the Brewery, this appeared to be both a recruitment screening process and a way of staffing the launch of new products into new markets, such as canned beers and lagers into the retail sector. The only other change in time management was the decision in Chemco to reduce the standard working week for manual workers to those enjoyed by staff workers. This move had nothing to do with reducing costs. It was driven by management values.

This evidence hardly adds up to a comprehensive restructuring of working time on grounds of economic efficiency, or the construction of a 'peripheral' group. It seems fair to conclude that, on the whole, the restructuring of working time was not of itself important in the delivery of cost reduction strategies.

Pay and Conditions

Mobility pay was introduced in the Brewery and Chemco. All conditions allowances for manual workers working on different plants were 'rolled up' into the highest rate and incorporated into the basic rate. These changes were described as 'harmonising conditions', but that label is invalid. The 'rolling up' of allowances was small-scale, rational and done simply to help redeployment. It did not mark a move to high trust relations (Fox, 1974); or to simplify administrative costs (Arthurs, 1985); or to reward a better class of worker; these payments were not made to harmonise conditions, but to facilitate redeployment. Harmonisation merely describes their outward form. They were mobility payments made to secure spatial flexibility.

The Plastic Flooring Company and BSC both introduced plant-wide added-value schemes. These were both of the Scanlon/Rucker type which sought to control wage costs as a proportion of added value. In BSC's case their introduction was accompanied by a wholesale removal of workshop bargaining on allowances. All issues were subsumed under the umbrella of the Lump Sum Bonus Scheme. The question is whether or not these schemes were related to a need for more competitive labour costs, or if they are better analysed as attempts to recover capital's share of gross added value. Williams et al (1989) have argued that in BSC's case the added-value scheme was part of a share-recovery strategy, and not part of a competitive strategy.

This is a difficult question. On the one hand, it is unlikely that a fall in labour costs was, *per se*, central to the recovery of the Teesside Works. Over the period of the study, BSC's labour costs as a proportion of total costs fell from thirty-two per cent to twenty-one per cent, or roughly by two per cent per year. It is difficult to believe that improvements of that magnitude made much of a difference to their competitive position, especially if their competitors were improving at the same rate. And, as far as the EEC was concerned at least, the competition was strictly regulated. Prices and output were fixed for all players. Key elements of a competitive environment were missing in European markets.

On the other hand, these minor incremental improvements in labour's financial performance may have been crucial in selling a commodity-type product in the highly competitive, 'open'

markets overseas. The case study presented strong evidence that the Teesside Works had deepened their dependence on these markets. But how is competitive advantage realised in such a market? Primarily through improvements in production systems focusing on plant loading. The manpower system has to respond to these changes, but there is little direct contribution it can make to economic turnaround through the realm of labour costs.

The balance of the evidence in BSC's case favours added-value schemes as a type of share-recovery strategies, and not as a source of competitive advantage. Their form suggests a share-recovery strategy. By rewarding those workers who stayed, by paying bonuses for those who left, they help to mute opposition to what could be labelled the sale of jobs. But they did aid competitive strategy in their procedural form. They removed the right of sectional groups to negotiate about the thrust, direction and implications of technical change.

The case of the Plastic Floor Factory is much more straightforward. The manpower policies of this firm were confined to demanning and added-value schemes. The presence of both of these policies and the absence of any other policy leads to the conclusion that they were both part of a share-recovery strategy and unrelated to competitive pressures.

Other Issues

The most striking feature of this category is the small clutch of training issues. The Brewery was carrying out shop steward training, partly to curb what was described as a "rogue" TGWU branch. Chemco introduced training in quality to reduce costs. The favoured approach was 'Do It Right First Time' (DRIFT) a method popularised through the work of Philip Crosby (Crosby, 1979). It stressed the contribution of quality management to cost control by avoiding rework, scrap and repeated service calls. Nyco were promoting apprentice training through their contractors. This was motivated entirely by management values.

There is no indication that any of the CR organisations saw major initiatives to reskill their workforces as central to a cost reduction strategy. Why was this? On paper a highly trained workforce could have the ability to contribute to a cost reduction strategy (Lawler, 1986). A

more able workforce could intervene more rapidly in a problematic technology thus avoiding costly breakdowns and contributing to high-capacity utilisation rates (Hirschhorn, 1986). In this way the workforce could directly contribute to the creation of a competitive edge. On the other hand it was difficult to start and sustain these initiatives against a more or less incessant backcloth of demanning and the contracting out of jobs. There was clearly a conflict between a share-recovery strategy and a competitive strategy. A share-recovery strategy focused on demanning, where the most useful contribution any employee could make to the business was to leave as soon as possible. A competitive strategy would have required them to stay and be developed.

CORROBORATION FROM THE NEEEA ARCHIVES

Cost Reduction Strategies

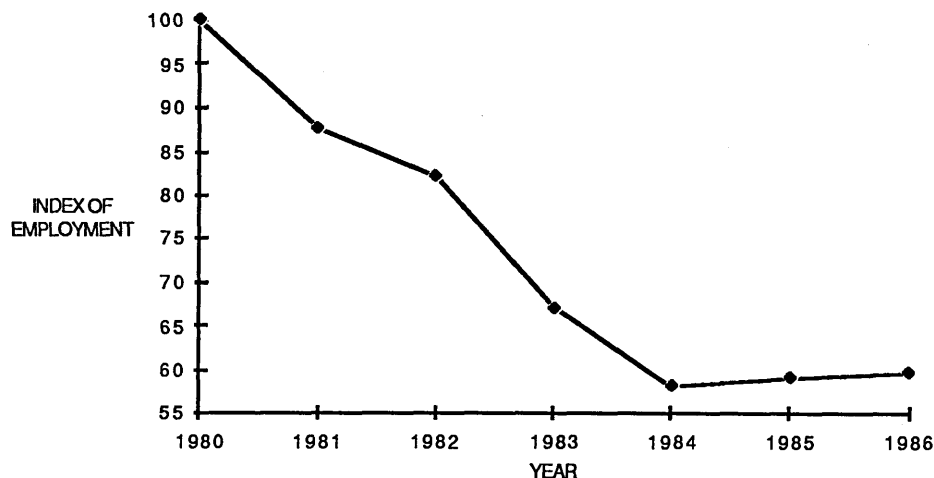
Three organisations appeared to be following cost reduction strategies. These were the Steel Tube Factory, the Steel Castings Foundry and the Process Plant Foundry. The CR model is broadly confirmed. On the whole management did not see cuts in labour costs as an effective way to build a cost reduction strategy. The Steel Tube Factory proposed a programme of investment in new plant such as casting beds, shot-blasting and oil recovery equipment. These new production systems were the key to increased competitiveness (NEEEA File 159/80). The management of the Process Plant Foundry presented their unions with a turnaround plan. The first two items were proposals to replace obsolete plant and to reduce excess overheads. Improved working practices were third on the list (NEEEA File 86/80).

But this response was not universal. The files contain an example of a cut in money wages. In 1982 the Steel Castings Foundry implemented a five per cent pay cut for all employees as part of a general package of cost cutting measures. (NEEEA File E66/82). If this firm's economics of production were similar to those of the other CR firms then such a response was inappropriate. It is therefore much more likely that this was part of a share-recovery strategy.

Demanning

Figure 8.3 indicates the extent of the demanning which occurred in the three CR firms in the NEEEA files.

Figure 8.3. Movements in the Index of Employment in Cost Reducers EEF Federated Establishments in Cleveland: 1980-1986.



(Source: NEEEA Membership Files: 1980-86).

The index of employment for the three CR firms fell from 100 in 1980, to 60 in 1986. There were at least 10 declarations of redundancy between 1980-1984 accounting for over 700 lost jobs. Redundancy was a major method of demanning. How they were implemented is not clear. The NEEEA files are not able to confirm the picture of demanning by voluntary redundancies. In many of the files there is no record of how some of the disputes were resolved. But at least two were taken to Industrial Tribunals where the grounds for redundancy selection were challenged, so it is reasonable to conclude that a proportion of them were compulsory redundancies. In some cases the scale and nature of the redundancies precludes much possibility of redeployment.

One of these cases shows how the process of 'volunteering' for redundancy was handled. The management briefing notes for an External Conference held around a redundancy in the Steel Tube Factory in 1983 include a written deposition made by a manager to an Industrial

Tribunal hearing. Management's position was clear: they did not want redundant employees on the premises any longer than was absolutely necessary. They were not interested in using the consultation provisions of the Employment Protection (Consolidation Act) 1978. If redundant employees left immediately, that is, the day redundancies were declared; and if they signed a form saying that they were volunteering for redundancy, they would receive a tax-free cash payment in compensation for their loss of consultation period.

Refusal meant work for an extra thirty days, followed by redundancy and forfeiture of cash in lieu of notice. They would have less cash than if they left immediately. The file recounts what happened to affected employees on the morning that the redundancies were announced:

"He [the redundant employee] was advised that he could leave the site immediately if he so wished and would be asked to sign a form which was read to him stating that he was taking redundancy voluntarily so as to preserve the maximum tax free payment" (NEEEA file E159/83).

There were strong financial pressures on employees to volunteer for redundancy. It also suggests connections between willingness to volunteer for redundancy and the employees' tax position.

This evidence suggests that the contention that large firms adopt a 'softly' approach to redundancies using retirements and natural wastage to run down numbers (Wilkinson, 1988) needs to be interpreted with care. These apparently 'soft' methods may mask quite direct persuasion. The term 'voluntary redundancy' could be a misnomer. It is tempting to analyse the phenomenon of workers queuing up to sell their jobs in terms of short-term greed. It was certainly rare for working-class people to be offered such large sums of apparently tax-free money. The evidence in the NEEEA files corroborates the evidence in the BSC case and in the interviews, which suggested that managers had considerable choice in who 'volunteered' and who stayed; and that employees were subject to considerable pressure as individuals to conform. It was this individual pressure applied at the point of production that undermined the possibility of collective protection and which explained why legal protections embodied in the rights to consultation and to periods of notice did not function properly.

Work Organisation

The importance of redeployment is corroborated in the NEEEA files. The Process Plant Foundry specialised in the manufacture, erection and installation of heavy process plant and equipment. Its markets contracted in the face of its customers' declining capital investment programmes and fierce competition from the Far East. But there were new market sectors and new products which offered opportunities for growth. These were related to the need for heavy process plant and pre-fabricated assemblies for customers engaged in North Sea oil extraction.

New production facilities were required for these units. Due to their nature and size they had to be assembled on the banks of the Tees. Unlike the firm's traditional products, they could not be transported in modules by road or rail and assembled in situ. They had to be pieced together on a riverside and launched complete. The firm needed to move some of their assembly and fabrication facilities out of their factories and onto new 'launch pads'. Workers were to do the same job in a different location.

The unions claimed that such work properly fell under the scope of the more lucrative mechanical construction engineering agreements rather than the main national agreements. At the ensuing External Conference management's motives were explained to the unions:

"The Company were at present faced with a desperate shortage of process plant vessel orders and unless it could move into large off shore fabrications it would not be able to maintain existing employment levels ... most of the work at [the launch pad] would be in a covered factory identical to that done in the parent factory." (NEEEA file 86/81).

A second example was seen in the Steel Tube Factory in 1984 where they adopted a policy of locating some inspectors out at customers' works. The reason was that it was cheaper to move the inspectors on-site than to transport pipes back to Teesside for inspection (NEEEA file 159..84).

Flexibility

The files corroborate the restricted nature of the flexibilities indicated in the case and the interviews. They contain seven references to managerial efforts to gain greater task flexibility. They were all small scale and restricted in scope and size. They were aimed at tea-breaks, sharing tools, or concerned with a narrow range of issues at the frontiers of craft and production work. Two involved groups of less than five workers. References to initiatives to sustain and nurture these flexibility initiatives, such as training or harmonisation of conditions, were absent. It could not be argued that this evidence points to the wholesale creation of a multi-skilled workforce.

Time Management Issues

The main issue in the NEEEA files is the rescheduling of holiday entitlements, which was discussed in chapter 4. There was one recorded dispute in the files on the introduction of shiftwork and this focuses on the link between changing production systems and manpower policy at the Steel Tube Factory. New plant and equipment was bought which demanded new machining techniques and the use of new raw materials. Management wanted to introduce three-shift working to get better use of their machinery. They offered to recruit another 11 employees to work the new production system if the unions accepted it. This is wholly consistent with the picture emerging from the interviews, of time management issues emerging from the introduction of new production systems, and not from a desire to minimise labour costs. (NEEEA file 159/81).

THE THEORETICAL SIGNIFICANCE OF MANPOWER STRATEGY IN CR FIRMS

There are three areas in which the evidence concerning CR firms relates to the theoretical issues and to the research questions. These are:

- manpower strategy and competitive strategy;
- manpower strategy and organisation structure;

- cost reduction and employment policy.

The connections between manpower strategy and competitive strategy; the first conclusion is that not all manpower strategy and policy can be explained with reference to competitive strategy. Some policies on demanning and pay appear to be associated with capital's attempts to recover its share of gross added value. Therefore, competitive strategy is a necessary, but not a sufficient condition for understanding manpower strategy.

Contingency theory does not stand up well against this evidence. The types of domain management strategy celebrated by BSC, Chemco and Nyco deny the relevance of alignment of the manpower system to a turbulent environment. Domain management stresses the creation of narrow stable market domains by cartels. This promises to make the competitive world safe for engineering-driven approaches and policies of centralisation and control. This explains the importance of plant loading and redeployment, and it is a reason why human asset building strategies (Lawler, 1986; Hirschhorn, 1986; Peters, 1988) are not seen as relevant - except for managers.

But there are problems: as Hirschhorn (1986) points out, this approach is one of Utopian social engineering. It might be possible to fix the old market place in terms of prices and quotas, but other issues intrude. Managers cannot control raw material costs (fuel in BSC, thin walled pipes in Chemco); new engineering systems develop (direct steel making in BSC.); and new markets emerge (the Brewery, The Plastic Floor Factory). So one test of manpower policy is how well it enables firms to respond to these uncontrollable issues? This test opens the doors to much wider definitions of labour flexibility.

What are the implications of cost reduction strategy and organisation structure? The data on reorganisation suggest an emphasis on functional job groupings and centralisation of decision making. Both of these are structural changes consistent with the search for cost minimisation through greater technical efficiency (Miles and Snow, 1978). Cost efficiency encourages vertical integration, monitoring of technical processes and the separation of planning and action, all features that encourage the emergence of functional job groupings and centralisation of decision making. This process was connected with redeployment. The evidence on

reorganisation to subsume plants under central control and on task flexibility for managers confirms Porter's (1980) analysis that the central manpower concern in cost reducing operations in mature industries is the organisation of plants and management work.

In recent years many writers have linked the need for organisations to adjust to a changed environment by adopting flatter, wider organisational structures characterised by delegation and decentralised decision making. This is particularly the case of writers associated with the QWL school (Emery, 1983; Trist, 1983; van Beinum, 1988). The evidence does not confirm that view. On the contrary, in searching for centralisation and functional expertise, managers seem to be building organisation structures that are firmly rooted in the traditions of Scientific Management. At first sight the "manager" would appear to contradict this view, but what the manager represents is the merging of the technical functions of management. The organisation is thinner rather than flatter. This, combined with the reorganisation of engineering work means that there was no change in levels of hierarchy or spans of control. Finally, it redesigns managerial work, rather than manual blue-collar tasks.

How can employment policy contribute to cost reduction? Throughout this chapter numerous themes have emerged as being at the heart of this problem. These concern the management of Porter's (1985) cost drivers, such as scale, location, timing, interrelationships, capacity utilisation, learning and linkages, though some of the definitions are wider than Porter would ascribe. Plant loading embraces several of these, especially scale, location and capacity utilisation. The strategic use of manpower in CR organisations emerges from the management of these cost drivers. It is these which explain the importance of redeployment, of task flexibility of management work and which extend the field of manpower strategy beyond employment policy and into the domains of organisation structure and work organisation. In doing so it exposes the limitations of the IMS model of employment policy.

Even allowing for the fact that its dominant assumption is one of competitive advantage by labour cost reduction, the IMS model emerges as a thin, inadequate model. It cannot account for the dominant form of flexibility, that is, redeployment. The IMS model views flexibility as something that managers 'do' to blue-collar work; the restructuring of management work falls outside its ambit. It is an inadequate model because it 'black boxes' the process by

which managers reduce costs. A set of pressures are assumed, one model of competitive advantage dominates, and a 'core' and 'periphery' emerge. There is no analysis of how cost reduction relates to employment policy.

Its lack of analytical power does not deny its descriptive ability. On occasion it could describe the type of manpower policy that firms found useful. A good example was plant shutdowns and overhauls. Here numerical flexibility was very important. The operation had to be complete in as short a time as possible. Overtime or shift work may not have been possible as the jobs were often outdoors and could only be worked on in daylight. The task consisted of a fixed sequence of operations which could not be varied. The workload could not be smoothed over a fixed workforce, except at an uneconomic cost. Manning-up for a short duration with a merged construction and maintenance workforce, and with subcontractors made sense. Here numerical flexibility corresponded with the needs of timing, integration, shared relationships and capacity utilisation. The IMS model describes the manpower strategy. There is support for this analysis in the ACAS (1988) survey which found that the largest user of subcontracting was manufacturing industry; and that its most frequent use was for maintenance work.

But the IMS model cannot explain manpower strategy. The empirical evidence contains examples of manpower strategy for which it cannot account. A good example concerned the Brewery. The economics of brewing were unusual in that scope for scale economies of production was limited. There were no economies of scale in brewing above a plant capacity of three million gallons a year, a fact of economic life which assured rough parity of production costs between the national brewers and the large regional brewers, such as the one included in this study. Cost reduction must be sought elsewhere. Studies of the brewing industry (Pratten, 1971; Jones and Cockerill, 1984) state that the proportion of unit costs taken by distribution is comparatively high at about twenty per cent. The main determinant of unit transport costs depends upon the quantity of beer delivered per vehicle mile. In this context relocation of depots is one of the keys to cost reduction.

The Brewery was following this trend. This involved managing issues of location, establishing closer relations with its sister units (the brewery and the pubs) and developing

transport systems. It closed down all smaller depots located in rural areas in favour of bigger ones located nearer to larger centres of population and to the brewery. These small depots were characterised by very flexible working practices (a similar phenomenon was observed in the Builders' Merchant); in closing down these depots the Brewery was forswearing the manpower strategy of the IMS model in favour of a system which would manage the cost driver of location more effectively. The Personnel Manager of the Brewery realised that this was the outcome of the relocation policy when he described one such closure:

"The Malton depot closed. There were fifty-odd people worked at Malton: it was one of the breweries that we'd taken over in the late fifties. There was a lot of bitterness. In fairness, the lads at Malton worked very flexibly and they were the ones getting left."

Porter (1985) offers a framework for understanding this manpower policy: the IMS model does not. It may be able to describe, but it cannot explain.

This chapter has reviewed manpower strategy in CR organisations. These have been organisations operating in the 'mature' segment of the product life cycle curve. The manpower strategies have been identified and analysed. The chapter has emphasised importance of domain defence, plant loading, redeployment, the reorganisation of management work and the lack of relevance of employment theories of the IMS model. But what are the connections between manpower strategy and organisational strategy in PMB firms? These are smaller organisations, offering new products operating in different segments of the product life cycle. Porter (1980) predicts that such organisations require different control structures and even different people, and by implication, different manpower strategies. These issues are taken up in the next chapter.

CHAPTER 9

THE PRODUCT MARKET BUILDERS

INTRODUCTION

In the last chapter the organisational strategies of CR firms and the consequences for their manpower systems were described and analysed. The Literature Review concluded that there were likely to be radical differences between the manpower strategies necessary to gear a firm to deliver PMB strategies from those employed by CR organisations. The BSC and Tioxide case studies depicted very different strategies in action. CR strategies appear to point to the primacy of plant and materials and to focus on technology and economics. It would appear from the Literature Review that PMB seem to call forth human problem solving skills for which machines and systems cannot easily substitute. To what extent were these differences observed in the field and how the perceived differences related to the theoretical issues? How are PMB strategies implemented? Indeed, how are they conceived? Why do some firms choose CR strategies as the way to compete whilst others select PMB strategies.

THE PMB ORGANISATIONS

PMB strategies were relevant for the following organisations:

- the Plastic Floor Factory (1982-1986);
- the Potash Mine (1982-1986);
- the Contract Engineers (1981-1986);
- The Builders' Merchants;
- Tioxide.

THE STRATEGIC CONCERNS OF THE PMB FIRMS

The strategic concerns of the PMB organisations listed above were to develop:

- new products;
- new markets;
- product uniqueness;
- better quality;
- 'bundling' strategies;
- timing, in the form of synchronisation, or by being first to market;

Reducing costs was not the principal strategic concern. This is not to argue that costs were unimportant. PMB strategies initially involved extra costs and these had to be carefully managed. There were trade-offs between the costs of PMB strategies and the promise of extra revenue. But costs were not the priority. Neither is it being suggested that the only source of competitive advantage that was developed under a PMB strategy was extra revenue. One of the ironies of the study was that at least two of these organisations (Tioxide and the Plastic Floor Factory) did reduce their costs quite significantly. They developed PMB strategies and ended up with costs which were comparatively low.

These concerns were not unique to PMB organisations. For example, all organisations in the study were interested in improving quality irrespective of the competitive strategy they were pursuing. What marks out the PMB firms was not just the intensity and level with which quality was pursued, but also the thrust of quality improvement. In PMB organisations, it was marked by what Garvin (1988) has called 'user based' definitions (p.43) of quality; or what Juran (1974) has termed 'fitness for use' (p.2). These approaches to quality start from the assumption that quality lies in the eyes of the beholder. Purchasers have different wants and needs and quality of goods and services is measured by the extent to which they match them. It is a customer problem solving concept of quality.

By contrast, CR organisations stressed manufacturing based measures of quality. These measure quality as the extent to which goods or services conform to design or specification requirements (Crosby, 1979). As Garvin (1988) notes:

"While user based definitions of consumer quality are rooted in consumer preferences - the determinants of demand - manufacturing based definitions focus on the supply side of the equation and are primarily concerned with engineering and manufacturing practices " (p.44).

As the Tioxide case showed, these differences had major implications as to how the manpower system was to be trained and equipped to produce higher quality goods.

A further distinguishing characteristic of PMB firms was the role of information technology. For three of the PMB organisations effective implementation of their strategies depended on the successful introduction of new technology. The Builders' Merchant was developing a system of 'electronic retailing': this was essential for its strategies of 'one stop' shopping and extending its product range, whilst simultaneously controlling distribution and stockholding costs. The Contract Engineers' factory was a temple of new technology with a cornucopia of leading-edge products. Information technology had taken an important role in transforming the firm from a small, respected, but essentially conservative, family-owned firm, into one with an international reputation and a prime place on the approved contractors lists of companies such as Rolls Royce, Vickers and Aérospatiale. The Plastic Floor Company saw information technology based process control systems as essential for higher quality and a more flexible product mix. These product market strategies were at the heart of a spectacular recovery from 1982 onwards.

In CR firms technological improvement did not mean a root shift in the technical basis of production. It meant existing production systems working more efficiently. In steel, chemicals and brewing, issues of new technology hardly surfaced in the production domains. There were some innovations, mainly in process control and monitoring, but they were small scale and unproblematic. They stood in stark contrast to the effects of new technology in the PMB firms where they were used in a strategic sense, to restructure relations with suppliers and consumers to deliver a PMB model of competitive advantage.

Although the role of new technology was important, it should not be overstated. It does not feature in the Tioxide case or at the Potash Mine, both operations whose economic fortunes were transformed by the implementation of PMB strategies. But both of these firms did undergo major changes in their production systems. New technology is better seen as one element in a complex constellation of factors which had to be successfully managed in a PMB strategy.

Implementing new technologies, finding new sources of supply and launching new commodities of themselves do not guarantee success. If a PMB strategy is to succeed it must create something of value for the user. Value adding PMB type activities can take

place at any point in the firms' value chain from procurement to service. But if they are to be effective they must relate to the customer's value chain. A consideration of PMB strategies therefore involves matching activities in the firms' value chain with the creation of added value in the value chain of their customers. For this purpose domestic consumers can be considered to have value chains. Porter (1985) argues that any value chain activity can create differentiation for the final product. He states that: "Virtually any value activity is a source of uniqueness" (p.120).

Procurement, operations activities, plant maintenance, service and sales support can all add value to the final product. The ways in which the manpower system can relate to this process are myriad. So manpower policy is likely to be related to the management of the value chain, the drivers of differentiation and how these relate to consumers' value chains. The ways in which such relations could be built are many and complex, but a common theme in the PMB was the search for a more flexible production system. 'Flexible' is defined here as a production system which could provide a wider product range, better quality products, customised solutions to consumers' needs and a faster rate of response.

PMB AND THE SEARCH FOR FLEXIBILITY

The Builders' Merchant was taken over in 1980 by a MNC to spearhead its entry into the small building and DIY market. The firm had been a regionally-based, family-owned, firm specialising in the 'heavy' (bricks, sand, cement) low value end of the market. The structure was simple: 23 depot managers, each holding a complete range of stock, reported to a Chief Executive. The new owners wanted to diversify into the more lucrative and rapidly growing home improvement market selling bathrooms, heating systems, conservatories and plumbing to DIY enthusiasts. They also wanted to service the existing jobbing and small building market better, by offering modular packs for home extensions.

These strategic marketing changes raised serious issues. The extension into new markets and new consumers was accompanied by a shift in buyer power and knowledge which had major consequences for staff skills and training. The old market consisted of jobbing builders and craftsmen skilled in the trowel and wood trades. The products were simple.

With expert buyers and simple products, the depots could be manned with unskilled staff. The new buyers were naïve DIY enthusiasts and housewives. They required product information, technical advice and to be able to buy a complete package of fixtures and fittings at one stop. These changes were occurring at a time when aggressive new entrants were joining this market. Firms like B & Q and Texas Tom were offering a similar range of products, but were much more skilled in merchandising and customer service.

The Builders' Merchant wished to consolidate its hold on its traditional market of small builders by offering customised, modularised packages for building extensions, and by the extension of credit. The provision of credit was a problem. The bad debt provision of firms in the building supplies was notoriously high. Jobbing builders were a sector of the community not noted for strong links with the banking system. Judgements about their creditworthiness had to be made on the spot by depot managers in the absence of any financial references. The need to give quick answers to requests for credit was a problem which had to be resolved.

These changes need to be seen in the context of the market for building and DIY supplies in a region like Cleveland. The level and composition of product demand in the building supplies trade depended upon the age and nature of the housing stock and upon the socio-economic characteristics of the people who inhabited them. As was indicated in chapter 1, Cleveland was a very diverse area with respect to these features. Old and new housing stocks and rich and poor areas existed cheek-by-jowl. Other factors which influenced demand included changes in local authority policies on the award of discretionary grants for building improvements, or advertising campaigns in women's magazines for new bathroom suites. Consequently the level and pattern of demand could be very different between adjacent depots and highly variable within them all.

The answer to many of these strategic problems was seen to rest in 'electronic retailing', an IT based system which monitored stock levels in depots, reordered stock centrally when minimum levels were reached, and allowed depot managers to locate stock in the company. This was the key to 'one-stop' shopping and 24-hour completion of orders, whilst securing economies of scale in purchasing and minimising stock holdings.

The changes in marketing and production strategies led to changing demands on the manpower system. Depot staff needed to know how to handle the new customers and how to respond to their enquiries. But it was in the area of managerial work that the biggest changes were felt. Depot managers needed to be able to operate computer terminals, to be entrepreneurial and spot opportunities in the local market, to appraise the financial worthiness of customers, and head the training initiatives necessary to reform the skills of their depot staff.

The Contract Engineers had a niche strategy built on a unique combination of heavy, precision new technology engineering, at a time when customers were demanding increasing quality. Production and administrative processes were computerised and new systems of quality control were introduced. Since the late 1970s the firm had pursued a policy of offering highly specialised NC and CNC precision heavy engineering. The firm could handle larger jobs than any other firm in the UK. Its products included the nose cones for the Ariane European Rocket, engine housings for Rolls Royce RB-211 engines, heat exchangers for the reactors in nuclear submarines and engine blocks for Advanced Passenger Trains. Servicing these customers required the introduction of quality assurance and quality control programmes to comply with the quality systems demanded by their customers.

These were high precision, heavy engineering projects. The firm had made large investments in new equipment and was anxious about the rate at which it recouped its investment. It also had to contend with highly variable markets both in terms of rapid shifts in demand between market segments and a high proportion of unique products. Lead-in times were short and work often had to be re-scheduled to accommodate urgent orders. Priorities were frequently changed, often at night when there were few managers available for support or guidance. An additional constraint was that components were supplied by the customer: a customer would supply fifty engine blocks for machining and would expect fifty back. There was no margin for error.

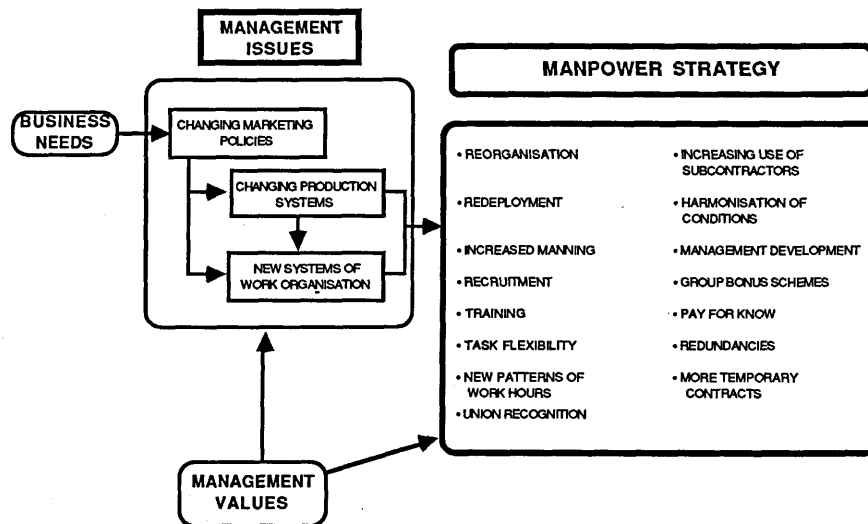
New technology was not confined to the engineering machinery. Production programming was controlled by a mini-computer. Scheduling of orders was

computerised, but the system could be overridden by shopfloor supervision in order to accommodate emergency orders. The computer scheduling program's most valuable function was a 'what if' facility which showed the effects of changing work priorities on machine availability and order completion time for every job under production. The production control system linked with the accounts system to show the financial standing of customers with jobs in the shop. Customers' arrears and their speed of payment were vital pieces of information that supervision had to consider in deciding whose work should be re-scheduled to accommodate an urgent job. The management of this rich array of information required skills, judgement and discretion on the part of managers. The computer-based system acted as a source of information to assist the process. It did not direct the managers and supervisors, but allowed them to explore the effects of alternative courses of actions.

The Potash Mine faced bankruptcy in 1980. Low-cost competition from the Far and Middle East and agricultural surpluses in the EEC had led to a slump in demand for high cost producers in Western Europe. The key to the Company's turnaround was a careful analysis of customer requirements, which produced the idea of granularising the product, so it would not wash or blow away before it had time to work on the plant. By 1986 its potash was selling by grade and size. Granularisation in turn required substantial investments in new plant, which led to new working patterns and a whole range of plant loading concerns.

The Plastic Floor Factory's markets required both substantial upgrading of quality and new products to be added to the range. New technology-based production systems were essential for these new goods and markets. From 1982 onwards the company introduced IT-based process control systems to monitor and control ingredients and production processes that were essential to the manufacture of a wider range of better products.

PMB strategies were linked to manpower policy by the process indicated in Figure 9.1.

Figure 9.1. A Model of Manpower Strategy and PMB Strategy

This model shows that PMB strategies required new production systems and new systems of work organisation. In the main, manpower policy was related to these developments, and of course, to management values. New products, new markets, uniqueness, timing and quality all involved new methods of production and work organisation.

PMB STRATEGY AND MANPOWER POLICY

The policies adopted by PMB organisations with respect to organisation structure, work organisation and policies implemented by firms are shown in Figure 9.2. They can be discussed under the following headings:

1. Organisation Structure;
2. Manning;
3. Work Organisation;
4. Training;
5. Time Management;
6. Pay;
7. Collective Bargaining and Joint Consultation.

Driving many of these policies was the realisation that the skill level of employees in many PMB firms, and of their managers, was not good enough; and that failure to raise skills was impeding ability to deliver strategic success. Employee retention and development were the critical strategic concern for these firms.

**FIGURE 9.2. MANPOWER POLICY IN
PMB ORGANISATIONS**

ORGANISATIONS

	The Builders' Merchant	The Contract Engineers: 1981-86	The Plastic Floor Company: 1982-86	The Polish Mine: 1982-86	Tioxide	
Decentralisation Of Decision Making	X	X	X	X	X	ORGANISATION STRUCTURE
Regrouping Of Jobs	X				X	
Redundancies			X			MANNING
Increase In Manning /Recruitment	X	X	X	X	X	
Redeployment			X			WORK ORGANISATION
Task Flexibility	X	X		X	X	
Use Of Subcontractors		X		X		
Performance Related Pay	X	X	X	X	X	PAY SYSTEMS & CONDITIONS OF EMPLOYMENT
Harmonising Conditions Of Employment	X				X	
More Temporary Contracts				X		TIME MANAGEMENT
Reducing Hours of Work				X	X	
Increasing Hours of Work			X			
Training	X	X	X	X	X	TRAINING
Joint Consultation					X	COLLECTIVE BARGAINING & JOINT CONSULTATION
Withdrawal of Trade Union Recognition					X	

MANPOWER POLICY

Organisation structure

Four of the five firms had made active attempts to decentralise decision making. In the Builders' Merchants, the entrepreneurial thrust, geographical expansion and product diversification required decentralisation of decision making, regrouping of jobs on a geographical basis, and control by standardising outputs and market-orientated management. These contrasted not only with the old organisation, but with the forms found in CR firms. Here functionalism, centralisation, and control by standardising processes and inputs prevailed.

In the Contract Engineers the development of the firm's PMB strategy based on new technology, quality and the carving of niches in highly variable markets resulted in decentralisation. The evidence suggests that while decentralisation of decision making took place it was accompanied by an increase in formalisation. The Managing Director noted:

"We were putting complex computer systems into areas where there had not even been a manual system, and computers to be operated by people who hadn't had any previous formal clerical functions. For instance, the supervisors didn't have to fill in any paper or run any sort of a system. They would deal with technical problems; and get done what the production manager said needed doing. They had to get beyond writing things on the back of fag packets. Suddenly they had computer terminals and had to enter data, report progress on jobs, amend planning and get paper work issued and printed by the computer. So suddenly they had to do quite a complex technical and managerial job. Typically seventy-five per cent of our work is high technology work: oil equipment, aerospace, nuclear equipment, which requires a lot more management controls; QA, documentation - a whole bunch of things - and re-orientating the business to understand the importance of the managerial side of things as opposed to cutting metal. The biggest problem now is getting the management right."

In the Potash Mine there was an interesting use of symbolic behaviour to restructure key parameters of the organisation. The PMB strategy started with the introduction of a new manager when the old owners sold out. The business had never made money for them and was thought to be beyond repair. The new owners installed a new manager. His first act was to summon all managers and department heads to a meeting. They were told to bring their job descriptions; the Personnel Manager was also instructed to bring the job evaluation and the performance appraisal scheme. The new manager collected all the managers' job descriptions, the performance appraisal scheme and the job evaluation scheme, ripped them up and put them in the waste paper bin. He then announced to his somewhat startled audience that the salvation

of the mine depended upon mutual trust, collaboration, mutually-agreed roles and definitions of performance, and not upon the bureaucracy of personnel administration.

Manning

PMB made major demands on the manpower systems of some of the firms. For some it meant new standards of competence of employee at every level, but particularly managers. Employee competence in general, and managerial competence in particular, were the main manpower problems associated with PMB strategies. This was clearly demonstrated in the Tioxide case and it could be seen in the Builders' Merchant. Their Personnel Director described the effects of their PMB strategy on the managerial roles:

"Many long serving people now find themselves with quite senior roles demanding different skills and are finding it quite difficult to respond. They have done all that has been asked of them in the past; something totally different is required of them now. We are having casualties. People who were effective, two years ago are no longer effective. They are not doing anything different; that's the problem - they are not doing anything different. So the whole area of training, particularly management development has become very important. We are finding great difficulty in sourcing our depot management needs. It's a headache whenever we have a vacancy for a depot manager. We are now talking about managers needing financial skills, which in the past was not required to the extent it is now, because there was more direct control from the centre. In the past depot managers only required product knowledge: now we are looking for someone who is effective on the sales front; who can manipulate the sales and product mix as a result of getting management control and financial information from a mini-computer within his own depot."

The Plastic Floor Factory's strategy required both a substantial upgrading of quality and for new products to be added to the range. New technology-based production systems were essential for these products to be produced. They demanded new standards of managers, particularly first line supervisors. The Factory Manager explained:

"We require a lot more of our first line supervisors and our managers. All of our managers, and a minority of our first line supervisors, are expected to have college degrees. I wouldn't move anybody up off the shopfloor into these jobs unless they had a college degree. Or if I was interested in filling those jobs that would be a stipulation. Because with the technology that we are talking about I need people who are able to solve problems, more than look after manpower. I think that has changed. It used to be our supervisors were strictly man managers and now we're trying to get them into problem solvers." (The Factory Manager: the Plastic Floor Factory).

Similar themes were observed in the Contract Engineers. These data clearly point to employee development problems, but they also had a manning aspect. The Plastic Floor Factory dismissed all supervisors who were not educated to degree level. All five PMB organisations were forced to recruit; manning levels increased in all these organisations. The PMB firms, like the Service Sector organisations encountered problems. For some, like the Builders' Merchant, the required skills simply did not exist on the external labour market.

"We are having difficulty in filling major vacancies. Take a vacancy as a managing director of a regional company. A major headache. After in-depth searches by myself, using head-hunters, we still come up with the same answer: there aren't the skilled people, the rounded people, the general managers that a business growing in the way we are growing actually requires. There isn't a shortage of bodies with experience that would have filled a role with us five years ago: a DIY trader a self made marketeer, a trader who knew the products and knew the customers - a sophisticated barrow boy. Those people are around, but our demand is not now for that category of person." (Personnel Director: the Builders' Merchant).

The skill shortages were not confined to managers employed by product market builders, but could be found with most grades of skilled labour. How did the organisations respond? Of the five PMB firms who reported recruiting people over the period of the study, four reported problems. The management skills and skilled labour which they were lacking were not available on the local labour market.

"We can't get replies to the adverts; we have had to use agencies. People just don't seem to want to come into the chemical industry. We can't get our hands on trained engineers, or good quality graduates, and this situation is getting much worse. There's a lot more graduates on the market, but it's saturated with a lot of people who, to be quite honest, are not up to it. We've had a hell of a job recruiting instrument engineers. And now it's starting to become difficult to recruit mechanical engineers. It's a big problem for us, especially when we are trying to expand our activities in the project area." (Engineering Manager, Nyco).

These quotations are only a short selection. They reveal that the local labour market was marked by a general shortage of skills. It was not confined to the PMB or to managerial work, but it could be observed in the labour market for virtually any type of skilled work. Many contrasted this shortage of skilled workers with the abundance of unskilled people. The oldest member of the sample compared the state of the local labour market with that of his childhood in the 1930s.

"The shortage of work is mainly for unskilled and semi-skilled people. There is still work for skilled people. The lack of jobs affects unskilled people. The Depression in the Thirties hit everybody; everyone, skilled and unskilled, was out of a job." (Contract Manager: Contract Electricians).

Most of the managers were at a loss to explain how skill shortages could be found in the county with the highest level of unemployment in Great Britain. Only the Engineering Manager at Nyco and the Contract Electrician's Contract Manager could offer even a partial explanation: they pointed to the decline of the region's heavy engineering workshops and shipyards as the reason for the shortage of skilled engineers. These firms were large suppliers of apprentice trained labour to the local labour market. There were no other general explanations on offer.

Even when they were successful in recruiting, some of these firms still experienced problems of absorbing new people who were 'outsiders' into their organisations. The new skills were seen to demand new blood, but new people disrupted organisational life with induction crises, and with their effects on existing promotion structures (Hendry and Pettigrew, 1986). These were strong themes in the interviews with the managers employed by the Builders' Merchants and the Contract Engineers.

Work Organisation

The strategic significance of redeployment in CR and Service organisations has been noted in previous chapters. It did not appear to have had the same importance in PMB firms. The Builders' Merchant used it as a policy of job rotation to train potential depot managers in what was by any standards a highly varied market place.

Task Flexibility

It was in the Contract Engineers that the the most striking attempts were made to secure task flexibility. The new technology, customisation and high variety demanded a general reskilling of what was already a highly skilled workforce. Operators had to acquire programing skills. Much of this involved restructuring of work to end the separation of the mental and physical aspects of work. The Managing Director explained:

"We're dealing with high variety. Half the jobs we're doing we haven't done before; half of the programmes that are running on the shop at any one time are new. There is a tremendous amount of skill involved in finding out what's wrong with the programme before the component or the machine or the tool or all three are scrapped. We've only got three part-programmers keeping pace with fifteen double shifted machines, so they haven't got time to stand with the operator proving out a programme. They do one programme, they hand it over to the operator and the supervisor with the appropriate notes and instructions and get on with the next one. It is the supervisor and the operator who have got to debug it. The programmer can't stand there all the time because he's on to something else by then." (Managing Director: the Contract Engineers).

Another development in job design was the attempt made by management to introduce "operator control". This was part of a policy of introducing Quality Assurance and Quality Control programmes in response to their clients' demands for rigorous quality control systems. The policy meant giving routine inspection responsibilities to the operator, leaving the inspection function free to concentrate on the development of systems. Limited progress was possible in this area as the production function had refused, at all levels, to accept responsibility, arguing that quality control was not their responsibility.

The Use of Subcontractors as part of a PMB strategy was discussed in chapter 5

Training

The reliance of PMB firms on the external labour market was not the only means of increasing skills. Training emerged as a key manpower area for PMB firms. The Contract Engineers had to retrain its skilled engineering craftsmen in NC and CNC machine systems; the Plastic Floor Company had to retrain its staff in the use of the new process control systems; the depot managers of the Builders' Merchant were trained in merchandising, accounts and finance. But the general picture is one of small-scale, under-funded, ad-hoc, unsystematised, reactive approaches to the problem.

"Sitting next to Nellie" was the phrase used to describe the training offered to the older craftsmen in the Contract Engineers. The older engineers did not relish formal classroom based training because it publicly exposed their incompetences in front of the younger, more computer literate staff who had fewer difficulties in mastering the skills, language and

concepts necessary to operate the new technology. In the Plastic Floor factory training was under-funded: it was typically restricted to about ten hours per employee and given in overtime. Supervisors hoarded labour, refusing to release operators for training claiming that they were required for production. The depot managers in the Builders' Merchant were subject to extensive retraining. But the time scales were short and the extent of the required reorientation was so fundamentally different from their traditional role of close labour supervision that it had no marked impact on their skills.

Time Management

New shift and rota systems were in evidence in all PMB organisations except the Builders' Merchant. In the Contract Engineers the new patterns of working hours were closely related to their competitive strategy and to job design issues. The firm had made large investments in new equipment. Most machines worked continuously in order to recoup costs. The investments in CNC had led to a change from being a day-workshop in 1976; to one producing thirty per cent of output on night-shifts in 1986. But not only had shift-work intensified, but these new work patterns had produced some interesting job design problems.

Most of the jobs had long cycle times: some could take 60 to 70 hours to machine, thus any one job could span a number of shifts. But all work had to be done to the same standard. The difficulty for management was to pair up men of similar high skill levels. The problem was not purely one of matching technical skills: the men had to get on well together. The men had to communicate, and tell each other of how the job was going, and which points needed watching. Having identified pairs matched for skill, the men then had to be persuaded to work 12-hour shifts. This phenomenon was known as 'double-shifting' and it was the major problem caused by the introduction of CNC and new shift systems for production managers.

In the Potash Mine there was less shift-work and overtime as a result of a move to a PMB strategy. The new granularised products led to a need to increase co-ordination between the mine and granularisation plant. The product deteriorated significantly if held in inventory. The close coupling of production needs between mining and processing meant the plant could no longer be taken out of production on a piece-meal basis for maintenance. The solution

was planned maintenance. Production ran in five-day cycles, but was stopped at week-ends for maintenance work. Repair personnel were the only workers allowed in the mine at week-ends, and then only if they volunteered. Contractors were brought in to cover for maintenance staff who did not wish to work week-ends. This was in an operation which had relied heavily upon seven-day shift working and week-end overtime to maintain production.

This policy of restructuring time was thought to have operated at two levels: the functional and the symbolic. The functional aspect has been described. At a symbolic level it demonstrated that there was a difference between working harder and working smarter.

A marked feature of the evidence concerning the restructuring of time is the irrelevance of the need to manage time in such a way as to minimise labour costs. Other issues predominate. A common theme was the need for access to staff for development. Part-time work and sub-contracting labour was thought to be counter productive to these needs. This can be seen in the Tioxide case. The Potash Mine had increased its use of temporary labour as a screening device to assess applicants for permanent employment. There was no other interest expressed in these approaches to numerical flexibility.

Pay

PMB firms were marked by a whole range of initiatives on the reform of pay systems. The most common form was the introduction of incentive pay schemes for managers. These were often concerned with profit-sharing. Examples were found in the Contract Engineers and the Builders' Merchant. Group bonus schemes based on the plant scrap rate were introduced in the Plastic Floor Company, and upon tonnage hoist in the Potash Mine.

It was only in the Contract Engineers that 'pay for know' systems were observed in use on manual workers. The firm operated an industrial relations policy called the 'one-rate' shop. The firm only employed skilled AUEW members. They were all paid the same basic rate to facilitate deployment between tasks and machines. This was supplemented by an incentive bonus scheme which was felt to be increasingly irrelevant to the firm's needs. It was replaced with a merit bonus scheme. Individuals were assessed against the range and

difficulty of machines they could operate, quality of work, time-keeping, attendance, and willingness to work shifts. Employees were graded into one of nine bands: each band carried a bonus level. The effect of the scheme was to remove the link between output and pay and to replace it with one which emphasised flexibility and learning.

These developments could not be totally explained by new technology. They were as much driven by a need for flexibility and learning which stemmed from high variety, high quality work, which demanded competence and learning rather than effort and output.

Collective Bargaining and Joint Consultation

The developments in Tioxide were described in chapter 7. The experiences of the remainder of the PMB firms do not support the implied contention that PMB strategies required the liquidation of collective representation and bargaining. Collective bargaining was well established in the Contract Engineers, the Plastic Floor company and the Potash Mine. The trades unions were highly organised. The Contract Engineers was a pre-entry closed shop; the Potash Mine was a post-entry closed shop. There were pockets of union membership in the larger depots of the Builders' Merchants, especially at those located in the larger urban centres.

There was not the slightest evidence from these firms that the pursuit of a PMB strategy required the removal of trades unions. There was no evidence that trades unions ever impeded the development or implementation of any of these PMB strategies. Nor is there any evidence that any of the managers ever considered that trades unions might oppose these strategies.

The experiences of Tioxide contrasted with those of the Contract Engineers. Here industrial relations were marked by a mutual attachment to what was called a "one-rate shop". This referred to the firm's policy of only employing AUEW fitters and paying everyone the same rate. This was one of the reasons that lay behind the introduction of contracting; the firm wished to diversify its activities without compromising a highly-valued set of industrial relations arrangements. The demands for quality and flexibility, whilst wrestling with a new and constantly evolving production system were every bit as severe at Tioxide. A pay for know system was introduced. It was not negotiated, but the results of the bi-annual merit

assessment were shown to the three shop stewards and ratings were changed in the light of the stewards' representations. The Contract Engineers had problems implementing their PMB strategies, but here, as elsewhere, there was nothing that could be attributed to the presence of a trade union.

Tioxide apart, PMB organisations left existing industrial relations arrangements well alone. The contrast between Tioxide and the other PMB firms serves to show Tioxide's experiences into sharper relief.

THE FAILURE OF HUMAN ASSET DEVELOPMENT STRATEGIES

A common pattern which could be discerned amongst the PMB firms was that they were not successful in implementing their manpower strategies and that these shortcomings were expensive in terms of the resulting failure to realise competitive strategy. The Builders' Merchant distinguished between 'organic' and 'acquired' growth. Organic growth was growth generated by the existing depot network; acquired growth was growth by takeover. Organic growth was preferred because it was cheap. Acquired growth involved purchasing smaller firms. Organic growth was a strategy which was heavily reliant upon the successful implementation of their human asset building strategies. They failed to develop staff, could not find the required skills on the labour market, and as a result they were forced to rely on acquired growth. This was very expensive.

The Plastic Floor Company wished to move from process control systems to an integrated CIM system which depended upon IT and operator skills to link up what were 'islands of automation'. The under-resourcing of training meant that the moves to these new systems were taking longer than was necessary and that consequently important technological developments were being held up.

Often no attempt was made to resolve the problems of PMB strategies. The organisation 'soldiered on' with unresolved conflicts, tensions and issues left to individuals and groups to deal with as best they could. In these circumstances the costs were not confined to the

domains of markets and production. They acquired a human dimension. The Managing Director of the Contract Engineers described the experiences of his Quality Assurance Manager, a newcomer imported to design and implement the quality assurance and quality control systems demanded by the PMB strategy:

"Things got to the stage where he was off work with a heart attack for three months. It was a result of struggling to try and keep up with masses and masses of documentation. He was the only one on quality and he was trying to cope with too much. And funny enough I know a Chief Inspector of a company that we work for down in Wakefield who's had exactly the same trouble. The Product Assurance Manager from Marconi who was up here a couple of months ago has just gone down with exactly the same thing: chest pains; off work now for three months. It's a case of trying to do too much where you just don't have the time."

CORROBORATION FROM THE ARCHIVE SOURCE

There was one company in the NEEEA files which appeared to be following a PMB strategy and that was the Lift Factory. They were operating in a highly competitive industry, but the source and the nature of the competition was different. Their main rivals were major German and French manufacturers and the basis of competition was not cost, but the ability to offer modularised packages covering installation and maintenance (NEEEA file 81/80). The firm sought to respond to these competitive pressures was by developing the concept of a 'service'.

Competitive Strategy, Reorganisation, Redeployment and Mobility Payments

The development of the service concept meant the creation of a separate division to repair existing installations. Sometime between 1980 and 1983 the company reorganised. The firm formally separated the fabrication, contract (installation), and service arms of the business; and set up a regional field organisation. The main objective appears to have been to sharpen up the delivery of service to existing customers. The regional organisation would execute both service and installation functions. This reorganisation coincided with a decline in the contract workload. These developments greatly concerned the company's field supervisors in the London area. A meeting was held with them early in 1983. This was not a formal dispute, but notes of this meeting appear in the NEEEA files.

It was recognised that if increased attention was to be given to service, then breakdowns would have to take priority. Workload would therefore be difficult to forecast, and there would be scheduling problems. At this meeting the supervisors asked how management would cope with unbalanced workloads between the regions. Management's answer was that they would seek to redeploy staff:

"Where an overload arose in any one region, assistance would be given from other regions less committed" (NEEEA file E81/83).

The discussion then turned to an issue which was seen as central to implementing this policy: the provision of company cars. The supervisors were already provided with these, but seem to have seen this as a propitious moment to discuss a number of related grievances. The notes do not record the nature of these complaints.

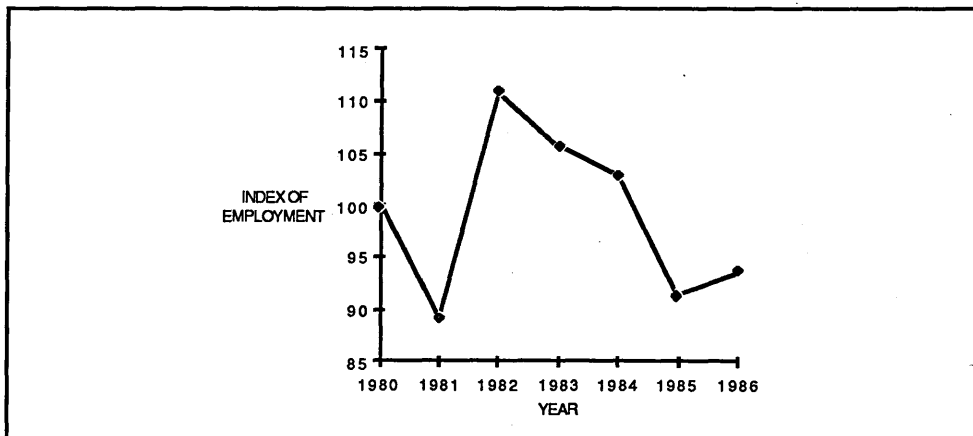
In this short history there is corroboration of the importance of reorganisation to PMB strategies. But the link with company cars to the issue of redeployment is important from a theoretical point of view. Other stages of the research have indicated that where management wanted redeployment they harmonised conditions allowances, usually by "rolling up" conditions allowances and area payments. This was seen as essential by both managers and employees to facilitate geographic mobility. At first sight such measures appeared to be "harmonising conditions", and were often described as such. The provision of cars clearly facilitates a policy of geographical flexibility, but it is not clear that their provision qualifies for the label of 'harmonising conditions.' Quite the contrary: if any one item of conditions of employment flaunts divisions in the workforce based on status and hierarchy, it is the company car.

The evidence concerning flexibility of place and the provision of cars suggests two things. Firstly, that 'harmonising conditions' is not an adequate description to describe the adjustments that managers make to terms and conditions of employment to facilitate flexibility of place. Secondly, the presence of cars in the portfolio of conditions allowances suggests a much richer label for such payments; that is "mobility payments". The whole class of harmonising conditions to facilitate flexibility of place is better described by this name.

Demanning

This establishment's records are not marked by the same drive for cost cutting and labour shedding. A graph showing changes in the Lift factory's employment is shown in Figure 9.3.

Figure 9.3. Movements in the Index of Employment in the Lift Factory in Cleveland: 1980-1986



(Source: NEEEA Membership Files: 1980-1986)

The graph indicates that the index of employment fell from 100 in 1980 to 95 in 1986. In the depths of the recession in the early part of the decade, management reported that orders were holding up, overtime was being worked and that the factory was experiencing difficulties in recruitment (NEEEA file E81/82). By 1984 the management were reporting a poor trading position and there were some redundancies in 1985 (NEEEA file E81/85). But in terms of maintaining manning levels the factory appears to have coped with the depressed trading conditions more successfully than its three CR counterparts.

ANALYSIS

A number of manpower issues were identified in the Literature Review as being of concern to the PMB organisations. These were:

- Employee Skills;
- Management Skills;

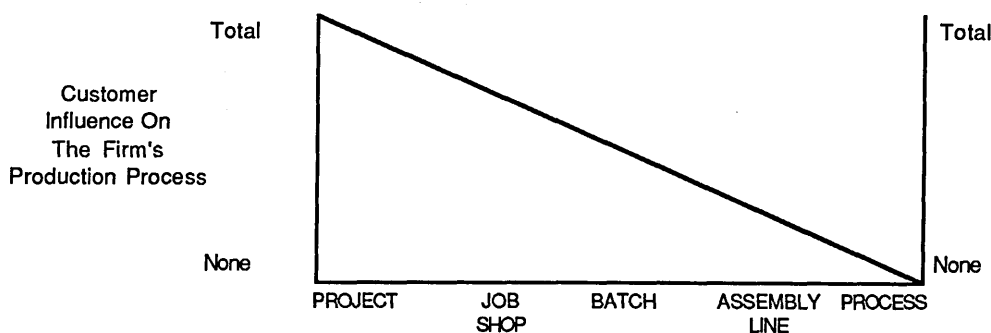
- Organisational Structures.

Employee skills; the literature stressed that PMB-type strategies required the employment of skilled people using a non-standardised technology. Such a workforce would be characterised by a less extensive division of labour and less structural formalisation than in CR. The creation of a skilled workforce was seen to varying extents in four of the five PMB organisations: the Plastic Floor Company, the Contract Engineers, Tioxide, and the Builders' Merchant. It was not observed in the Potash Mine and it did not appear to be so highly developed in the Plastic Floor Company. In Builders' Merchant, and especially in the Contract Engineers, these concerns of human asset building are highly developed and articulated.

Assuming that the results do not reflect a failure of the research method, then it is reasonable to conclude that the pursuit of a PMB strategy will not automatically be accompanied by a wholesale reskilling of the workforce. Even where human asset building does occur, there are questions of the differing extent to which such policies were needed and implemented.

One plausible explanation is that there is a class of PMB for whom the creation of a more highly skilled workforce is not seen to be essential. The creation of some forms of uniqueness and better quality may be by the substitution of one form of standardised technology for another. One important concept for exploring the relationship between a PMB strategy and employee skills is the concept of the customer order entry point. This views customer producer as a series of frontier posts each of which marks the limit of customers' entry into the firm's production system. The concept is depicted in Figure 9.5.

Figure 9.5. Customer Order Entry Point by Production System



In process production systems the boundary posts are distant from the organisation of production: the customer is not allowed to enter far into the firm's production systems. In effect, he must take or leave what he is offered. In assembly line production customers are allowed a little further in; some limited customisation is possible. More customer involvement is allowed in line flow/ batch systems: here customers may specify basic designs. In job shops customers have much control over product design and manufacture. In project-type systems customer entry is carried to its highest form.

The Potash Mine and the Plastic Floor Company were examples of process-type production. In both cases they needed to upgrade their product quality through better ingredient control, product differentiation and better process control. These improvements were made, but the nature of the production system remained the same. The effect of the technical and product changes that they made was to shift the customer order entry point slightly to the left. But the production system remained intact. It is totally impossible to have a process-type production system which is totally responsive to an unknown range of consumer demands. If its engineering systems are to function effectively they have to be sealed from these types of unpredictability.

This was not the case with the Contract Engineers. The data depict a PMB organisation whose product markets reached deep into the heart of its production systems. It could not distance its markets; it could not erect buffers between its engineering systems and its customers, and therefore it could not provide the stability of production which was essential for a mass production system. It could not do this because it was a job shop. It was a high technology job shop, with a unique technology and a portfolio of prestigious customers; but it was still a job shop.

If it ever did design systems to protect its engineering core from the pressures of the market place, then it would have gone out of business. It existed, not despite the impressive array of problems produced by customers, but because of them. It had no other *raison d'être* than to run a production system which was flexible enough to accommodate the wide range of demands of its customers. It is job shops that have the most flexible forms of production

organisation as far as variety of production is concerned (Hill, 1985; Hayes and Wheelwright, 1984).

It is these issues of variety, non-standardisation and simple flexible technologies that help determine employee skill levels. To understand the degree of employee skill that is necessary for implementation of a PMB strategy, it is necessary to understand the degree to which that particular form of strategy embraces the concept of customisation. It is quite possible to envisage PMB strategies which do not have any customisation elements. MacDonald's fast food chains might be an example. It could be argued that they have followed a PMB strategy based on quality and branding rather than customisation. It could not be argued that the vast majority of jobs in firms like MacDonalds have been reskilled as a necessary condition of this competitive strategy.

Management Skills; Miles and Snow (1978) advance the case for the primacy of cosmopolitan management skills in PMB operations. They argue that managers are needed who are familiar with the market place, who can scan it, monitor and evaluate a wide range of environmental conditions, trends and events; and locate opportunities for developing and selling new products before the competition. The main requirement of managers is to be "cosmopolitan"; that is, to be familiar with the wider world outside. Attempts to develop a "cosmopolitan" management team means that managers are *"as apt to be hired from the outside as promoted from within"* (Miles and Snow, 1978, p.61: italics in original).

At first sight the experiences of the PMB firms included in this study would appear to support Miles and Snow. All, but one of the PMB policies can be traced back to the introduction of new senior managers. In the Builders' Merchant the policy can be dated back to the acquisition of the company by a MNC; in the Contract Engineers, a son takes over the business from his father; a new factory manager arrives from the United States to manage the Plastic Floor company; a new manager is appointed by new owners to resuscitate the fortunes of the Potash Mine. If it were not for the experiences of Tioxide, where PMB and human asset building were more highly developed than in any other firm in this study, then it would have to be concluded that Miles and Snow (1978) were correct.

The Tioxide case clearly demonstrates that these policies were devised and implemented primarily by insiders. The key character in the Tioxide case was the General Manager and he had been a Tioxide employee for more than 20 years. So a 'cosmopolitan' background is not an essential requirement. Miles and Snow are incorrect. What is essential is for managers to have the ability think in terms of PMB strategies and their implications for employee skills and behaviour. Management thinking has to be kept fresh and expert. It was not allowed to stagnate at Tioxide. If management thinking does decay, then new responses will require new people. But the connection between PMB strategies and employee skills is fundamentally a problem of management development, and not of management recruitment. 'Cosmopolitan' is a status label, not a job skill. If familiarity breeds contempt, then distance bestows esteem. People may be cosmopolitan to an organisation wishing to hire them; but they are likely to be very local to their present employers.

But all the PMB cases point to the importance of management skills and management thinking about strategy and employee relations. The Miles and Snow (1978) argument about cosmopolitans and locals is about how such skills are formed and where they are to be found, and not about their importance. What is the connection? Porter (1985) provides an answer. In 'Competitive Advantage', Porter discusses the drivers of cost reduction and differentiation. Many of the drivers are common to both strategies including a category called 'discretionary policy choices'. These are policy choices a firm makes independently of other drivers, which reflect a firm's strategy and "which involve deliberate tradeoffs between cost and differentiation" (1985, p.80). The list of policy choices included in this category is extensive. It includes product range, product position, service levels, spending on marketing and R & D, buyers served, raw material used and:

"wages paid and ... other human resource policies including hiring, training and employee motivation" (p.81).

In short, there is quite an impressive list of major strategic decisions, including manpower management subsumed under this category and treated as a discretionary policy choice. The point is that it is managers who make choices about strategy in these areas. The choices they make will reflect their perceptions, interpretations and values, both as individuals and as a

group. It should be expected that when new managers arrive, new decisions will be made in these areas.

A final point is that these discretionary policy choices are particularly important in PMB strategies. Porter (1985) attributes a fairly minor role to them in CR strategies: he discusses them last in his list of ten cost drivers. Their strategic centrality in PMB strategies is of an altogether different order. He states quite unequivocally that "policy choices are perhaps the single most prevalent uniqueness driver" (p.124). What is a miscellaneous assortment of relatively unimportant items in a CR strategy is absolutely central in a PMB strategy. Given the importance of policy choices in a PMB strategy, and given that the very concept of 'policy choice' places this aspect of strategic decision making in the realm of the manager's socially constructed reality, then it follows that PMB strategies and their implications for the manpower system should be so intimately bound up with the arrival of new people.

Underscoring all of these points about the connections between management values, strategic choice and manpower strategy is the experience of Tioxide. Here strategic change in product and factor markets was accompanied by a wholesale reform of the manpower system. This was not the product of the invisible hand of the markets: it was driven by management values, and despite rather than because of market conditions.

Organisational Structures; in Tioxide, the Builders' Merchant and the Lift firm, regrouping of jobs took place and in all cases it took the form of regrouping of jobs by area or geography. In Tioxide the new management groups were called Area Teams; in the Builders Merchants jobs were regrouped on a regional basis. This type of grouping was not found in CR or Service organisations where the dominant form of new organisation was functionalism based on expertise, (central engineering); or the prime tasks of manufacture and marketing, (brewery and inns, client and direct works organisations). These stressed expertise and efficiency based on division of labour. Grouping jobs by geographical area was a more polyvalent form of organisation. Control could be exercised through standardisation of outputs or mutual adjustment (Mintzberg, 1979). In the Builders' Merchant the regions could be given financial targets to meet, but left with a free hand to decide the ways and means by which these were to be achieved. In Tioxide engineering managers were given collective

responsibility for an area of the plant and left to decide their own roles. In the Lift firm the regions were free to allocate staff to installation and service roles as the need arose.

In all cases managers in regions and areas appear to have been empowered to create their own structures appropriate to a PMB strategy. This entailed the dissolution of a functionally based structure in Tioxide, or its deliberate avoidance in the the Builders' Merchant when it moved from a simple structure to a geographic divisional form. Of course, the managers in the new groupings were free to create a structure based on functionalism - if they wished. But that would be a structure of their choosing rather than an externally imposed one.

This chapter has examined the strategic manpower concerns of PMB firms. A central issue is the need that such strategies create for a skilled workforce in some PMB firms. In the light of the evidence it appears that the crucial feature of PMB which demands a reskilled workforce is the degree of customisation offered as part of this strategy. The concerns expressed by the firms appear to vary in relation to this need. It is the degree of customisation present in the product which is directly related to the presence of a flexible non-standardised technology and hence to employee skill.

All of these firms were actively engaged in recruitment and most encountered difficulties in acquiring skills on the local labour market, or in sourcing them from their own stocks of labour. The failure to resolve these skill questions by either recruitment or employee development was a major impediment to the successful implementation of strategic plans in some of these organisations. The chapter has also drawn attention to the key role of management values in both the choice of a PMB strategy and in determining what such a policy means for the manpower system.

CHAPTER 10

THE SERVICE SECTOR

INTRODUCTION

The last two chapters have examined manpower strategy in CR and PMB firms. This chapter looks at the service sector. This is a differentiated form of a CR strategy. The service organisations possessed features of both CR and PMB operations. They needed to reduce costs and had to confront large changes in their product market domains, whilst maintaining the concept of a service. This chapter identifies the service sector organisations, and presents their model of manpower strategy. It is characterised by the need to reduce costs in the context of a cost structure dominated by labour costs; a strong set of management values which offset rational concerns and introduce other objectives. These values had important consequences for the manpower system. The manpower strategies are described and analysed.

The archive source used in this chapter is the BIFU files. Their evidence contrasts with that derived from the interviews, which is concerned with the public sector professional bureaucracies. The archive source does not confirm the model emerging from the primary sources, and there is no case study to clarify the points of difference. Further work is needed to resolve these theoretical conflicts. Nevertheless the data do contain some important implications for the theoretical issues. These are reviewed.

THE SERVICE SECTOR ORGANISATIONS

The service sector organisations were:

- the Local Education Authority;
- the Borough Council;
- the Area Health Authority.

These organisations, together with the Banks in the archive source, were characterised by:

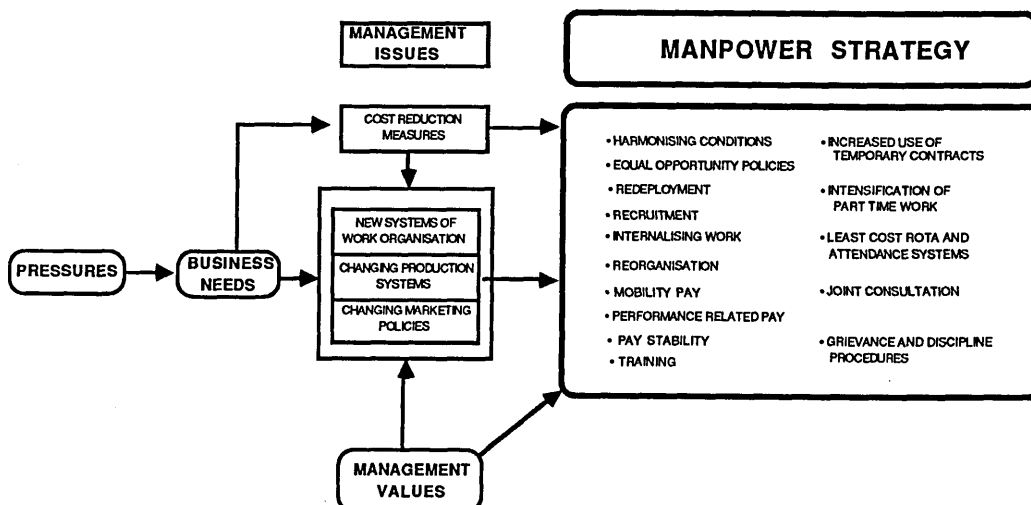
- the need to reduce costs;
- the importance of labour costs in their cost structure;
- the definition of their product markets as a 'service';
- the need to confront rapidly changing market domains;
- a strong set of overt political values.

All of these organisations needed to reduce costs. The LEA, the AHA and Borough Council faced real grant cuts from Central Government. The high street banks were confronted by a transition to a mature market at a time when deregulation was removing barriers to entry. In all of these organisations labour costs were in excess of sixty per cent of total costs. If costs were to be reduced then manpower was a prime target. Market domains were changing. The reasons varied, but a common theme were demographic changes in the form of birth rates, age structures and the changing socio-economic status of the communities in which the firms were located. They had many of the features of PMB firms. New products were launched and new markets were developed. Two of the organisations were responsible to the communities they served through the ballot-box and there was an overt political dimension to their strategy.

MANPOWER STRATEGY IN SERVICE ORGANISATIONS

The relationship between manpower strategy in the service organisations is shown in Figure 10.1.

Figure 10.1. A Model of Manpower Policy in Service Organisations



This model reflects the complexity of life in the service sector organisations. A principal concern of these organisations was the need to reduce costs. The major theme which permeated the interviews and the archive source was the need to reduce costs in what were labour-intensive operations. The reasons varied: in the AHA and the Borough Council it was traced to the need to meet rising demand with falling budgets; in the LEA demand was reducing due to demographic trends; in the high street banks costs were trimmed in order to grow in what was a mature industry, and one whose product markets were saturated. The problem of cutting costs was different from that of CR firms in that the model indicates two possible routes to cost cutting. Each had very different implications for the manpower system.

One route was similar to that adopted by CR firms and that was the substitution of technology for manpower and the reorganisation of work. The second way was to look to the manpower system direct for cost savings. In all the service firms manpower costs were comparatively high. Unlike CR firms, significant cost savings could be made by reducing earnings, hours and headcount. Figure 10.1 shows the existence of these two routes by which the business need of reducing costs could be met. Emerging from the 'Cost Reduction Measures' box are two arrows. One enters the 'Manpower Strategy' domain direct. This is a 'direct route' model. The second 'CR model' shows manpower strategies travelling along the 'Changing Production Systems' and 'New Systems of Work Organisation' route trodden by the CR firms.

Which route was taken depended upon the potential for substituting technology for manpower. Technological potential was determined by cost and availability, the implications of technological substitution for employment conditions and manning, and the perceived 'fit' of potential technical solutions with market domains. In many areas, such as ancillary staffing in the public sector, there was no possibility of the cost-effective substitution of new forms of technology. Attention was therefore given to new forms of work organisation, or to intensifying existing forms of employment policy such as part-time work and temporary contracts. In other areas reform of the production system by new systems of technology was both possible and economic. Street cleansing and rubbish removal operations in the Borough Council were examples. But such a policy was inconsistent with managerial commitments to employment and living standards.

Technological solutions were not static. Scientific and technical knowledge evolved; technological applications were available at some points in time, but not at others. It was this equivocal role of technology, in its political, economic and strategic milieu that accounts for the 'messy' nature of the model in Figure 10.1.

Finally, technological and manpower strategies were not solely judged against tests of economic and technical feasibility: each solution was assessed by its 'fit' with managers' perceptions of how their product markets were best served. In particular, all the managers interviewed defined their markets as requiring 'services' rather than products. This was also a very prominent theme in the archive source.

How does the provision of a service differ from the manufacture of goods? The key differences are the lack of inventory, the close interaction of the producer and consumer of the service, the impossibility of transporting services and the provision of intangibles (Sasser, 1976; Schneider, 1980; Donnelly and George, 1981; Lovelock, 1984). Services such as serving meals, cleaning rooms, teaching children and an interview with a bank manager, cannot be stored. They have to be consumed as they are produced. The producer and the consumer of the service are inextricably linked at the point of production. The service can be consumed, but it can never be possessed. Often the link is a physical one such as the provision of first-aid or bed-making.

These differences give rise to some pressing problems of how to match demand to supply. In some service organisations it is possible to manage demand. Peaks and troughs in demand can be smoothed by differential pricing or developing off-peak demand. The package tour holiday industry and the entertainment industries are good examples of a service industries which have smoothed demand using using these techniques. Queuing is a possible third alternative (Voss et al, 1985), but as was noted in Chapter 9, the Lift and Escalator Factory's experiences suggest that asking customers to wait is incompatible with some types of service strategy. These strategies were not viable alternatives in the professional public sector bureaucracies which form the primary data source for this Chapter. Demand was consumer-led and prices were not administered at the point of consumption.

By definition it is difficult to define 'intangibles', but they are very important in determining the quality of the service relationship. Peters (1987, p.93) defines them as "the little things [that] mean a lot". Lovelock (1984) describes an intangible as "that which cannot be touched" and "that which cannot be easily defined" (p.30). They include know-how, image, branding, and embrace aspects rooted in positive, caring human relationships. Intangibles in hospitals, schools and a local authority might include conversation, moral support, encouragement, recognition of achievement, sympathy, prompt attention and symbolic behaviour such as a knee for a child to sit upon. In all large bureaucratic organisations it may take the form of bending or ignoring the rules in the consumer's favour. Sheaff (1988) draws attention to the important role that ancillary staff provide in hospitals in the provision of these intangibles for patients.

The relevance of the concept of service is by no means confined to the service sector. There are those who argue that economic recovery in the manufacturing sector depends upon the extent to which firms can apply the concept of service (Peters, 1987). Developments like JIT, which remove inventory, and information technology; which stores and transmits service-type activities by video and telecommunications, are narrowing the gulf between service and manufacturing industries. It can be concluded that there is a growing awareness of the relevance of service ideas in manufacturing.

The emergent management issues for the provision of a service are the importance of timing, quality of employees, the importance of non-physical distribution channels and the provision of intangibles. Given the close relationships involved between the producer and the consumer in the provision of a service; the impossibility of sealing-off the manpower system from variations in demand by pricing, queuing or reservation systems; the labour-intensive nature of these service organisations, then it can be concluded that cost reduction will be achieved by matching patterns of demand for the service more closely with cheaper types of supply, by restricting demand, or by greater utilisation of the service input by redeployment.

PMB and other activities were very important in the service organisations. This is not to deny the importance of PMB in CR strategies or of cost control in PMB strategies. These were major issues, not as important as the dominant objective, but major nonetheless. But service organisations had a wide range of concerns to manage, wider than the PMB or the CR. Cost

reduction was paramount, but it was not the only concern. The complexity of life in the service sector can be judged from the event-state diagrams. The average number of events on the three event-state diagrams for the service sector organisations is 35. The average for the seven PMB and CR firms is 29.3 (see Appendix 1). The score for the lowest service organisation (30), the Area Health Authority, is equal to that of the highest of the non-service organisations, Chemco.

There were general influences on all the service sector organisations, especially legally-driven reorganisation. Other concerns included developing and launching new products, such as nursery education and Manpower Service Commission courses in the LEA, and the provision of new services in the Borough Council. Organisational life appeared to be much more complex in the service sector organisations.

Finally, the process was underscored by a highly developed and articulated set of management values, often rooted in political manifestos. These were very obvious in all three organisations, but were particularly marked in the Borough Council and the LEA. These were directed at the manpower system direct, and they helped define attitudes to technology and markets.

What organisation structure, work organisation and employment policies were observed? These are shown in Figure 10.2.

MANPOWER STRATEGY IN THE SERVICE SECTOR

The policies adopted by the service sector organisations with respect to organisation structure, work organisation and policies implemented by firms are shown in Figure 10.2. They can be discussed under the following headings:

- | | |
|----------------------------|---------------------|
| 1. Organisation Structure; | 2. Manning; |
| 3. Work Organisation; | 4. Pay Systems; |
| 5. Harmonising Conditions; | 6. Time Management; |
| 7. Other. | |

FIGURE 10.2. MANPOWER POLICY IN SERVICE ORGANISATIONS

ORGANISATION

MANPOWER POLICIES

	The Borough Council	The Area Health Authority	The Local Education Authority	
Regrouping Of Jobs	X	X	X	ORGANISATION STRUCTURE
Closer Supervision Of Managers	X			
Increase In Manning/Recruitment	X	X	X	MANNING
Internalising Work	X	X		
No Compulsory Redundancies	X	X	X	
Redeployment	X		X	WORK ORGANISATION
Mobility Pay	X			PAY SYSTEMS
Performance Related Pay		X		
Pay Stability	X		X	
Control Of Bonus Systems		X		
Harmonising Conditions	X		X	HARMONISING CONDITIONS
Equal Opportunity Policies	X		X	
More Temporary Contracts	X	X	X	TIME MANAGEMENT
More Part-Time Work	X	X	X	
New Rota & Shift Systems		X	X	
Training	X	X		OTHER
Joint Consultation	X	X		
Grievance/Discipline Procedures			X	

Harmonisation

In both the Borough Council, and to a lesser extent, in the LEA, harmonisation measures were implemented. They permeated many aspects of manpower strategy. Pay, training and manning all fell under its influence. There were two aspects to the harmonisation policies. These were:

- harmonisation of allowances;
- equal opportunity policies.

In the Borough Council there was a policy of harmonising conditions and area allowances for manual workers. This was done to facilitate a policy of redeployment, but it also had roots in management values. The elected members were anxious to offer manual employees pay stability as a first step towards a unified remuneration structure covering all employees.

The distinctive feature of the harmonisation policies were the equal opportunity policies. Managers in the private sector defined the problem of equal opportunities in terms of tokenism. They were interested in appearing to comply with the more obvious features of the legislation governing discrimination, especially that aimed at race and sex. There was no evidence from any of the PMB or CR firms that equal opportunity policies played an important part in their manpower strategies. This was not the case in the service sector. In the Borough Council and the LEA there were relatively comprehensive equal opportunities policies. There were clear statements of objective, the allocation of resources and responsibility for implementation; the policy was communicated and monitored; and staff were trained in the policies' meaning and management. They were broader in scope, covering not only sex and race, but also disability,

It was comprehensive in the way it linked to other aspects of the manpower system. There was a realisation that the route to equality lay in harmonising all aspects of conditions of employment. Discrimination depended upon the existence of differentiated conditions of employment. In this sense it was inseparable from harmonisation. All

manpower system were checked for potentially discriminatory practices. For example, in the LEA disciplinary procedures for different grades of staff were harmonised to ensure that there was no potential for discriminatory treatment.

The management values which drove these policies were rooted in concern for equity, but this was not a complete explanation. There was a strong feeling in the Borough Council that the terms and conditions of employment were not to be regarded solely as labour costs, as a payment to a factor of production. They were also a social and economic variable in the local community. They helped to determine the quality of life in what was a depressed community. The elected officers saw their role to improve the local community, not to depress conditions even further by pursuing strategies which treated their workforce as a low-cost factor of production. This informed all aspects of the manpower system. The management of the manpower system can only be understood in terms of open system theory: what happened in the manpower domain affected the community and it had to be managed with that in mind. For these reasons harmonisation and equal opportunities were very important and they permeated the manpower systems.

Manning

In all three organisations manning increased as measured by headcount. Consequently all three had been involved in recruitment. They were unlike the CR organisations. Demanning did not feature as a theme in the service sector interviews. Recruitment and internalising work emerged as issues.

Recruitment was marked by three interesting features:

- an open recruitment policy;
- a restricted recruitment policy;
- the segmented nature of the local labour market.

An open recruitment policy; this was implemented by the LEA and the Borough Council. It represented a deliberate attempt to de-casualise recruitment. Prior to the policy's

introduction recruitment had been by 'word of mouth' and internal vacancy boards. These methods were abandoned as they were believed to be incompatible with equal opportunity policies; to burden the unemployed with unnecessary costs; and to lay both organisations open to charges of - literally - 'jobs for the boys'. Instead job shops were created in local Community Centres and Careers Offices. They were located in large housing estates, thus saving unemployed people transport costs. All vacancies were advertised in job shops and the local free press. Finally, there were public displays of all job applicant waiting lists, so potential employees could check their positions in the queue for employment.

A restricted recruitment policy was operated by the LEA. This restricted job applications to people who were unemployed or not in receipt of an occupational pension scheme. This was an attempt to restrict job opportunities to those most in need, and to deny employment to people who had retired early. The net effect of this policy was to make recruitment for skilled technical, managerial and administrative work very difficult.

The segmented nature of the local labour market; one of the major discoveries of this research was evidence of a highly segmented labour market, a market characterised by a shortage of most types of skill which contrasted with an abundance of unskilled labour. Every manager who had had any truck with recruitment commented upon this. It was not so marked in the CR firms where the problems were those of demanning, but Nyco's Engineering Manager was recruiting. He contrasted his experiences of trying to recruit engineers contrasted with that of recruiting process workers:

"We can't get replies to the adverts. We have had to use agencies. All the people that have got a training in electronics or who would be suitable for training as instrument engineers are going into companies like Plessey or GEC. ... We are flooded with operators. The company did not welcome all the publicity when we had a recruiting programme for seventeen operators. We had two and a half thousand applicants. Even we were shocked by the number of people applying." (Engineering Manager: Nyco).

These views were reflected throughout service sector:

"There's an underlying general problem of recruitment. We can get fairly good quality clerks; but when you are talking about jobs carrying salaries of eight to ten thousand a year, we find it extremely difficult. They don't seem to be around and we really can't understand why. It's not as if we don't get applicants: we certainly get applicants, but we don't get applicants of quality. I don't know the reason." (Principal Administrative Officer, LEA).

"The unemployment situation has an effect on certain sections of our workforce - but certain sections only. There are significant areas of our workforce that seem very unaffected by unemployment. Professional groups; they tend to carry on. Unemployment strikes the lower skill end of the employment market." (District Personnel Manager: AHA).

There were a number of strategic implementation problems which stemmed directly from these skill shortage problems. A prime area of concern for the Borough Council was to improve its housing stock. In this way it could visibly improve conditions in the community. They could not recruit skilled building craftsmen, and therefore could not complete key housing projects. The AHA could not expand medical services because of shortages of professional groups such as radiographers, pharmacists, medical laboratory technicians and physiotherapists.

Work Organisation

Redeployment emerged as the key manpower policy: it was absolutely central to the way in which service sector organisations were to manage their manpower systems. In all three cases it was used to build up new services and products on static or declining labour budgets. The Management Services Officer of the Borough Council commented:

"Sixty per cent plus of our expenditure is manpower: if the Council wants to pursue new policy initiatives; and it hasn't got the money to finance the manpower, it can only do so by making the manual workforce more able to be transferred. We'll do that by making sure that there aren't any contractual limits to the way in which we can move people around."

The Borough Council used redeployment to develop the concept of a service and to 'get close to the customer'. For example, Housing Department staff were redeployed from a central office in the Town Hall to Area Offices in residential areas specifically to make staff accessible to the local community. The Area Offices were linked to the Engineering and the Housing Departments by an on-line networked system of personal computers.

Tenants could pay rents and arrange housing repairs on the spot: they did not have to leave the estate, write or make 'phone calls.

Thus new technology and redeployment of staff were used to bind the customer close to the producer in ways which could not be imitated. The Council's competitive position was thus improved in ways which a Housing Action Trust could not reproduce. This was one concrete example of technology being used to improve a service, by binding the producers and the consumers of the service more closely together. Attendant changes in the pattern of work organisation were addressed through redeployment. Attempts were made to redeploy dustmen from their usual jobs into the community onto a range of environmental projects, such as graffiti removal.

Redeployment was also important in the LEA. The Principal Administrative Officer identified his main problem:

"The major problem has been redeploying staff as a result of falling rolls in two ways; redeploying people whose jobs have actually gone to another job; and redeploying people whose hours have been cut back up to the hours that they used to work. We've spent a great deal of time doing that."

Redeployment in the LEA was caused by falling school rolls, the ensuing programme of school 'rationalisation' and by the need to build up new services for new markets. The case exactly parallels the connections between plant loading and redeployment in CR firms. Old, small schools were closed, the pupils relocated into newer, larger, more economic schools. The ancillary staff followed them. Whilst demand was falling, the composition of demand was changing. Over the period of the study, the LEA built up new markets in the form of nursery education and MSC courses. These new services required ancillary staff.

Reorganisation

Reorganisation occurred in all three organisations. In the LEA it produced new patterns of work organisation. The 1986 Education Act gave School Governors responsibility for recruiting and dismissing staff together with a more prominent role in the grievance

procedures. The relevant procedures were rewritten and the jobs of governors and administrators, who previously attended to these matters, were redesigned.

The AHA had numerous bouts of reorganisation ostensibly aimed at the removal of hierarchy; increasing the amount of delegation and responsibility in managerial work; and, most importantly, introducing the idea of general management into the Service. Jobs were regrouped on a geographical basis, rather than a professional or functional one and General Managers were appointed at different geographical levels who were responsible for all nursing, medical and para-medical services in the area.

The Borough Council was reorganised. Managerial jobs were regrouped following the 1984 Planning and Land Act. This split client and contractor roles and it was largely a move by the Government to make 'tactical tendering' more difficult. In doing so it introduced a novel form of job grouping. Hitherto jobs were regarded as being grouped by function, process, geography, product or time horizon (Child, 1984). The client/contractor distinction offers a sixth method, based on whether or not the managers are users or providers of a function.

A common phenomena reported by all three managers was a sharp increase in the importance of management skills of both a political and technical nature to cope with their new tasks. In the Borough Council policies of closer supervision by the Councillors over the officers were reported. Unemployment released many Councillors from full-time work. They began to take a much closer interest in their elected duties than had previously been possible. They moved into the Council Offices and began attending courses on specialist aspects of management in local government. Supervision was not only closer, but it was also changed in nature. The basis of supervision shifted from naïve enquiry to informed questioning. The Principal Administrative Officer remarked:

"A lot of the Councillors are around more; some of them have more time to spare. The quality is different too; some of them are professionally qualified in the functions and the activities the Council carry out and they show greater interest; they ask more pertinent questions and get more involved in the day-to-day running of the departments. The more you're exposed to elected members, the more you have to run with them. When I first came into local government contact with elected members was only in committees and confined to the team of Chief Officers. But now if they want to contact you they know you're in here, they know your 'phone number. It's different now."

What lifts this illustration above the level of anecdote is the fact that it endorses one of the key findings discovered in the analysis of manpower strategies in CR firms, that not all changes in manpower strategy were driven by competitive pressure.

Pay

There were mobility payments made in the Borough Council and pay stability measures in both the Council and the LEA. The mobility payments were made to facilitate redeployment, but the pay stability measures were better seen as part of a harmonisation policy. The most interesting innovation was the use of performance-related pay on managers in the Health Authority. All of the newly appointed General Managers in the Health Authority were given bonuses dependent upon their performances. Financial measures played a dominant part in these schemes.

Time Management

All three organisations were attempting to restructure patterns of attendance. All had increased their dependence on part-time work. Both the LEA and the AHA had developed new rostering systems to match demand more closely to supply. In the Health Authority new shift and roster systems were implemented as part of the competitive tendering process. In both organisations ancillary and catering staff were the focus of these efforts.

The use of temporary contracts was observed in all three organisations, but their use was particularly interesting in the LEA and the AHA, though for different reasons. In the LEA they were used essentially to market new products which had relatively short time horizons such as nursery education and MSC courses. The LEA was not legally required to supply nursery education and it was the market which was most immediately vulnerable

to the key determinant of educational demand, that is, short-term variations in the birth-rate. MSC course staff all operated on short-term contracts.

But it was in the AHA that their most unexpected use was found: here all the newly created cadres of Unit and District general management were given temporary contracts. They operated in a manner which was consistent with senior managerial status; that is they were not called temporary contracts, but 'fixed term contracts' and they covered three year periods instead of six months or a year. But they were a form of temporary work.

Other

This includes training initiatives carried out in the Borough Council as part of their Equal Opportunity programmes; the overhaul of the disciplinary and grievance procedure in the LEA; and changes in the joint consultative procedures in the Borough Council.

Summary

These organisations appear to be different to CR organisations because the proportion of their costs accounted for by labour is much greater. Direct management of labour costs will save money. The data also point to a need to manage the concept of a 'service' for consumers. This is a difficult concept to define, but its main dimensions are related to the problems of managing time to match labour supply and demand. Another key feature of the service organisations is that the dominant strategy was one of cost reduction, but there was also a high level of PMB activities. This was in part driven by the environment, but also by managerial perceptions and political commitments.

The emergent picture of manpower strategy is one of modest increases in headcount, but there are clear signs of the creation of a 'periphery' through the restructuring of working time. This aspect of the IMS model appears to have some descriptive and conceptual validity in the service sector. But, on the whole, the large-scale marginalisation of the workforce is offset by a cohesive set of management values. This is particularly the case in the Borough Council, and to a lesser extent in the LEA. It is significant that in the AHA, these values are by comparison muted, perhaps reflecting a lack of local political

control found in the Borough Council and the LEA. In the AHA this peripheralisation seems to have been carried much further. Indeed, it can even be detected restructuring managerial work.

Another noticeable feature of the firms is that there is no sign of any large-scale substitution of technology for work. This confirms the data on employment in Cleveland advanced in chapter 1, which shows that numbers employed in the service sector in Cleveland had held up. The introduction of new technology was reported in all three organisations: two reported new technology agreements. In the LEA employment was reported to have expanded as a result of the introduction of new technology stimulating demand. They are unlike the CR firms.

The reasons for this are not clear. It may not have been possible to substitute technology for labour in these organisations. A prime consideration in the Borough Council was the effects of technology on employment. There were certain cleansing operations which could have been mechanised, but no action had been taken.

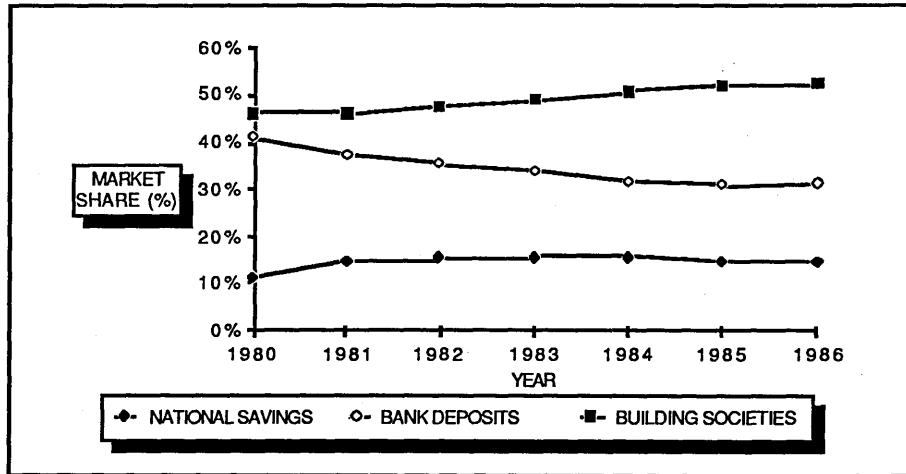
CORROBORATION FROM THE BIFU ARCHIVE SOURCE

The Economics of Banking and Competitive Strategy

A major theme in the archive source was the need of the high street banks to reduce costs in their retail banking operations. The reasons were that market share was falling; barriers to entry were being dismantled enabling building societies to offer cheque-books and credit cards; competition for funds was increasing from National Savings and popular share issues; substitute products such as credit cards were increasingly important, and the market was saturated. The major high street clearing banks lost market share throughout the 1980s. This is shown in Figure 10.3.

The personal savings market was saturated. The quality of the market was declining and becoming increasingly marginal (Jones, 1984). By the early 1980s, seventy-five per cent of the adult population in Great Britain had a bank account (Thompson, 1986) and building society savers numbered 25 million adults. The untouched sectors of the market

**Figure 10.3: Shares of Personal Sector Liquid Assets in Great Britain:
1980-1986**



Source: 'Selected Liquid Assets of the Personal Sector': Table 9.5. 'Financial Statistics,' February 1989, Central Statistical Office)

were characterised by low balances and many transactions leading to high administrative costs.

If growth was to be secured it would be achieved through cutting the costs of retail banking. Banking was a labour-intensive operation. The technology of production was a national network of branches each one serving all the commercial, domestic and industrial needs of the communities in which they were located. They were labour-intensive, financial jobbing shops. 'People costs' in Barclays Bank were estimated by Turner (1985) to be seventy per cent of total costs; in Lloyds they were put at sixty-eight per cent; (Lloyds Bank file: 'Towards the 1990's: A Conference for Managers' held on 12.12.84); Ginarlis' (1988) analysis of the banks' operating costs suggests that in 1985 property costs accounted for twenty-one per cent of operating costs. If property costs are added to labour costs, then over ninety per cent of banks' operating costs were generated by headcount.

Changing Market Domains in Banking

There were massive changes in the corporate sector. The effects of the deregulation of financial markets allowed foreign banks to operate in London. The ensuing competition found banks being undercut by both merchant banks and foreign banks. There were changes in the corporate sector. Consumer loyalty declined: corporate customers began to 'unbundle' the package of services and to shop around for the best deals on single lines, even to the extent of asking banks to tender for various contracts (Vittas, 1986). On-line banking and greater sophistication of corporate customers led to the 'dribbling' of corporate accounts; or the management of cash balances to get the best rates of interest, whilst leaving just sufficient in the account to avoid charges.

Intensified competition in the retail sector led to a number of attempts to reclaim market share, reduce costs and look for new sectors of growth. Initiatives included credit cards, joint ventures with retailers to promote 'in-house' banking, new forms of current account and extended opening hours. The developments in the corporate sector were met by segmenting the product market around the two sets of customers: the large corporate consumers, and smaller, domestic and commercial consumers.

These changes had immense implications for the production technology in the form of the branch structure. Corporate banking was seen as requiring the provision of customised account packages to identified corporate accounts. All corporate banking was to be removed from the branch network and centralised in regional centres, thus permitting efficient use of technical staff. The branch network would still handle cash transmissions for corporate customers, but in future corporate accounts would be managed centrally.

Retail banking for smaller commercial and domestic consumers would be serviced through the branch network. They would not require the sophisticated services on offer to corporate clients, so the service available through the branch network was to be attenuated. But the loss of corporate business was not the only consequence for the branch network. Given a declining share of an increasingly marginal market, the route to growth was seen to rely on strict cost control. Branches were to be tailored to provide services demanded

by the market at the minimum costs. This was to be achieved by reorganisation to streamline the branch structure, the elimination of paper work and the use of new technology.

Branches were not seen to have much of a role in selling new products for the reason that few people used their own branch. A survey carried out for Lloyds in 1984 indicated that twenty-one per cent of customers never used their local branch and that a further fifty-two per cent did so once in five years (Lloyds Bank file, 1985). As a sales 'trigger point' the branch network was impotent. The answer to this problem was seen to lie in mail shots based on computer analysis of relational data bases of customer account profiles (Midland); the take-over of potentially much more effective sales trigger points such as estate agents and insurance agencies (Lloyds); and joint ventures with retail stores to promote 'in-house' banking (Midland, Lloyds, TSB).

The Concept of a 'Service'

There was much comment in the archives about maintaining the concept of a service. All banks saw 'service' as an important competitive weapon. But the concept becomes increasingly subordinated to price competition, gadgetary, new technology and new products.

Price competition and non-price competition worked in the short run. The Midland attracted 750,000 new accounts in 1985 when it introduced free banking in a move described as 'the largest migration in modern banking'; Barclays gained 100,000 new accounts in 1982 when they introduced Saturday morning opening (Thompson, 1987). The move to new products was less successful. Lloyds were reported to have no fewer than twelve different versions of a current account in 1985: only two of them were making money (Lloyds Bank file, 1985). There was not the anticipated demand for 'in-house' banking. Some of these ventures with Tesco (Midland) and John Lewis fail and close. The increasingly important role of ATMs as a low-cost cash transmission system makes customer contact even more tenuous and this is a source of "real concern" (Midland Bank file 1986: 'Re-organisation and future of the Domestic Division'). All the major high street banks entered the mortgage market in 1982 to compete with the building societies.

They took thirty-six per cent of the market in that year (Hughes, 1986), but all lost money when the structure of long-term interest rates turned against them.

In short, the banks lose the distinction between what Peters (1987) calls a market-orientation and a customer-orientation. In this sense the archive data do not confirm the picture emerging from the primary data where the concept of a customer service is strong. De Moubray (1986) draws attention to this lack of consumer-orientation. He argues that banks abandoned their claims to the role of customer problem solvers in favour of new products, all of which could be copied by the competition overnight. Thus they offered no proprietary strategic competence. He argues that the key to high-performance in banking is an understanding of the essence of management in a service industry, that the final stage of production takes place at the point of sale. Banks sell problem solving transactions to customers and not products. Customers needs differ, but none of them correspond to some notional average whose needs can be specified by a technical specialist working in head office.

To service customer needs demands the creation of devolved structures and trained, motivated competent staff. He argues that the segmented, hierarchial system of corporate and retail banking does not encourage this, but that the old regional branch system had the capacity to do so. De Moubray compares the changes in Britain with those adopted by French and Spanish banks where large corporate customers are dealt with through branches and where it is common to find clerical staff given discretion for loan authorisation. Fewer than two per cent of loan requests are referred upward from the branch for authorisation.

Tansey (1985) makes similar points in his comparisons of British banks with those in France and Germany, both countries where banks are regionally or industrially-based and offering a complete range of services to all consumers. Both Tansey (1985) and de Moubray (1987) conclude that the high street banks strategies depart from the paradigm of a problem solving service, in favour of product innovations which are environmentally driven, and therefore at risk when the environment changes, and all of which can be copied. Tansey (1985) argues that in the absence of any sustainable basis for

differentiation, the products will slide into commodity status where price is the only basis for competition.

The Possibility of Technological Substitution

The limited data available in the public sector professional bureaucracies suggested that technology was used to provide a better, richer service to consumers. Job cuts were not an issue. In the banks it was used to reduce costs. The problem of providing extended service to customers may be solved by technology in the form of ATM machines. These offer a 24-hour, low-cost access to a restricted range of retail banking services. The first ATMs arrived in the Midland and the Yorkshire Bank in 1983. From that point onwards it becomes increasingly possible to substitute technology for people to solve the problem of extended service in retail banking.

But technology was only one aspect of technological restructuring. Costs were to be cut by reducing the size of the network and restructuring it. The policy was to maintain some branches in their old 'full branch' service, offering a full range of services to non-corporate customers, and downgrade others to the status of sub-branches. There were differentiated types of sub-branch. Many would be open normal hours, but manned only by two or three people, resourced by the nearest full branch, and offering a very restricted range of services. Others would be open on restricted hours. But the ideal, small branch was a low-cost sales and service office with a lobby full of ATM machines where customers could serve themselves. Such a policy economised on people and premises; and cut paperwork to a minimum.

What were the consequences for the size and shape of the branch network? Barclays planned to reduce the size of the branch network from 2850 to 2350 by 1995; 500 of these would be 'money shops' (Turner, 1985). NatWest aimed to reduce the number of their full branches from 1936 in 1985, to 1080 in 1989; the number of sub and service branches would increase from 700 to 1570 over the same period (NatWest file, 1986). At Barclays 600 existing full branches were to be downgraded to sub-branch status; a further 146 offices were to close.

MANPOWER POLICIES

Time Management

One of the major trends in banking in the early 1980s was a move to extending opening hours. This is reflected in the archive material. All of the major banks' files contain evidence of a search for longer hours in the retail sector. The pattern varied from bank to bank. Some, like the Co-op and the Yorkshire Bank (1984) extended opening hours from Monday to Friday; the TSB went for six-day banking (1982) as did NatWest (1985); the Midland (1985); Barclays (1982) and Lloyds (1985). Most saw it as an opportunity to sell new products and not to provide cash. The banks regarded Saturday morning as the key opening time. According to the Barclays' file for 1982, over one-third of building society deposits were paid in on a Saturday morning. It is clear that time management was seen as an important way of extending the concept of service, and in particular of matching staff attendance to demand. Thus it corroborates the evidence emerging from the primary sources.

Harmonising Conditions and Equal Opportunity Policies

The major response by the banks in the early 1980s was to look to increase part-time working to man (or rather 'woman') some of these strategic responses, especially extended hours and credit cards. Two of Barclays credit card operations were in Cleveland. These were staffed predominantly by women part-timers. In 1982 a notice from the Regional Centre Manager to all staff declared that the increased volume of business would be met by part-time working. Of the 610 staff employed at these two locations in 1988, fifty per cent were both part-time and female (BIFU, 1988).

Although Barclays have been cited as in the vanguard of innovative harmonisation practices for part-time workers (Equal Opportunities Commission, 1981) discriminatory treatment was a major issue in the low-cost business of processing credit card transactions. Part-timers had to work longer periods to qualify for fringe benefits; no entitlement to work flexible hours; to take their profit-share in shares rather than the cash

offered to full-timers; 'auxiliary' as opposed to 'permanent' status; no choice of holiday rosters; worse sick pay and could not progress beyond mid-point on the salary scale.

These practices persisted until November 1986 when Barclays signed an Agreement for Part-Time Workers at Barclay Card in Cleveland with BIFU which addressed many of these grievances. The files indicate that this discriminatory treatment was a major issue for the women and galvanised many of them into joining BIFU and pressing for collective action.

This was not the only equal opportunity concern, but it was the best documented. There was nothing comparable in the primary data source. The explanation is the lack of political will necessary to counter the perceived economic benefits of employing a low-cost source of labour on routine work, in an operation where cost control was paramount.

Manning and work organisation

These two issues may be considered together. These changes in the banks' production systems and market domains had profound implications for manning. In all the banks there was a move to replace the single-ladder promotion structure with two-tier recruitment. New senior management posts were to be filled by graduates given accelerated training in the specialised positions in corporate banking. There were expected to be fewer promotion opportunities for 16-18 year olds direct entrants from school. Historically, this had been the route by which any young entrant could hope to aspire to the highest positions in the bank.

Full branches would be reduced in number as they lost their functions to the newly created central corporate banks; and downwards to sub-branches and ATM stations. Sub-branches were to be run by senior clerical staff, who would be called managers only for reasons of customer confidence. In NatWest the basic grade bank manager was abolished. Assistant Bank Managers were removed in smaller full branches. This had been a key development position where promising young men and women could learn the craft under the expert tutelage of a senior experienced manager. The main career implications were that it would be difficult to make the transition from retail to corporate

banking; and that the demand for specialists would lead to two-tier recruitment. In many of the files there are complaints from staff about the decline in managerial appointments.

At a conference held for managers in Lloyds Bank the General Manager, Personnel Division stated

"The bank has always given broad training providing all-rounders with the ability to handle enquiries on a wide variety of subjects. In recent years the emphasis had been on training specialists ... The generalist approach may be suitable for a year or two, but it will not be suitable thereafter. ('Towards the 1990's: A Conference for Managers' Lloyds Bank, 12 December 1984).

Manning was not greatly reduced, but its composition was to be profoundly changed. At the same conference it was announced that Lloyds planned to automate all clerical work in branches over the next 5-7 years; install counter terminals integrated on an on-line system to save customer time; and introduce self-service for customers. These moves were very expensive. Turner (1985) estimated that Barclays planned to spend £1700 million on new technology in its branch system in the decade from 1985.

The substitution of ATMs for counter service, the downgrading of branches, the product market segmentation and the consequent bifurcation of the branch network resulted in a wasting away of middle managerial grades. This was predicted to happen in all of the high street banks. Barclays forecasts were typical and they are shown overleaf on Table 10.1.

Table 10.1. Distribution of Employees by Grade in Barclays Bank

Operations

Grades	1983	Post-Re-organisation
Senior managers (BM7-9)	571	666
Branch managers (BM 1-6)	1959	1508
Clerical and Administrative Staff	3967	3964
TOTAL	6497	6138

(Source: Barclays Branch Network Review: June 1983).

Redeployment

Redeployment was central to the achievement of these policies. In all of the banks' files there was clear evidence that the banks were seeking to handle the manpower implications of restructuring their networks by redeployment. Branches would be closed and staff redeployed to other branches. No bank entered into a 'no redundancy' agreement. Surplus numbers were handled through voluntary early retirement, relatively high wastage rates and redeployment. In the Co-op Bank, redeployment was so important it was written into individual contracts of employment and the subject of collective regulation called the 'Mobility of Labour Agreements'. These made it clear that, if a member of staff wanted a career, then his personal mobility must be an intrinsic element of his employment .

THE THEORETICAL IMPLICATIONS OF THE DATA FROM THE SERVICE SECTOR ORGANISATIONS

The evidence from the Borough Council repudiates contingency theory, but in a different way from the domain management activities of the CR organisations. The Borough Council did not consider it to be any part of their job to reflect local labour market and social conditions in their manpower system. Alignment has no part to play. The Borough Council's strategic mission was to improve the environment, not to adapt it.

The Borough Council adopted an open systems model of its operations and of its interactions with the environment. Activities were analysed in terms of imports and exports: its operations were assessed in terms of their effect on local conditions. They were not purely concerned with managing the difference between costs and revenues. They were aiming at long-term goals of community improvement. These normative concerns, systems models and long-run goals point to a 'deviant innovation' strategy of both organisation and manpower strategy (Legge, 1978). The organisation was attempting "to gain acceptance for a different set of criteria for the evaluation of organisational success" (Legge, 1978, p.85) and of the contribution of the manpower system to it.

There is some data to support the IMS model. A common theme in all organisations was the importance of structuring work time to demand as part of a cost-driven strategy in service industries. The characteristics of a service demand the presence of both the producer and the consumer of the service at the moment of production. Services are labour cost-intensive. Given these two parameters, costs can be cut by careful matching of demand and supply in order to ensure what Porter (1985) would call better 'capacity utilisation' of labour. Time flexibility was important in all three organisations. The evidence of the intensification of part-time work and the search for new shift rotas in banks and the public sector bureaucracies supports the numerical flexibility element of the IMS model in the service sector.

But the IMS model ignores the importance of management values and cannot explain how these policies were implemented. In the Borough Council part-time working went hand in hand with a job share scheme. In Barclays bank part-time work, which appeared to effectively discriminate against women, went unchecked until it was actively challenged by BIFU. The phenomenon of 'open recruitment' undermines a buttress of the 'peripheral' component of the IMS model. What 'open recruitment' represented was a specific and conscious denial of cheap, fast, cost-effective access to a peripheral labour market. It was not economic. It can only be explained by the values of decision makers in the LEA and the Borough Council.

In the absence of these values, there is evidence to suggest that the IMS model will have widespread application in the service sector, and it will extend beyond the restructuring of manual work. These counter values were not so well pronounced in the AHA. Here elements of the IMS model, such as performance-related pay and temporary contracts, were found in managerial work. It was present in a way consistent with managerial status, such as three year-rolling contracts, but it could be detected.

But, as in the CR model, there are elements of flexibility which the IMS model cannot explain such as redeployment. This phenomena emerges from a search for cost reduction through the management of Porter's (1985) cost drivers such as location, economies of scale and interrelationships. Location is an issue in the banks and schools. Demographic

shifts determine demand. It is no longer economic to supply the service at certain geographical points. But the composition of demand is changing. Demand is rising at other points: the operation is relocated. Economies of scale and location are linked through plant loading. This appears to be just as relevant in schools and corporate banking as it is in chemical plants.

Questions of building interrelationships can be seen underpinning the redeployment of Housing Department staff to the Borough Council's housing estates. Rent collection and housing repair become a shared activity linked by a common office and a shared IT-based information network. Porter (1985) offers a much better basis for understanding how costs are reduced and a better service offered. Redeployment can be understood in the context of his model. The IMS model cannot explain it.

Reference was made in the literature review to the work of Miles and Snow (1978) of Prospector and Defender types of organisational adaptation to strategy. They refer to a third type, that is an Analyser, which is a hybrid-type of both Prospector and Defender. It may therefore occur in service organisations which are marked by both a high search for cost reduction and PMB type activities. In particular Miles and Snow (1978) associate a certain type of PMB activity with the Analyser. That PMB activity is essentially an imitative one, developing new products which are known to work elsewhere. It follows rather than creates change. There is a need for care in discussing how this concept relates to the data. The Analyser is the least well developed of Miles and Snow's (1978) ideal types and there is no detailed case study to elaborate on the interview evidence. Nevertheless, the service organisations do appear to bear some of the features of the Analyser.

The Analyser is interested in new market domains while protecting its existing stable core of markets and products. It will develop and market tried and proven successes as long as they do not compromise its existing product range and technological core. It seeks growth through greater market penetration and product and market development. The administrative problem is how to differentiate the organisation's structure to accommodate the dynamic and stable areas; the engineering problems concern the management of

efficiency in the stable portions and flexibility in the changing portions. This is partly managed by the creation of a dual technological core.

There seem to be elements of this type of adaptation in the LEA and the banks. The LEA were developing new products in the form of nursery education and MSC courses. These were new courses, but they were essentially imitative. The market domains were characterised by short time horizons, dictated by Government funds for MSC work; and the three-year birth rate for nursery education. The product was known, but demand uncertain, and in LEA terms there was not much time to adjust. Both areas were marked by the extensive use of temporary contracts.

The emergence of a dual technological core can be seen most clearly in the bifurcation of the branch network into the retail banking network where the concerns are cost reduction, and into the corporate sector where the market will be served through customised packages. There were indications, too, that different manpower strategies were to be followed in each. Whilst manpower in general was declining in the retail sector, it was expanding in corporate banking. Two-tier recruitment also reflects this trend.

The data concerning the role of technology and strategy is both contrasting and significant. Technology was not central to the resolution of many of these problems in the LEA, the Borough Council or the AHA. But this is not the case in banking. Here the use of new technology is theoretically significant. It is common to argue that the most important impact of new technology on manufacturing strategy is the creation of a new option of high-volume production of customised quality competitive goods or what Sorge and Streeck (1988) term 'diversified quality production' (p.30).

But how new technology is deployed and the emergent form of work organisation is a product of strategy, and not technology. In retail banking, new technology in the form of ATMs is not being used to deploy flexible specialisation, but mass, low-cost production. As Voss et al (1985) note, with the increased substitution of capital for labour in service industries goes increased consumer involvement with the provision of the service. The

emergent form of work organisation is the cheapest form of labour consistent with the concept of service, that is, self-service.

CHAPTER 11

CONCLUSIONS

INTRODUCTION

The aim of this chapter is to:

- answer the three research questions;
- suggest alternative models of manpower strategy and competitive strategy;
- state the implications of the study for management action, education and training.

The study asked three related questions. These were:

1. How are manpower systems adapted by managers to cope with a drastically altered environment?
2. What competitive strategies are deployed by organisations?
3. What manpower strategies are taken to implement the chosen competitive strategy?

HOW ARE MANPOWER SYSTEMS ADAPTED BY MANAGERS TO COPE WITH A RADICALLY ALTERED ENVIRONMENT?

Chaffee (1984) suggests three models of the strategic change process. These view strategic change as a linear process; as an adaptive process; and as an interpretive process. These are not exclusive and they do not compete. They can be regarded as three different aspects of the same problem.

Much of the strategic change could be analysed as an adaptive process. Two models were discussed in the Literature Review, contingency theory and domain management. Contingency theory views the process of strategic change as one of alignment, of managers

fitting the manpower system to a known set of environmental conditions. Changes in the manpower system are a response to changes in the environment. Domain management stresses the importance of managerial choice. Managers do not have to accept the environment in which their organisations reside. They can choose the products they wish to make, the niches they wish to inhabit and the competitors they wish to compete against. These choices can be made by individual firms within the context of a competitive market or, given certain market conditions, they can enter into cartels to defend their common domain against common predators or consumers.

The evidence from this research supports domain management as a means of strategic adaptation. It does not support contingency theory. Organisations were enacting their domains rather than accepting them. Domain defence strategies were enacted by all the firms who satisfied the conditions laid down by Miles (1982); that is, homogeneous product markets, a shared negative fate and an oligopolistic market structure. In other words, every firm which could follow this strategy was doing so. It could be seen in Nyco, Chemco and BSC. The only difference between the strategies was that in BSC's case it was a legal strategy; in Nyco and Chemco's cases it was labelled as 'rigging the market'. The contrasting experiences of Chemco and BSC confirm Miles' (1982) hypothesis that if domain defence strategies are to be seen as legitimate, they must be the outcome of a political process.

In the case of both Chemco and BSC it is possible to trace the connections between these domain defence strategies and the management of the manpower system. Domain defence strategies controlled turbulence in the product market place. They permitted the engineering and production system to be sealed off from the product market place. Investments could take place in new capital and plant with relative safety.

In a market where prices and output are fixed, growth was achieved through cost control which was implemented by centralising all management decisions on plant management; and by better co-ordination of activities such as purchasing, plant operation and labour management. The models of flatter organisational structures and of devolved labour management were not seen as relevant in this strategic context.

The implementation of manpower policy in these CR organisations who were engaging in domain defence strategies resembles the linear adaptation model. This was very apparent in the way in which the manpower plans in BSC were developed and implemented. The process by which manning standards were set was top-down and cost-driven. All major industrial relations were centralised and there is no evidence of much negotiation about many aspects of their plans. There was no indication of an adaptive model in the implementation of these strategies.

All of the remaining CR firms and the PMB organisations were searching for new market niches and quitting old ones. The Brewery was moving into the retail business, and the search for new market segments was a characteristic of all the PMB operations. It could not be argued that there was a process of alignment in operation.

This theme of enactment can also be seen in the Service Sector organisations. In the context of a linear approach to strategy, which stressed means, ends, profit, productivity and issues of resource allocation; then the environment offered opportunities to be exploited, principally in the form of large supplies of low-cost labour. 'Alignment' could mean using cheap labour to deliver the Council's strategic goals. This did not happen. The environment was not seen as a set of constraints and opportunities to be managed in the interests of profits and productivity. It was seen as a problem to be solved. The management of the manpower system had to be adapted to fit the wider mission of the Council. It was shown how the need for congruence between the product market strategies and manpower management produced non-economic measures for assessing the performance of the manpower system. Similar trends could be observed in the LEA, although they were not so pronounced.

Interpretive strategy stresses a model of organisation where key strategic features of organisational 'reality' such as organisational-environment relationships, employee-management relationships and organisational structure are socially-constructed realities. There may be many such realities existing in an organisation, but the most important ones are those of the key decision makers. It is their definitions of reality which select the market segments in which the firm is to operate, how it is to be served, and what these strategies mean for functional policy formulation and implementation. The policies and systems that are enacted to service these strategies also help to realise them. If, for example, it is

considered that cost reduction is the basis of competitive advantage, then the firm will operate in those market segments where cost competition is important. Internal operations both shape and reflect this reality. Organisation structure, rules, policies, goals and procedures both reflect this construction of reality, but also serve as what Morgan (1986) calls an "interpretative lens" (p.132). They structure perception and analysis, define priorities and identify solutions for other members of the organisation. In this way shared perceptions, values and meanings can be created. Organisations enact their construction of reality; they become what they think and say they are.

These were overt themes in the Tioxide and BSC case studies, the Borough Council, the Contract Engineers and the Potash Mine. In all of these examples there was clear evidence of key managers choosing their market segments, defining how they intended to compete and of manpower policies acting as a series of interpretative lenses by which employees and others defined what the competitive strategy meant for manpower management. It was difficult to interpret manpower strategy outside of this context.

For example, in BSC's case the competitive strategy was CR. They intensified their dependence on commodity-type markets where cost control was crucial. This strategy was clearly tracked by manpower policies in pay, manning and work organisation which both reflected and reinforced the socially-constructed reality. At this level of analysis some of their policies become understandable. They may not have made sense when viewed as a set of 'rational' policies designed to deliver lower product costs. Their most valuable function may have been both to share the value, and to give meaning to the message that costs were the creed.

These messages could be conveyed in other ways. The new manager of the Potash Mine had his own interpretation of the market segments to be served, and his own interpretation of the types of working relationships which managers needed to establish if the organisation was to prosper. He conveyed these in ritualistic manner by ceremonially and publicly tearing up the trappings of bureaucratic manpower administration. This incident had acquired the status of an heroic myth in the organisation.

What are the links between interpretive strategy and the choice of competitive strategy? This is difficult to discern in detail. Interpretive strategy is not well understood. But it is possible to trace some tentative connections. Interpretive strategy rests on the concept of a socially-constructed reality, where meanings are matters of interpretation, judgement and perception of key decision makers. The choice of competitive strategy and its links with manpower strategy are lodged in the phenomenological world of managerial judgement and perception.

If it is accepted that the choice of these strategies is in part an interpretive process, then the question arises: is it possible to flesh out the different phenomenological worlds in which these choices are located? The study does contain evidence which permits a tenuous, speculative and highly-inferential identification of the main dimensions of these worlds and how they differed.

The research has identified two generic strategies. A third type, the Service Sector has been discussed, but this is a differentiated type of CR model. The ensuing discussion is greatly simplified if the discussion is solely focused on the two generic types. Decisions about corporate strategy were differentiated by managerial attitudes to:

- risk;
- innovation;
- definitions of the product;
- tolerance of uncertainty;
- labour cost.
- time horizons;
- customisation;
- definitions of the consumer;
- sources of growth;

Attitudes to risk; CR firms were risk averse, PMB firms were risk accepting. A very simple tool of strategic analysis which can be used to explore this dimension of managerial mentality is an Ansoff Growth Matrix (Ansoff, 1968). This conceives the strategic choices for growth as a two-by-two matrix: firms have to make decisions about the products and markets they wish to wish to serve and offer. Figure 11.1 illustrates the concept.

Figure 11.1. The Ansoff Growth Matrix

		PRODUCTS	
		old	new
MARKETS	old	1	2
	new	3	4

The matrix depicts four growth strategies. Quadrant 1 is to sell existing products in existing markets; quadrant 2 to sell new goods in old markets; quadrant 3 depicts the sale of existing goods in new markets; quadrant 4, a move to new markets with new goods. Quadrant 1 is a risk avoidance strategy; it avoids the unknown. The remainder involve some degree of risk acceptance, with quadrant 4 involving the most risk.

All the CR firms were following quadrant 1 strategies: they were selling existing products in existing markets. Growth in such a strategy is accomplished by strict cost control. All the PMB firms were following strategies in quadrant 2 (The Potash Mine, The Plastic Floor Company); or quadrants 3 and/or 4 (Tioxide, The Contract Engineers and the Builders' Merchant). These are high-risk strategies which carry relatively little guarantee of success. Their assiduous pursuit indicates a high degree of risk acceptance.

Time horizons; the CR organisations seem to have worked to shorter time horizons. In BSC's case there were target dates for financial recovery driven by impending privatisation. In the other CR firms there was a sense of long-term uncertainty about the future of the operation: there was a fear of being sold-off or liquidated unless the organisation was quickly established on a sound financial footing. These were especially marked in Chemco and the Brewery. By contrast, there is not the same sense of urgency in the PMB firms.

Innovation; attitudes to innovation can be simply stated: CR firms changed their processes; PMB firms changed their products. Changing processes is the essence of plant loading;

changing products is at the heart of PMB. 'Innovation' as a class of behaviour did not discriminate between firms. Rather it was what was being innovated and the strategic objectives. The concept of 'technical change' has no centrality in this analysis.

Customisation; PMB firms were marked by a high degree of customisation. At the highest level of customisation some firms defined themselves as 'customer problem solvers'. Since all customers were different with dissimilar problems, all products need to be customised. These concerns were absent in CR firms: here the problem was to meet technical specifications. In the BSC case, there was a policy of reducing product variety: this was the opposite of a trend to customisation.

Definitions of the product; this was closely related to the issue of customisation. CR firms defined their products as commodities; PMB firms referred to 'jobs', 'merchandise', 'products', 'lines', or 'services'. These are all non-commodity labels which stress product uniqueness and variety, albeit in different ways.

Definitions of consumer; CR did not have consumers or customers; they had market segments to serve. The interview transcripts and case study do not reveal a single named example of a corporate customer for a CR firm. All sales were made to industrial sectors such as 'shipbuilding' or 'chemicals'. In the PMB firms sales were usually made to named firms.

Tolerance of uncertainty; CR firms were marked by low tolerance of uncertainty. The function of domain management was to reduce uncertainty through regulating the competition. PMB firms were marked by an acceptance of uncertainty as something that has to be managed in the system, rather than be managed out of it.

Sources of growth; CR firms controlled costs by managing engineering and administration; PMB generated revenues in the market place.

Labour cost; CR firms saw labour as a cost to be minimised and as something to be externalised wherever it was economic to do so. PMB firms saw labour as an asset, as a source of income generation or economic rent. These differences were often reflected in the

language the managers used to describe their employees. CR managers referred to 'labour', 'the workforce' 'workers' and 'headcount'. PMB managers talked about 'people', 'guys', 'staff' and 'employees'.

This section can be concluded by stating that there is some symmetry between these dimensions of the managers' constructions of reality and manpower strategy. If a workforce is required to live with risk acceptance, tolerate ambiguity, make product innovations (which, unlike process innovation, cannot be contracted out); operate over long-time horizons, develop personalised relations with consumers, develop good product knowledge; then there are major implications for the way in which issues of labour stability, control, performance, feedback, reward management and skills, have to be construed and managed.

If the managers' perceptions of competitive strategy were not matched by a symmetrical set of perceptions about manpower strategy, then there were implementation difficulties. This was particularly the case with PMB strategies which appeared to be heavily dependent upon interpretive strategy. It is significant that Porter (1985) cites 'discretionary policy choices' as the most important driver of differentiation. This stands in stark contrast to the minor role assigned to them in CR strategies. The clear inference is that the managerial imagination is the most important component in a PMB strategy, whilst CR depends upon the efficient use of hardware. Porter lists 'policy choices' tenth in a list of ten cost drivers (1985).

Key elements of interpretive strategy such as the perception of the organisation as a social contract; strategic behaviours such as the development of symbols; and the improvement of interactions and relationships can be discerned in Tioxide; the Potash Mine, with the destruction of the job descriptions; and in the Contract Engineers, with their attachment to the 'one-rate shop'. Where there was PMB, but no discernible interpretive strategy, as at the Builders' Merchant and the Plastic Floor Factory, then the PMB strategy ran into implementation difficulties. The strategy did not appear to 'gel'.

WHAT COMPETITIVE STRATEGIES ARE DEPLOYED BY ORGANISATIONS?

Porter (1980, 1985) has identified two competitive strategies: cost leadership and product differentiation, which broadly correspond to the CR and PMB strategies discovered in this research. The research has uncovered a third type, that is a Service Sector model. This is a differentiated type of CR model. It is differentiated by the need to provide a service rather than a product, in organisations whose cost structures were dominated by labour costs, and where there was a high level of PMB-type activities.

The evidence presented in chapter 10 from the primary sources was not corroborated by that in the archive source. The data in the BIFU files hinted at the existence of two models, one of which was similar to a Service Sector model, the second of which had much in common with a CR model. The CR model appeared to be emerging in banking as technological advance made possible the widespread substitution of technology for manpower. Such substitutions were not possible on grounds of marketing strategy, technological feasibility or morality in the Service Sector. Further research is needed to clarify these models.

What is the significance of these competitive strategies for the manpower system? The most important implication of these strategies for the manpower system concerns manning. A major concern in a county like Cleveland will be the need to develop competitive strategies which provide employment. As was indicated in chapter 1 the period covered by the study was dominated by the issue of unemployment. The evidence presented in this study is clear. If the aim is to improve employment prospects, then Cleveland-based organisations have to follow PMB and Service Sector strategies. All of the CR firms, with the exception of Nyco, were marked by a massive collapse in employment. BSC's manning level fell from about 19,000 to 6,000; Chemco declined from 11,000 to 6,000; and the Brewery lost 300 jobs. The index of employment for the three CR firms in the NEEEA archives fell from 100 in 1980, to 60 in 1986. In Nyco's case the increase in employment was minimal: less than 20 people were taken on as output expanded.

By contrast, employment expanded or was at least maintained in the PMB and Service Sector. In the Contract Engineers it rose from 100 to 125; there was a rapid expansion both

of depots and employment in the Builders' Merchant; manning rose from 150 to 230 in the Plastic Floor Factory; the Potash Mine expanded from 800 to 900 as a result of the PMB strategy; in the three public Service Sector organisations, employment had either held up or was showing slight increases. The PMB firm in the NEEEA archives actually increased employment in the early years of the decade at a time when employment in engineering and construction was rapidly falling. It is true that by 1986, the index of employment in this firm had fallen to 95, but by and large, employment in this firm held up or expanded over the period of the study. The employment levels in banks were maintained. Numbers employed at Tioxide's Greatham factory increased from 356 in 1981, to 435 in 1986.

The conclusion is clear and inescapable. If the objective is employment growth then organisations have to pursue PMB or Service Sector type strategies. The reasons are not difficult to discern. Industries such as steel and bulk commodity-type chemicals have a future. Piore and Sabel (1984) are incorrect when they predict the death of these industries in European and US economies. But they do not have a future as large employers. The dynamic of competitive advantage is to secure competitive advantage by securing cost reductions through more efficient production systems based on fewer, but more effective units of plant, and the more cost-effective use of expensive raw materials. This process will continually present management with opportunities to shed labour and these opportunities will be taken. There will be growth, but it will be jobless growth.

The reasons why employment has expanded in PMB and the Service Sector are more complex. An important reason for PMB organisations is that there is a growing market for goods differentiated by quality, service, customisation and consumer problem solving. Customers will pay a price premium to secure such goods. Firms which satisfy these needs will succeed and will be confronted by expanding order books. For some PMB firms, such as the Plastic Floor Factory and the Potash Mine, the route to expanding output may be seen to rest with technology. But in both cases it would appear that the demand expansion effect overcomes that of technological substitution.

The effects on skill levels of employees of PMB organisations are more complex. In some of the PMB firms the strategy did appear to be associated with a general upgrading of employee skill levels. This was particularly the case with the Contract Engineers, the

Builders' Merchant, and Tioxide. It was not so marked in the Plastic Floor Factory or the Potash Mine. The distinguishing features between them appear to be the degree to which the PMB strategy embraces customisation and problem solving; and the presence of a set of supportive management values. These factors set the Contract Engineers, the Builders' Merchant, and Tioxide apart. The reasons why these two factors should be conducive to reskilling are easy to locate. Customisation and consumer problem solving cannot be embedded in technical and administrative processes and routines. Needs vary between individuals; tailored approaches are required. A flexible production technology is required for the production of goods. With service and administrative work, customisation and problem solving may require that administrative routines are ignored in the customer's favour.

But this comes close to arguing that the demand for reskilling is a solely a function of the properties of the product, service and associated production system. This was not the case. Management values influence the process. Tioxide's production system had far more in common with the Plastic Floor Factory and with Chemco, than with the Contract Engineers or the Builders' Merchant. Tioxide's experiences deny the validity of an analysis rooted solely in the physical properties of the product and technology. Tioxide's experiences support the argument that employee skill levels are matters of managerial judgement and interpretation.

The economics of production of many PMB firms were important in influencing attitudes to employment. For many of them, labour costs were secondary to raw material or energy costs. The Plastic Floor Factory and Tioxide were cases in point. In Tioxide the key cost elements were feedstocks and capital costs. The route to cheap production of a good quality product lay in a group of process operators who could function as a team to monitor and control a highly problematic and not well-understood production technology in such a way as to maintain quality and recover chlorine. The creation of skilled teams was central to this strategy. Maintaining them meant changing from a four-crew to a five-crew shift system; and employing more people rather than less.

In the AHA, employment held up due to demographic shifts. But in the Borough Council and the LEA it was mainly due to political decisions about the level and type of services to be

offered to the local community. This point needs to be stressed. Increased employment was not a naturally occurring feature of public sector employment. Without these types of value-driven political commitment to the maintenance or expansion of services, then employment will fall.

The varying potential of different competitive strategies can be linked to the earlier analysis of the connections between the environment and the manpower system. There it was suggested that decisions about choice of market domains, and the contribution that manpower system could make to their achievement, was fundamentally a problem of the perception, judgement and interpretation of key decision makers. The study contains plentiful evidence that the choice of competitive strategy, and therefore by implication, of employment levels, was made by a similar process.

The decisions to pursue PMB strategies at Tioxide, the Plastic Floor Factory, the Builders' Merchant and the Potash Mine were conscious managerial decisions. A CR-type strategy was open to them all and doubtless there would have been some sort of future for them with such a strategy. But it is difficult to argue with the proposition that the way they would have achieved growth with a CR strategy would have been any different from the jobless growth route taken by the other CR firms in this study. This argument is conditional on the existence, or potential existence, of those niches necessary to support the PMB strategy chosen. This is a study of the survivors, not of those who have failed. But the evidence presented indicates that even the most humble commodity-type product can be differentiated by a careful analysis of customer needs.

The final conclusion that can be drawn from the research about the connections between competitive strategy and manpower strategy is that not all changes in manpower strategy can be attributed to the need to develop competitive strategy. Two other strands have been detected in the rope of manpower strategy. One was the structural conflict of interest between capital and labour: certain manpower strategies, such as redundancies and wage cuts, appear to be explained by capital's attempts to maintain their share of income at labour's expense. A second strand related to idiosyncratic happenings of a 'one-off' nature, possessing an accidental character, which apparently wander into the manpower system.

The tightening of supervision reported in the Borough Council is a good example. This could be analysed as a perverse consequence of local unemployment.

It can be concluded that competitive strategy is a necessary condition for understanding manpower strategy, but it is not sufficient.

WHAT MANPOWER STRATEGIES ARE ADOPTED TO IMPLEMENT COMPETITIVE STRATEGY?

The conclusions about manpower strategy can be discussed under four headings. These are:

- organisation structure;
- the significance of redeployment;
- skill and training issues;
- the relevance of the IMS model of employment policy.

Organisation structure; the research findings clearly point to the existence of different types of organisation structure being associated with CR and PMB strategies. The organisation structure adopted for the pursuit of CR strategies was characterised by functional job groupings and the centralisation of decision making. These organisational changes were consistent with the search for cost reduction. The subsuming of plants under central control, confirms Porter's (1980) analysis that the central manpower concern in cost reducing operations in mature industries is the organisation of plants and management work. The evidence does not confirm that view that all organisations need to adjust to a changed environment by adopting flatter, wider organisational structures characterised by delegation, and decentralised decision making. Centralisation and functional expertise as keystones for organisation structures point to the continuing relevance of the ideas of Scientific Management in CR organisations.

By contrast, in PMB firms the dominant form of reorganisation is the regrouping of jobs by area or geography. In PMB organisational types the need is for decentralised decision making and grouping jobs by geography is consistent with that objective. Control could be exercised by higher management by specifying the geographical area's outputs. These could

be financial targets (the Builders' Merchant) or plant efficiencies (Tioxide). It is a form of organisation structure which enables the delegation of decentralised decision making, whilst enabling the managers who reside in them to develop their own structures in the groupings appropriate to their definitions of their needs. The experiences of BSC stand in sharp contrast. The intensification of their CR policy is accompanied by a shift from geographic job groupings to a functional one based on product and process.

The significance of redeployment; one of the central features of this research is the discovery of the importance of redeployment. It is important both in its own right and because it is the pivotal link which connected a number of manpower policies. It is significant for the following reasons:

1. It is the dominant form of flexibility. Flexibility of time, function and numbers pale into insignificance when compared to the primacy managers gave to this aspect of manpower management.
2. Redeployment is the overarching form of flexibility. It dominates the Service Sector and the CR models. It is not found in the primary data sources of the PMB models, although it does appear in the archive source.
3. It is the analytical concept which distinguishes employment security from job security.
4. In CR organisations it links with a number of important policies, especially reorganisation and demanning.
5. It provides the proper analytical context for the phenomenon of 'harmonisation of conditions'. It shows that this label has no conceptual validity to describe payments made to facilitate redeployment. This class of payments is better described by the term 'mobility payments'.

It was so important because it was relevant to so many of Porter's (1980, 1985) drivers of cost and differentiation, especially capacity utilisation, timing, location, interrelationships, integration and learning. It gave better utilisation of the labour factor itself, but in

conjunction with other policies on reorganisation and job groupings it permitted better maintenance of the plant. The establishment of a common pool of labour to cover whole works organised in a central organisation permitted the merging of engineering functions; savings on overheads; and offered opportunities for integration between the separate functions. Thus it facilitated multi-functional learning. As the operational arm of 'no redundancy' agreements, where managers chose who 'volunteered' and who was redeployed, it helped managers retain the services of key workers, thus ensuring that learning was not lost to the organisation.

The research shows that the management of redeployment was not always trouble-free. It was the cause of a major dispute in the Process Plant Foundry. Its connection with the provision of company cars shows that it could be expensive. Its management requires care. When managers are planning 'harmonisation' measures to facilitate flexibility they need to ensure that the geographical aspect of flexibility is to the fore when harmonisation strategies are devised.

Skills and training issues; there is no sign of the systematic, large-scale, strategic manpower change aimed at creating a skilled, creative workforce committed to reducing costs. Measures to create and support such a workforce, such as training, the dispersal of information throughout the workforce, the involvement of employees through problem solving, the sustenance of motivation through reward and feedback systems, are all largely absent.

But it is in the PMB firms that these shortcomings can be seen in their most overt forms. These organisations were characterised by the search for new blood. Recruitment, increasing manning and training all represented a search for new people. The case can be made that human asset building is a manpower strategy which is relevant to the implementation of any type of competitive strategy, but there is little doubt that it was in the PMB organisations where the failure to do so was most acutely felt.

In Chapter 9 it was noted that the failure of many of the PMB firms to develop employee skills along with their competitive strategies inflicted severe costs upon them. The Builders' Merchant had to resort to a policy of takeovers to meet their ambitious growth plans because

their existing employees could not grow fast enough; the Plastic Floor Factory's transition to CIM was seriously impaired by the lack of a sufficiently trained workforce. In the Contract Engineers, the picture was one of an impaired response to the organisational changes demanded by their strategies. Here the costs appear to have had a personal dimension.

Why were these human asset building strategies implemented in Tioxide and not elsewhere? The answer is management values in the perception, personal values and judgement of key decision-makers. This kind of impetus and political commitment is necessary to overcome objections rooted in short-term rational efficiency which result in production and financial requirements taking primacy over human asset building.

The research raises important questions about the availability of skilled labour at every level. The study indicates that there were massive skill shortages in a labour market marked by the worst unemployment in Great Britain. The evidence concerning the difficulties in recruiting are consistent with the argument that Great Britain lacks skilled manpower at every level of the workforce (N.E.D.O., 1984; Nichols, 1986), but especially engineers, scientists and managers (Prais, 1981). Tioxide apart, the data suggest a picture of either no training at all, or crisis training. It is entirely consistent with the argument that British managers have a cost minimising, short-term approach to employee development (MacInnes, 1987). If these experiences can be observed in an 'easy' labour market like Cleveland, then this raises the question of what has been happening in regions which have been more economically vibrant.

The IMS model of employment policy is not sustained in this research. It is possible to make a number of conclusions about the IMS model. It is limited in scope. It is concerned only with the management of blue-collar, administrative, clerical and professional work. It ignores the organisation and structuring of managerial work to deliver strategic objectives. It does not account for the powerful role of morality and values as determinants of manpower policy. It has no relevance to many aspects of competitive strategy: in many organisations costs are not going to be reduced significantly by cuts in wages, hours and headcount; energy costs, quality and issues of plant location are the keys to competitive cost-cutting. Numerical and cost flexibility were irrelevant to their needs. It does not address the skill and training needs of PMB firms.

The IMS model occasionally had some validity in describing these processes. Contracting maintenance work could make strategic sense and the IMS model's description of the importance of part-time work as a means of matching supply and demand in the Service Sector cannot be challenged. These developments occurred. But its validity does not extend beyond its descriptive powers. It sheds no light on the processes by which manpower strategy was linked to competitive strategy.

There were no conscious attempts observed to create a 'core' or a 'periphery' group. The study included BSC, an organisation in which the IMS model had been alleged to exist in a highly-developed state. There was no sign of the creation of a 'core' group characterised by life-time employment and functional flexibility. Contract work had increased, but it accounted only for a very small proportion of the workforce. What attempts there were at functional flexibility both at BSC and elsewhere were limited to a small range of issues on inter-craft boundaries. Chemco and the public sector bureaucracies gave assurances of no redundancy, but the phenomenon of redeployment meant that was not the same thing as a job for life.

Finally, the IMS model has nothing to say about the most common form of flexibility encountered in this study, redeployment. It is far from clear how this policy relates to the IMS model. But it was important and it can be explained by a careful analysis of how it related to the drivers of cost.

COMPETITIVE STRATEGY AND MANPOWER STRATEGY: SOME ALTERNATIVE MODELS

The destruction of the IMS model raises an important question: what models can be suggested to take its place? The thesis advanced in this research is that what organisations were seeking from their manpower systems was a response appropriate to the delivery of one of three types of competitive strategy. This involved them in the management of the drivers of cost and differentiation as described by Porter (1980, 1985). The search for a manpower system which could manage the drivers of cost and differentiation demanded by the competitive strategy produced three configurations of corporate strategy and manpower strategy.

The first model of competitive strategy is CR. The manpower strategies are centralisation of decision making, functional job groupings, capacity utilisation management, integration, demanning, contracting and redeployment. The dominant manpower management issue is **the management of mobility**. The major issues relate to the construction of a mobile workforce and the management of labour flows. The dominant concerns are the movement of manpower. Specifically, the concerns are the management of:

- demanning, or how to control flows out of the organisation;
- contracting, or how to manage flows into the organisation;
- redeployment, or how to manage flows of manpower around the organisation.

The evidence on demanning indicates that its management is not a problem. All but one organisation encountered in the primary data sources managed it without recourse to redundancy. There was never any shortage of volunteers; managers could choose who stayed and who 'volunteered'. On the whole, unions were powerless to prevent managers appealing over their heads direct to the workforce. But it is expensive, the predominant method of redundancy compensation being a lump sum related to age, service and earnings. There was little sign of experimentation with methods of redundancy pay administration which might be cheaper, fairer and better forms of social security, such as a weekly supplement to state social security benefits to bring unemployment benefit up to average earnings for a specified duration. Such systems are common in Scandinavia and Eire: they are cheaper, they ensure that the benefit goes to people who need it and they are much less of a drain on cash-flow. These policies are much more consistent with CR strategies.

While the demanning process was usually problem-free, this was not guaranteed. Two firms who demanned using compulsory redundancy ended up in an Industrial Tribunal where the grounds for redundancy selection were challenged. At least one of them, the Plastic Floor Factory, lost. The procedure should not be taken for granted.

The management of contractors poses a dilemma in CR strategies. The obvious reaction is to encourage cut-throat price competition amongst possible contractors and award fixed-price contracts to the lowest bid. It is doubtful whether this is the best way to reduce costs in the

long-term. If contractors are to deliver to price and specification and remain interested in the business, then close working relations are demanded: contractors require incorporation and education if they are to get their prices down. There is little future in combatitive relations with contractors and there is no point in changing them every year or so on the basis a few pence per ton or per hour. Such a strategy will ensure that both the firm and the contractor will always remain at the top of their mutual experience curve, and thus unable to develop the joint experiences which would save them both costs.

As for the virtues of fixed-price contracts, the firm needs to have a very clear picture of how cost is to be reduced. What is the strategy for cost reduction? If the strategy is directed at labour-intensive pockets of easily obtainable, unskilled labour then fixed-price contracts might make sense. But if the conditions are such that firm cannot specify its needs or if it requires complete numerical flexibility on the numbers of skilled staff for 'peak-logging' on maintenance for expensive capital equipment, then a contract form such a schedule of rates or a reimbursable form might be required.

How is redeployment to be managed? Although redeployment was hardly a strategy of radical change, it was difficult to implement. Firms should do two things: firstly, they should ensure that geographic mobility is incorporated in their harmonisation agreements. Typically, such arrangements aim to eliminate differences in employee by status. Differences in location should be specifically included in any audit of conditions of employment. Secondly, firms should not allow geographical conservatism to set in with their workforce. Move the workforce around: get them used to the idea of continual mobility. Develop a job rotation scheme to move people around the different geographical pieces of the business. It would be a good source of staff development quite apart from its contribution to redeployment.

The second model of competitive strategy is a Service Sector, a differentiated version of a CR strategy. The key drivers are the capacity utilisation of labour; timing, location and the provision of intangibles. The management issues are the careful matching of demand and supply of labour, and of ensuring that labour is in the right place at the right time to be available to be consumed as it is demanded. The emergent manpower strategy is the management of synchronisation and intangibles. Problems of location and timing

are essentially problems of synchronisation; the provision of intangibles is, as usual, more difficult to define.

The key manpower policies in this strategy are:

- the management of redeployment;
- the management of attendance;
- a workforce who can diagnose and supply the intangibles demanded by customers.

The management of redeployment; the issues here are the same for CR firms., but the main source of change in the driver of location is demographic shifts. Unlike plant location, this is not under the direct control of the organisation, so redeployment is likely to be of greater strategic significance to Service Sector organisations.

The management of attendance; this is the principal route to labour cost reduction in Service Organisation. Part-time work, split-shifts, and new roster systems assume a strategic significance in Service Sector organisations. The problems relate to the quality of labour which is supplied in response. There are clear tensions between a dependence on employees who, in terms of their attendance patterns, are not fully integrated into the organisation and the need to have a workforce who can implement the third arm of Service Sector strategy, the management of intangibles. The delivery of intangibles is in the hands of the workforce: training, communication and feedback on performance are all required if employees are to perform effectively in this domain. How are these to be implemented on a workforce that is not present for a full working week? How is team training to be done with groups of people who never see each other?

Harmonisation and comprehensive equal opportunity policies can help. Part-time employment is predominantly female intensive; sex discrimination policies can help ensure that groups of women are included in training and appraisal systems. But the evidence from the public sector bureaucracies suggests that these policies need to be backed with a strong set of management values if they are to be effective. These were missing in the private Service Sector. In this sense Service Sector managers are foolish to ignore the potential that

harmonisation and equal opportunity policies can have to help implement a Service Sector strategy.

The creation of a workforce who can diagnose and supply the intangibles demanded by customers; in a Service Sector strategy the last act of production will take place at the point of consumption. There are no buffer stocks and inadequate acts of service cannot be recaptured. Customers' needs vary, and many of them cannot be precisely specified in manuals and operating procedures written in Head Office with some notional 'average' customer in mind. The concept of a problem solving employee is relevant here. Employees are required who can talk to customers, diagnose their needs and advise them of the alternatives in the light of excellent product knowledge.

This problem solving mode of behaviour requires decentralised organisation structures. Employees need to be empowered to solve problems; and in large, bureaucratic structures consumer problem solving demands an entrepreneurial, buccaneering staff. This is because consumer problem solving may require the bureaucratic routines and administration to be ignored in the customer's favour. This requirement points to another tension in Service Sector strategies. How can these types of initiative be inculcated in a staff who are part-time and therefore marginalised in terms of job and income security?

The third strategy is a PMB strategy. The management issues are the management of uniqueness. The emergent manpower strategy is **human asset building**. Uniqueness cannot be created solely by technologies or embedded in bureaucratic routines. Simple technologies and systems are required to be operated by a skilled workforce.

The key manpower policies in this strategy are:

- the creation of a skilled workforce;
- management development;
- the creation of appropriate organisation structures.

The creation of a skilled workforce; the responsibility is on the firm to provide the relevant training. The study contains ample evidence that firms who do not provide the training their

employees require, need not expect anyone else to have done their training for them. Training is not a cost, but an investment and one which will be recouped if the firm develops a strategy for the retention of its people. Employment stability is essential for either party to invest in it. PMB firms need to develop reward, appraisal and development strategies which encourage people to stay once they have been trained.

Management Development; the study contains evidence that one of the largest factors impeding the development of PMB strategies is of a certain managerial resistance to change - 'Luddism' is too strong a term. If PMB strategies are to be successfully implemented, then managerial thinking has to be kept fresh. In particular all managers need to be continually aware of the crucial importance of three sets of relationships in a PMB strategy. These are: the managers' relations with customers; their relations with their employees; and their relationships with each other. Any management development strategies which raise their consciousness in these areas are worthwhile and need no other justification. Outdoor management development, transactional analysis, gestalt psychology and competency awareness are all justified if they raise managerial awareness in these three crucial areas.

The creation of appropriate organisation structures; PMB strategies require polivalent organisational structures, where performance is measured by output. This study points to the importance of grouping jobs by geography as a major part of a PMB strategy. Within such groups there is the potential for managers create their own working arrangements: they can convey empowerment to the managers who are responsible for implementing PMB strategies.

THE IMPLICATIONS FOR MANAGERIAL ACTION, EDUCATION AND TRAINING

1. Managers need to examine their businesses and identify the model of competitive strategy which is relevant to their business unit. If the business appears to embrace more than one competitive strategy, then there is a need to reorganise the business around them. They are going to require different treatment.

2. Examine the importance of labour costs in the business. Do so in the light of a thorough examination of the firm's accounting systems. Do they fully and fairly reflect labour costs? If labour costs are not important, that is more than one-quarter of total costs, then do not worry about them.
3. If the firm is engaged in manufacturing, then management should look to the management of raw material costs and capital equipment. These areas offer far better paybacks for cost-cutting efforts than the workforce.
4. Critically examine the firm's organisation structures: functional structures characterised by centralised decision making are appropriate for CR strategies; PMB strategies require more polyvalent forms.
5. There are two manpower policies which are germane to every competitive strategy: contracting and redeployment. Learn to manage them.
6. Successful management of contracting requires close, rather than combative relations with contractors. Contractors should be chosen on the basis of trust and managed by incorporation. Educate their staff in the firm's requirements and educate the firm's staff in the contractor's *modus operandi*. There is nothing to be gained by 'distancing'.
7. Redeployment is the management of mobility. Encourage staff to be mobile through job rotation policies and check that harmonisation policies include the management of spatial flexibility.
8. Technology is not central to the management of strategy or manpower. This is especially the case in the Service Sector. Consider how technology relates to corporate and manpower strategy. The fact that policies are made possible by technology is no guarantee of that they will make strategic sense.
9. Train, train and train again. No-one else is doing the firm's training for them. Strategy-led training is reactive training and will usually be too late to be effective.

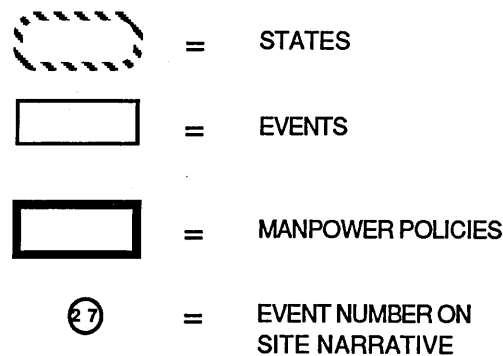
10. Critically examine the content of management and business education. Does it make sense to start management and business courses with substantial amounts of theoretical, positive economics, accounting and law? These are powerful, highly conditioning experiences for a young, naïve audience. They help to fashion an interpretative lens that may be appropriate in CR strategies, but is of doubtful validity in PMB and Service Sector strategies.
- 11 Educate managers in competitive strategy from the start of their education. It is best taught as core subject at all levels of management education and not a 'capstone' subject, its traditional role in many management courses. It is competitive strategy that is the starting point for the analysis of manpower strategy.

APPENDIX 1

SITE NARRATIVES AND EVENT-STATE DIAGRAMS OF THE INTERVIEW DATA

EVENT-STATE DIAGRAMS

The following legend is used on all of the event-state diagrams:



CHEMCO

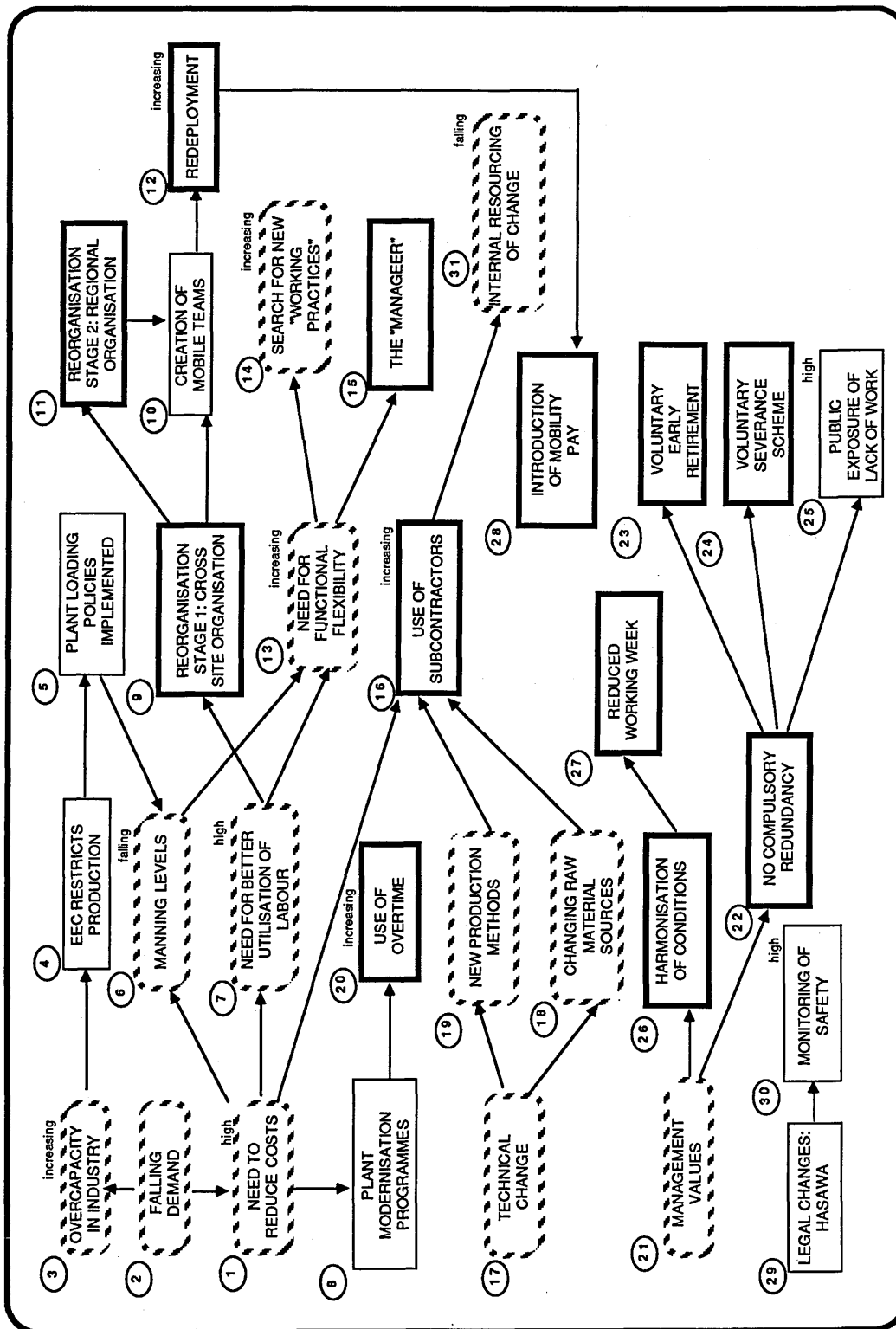
Competitive Strategy: CR.

A bulk producer of commodity nylon and plastic.

Manpower Strategy

The main theme in the company's history since 1980 was the need to reduce costs (1). Initially this was due to falling demand (2) and overcapacity (3), but the need for cost reductions was maintained in the face of a revival in demand which took place after 1983. These were seen as essential for increasing sales when demand revived. The overcapacity problem was general to the European commodity chemical industry. A cartel was formed (4); and under its auspices the industry concentrated production on fewer, more efficient units of plant (5). Consequently a number of plants closed.

EVENT-STATE DIAGRAM: CHEMCO



CR was to be implemented by three policies: continuously to reduce manning levels (6); better utilisation of the remaining labour (7); and a plant modernisation programme (8). All three strategies were pursued throughout the 1980s. Cuts in manning and better utilisation were to be achieved through changing the organisation structure (9); functional flexibility (13); and subcontracting (16). Before 1980 the site was a multi-product, multi-divisional site. After 1980 engineering and production functions were centralised, product-orientated forms of organisation were removed; and in 1986 the whole site was merged with its neighbour and formed into a semi-independent stand-alone subsidiary (9). One reason for the regrouping was to introduce new systems of work organisation (10) focused on a common site employer rather than a division, and based on the idea of mobile teams of engineering workers deployed (12) to cover the whole site. It was thought that ultimately they would cover the whole of the region (11).

Functional flexibility was also seen to be relevant (13) to cutting manning (6) and to better use of labour (7). The search for functional flexibility (13) led to a series of initiatives to extend a range of common skills in the engineering trades (14); and to the emergence of 'the manager' (15).

Subcontractors (16) were introduced to a range of white and blue-collar work. Reduced manning levels encouraged this dependency. The search for CR also stimulated contracting directly. Subcontractors could provide cheaper quotes for work. Technical change (17) in the form of changing raw material sources (18) and new production methods (19) which permitted off-site fabrication encouraged subcontracting. The use of subcontracting (16) was associated with Chemco's falling ability internally to fund change in its production systems (31).

CR depended upon a large and continuing plant modernisation (8) to raise plant efficiencies with debottlenecking projects. This resulted in an increase in overtime for groups of engineering workers (20).

Management values (21) drove a commitment to a 'no compulsory redundancy' policy (22). Manpower reductions were achieved by voluntary early retirement (23), voluntary severance (24) and public exposure of lack of work (25). As a matter of policy working hours were

harmonised for all workers (26) with ensuing reductions in the working week for manual workers (27). Mobility pay was introduced to facilitate the policy of redeployment (28).

The Health and Safety at Work Act (29) was cited as a cause of increased attention to safety (30).

THE BREWERY.

Competitive Strategy: CR

The search for cheaper methods of brewing and distributing predominates. The Brewery needed to make profits on a smaller and changed composition of production.

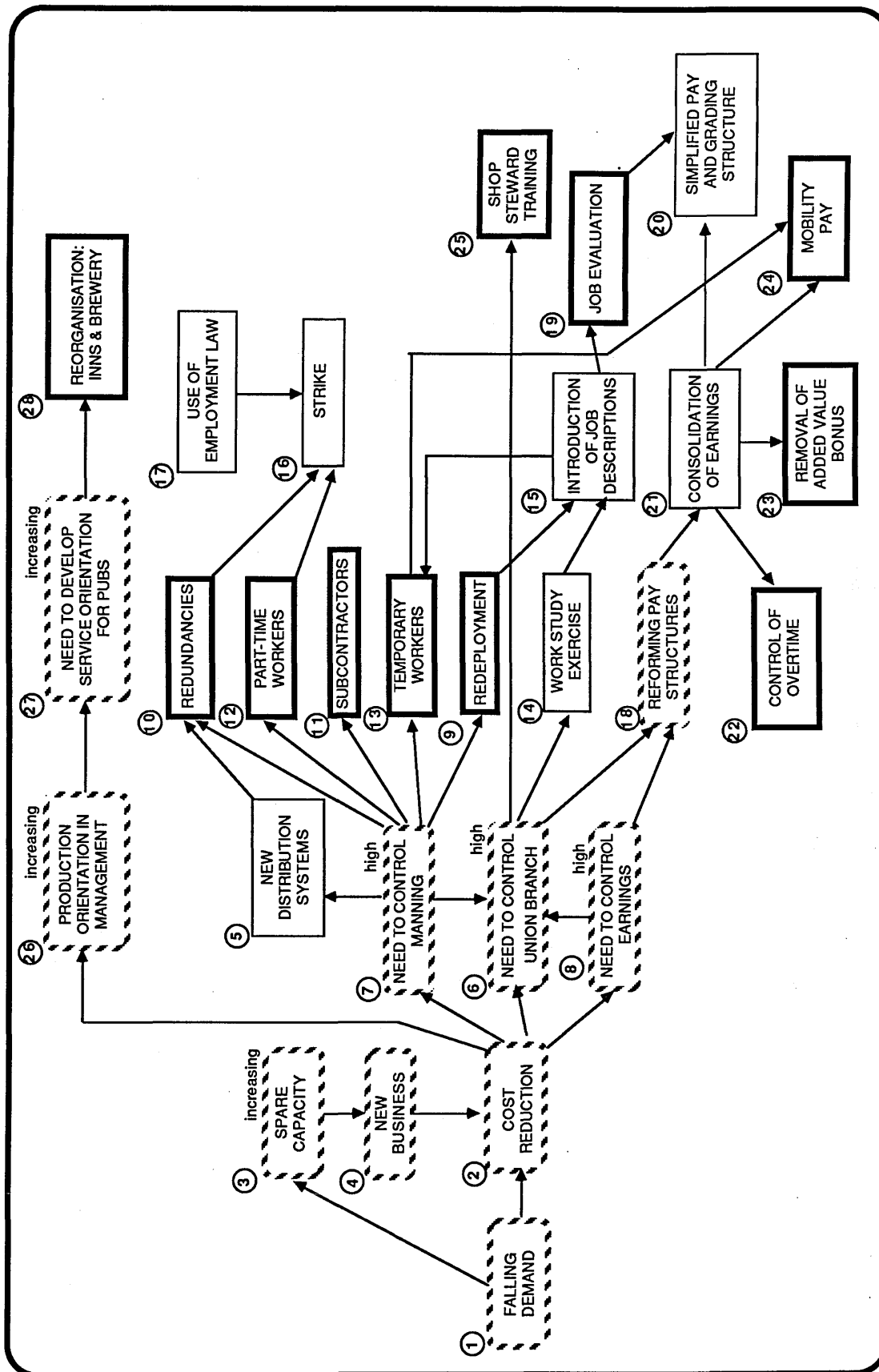
Manpower Strategy

In 1980 the brewery faced a rapidly declining demand (1) and needed to reduce its costs (2) to make profit on a declining volume of business. The drop in demand produced spare capacity (3); the brewery attempted to fill this by moving into the high volume, low margin retail business (4). The nature of these markets intensified the need for strict cost control. An important part of the CR strategy was the development of new distribution systems (5). Cost control gave rise to three manpower needs: to control the activity of a 'maverick' union branch (6); to reduce manning (7); and to control earnings (8). Successful control of the union branch was seen as essential for control of manning (7) and earnings (8).

Manning reductions were implemented by redeployment (9); redundancies (10); subcontractors (11); increased use of part-time work (12); and the use of temporary workers (13). A work-study exercise was launched to define manning standards (14) and job descriptions (15). These were used to implement redeployment (9). The redundancies and contractors produced a strike (16) and the managers used the 1980 Employment Act to control its effects (17).

The questions of earnings and the union branch were tackled by reforming the pay structure (18). This was affected using the job descriptions (15) produced by the work-study exercise (14) to introduce a job-evaluated pay structure (19) which simplified a complex grading

EVENT-STATE DIAGRAM: THE BREWERY



system (20). Variable elements in the earnings structure were consolidated (21), reducing the role of overtime pay (22) and removing an added-value scheme (23). Mobility payments (24) were introduced to facilitate the policy of redeployment (9). A shop steward training programme was launched to integrate the union branch into the company (25).

CR led to a production orientation in managers (26). This was not seen as appropriate for pub management (27), where the concepts of service, and drinking as a leisure experience, were important. Reorganisation followed (28) to reflect the two different needs of the business: brewing and hotel management.

NYCO

Competitive Strategy: CR

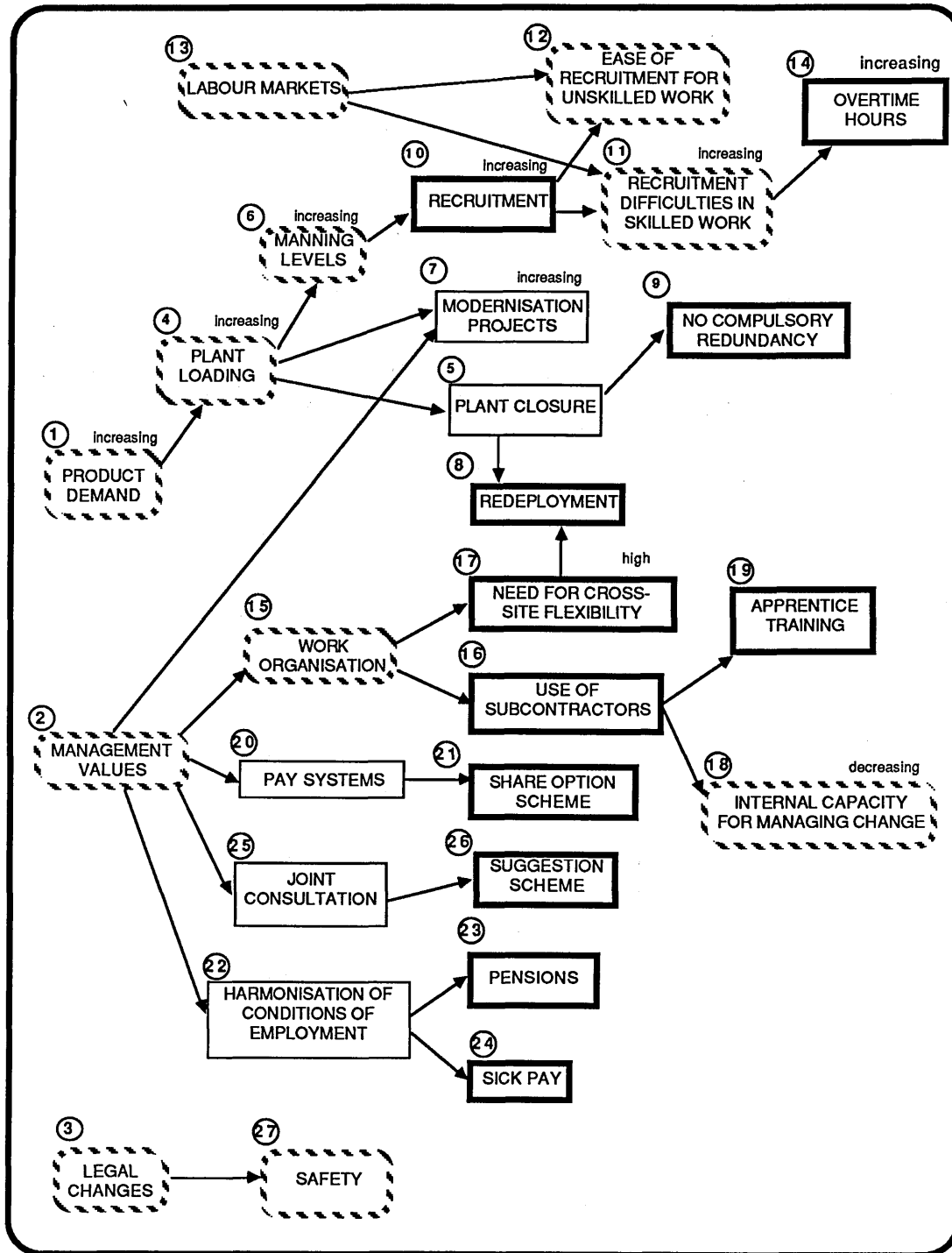
Nyco's mission was the provision of cheap feedstocks to its sister companies. Given its consistent role as a provider of cheap raw materials in a vertically integrated company, its competitive strategy can be regarded as CR.

Manpower Strategy

Manpower policies on the site can be explained by a steadily increasing demand for the product since 1980 (1); and a very strong and highly prominent set of management values (2).

Rising demand (1) was met with a policy of plant loading (4). This entailed the closure of inefficient plant (5); increasing staffing levels (6); and modernisation of plant (7). Staff affected by the plant closures were redeployed (8). There were no compulsory redundancies (9); manning reductions being achieved through natural wastage. Attempts to increase staffing levels (6) led to a recruitment campaign (10). This was frustrated by a shortage of skilled workers (10). This contrasted with an abundance of unskilled workers (12). Both conditions were blamed on the state of the local labour market (13). Failure to recruit led to an increase in overtime working (14).

EVENT-STATE DIAGRAM: NYCO



Management values were responsible for the most distinctive characteristic of the company's manpower policies, a system of work organisation which concentrated the company's internal management capability on engineering design and process development (15). The operational aspects were implemented by subcontractors (16). The system produced a policy of across-the-site flexibility for process workers (17). This facilitated the redeployment of staff deployed by the closure of inefficient plant (5). Subcontracting appears to have been associated with a declining ability to fund solutions to technical problems internally (18), but it was the main means by which the company did apprentice training (19).

Management values (2) also made cash available for plant modernisation (7); changes in the pay system (20), which led to the introduction of a share option scheme for managers (21), measures to harmonise conditions of employment (22), such as improvements in pensions (23) and sick pay schemes (24); and changes in joint consultation (25) with the introduction of a suggestion scheme (26).

Legal changes (3) appear to have prompted a number of safety initiatives (27).

THE POTASH MINE

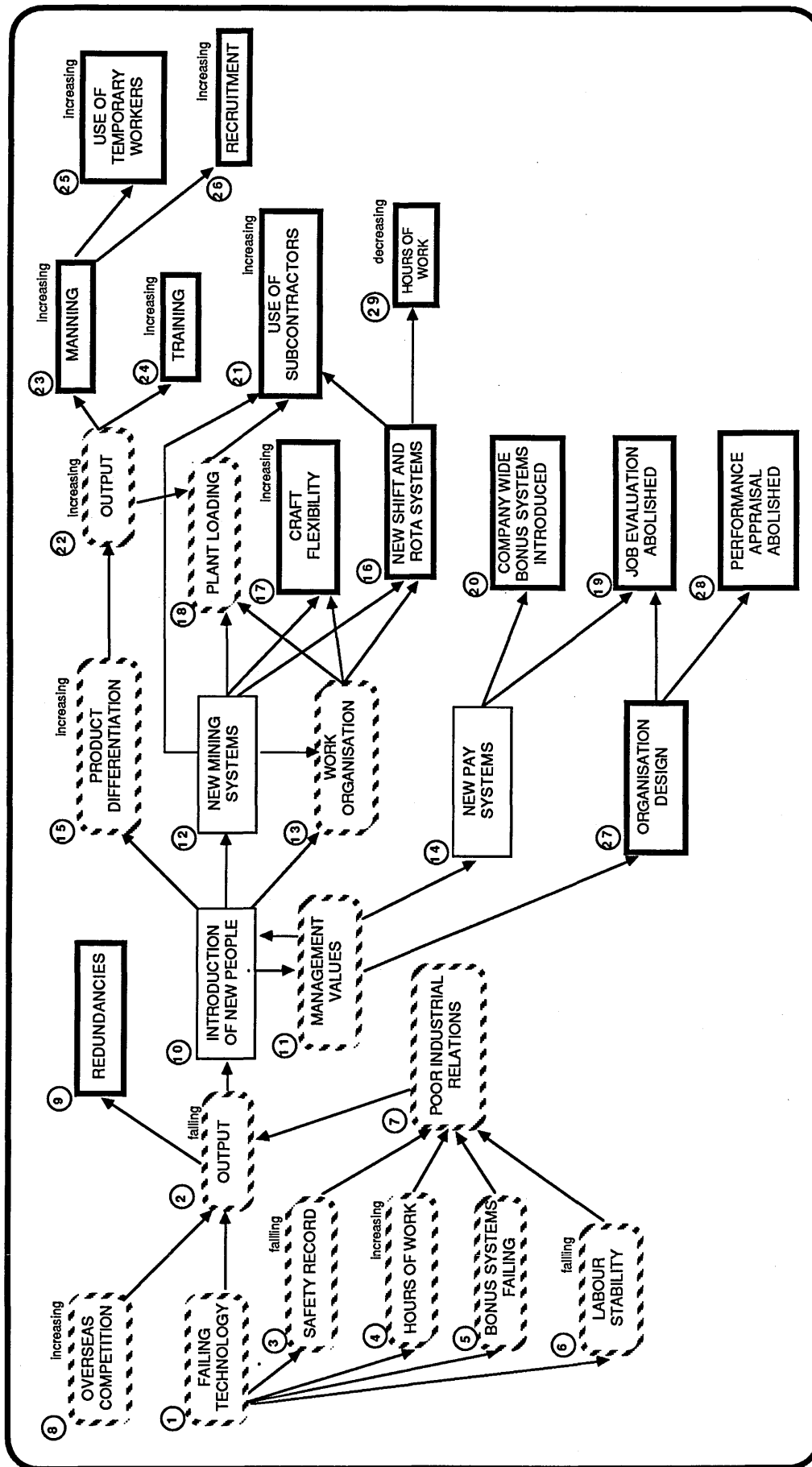
Competitive Strategy: CR 1980-1982; PMB thereafter.

A producer of potash fertiliser facing declining output and employment from 1980-82. A turnaround strategy from 1982 based on PMB strategies.

Manpower Strategy

In 1978 the company employed a failing technology (1). This was seen to be responsible for declining output (2). The technology also affected safety (3), meant long hours of work (4), decayed bonus systems (5), and declining labour stability. It was seen as a major cause of poor industrial relations (7). International competition grew from low-cost overseas producers (8). Between 1980-82 the response was to match falling output with demanning through compulsory redundancies (9).

EVENT-STATE DIAGRAM: THE POTASH MINE



The management team was replaced in 1982 (10) and led by a new manager with a markedly different set of values (11). The new management team introduced new mining techniques (12), new systems of work organisation (13), new pay systems (14) and a product differentiation policy (15). The new mining techniques (12) and new systems of work organisation (13) resulted in new shift and rota systems (16), which reduced hours of work (29), and encouraged an increase in subcontracting (21); a craft flexibility agreement (17), and a plant loading policy (18). The new pay systems effectively abolished job evaluation (19) and introduced a company-wide bonus scheme based on output (20). The new mining systems and methods of work organisation were dependent upon planned maintenance. This promoted the use of subcontracting (21).

The policy of product differentiation (15) increased demand for the product (22). Both manning (23), recruitment (26), and training (24) were expanded to cope with increased output. The increase in manning was in part met by a greater use of temporary staff (25) and recruitment.

The new management team introduced less bureaucratic forms of organisation (27); these were associated with the decision to remove the job evaluation system (19); and the abolition of the performance appraisal system (28).

THE PLASTIC FLOOR COMPANY

Competitive Strategy: CR 1980-82; PMB 1982-86.

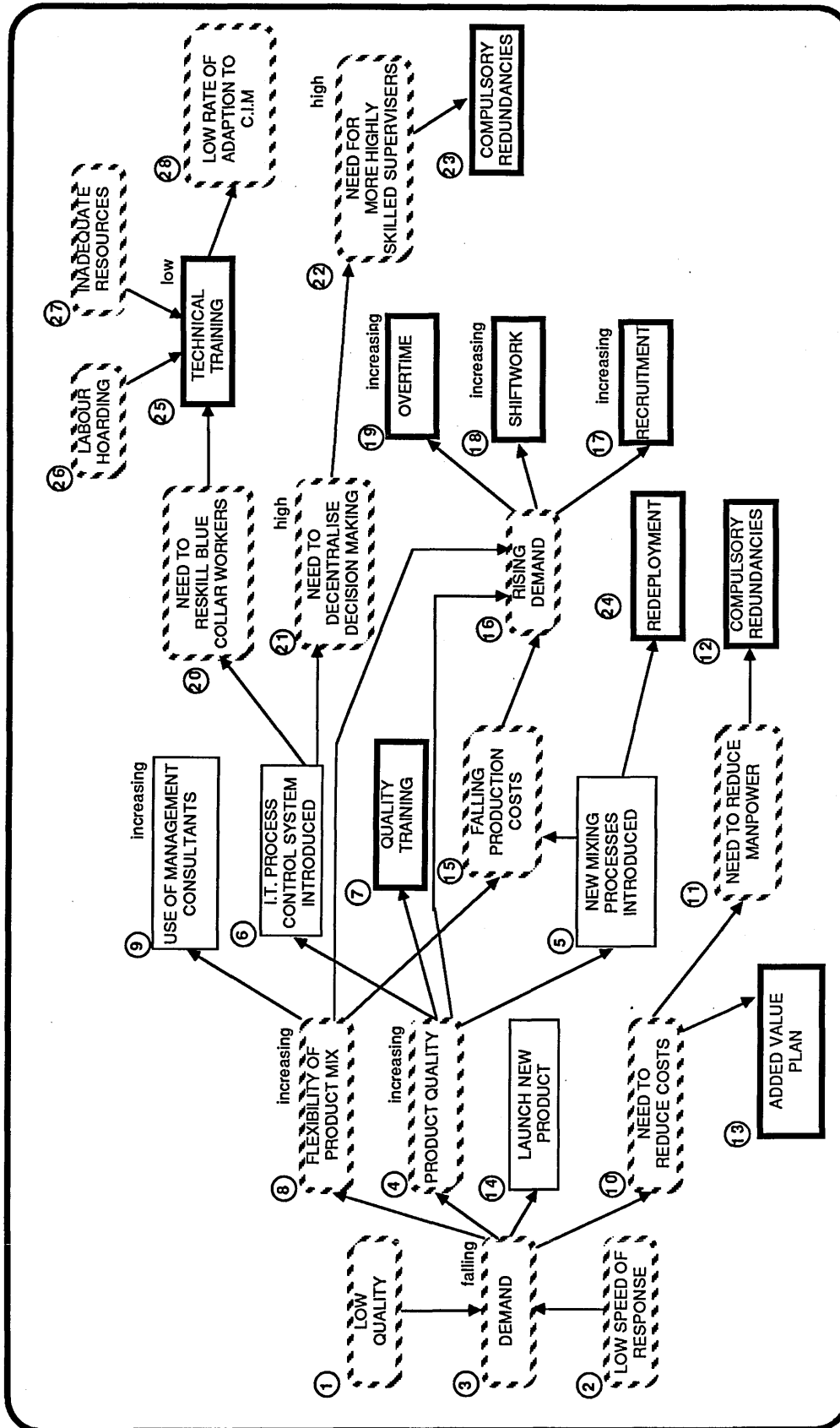
PMB from 1982 based on improving quality. IT-based process control systems were essential for this strategy

Manpower Strategy

Between 1980 and 1982 the firm cut costs (10) by cutting manning (11) through compulsory redundancies (12) and the introduction of an added-value plan (13).

In 1980 the relatively poor quality of the company's products (1) and its failure to respond quickly to its customers' order requirements (2) led to a declining demand for the company's

EVENT-STATE DIAGRAM: THE PLASTIC FLOOR COMPANY



products (3). The company responded by upgrading the quality of its products (4); investments in new mixing processes (5) and a new technology process control system (6); the introduction of a continuous programme of DRIFT training (7); increasing the responsiveness of its product mix (8) by the use of management consultants (9). New products were introduced (14). The new production systems had the unexpected effect of reducing production costs (15). Lower costs, better quality and new products transformed demand (16). More people were employed (17), shiftwork was increased (18) and large-scale, systematic overtime was introduced (19). During this period output tripled while employment increased by half.

The new technology process control system required a decentralisation in decision taking (21) and shifted the skill requirements of operators (20) from the physical and administrative aspects of work to the cognitive and problem solving. More highly skilled supervisors were required (22). The introduction of the new mixing room led to the redeployment of staff (24). The problem of increasing managerial skill levels was met by restricting supervisory grades to graduates and declaring redundant those who could not comply (23). Blue-collar workers were given on-the-job technical training (25). The training programme was underfunded due to labour hoarding on the part of line managers (26). Training was carried out in overtime and limited to eight hours a worker (27). This led to a failure to adopt to second generation C.I.M systems as quickly as the company would have wished (28).

THE BUILDERS' MERCHANT

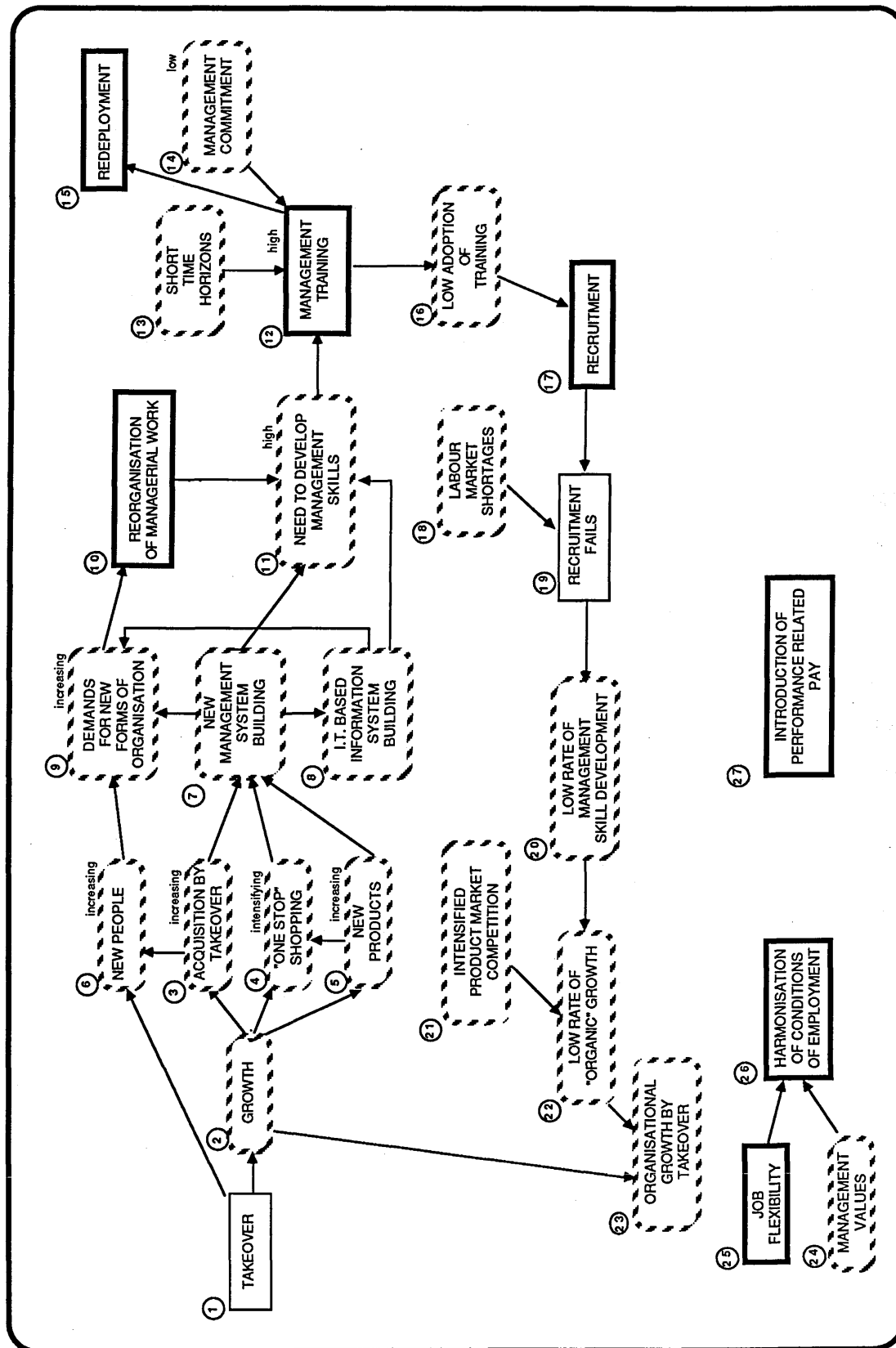
Competitive Strategy: PMB

Their PMB policies were 'one stop' DIY shopping, the sale of new products, credit, product information and 24-hour order make-up.

Manpower Strategy

The firm was taken over by a MNC (1) to spearhead its diversification into the service industries. The MNC's objective for the firm was to expand its turnover fifteen-fold (2) by acquisitions (3); developing the 'one stop' DIY shopping (4); and the sale of new products

EVENT-STATE DIAGRAM: THE BUILDERS' MERCHANT



(5). New products were also needed for 'one stop' shopping (5). The takeover (1) and the acquisition policy (3) increased the numbers of new people in the organisation (6).

These developments gave rise to a need for new management systems (7) to capture the benefits of the new marketing policies, while maintaining the advantages of centralised purchasing and stock control. A new system of 'electronic retailing' was introduced (8). Computerisation, new management systems and the need to integrate new people from acquired companies together formed a demand for a new form of organisation (9). Reorganisation followed (10) based on regions, each with its own Board of Directors and autonomy for running its section of the business. Each region had one large 'mother' depot linked to its 'children' by a mini-computer showing stock availability and location and to a mini-computer at Group HQ which ordered materials centrally.

The new organisation, 'electronic retailing', and a market orientation led to the emergence of management skills (11) as the key manpower issue. Management training was implemented, but was not successful due to the lack of time (13) and the low level of user commitment (14) from the old managers who were unskilled, long service and used to a not particularly benevolent, autocratic management style. One feature of the training was the redeployment of younger, new managers (15).

A low rate of adoption of training ensued (16). Recruitment (17) was undertaken to improve the managerial skill levels. Recruitment failed due to labour market shortages (18). The rate of management skill development remained low (20). Consequently the company's competitive ability was poor when several aggressive, retail-orientated new entrants (B & Q, Texas Tom) entered the market place (21). As a result 'organic' growth rates were only moderate (22). The failure of these manpower policies led the company to deepen its dependence on 'acquired' growth, that was, growth by takeover. By 1986 the policy of growth by acquisition had been intensified (23).

A separate development was the harmonisation of terms and conditions of employment (26). This was driven by the need to retain job flexibility (25) in small depots and by the values of the newcomers introduced by the MNC (24). Performance related pay (27) was introduced for managers.

THE CONTRACT ENGINEERS

Competitive Strategy: PMB

The firm offered a combination of heavy engineering machining and NC/CNC technologies which was claimed to be unique in the United Kingdom.

Manpower Strategy.

Since 1980 the firm has operated in a market characterised by rapid fluctuations in both the level and composition of market demand (1) encouraging the introduction of new management systems (2) in which management decision making was decentralised (3). The level of management skills emerged as key issue (4). Declining demand also led to redundancies (5). Recruitment was seen as the answer to raising the level of management skill (6).

The firm introduced large amounts of new technology (8) for reasons rooted in the Managing Director's technological enthusiasm (7). The new NT production (8) and administration systems (16) enabled the firm to develop niche marketing strategies (9) based on a unique combination of heavy engineering and NT. These new systems both demanded and facilitated the decentralisation of decision making. The pursuit of product differentiation strategies fostered the growth of subcontracting (30). The investments in new technology led to a demand for reskilling of manual work (10) and to shiftworking (11). These reskilling initiatives were also reinforced by the new management systems (2) which enlarged operators' work (12). There was some merging of operators and inspectors work. This issue produced some conflict between operators and management which was unresolved (13).

A continuing theme was the low-volume, high variety, customised nature of the firm's orders (14). This, together with a need for faster production control and scheduling systems (15) led to the installation of a new IT-based production scheduling and control system (16).

The blue-collar (10) and management reskilling (4) issues gave rise to a perceived need for training (17). In the case of the blue-collar workers these were met with some difficulty. The

high variety workflows (14) led to continued public exposure of incompetences (18); this was a sore issue with the elderly members of the workforce (19). The consequence was an ad hoc, bottom-up approach to training, or 'sitting next to Nellie' (20). Management training needs were addressed by off-the-job management development training programmes (21).

Some issues can be understood by a strong management commitment to maintain a 'one trade' shop (22). This meant that the firm only recruited AUEW fitters and paid them all the same rate. Everyone was expected to do any job. The Managing Director refused to employ any electricians, though the new technology demanded considerable electronic skills. Existing AUEW maintenance fitters were trained to do the job. This was another important strand of the job enlargement policy (12) and the negotiated 'pay for know' and merit pay systems (23).

The increased importance of shiftwork (11) gave rise to two problems. The first was a high pay packet which depended on 12-hour shift working (24); the dependence of pay on shift premiums made the introduction of new shift systems difficult (26). The second was a work structuring problem known as 'double shifting' (25), a skill balancing problem focused on the need to have two workers of the same proficiency paired on 12-hour shifts. An uneven skill mix was reflected in uneven product quality (27).

The use of recruitment (6) to raise management skill levels introduced numbers of new people (28) into what was a family firm. This was accompanied by an increase in conflict within the management group (29).

THE HEALTH AUTHORITY

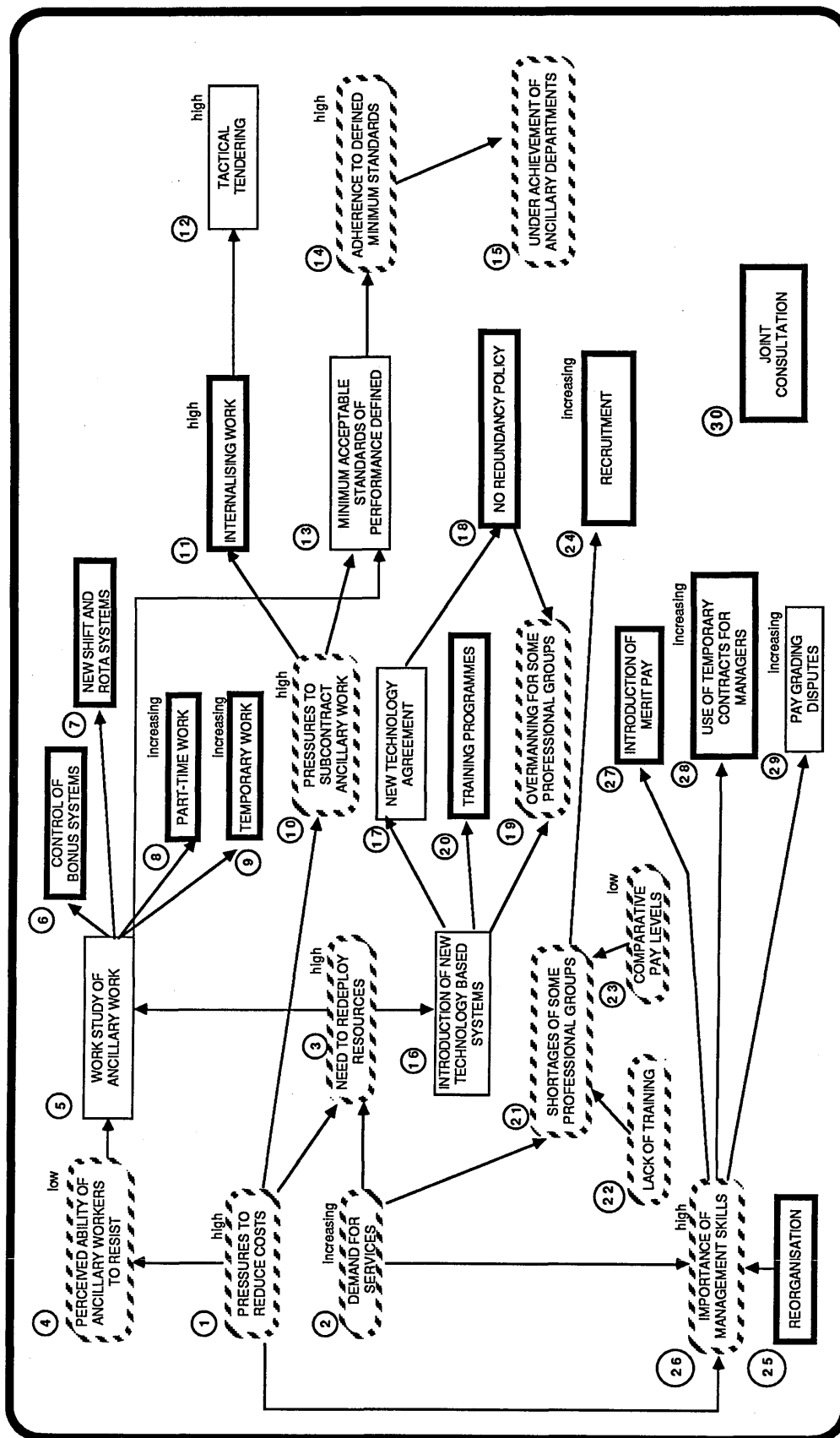
Competitive Strategy: Service Sector

Rising demands and falling real budgets.

Manpower Strategy

Since 1980 the Authority has faced pressure to reduce costs (1) and to meet increasing demand for its services (2) It had to fund the cost of increasing its services from redeploying

EVENT-STATE DIAGRAM: THE AREA HEALTH AUTHORITY



resources (3). Ancillary work was perceived as offering the area of least resistance to management's cost cutting efforts (4) and a programme of work-study for use in the ancillary service departments was introduced (5). The outcomes were control of bonus systems (6); new shift and rota systems (7); a policy to increase part-time work (8); and the increased use of temporary workers (9).

Pressures of increasing costs lead to a programme of submitting some ancillary services to competitive tendering (10). This conflicted with managerial values concerning service and their jobs. A policy of internalising ancillary work was adopted (11) and a programme of tactical tendering ensued (12). An unintended consequence of the competitive tendering (10) and the work-study programme (4) was to define minimum acceptable standards of performance (13); employee performance subsequently conformed to these (14) and consequently ancillary workers were judged to be underachieving (15).

As part of the policy to redeploy resources (3) NT based information and control systems were introduced into the Authority's offices, hospitals and laboratories (16). A New Technology Agreement was negotiated (17), part of which was a 'no redundancy' clause (18). This resulted in overmaning in some professional jobs (19). Training was also introduced to accommodate the introduction of new technology (20).

By contrast increasing demand for services (2) led to labour shortages for other professional groups (21); these were exacerbated by lack of training (22) and comparatively low pay levels (23). Intensified recruitment campaigns ensued (24).

Reorganisation of the management structure of the NHS (25) and the incessant pressure to reduce costs (2) resulted in an increased demand for management skills (26); the response to this was to introduce merit pay (27) and temporary contracts (28). Reorganisation also produced a series of pay grading issues (29).

A manpower policy development which appears to be unrelated to these changes was the decision to increase consultation with the elected trade union representatives (30).

THE BOROUGH COUNCIL

Competitive Strategy: Service Sector

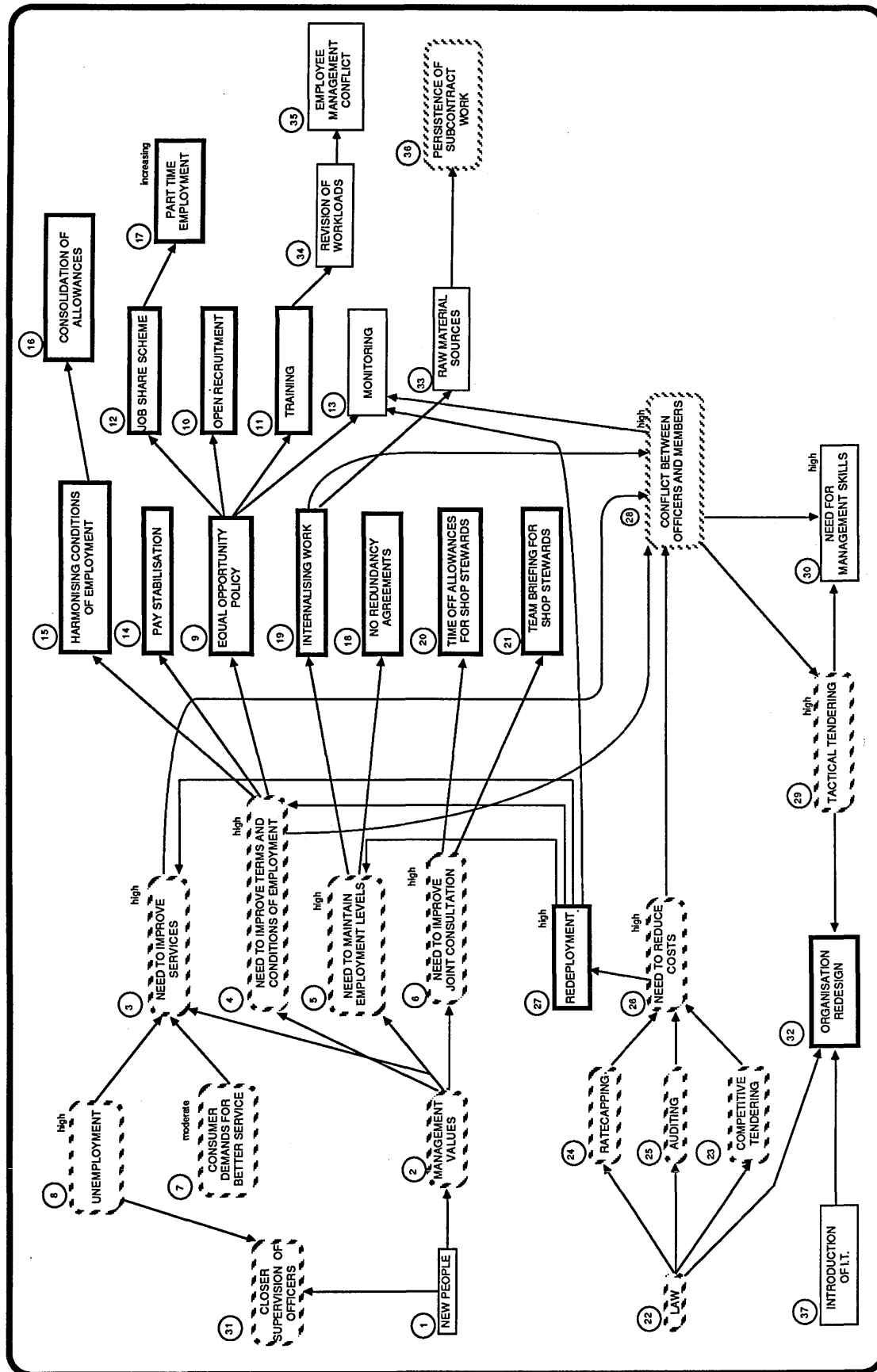
Its mission was to improve the quality of life in a depressed urban community.

Manpower Strategy

In the early 1980s many of the old Councillors were replaced by members who were younger, better educated and professional in background (1), and who had different views from their predecessors about strategies and policies (2). Since 1980, elected members have pursued policies of improving services (3); improving terms and conditions of employment (4); maintaining employment (5); and improving joint consultation with trade unions (6). The need to improve services (3) was seen both as a response to local unemployment levels (8), and to consumer demands (7).

These initiatives to improve terms and conditions of employment produced an Equal Opportunities Policy (9); which in turn resulted in an open recruitment policy (10), training (11), a job sharing scheme (12) and a manpower monitoring system (13); measures to stabilise pay (14) and a policy of harmonising conditions of employment (15) and consolidation of allowances (16). The job sharing scheme (12) was partly responsible for the increase in part-time work (17). The policy of maintaining employment resulted in a no redundancy agreement (18) and a commitment to internalise as much work as possible (19). Improving joint consultation (6) led to time off (20) and team briefings (21) for shop stewards. Redeployment was seen to require better terms and conditions of employment especially in the areas of pay stability (14). Harmonised conditions (14) and consolidation of allowances (16) were implemented to facilitate redeployment (27).

Over the same period the Council was faced with laws and rules (22) requiring competitive tendering (23), and auditing (25), designed to reduce costs and expenditure (26). Redeployment (27) was seen as the key manpower policy which would both reduce costs (25); maintain employment levels (5); and free the resources to improve terms and conditions of employment (4) and improve service (3). The weight attached to the redeployment of manpower (27) increased the importance of monitoring manpower (13). Improved feedback



of manpower utilisation led to revised workloads (34) and an intensification of conflict between manual workers and officers (35).

Government policy was at odds with Council policies, producing conflict between officers and elected members. Competitive tendering (23) conflicted with the need to internalise work (19). The need to reduce costs (26), improve terms and conditions of employment (4), and services to the consumer (3) produced conflicts within and between the ranks of elected members and officers (28). These conflicts were partly ameliorated by a type of mock bureaucracy known as "tactical tendering" (29) and the development of political skills by officers for use in their dealings with elected members (30). A consequence of these conflicts was an increase in the importance attached to monitoring personnel policies (13). Local unemployment resulted in increasing supervision of officers (35) by elected members.

The Government's response to tactical tendering was to introduce legislation which forced the Council to reorganise into client and contractor groups (32). A further obstacle to the policy of internalising work was an inflexible raw materials supply (33): this ensured that some subcontract work persisted (36) despite policies of internalising work.

Organisation redesign (32) was further encouraged by information technology. IT had been introduced (37) as a cheaper way of sharing information, but its full benefits had not been realised due to functionally based job groupings.

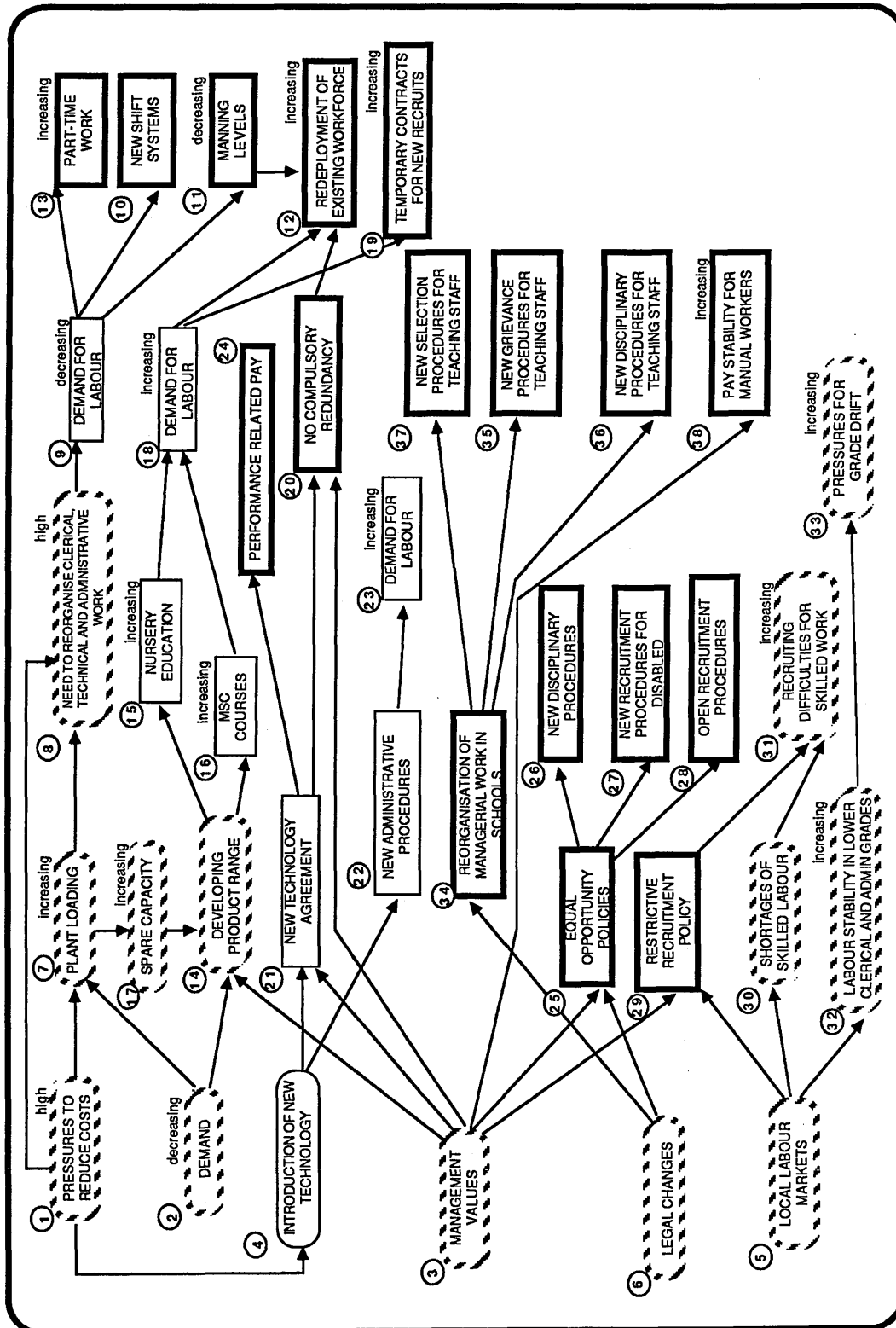
THE LOCAL EDUCATION AUTHORITY

Competitive Strategy: Service Sector.

The LEA was confronted by falling school rolls and an expanding range of services

Manpower Strategy

The changes in manpower policy in the LEA were a response to a permutation of one or two of six driving forces: pressures to reduce costs (1); falling demand (2); management values as represented by Council policy (3); the introduction of new technology(4); the state of the Cleveland labour market (5); and legal changes (6).



Pressures to reduce costs (1) and falling demand were met with a policy of plant loading (7); both the policy of plant loading and the general need to reduce costs produced a number of work organisation problems for clerical, administrative and technical jobs (8). These decreased the demand for labour (9). The reduction was met by the introduction of new and cheaper shift systems (10), reduction of manning levels (11), redeployment of staff (12), and increasing part-time work (13).

Another response of the LEA to falling demand (2) was a policy of developing products (14) in the form of nursery education (15) and MSC courses (16). These were also the product of policy initiatives of the Council (3) made possible by the spare capacity (17) which had been released by the policy of plant loading (7). These expanded the demand for labour in these areas which was met by increasing temporary contracts for new recruits (19); and by the redeployment of existing staff (12).

The LEA were committed to a no redundancy agreement (20) as a matter of policy (3), but also as a product of a new technology agreement (21), which had been negotiated to support the introduction of word processors and networked information systems. Legal changes (6), in the form of the abolition of the redundancy rebate also underpinned this agreement. The no redundancy agreement (20) reinforced the importance of the redeployment policy (12).

New technology (4) was introduced partly to cut costs (1) by reducing manning levels. During the course of the implementation the LEA discovered an unsuspected range of applications (22) stemming from accurate and more widely dispersed flows of information. Employment expanded as a result of their adoption (23). The new technology agreement also provided for increases in pay (24) for operators effected.

The LEA had developed an Equal Opportunities Policy (25) both as a response to legal pressures (6) and political commitments (3); this policy involved revising disciplinary procedures (26), special recruitment procedures for the disabled (27), and an open recruitment policy (28).

The LEA had also responded to local unemployment problems (5) by a restrictive recruitment policy (29) which sought to recruit people judged to be most in need of employment. But

another characteristic of the Cleveland labour market was a shortage of skilled administrative workers (30); consequently the restrictive recruitment policy led to recruitment difficulties (31). These problems contrasted sharply with those caused by an increase in labour retention in less-skilled grades (32). Here the depressed state of the labour market was seen to be responsible for an increase in stability rates which was seen to be the cause of an increase in grievances over salary grading (33).

Legal changes in the form of the 1986 Education Act, had produced new systems of the organisation of management work in schools (34). These required new grievance procedures (35), new disciplinary procedures (36), and new selection procedures for teaching staff (37).

BIBLIOGRAPHY

ACAS, Annual Report 1985, ACAS, 1986.

ACAS, Redundancy Arrangements : The 1986 ACAS Survey, Occasional Paper No. 37; ACAS, 1987.

ACAS, 1988(a), 1987 Annual Report, ACAS.

ACAS, 1988(b), Labour Flexibility in Britain : The 1987 ACAS Survey, Occasional Paper No. 41; ACAS.

Agar, M.H., The Professional Stranger: An Informal Introduction to Ethnography, London: Academic Press, 1980.

Ansoff, I., Corporate Strategy, New York: McGraw-Hill: 1965.

Ansoff, I., Implanting Strategic Management, Englewood Cliffs, N.J.: Prentice-Hall, 1984.

Arthurs, A., 'Towards Single Status' in Journal of General Management, Vol.11, No. 1., Autumn 1985, pp.16-28.

Atkinson, J., 'Manpower Strategies and the Flexible Firm' in Personnel Management, August, 1984, pp.28-31.

Atkinson, J., 1985(a), Flexibility, Uncertainty and Manpower Management, Institute of Manpower Studies Report No. 89.

Atkinson, J., 1985(b) 'The Flexible Firm' in Manpower Policy and Practice, Vol.1, Summer 1985, pp.26-29.

Atkinson, J., 'Unions and the Flexible Workforce: Ostriches and Opportunists?' in Manpower Policy and Practice, Vol. 4, Summer, 1986, pp.50-52.

Atkinson J., and N. Meager, Changing Working Patterns.: How companies achieve flexibility to match new needs, London: National Economic Development Office, 1986.

Bain, G., (ed), Industrial Relations in Britain, Oxford: Basil Blackwell, 1983.

Banking, Insurance and Finance Union, The Monopolies and Mergers Commission into Credit Cards Service: The Evidence of the Banking, Insurance and Finance Union, Banking, Insurance and Finance Union, October 1988.

Becker, H.S., The Outsiders, New York: Free Press, 1963.

Becker H.S., Sociological Work, Chicago: Aldine, 1970.

Beckhard, R., and R.T. Harris, Organisational Transitions: Managing Complex Change, Reading, Mass: Addison-Wesley, 1977.

Bell, C., and H. Newby, Doing Sociological Research, London: George Allen and Unwin, 1977.

Bendix, R., Work and Authority in Industry, New York: Harper and Row, 1963.

Beynon, H., Working for Ford, Harmondsworth: Penguin, 1973.

Beynon, H., 'Regulating research: politics and decision making in industrial organisations' in Doing Research in Organisations, A. Bryman (ed), London: Routledge, 1988, pp.21-33.

Berger, P., and T. Luckman, The Social Construction of Reality, Harmondsworth: Penguin, 1971.

Best, F., 'Preferences on Worklife Scheduling and Work Leisure Trade-offs', in Monthly Labour Review, June 1978, pp.31-37.

Beswick, Lord, 'Steel Closure Review: Interim Report', H.M.S.O., 1975.

Birat, J-P., 'Manufacture of Flat Products for the 21st Century', in Ironmaking & Steelmaking', Vol. 14, No. 1, 1987, pp.84-92.

Black, D., Inequality in Health : Report of a Working Group, Department of Health and Social Security, 1980.

Blau, P.M., 'A formal theory of differentiation in organisations' in American Sociological Review, Vol.35, 1970, pp.201-218.

Blauner, R.B., and D. Wellman, 'The Researcher and the Researched' in R.B. Smith and P.K. Manning (editors), A Handbook of Social Science Methods. Volume 2: Qualitative Methods, Ballinger, Cambridge, Mass.: 1982. pp. 101-113.

Blumer, H., Symbolic Interactionism: Perspective and Method, Englewood Cliffs, NJ: Prentice-Hall, 1969.

Blyton, P., Changes in Working Time: An International Review, Beckenham: Croom Helm, 1985.

Bowey, A., R. Thorpe, F.H.M. Mitchell, G. Nicholls, D. Gosnold, L. Savery and P.K. Hellier, Effects of Incentive Payment Systems: United Kingdom 1977-80. London: Department of Employment Research Paper No. 36, 1982.

Bowman, C., and D. Asch, Strategic Management, Houndsmills: MacMillan, 1987.

Braverman, H., Labour and Monopoly Capital : The Degradation of Work in the Twentieth Century, New York: Monthly Review Press, 1974.

Braybrooke, D., and C. Lindblom, A Strategy of Decision : Policy Evaluation as a Social Process, New York: Free Press, 1963.

Brannen, P., D. Fatchett, E. Batstone and P. White, The Worker Directors: A Sociology of Participation, London: Hutchinson, 1976.

Brewster, C., and S. Connock, Industrial Relations: Cost-Effective Strategies, London: Hutchinson, 1985.

Bright, J., Automation and Management, Boston: Harvard Business School Press, 1958.

British Steel Corporation, Steel: British Steel Corporation: Ten Year Development Strategy, Department of Trade and Industry, Cmnd. 5226; H.M.S.O., 1973.

Brown, W., Piecework Bargaining, London: Heinemann, 1973.

Brown, W., (ed), The Changing Contours in British Industrial Relations, Oxford: Basil Blackwell, 1981.

Bryman, A., 'Introduction: inside accounts and social research in organisations' in Doing Research in Organisations, A. Bryman (ed), London: Routledge, 1988, pp.1-20.

Bryson, J.M., and W.D. Roering, 'Applying Private Sector Strategic Planning in the Public Sector', in Journal of the American Planning Association, Vol. 53, No. 1, Winter 1987, pp.9-22.

Buchanan, D.A., and D. Boddy, Organisations in the Computer Age: Technological Imperatives and Strategic Choice, Aldershot: Gower, 1983.

Buchanan, D., D. Boddy, & J. McCalman, Getting in, Getting on, Getting out and Getting Back, University of Glasgow Department of Management Studies Working Paper Series No. 5, 1986.

Burawoy, M., Manufacturing Consent, Chicago.: University of Chicago Press. 1979.

Burgess, R.E., The Unstructured Interview as a Conversation in Field Research: a sourcebook and field manual, R.E. Burgess (ed), London: George Allen and Unwin, 1982.

Burns, D., Economic History of Steelmaking: 1867-1939, Oxford: Oxford University Press, 1940.

Burns, T., The B.B.C., London: MacMillan, 1977.

Burns, T., and G.M. Stalker, The Management of Innovation (2nd Edition), London: Tavistock, 1968.

Burrell, G., and G. Morgan, Sociological Paradigms and Organisational Analysis, London: Heinemann, 1979.

Butler, J.E., 'Human resource management as a driving force in business strategy', in Journal of General Management, Vol.13, No. 4, 1988, pp.88-102.

Campbell, D.T., 'Foreword' in Case Study Research by R.K. Yin, Beverly Hills, Ca.: Sage Publications, 1984.

Cannon, J., Cost-Effective Personnel Decisions, London: Institute of Personnel Management, 1978.

Carrol, D., 'A Disappointing Search for Excellence', Harvard Business Review, November-December, 1983, pp.78-88.

Chaffee, E.F., 'Three Models of Strategy', Academy of Management Review, Vol. 10, No. 1, 1985, pp.89-98.

Chandler, A.D., Strategy and Structure, Cambridge, Mass: MIT Press, 1962.

Charles, D., 'Research and Development in Cleveland', in Northern Economic Review, No. 13, Spring 1989, pp.48-59.

Child, J., 'Organisation Structure, Environment and Performance: The Role of Strategic Choice', in Sociology, Vol. 6, 1972, pp.1-22.

Child, J., Organisation: A Guide to Problems and Practice (Second Edition), London: Harper Row, 1984.

Child, J., and R. Mansfield, 'Technology, size and organisational structure', in Sociology, Vol.6, 1972, pp.369-393.

Clark, G., 'Recent Developments in Working Patterns', in Employment Gazette, Vol. 90, No. 7, 1982, pp.284-288.

Clegg, H., The System of Industrial Relations in Great Britain, Oxford: Blackwell, 1972.

Cleveland County Council, 1982; Cleveland Economic and Demographic Review: 1983-1986, Cleveland County Research and Intelligence Unit. CR 366.

Cleveland County Council, 1984(a); Cleveland Economic and Demographic Review: 1984-1987, Cleveland County Research and Intelligence, CR-413.

Cleveland County Council, 1984(b); Regional Development Grants in Cleveland: 1975-1984, Information Note 277, Cleveland County Council, Research and Intelligence Unit.

Cleveland County Council, 1984(c); Earnings in Cleveland: A Commentary on the New Earnings Survey, April 1983, Research and Intelligence Unit.

Cleveland County Council 1985(a); Cleveland Economic and Demographic Review: 1985-1989, Cleveland County Research and Intelligence Unit.

Cleveland County Council, 1985(b); Process Plant and Equipment Sector in Cleveland : Initial Survey Results, Information Note IN 297, Research and Intelligence Unit.

Cleveland County Council, 1986(a); Jobs from Technology : Seminar Notes, Information Note IN 304, Research and Intelligence Unit.

Cleveland County Council, 1986(b); Cleveland Structure Plan: Employment Projections - Information Note, Research and Intelligence Unit.

Cleveland County Council, 1987(a); The Health Legacy: Inequality in Health in Cleveland: A Report to the County Council, Health Authorities, Family Practitioners' Committee and Community Health Councils of Cleveland, Cleveland County Research and Intelligence Unit. Y261.

Cleveland County Council, 1988(a); Unemployment in Cleveland 1960-1988, Information Note IN 342, Research and Intelligence Unit.

Cleveland County Council, 1988(b); Gross Domestic Product : A County Analysis (1974-1984), Information Note IN-343, Research and Intelligence Unit.

Cleveland County Council, 1988(c); Industrial Relations in Cleveland 1979-87 : A Review of the Work of ACAS, Information Note IN-345, Research and Intelligence Unit, June 1988.

C.O.H.S.E., Contracting-out and the Privatisation of the NHS Services, 1984.

Cotgrove, S., J. Dunham and C. Vamplew, The Nylon Spinners, London: Allen and Unwin, 1971.

Craig, C., and F. Wilkinson, Pay and employment in four retail trades, Department of Employment, Research Papers, No. 51.

Crompton, R., and G. Jones 'Researching white collar organisations: why sociologists should not stop doing case studies' in Doing Research in Organisations, A. Bryman (ed), London, Routledge, 1988, pp.68-81.

Crosby, P., Quality is Free: The Art of Making Quality Certain, New York: Mentor, 1979.

Crozier, M., The Bureaucratic Phenomenon, London: Tavistock, 1964.

Dalton, M., Men who Manage, New York: Wiley, 1959.

Daniel, W.W., 'Understanding employee behaviour in its context' in J. Child (ed), Man and Organisation, London: Allen and Unwin, 1973.

Daniel, W.W., and N. Millward, Workplace Industrial Relations in Great Britain: the DE/PSI/ESRC Survey, London: Heinemann, 1983.

David, Fred R., Fundamentals of Strategic Management, Columbus, Ohio: Merrill, 1987

Davis, N., 'Researching an Abortion Market' in R.B. Smith and P.K. Manning (editors), A Handbook of Social Science Methods. Volume 2: Qualitative Methods. Ballinger; Cambridge, Mass.: 1982.

de Moubray, Guy, 'Can Marketing Be Made to Work?', in The Banker, Vol. 136, No. 723, March 1986, pp.36-36.

Denzin, N.K., The Research Act : a theoretical introduction to sociological method. New York: McGraw-Hill, 1970.

Department of Employment, 'Recent Changes in Hours and Holiday Entitlements - Manual Employees', in Employment Gazette, Vol.95, No. 3, March, 1987, pp.131-133.

Department of Trade and Industry, Census of Production, 1985, London: Department of Trade and Industry, 1987.

Dill, W.R., 'Environment as an Influence on Managerial Autonomy', in Administrative Science Quarterly, Vol.2, 1958, pp.409-443.

Doeringer, P.B., and M.J. Piore, Internal Labour Markets and Manpower Analysis, Lexington: Mass.: D.C. Heath, 1971.

Donaldson G., and J.W. Lorsch, Decision Making at the Top, New York: Basic Books, 1983.

Donnelly, J.H., and W.R. George, Marketing of Services, Chicago: American Marketing Association, 1981.

Drucker, P., 'Management and the World's Work', in Harvard Business Review, September-October 1988, pp.65-76.

Easterby-Smith, M., 'Management Research: Paradigms, Purposes and Issues' in 'What has Management Research got to do with Managers?' Edited by A. Chapman, ATM Focus Paper, n.d.

Edwards, R.C., 'The Social Relations of Production in the Firm and Labour Market Structure' in Labour Market Segmentation by R.C. Edwards, M Reich, and D.M. Gordon. Lexington, Mass.: D.C. Heath and Co., 1976.

EEC Council Directive of 24 June 1982 on Major Accident Hazards of Certain Industrial Activities (82/501/EEC): Official Journal of European Communities. No. L230/1. 5.8.82.).

Emery, F., 'Socio-technical Foundations for a New Social Order,' in The Quality of Working Life in the 1980s, by H. Kolodny, and H. van Beinum: New York, Praeger, 1983.

Equal Opportunities Commission, Job-Sharing : Improving the quality and availability of part-time work, Equal Opportunities Commission, 1981.

European Trade Union Institute, Flexibility and Jobs - Myths and Realities, E.T.U.I. Brussels, 1985.

Etzioni, A., A Comparative Analysis of Complex Organisations, New York: Free Press, 1961.

Ferdows, K., and A. De Mayer, The State of Large Manufacturers in Europe: Results of the 1984 European Manufacturing Futures Survey, Fontainebleau: INSEAD, 1984.

Fevre, R., 'Contract Work in the Recession' in The Changing Experience of Employment: Restructuring and Recession, Basingstoke: MacMillan, 1986 edited by K. Purcell, S. Wood, A. Walton and S. Allen.

Fielding, N., The National Front, London: Routledge Keegan and Paul, 1981.

Filstead, W.S., Qualitative Methodology, Markham: Chicago, 1970.

Foord, J., F. Robinson and D. Sadler, The Quiet Revolution. Social and Economic Change on Teesside 1965-1985. A Special Report for B.B.C. North East. Newcastle: B.B.C. 1985.

Fox, A., Industrial Relations and Industrial Sociology, Research Paper No. 3, Royal Commission on Trade Unions and Employers' Associations. London: H.M.S.O., 1966.

Fox, A., Beyond Contract: Work, Power and Trust Relations, London: Faber, 1974.

Galbraith, J.K., The New Industrial State, London: Hamish Hamilton, 1967.

Galbraith, J.R., 'Organisation Design: An Information Processing View.' in Interfaces, Vol. 4, 1974, pp. 28-36.

Garvin, D., 'Quality on the Line', in Harvard Business Review, September-October 1983, pp.64-75.

Garvin, D., 'A Note on the Views of Deming, Juran and Crosby', Harvard Business School Case Services: Teaching Note 9-687-011, 1987.

Garvin, D., Managing Quality : The Strategic and Competitive Edge, New York: Free Press, 1988.

Gill, C., R. Morris and J. Eaton, Industrial Relations in the Chemical Industry, Farnborough: Saxon House, 1978.

Ginarlis, J., The Savings War : Competition between the High Street banks, building societies and life assurance companies, Brentford: Kluwer Publishing, 1988.

Glaser, B.G., and Strauss, A., The Discovery of Grounded Theory, Chicago: Aldine, 1967.

Goldthorpe, J.H., D. Lockwood, F. Bechhofer and J. Platt, The Affluent Worker: industrial attitudes and behaviour, Cambridge: Cambridge University Press, 1968.

Goodenough, W., 'Cultural Anthropology and Linguistics' in Language and Culture in Society, D. Hymes (ed.), New York: Harper and Row, 1964.

Goudie, A., and G. Meeks, Company Finance and Performance, Cambridge University Department of Applied Economics, 1986.

Gouldner, A.W., Patterns of Industrial Bureaucracy, New York: Free Press, 1954.

Gouldner, A., Wildcat Strike, New York: Harper Torchbook, 1965.

Greenly, Gordon E., Strategic Management, Hemel Hempstead: Prentice Hall International, 1989.

Grinyer, P.H., and Spender, J-C., Turnaround - Managerial Recipes for Strategic Success: The Fall and Rise of the Newton Chambers Group, London: Associated Business Press, 1979.

Gunn, T. G., Manufacturing for Competitive Advantage, Cambridge, Mass: Ballinger, 1987.

Hague, R., 'Japanising Geordie-Land?', in Employee Relations, Vol.11, No. 2, 1989, pp.3-16.

Hakim, C, 'Trends in the flexible workforce' in Employment Gazette, November, 1987, pp.549-560.

Hartley, J., J. Kelly and N. Nicholson, 'Steel Strike : A Case Study in Industrial Relations', London: Batsford, 1983.

Hax, A.C. and Majluf, N.S. 'Competitive Cost Dynamics: The Experience Curve', Interfaces, Vol. 12, No. 5, October 1982, pp.50-61.

Hax, A.C., and N.S. Majluf, Strategic Management: An Integrated Perspective, Englewood Cliffs, N.J.: Prentice-Hall, 1984.

Hayes, R.H., and S.C. Wheelwright, Restoring our Competitive Edge: Competing Through Manufacturing, New York: John Wiley, 1984.

Hendry, C., and A. Pettigrew 'The Practice of Strategic Human Resource Management' in Personnel Review, Vol.15, No. 5, 1986, pp. 3-8.

Hendry, C., A. Pettigrew and P. Sparrow, 'Changing Pattern of Human Resource Management', in Personnel Management, November 1988, pp.37-41.

Hill, S., 'Working Time Changes and Employment Growth', Lloyd's Bank Review, January 1987, pp.31-45.

Hill, T., Manufacturing Strategy: The Strategic Management of the Manufacturing Function, Basingstoke: MacMillan, 1985.

Hirschhorn, L., Beyond Mechanisation, Cambridge, Mass.: The MIT Press, 1986.

Hitt, M.A., and R. D. Ireland, in 'Peters and Waterman Revisited: The Unended Quest for Excellence', Academy of Management Executive, Vol.1, No. 2, 1987, pp.91-99.

Holsti, O.R. 'Content Analysis' in A Handbook of Social Psychology: Volume 2, G. Linzey and E. Aronson (eds), Reading, Mass.: Addison Wesley, 1968, pp.596-693.

Holsti, O.R., 'Limitations of Cognitive Abilities in the Face of Crisis', Journal of Business Administration, Vol.9, No. 2, 1978, pp.39-55.

Howe, W.Stewart, Corporate Strategy, Basingstoke: MacMillan, 1986.

Hudson R., and D. Sadler, 'The Past, Present and Future Significance of British Steel's Policies for Cleveland' in Northern Economic Review, No. 11, Summer, 1985, pp.2-11.

Hughes, E.C., The Sociological Eye, Chicago, Aldine, 1971.

Hughes, J.A., Sociological analysis: methods of discovery, Sunbury-on-Thames: Nelson, 1976.

Hughes, M., 'Reacting to Market Pressures', The Banker, Vol. 136, No. 722, March 1986, pp.66-75.

Humphreys, L., The Tearoom Trade, London: Duckworth, 1970.

Hyman, R., 'Flexible Specialisation: Miracle or Myth?' in New Technology and Industrial Relations edited by Richard Hyman and Wolfgang Streeck, Oxford, Basil Blackwell, 1988, pp.48-60.

Incomes Data Study No. 322: Craft Flexibility, Incomes Data Services, September 1984.

Incomes Data Study No. 360: Flexibility at Work, Incomes Data Services, April 1986.

Incomes Data Services Study No. 395: Hours and Holidays 1987, Incomes Data Services 1987.

Incomes Data Study No. 407: Flexible Working. Incomes Data Services, April 1988.

Industrial Relations Review and Report No. 228, 'New Technology and five-shift working at American Can', 1983

Industrial Relations Review and Report No. 312, 1984(a), 'Shorter Working Week - an IRRR Review'.

Industrial Relations Review and Report No. 320, 1984(b), 'Part-time work - a survey'.

Industrial Relations Review and Report No. 321, 1984(c), '32 hour shift working at Westland'.

Institute of Manpower Studies, Flexible Manning - The Way Ahead. Institute of Manpower Studies, 1984.

Jauch, L.R., and W.F. Glueck, Business Policy and Strategic Management, Singapore: McGraw-Hill, 1988.

Johnson, B., A. Natarajan and A. Rappaport, 'Shareholder Returns and Corporate Excellence', in Journal of Business Strategy, Vol. 6, No, 2, Fall 1985, pp.52-62.

Johnson, G., and K. Scholes, Exploring Corporate Strategy : Text and Cases, Hemel Hempstead, 1989.

Johnson, S., 'Small Firms in the Local Economy: Some Evidence from Teesside and Reading', in Northern Economic Review, No. 15, Summer 1987, pp.9-19.

Jones, C., 'The Future of Building Societies,' in National Westminster Bank Review, May 1984, pp.33-46.

Jones, T.T., and T.A.J. Cockerill, Structure and Performance of Industries, Deddington: Phillip Allan, 1984.

Juran, J.M., (ed.), The Quality Control Handbook, (3rd Edition) New York: McGraw-Hill, 1974.

Kanter, R.M., The Change Masters: Corporate Entrepreneurs at Work, London: George Allen and Unwin, 1984.

Kaplan, R.S., 'Yesterday's Accounting Undermines Production' in Harvard Business Review, September-October 1984, pp.95-101.

Kaplan, R.S. 'Accounting Lag: The Obsolescence of Accounting Systems, California Management Review, Vol. 28, No.2, Winter 1986, pp.174-199.

Kelly, J.E., Scientific Management. Job Redesign and Work Performance, London: Academic Press, 1982.

Kennedy, G., 'Single status as the key to flexibility', in Personnel Management, February, 1988, pp.51-53.

Kerlinger, F.N., The Foundations of Behavioural Research (2nd Ed), New York: Holt, Rinehart and Winston, 1973.

Kirk, J., and M.J. Miller, Reliability and Validity in Qualitative Research, Qualitative Research Methods Series Volume 1, Beverly Hills CA: Sage Publications, 1986.

Kuhn, T.S., The Structure of Scientific Revolution. (2nd Edition), University of Chicago Press, Chicago, Ill; 1970.

Knobel, H., 'British Steel on its mettle', in Management Today, October 1988, pp.62-64.

Lawler, E.E., Pay and Organisational Effectiveness, New York: McGraw Hill, 1971.

Lawler III, E. E., High-Involvement Management, San Francisco, Ca.: Jossey-Bass, 1986.

Lawrence P.R., and Lorsch J.W., Organisation and Environment, Homewood, Illinois; Richard D. Irwin, 1969.

Lawson, T., 'Paternalism and Labour Market Segmentation Theory' in The Dynamics of Labour Market Segmentation by F. Wilkinson (ed.), 1981.

Legge, K., Power, Innovation and Problem Solving in Personnel Management, London, McGraw-Hill, 1978.

Lengnick-Hall C.A., and M.L.Lengnick-Hall, 'Strategic human resources management: a review of the literature and a proposed typology', in Academy of Management Review, Vol.13, July 1988, pp.454-471.

Lindblom, C.E., 'The Science of 'Muddling Through' in Public Administration Review, Vol. 19: pp.78-88, 1959.

Lorsch, J.W., and J.J. Morse, Organisations and Their Members: A Contingency Approach, New York: Harper and Row, 1974.

Lovelock, C.H., Services Marketing: Text, Cases and Readings, Englewood Cliffs, NJ.: Prentice-Hall, 1984.

Loveridge, R., 'Labour Market Segmentation and the Theory of the Firm' in Manpower Strategy and Techniques in an Organisational Context by J. Edwards et al (editors).

Lowry, W.M., 'Two-Way Contracting', in Harvard Business Review, May-June, 1967; reprinted in Harvard Business Review Production Management Series Part 11, pp.48-54.

Lupton, T., On the Shop Floor, Oxford: Pergamon, 1963.

Lupton, T., 'Best Fit' in the design of organisations', in Personnel Review, Vol.4, No. 1, 1975, pp.15-31.

Lupton, T., and D. Gowler, 'Selecting a Wage Payment System', Research Paper No. 3, London: Engineering Employers' Federation, 1969.

McGlashan, R., and T. Singleton, Strategic Management, Columbus, Ohio: Merrill, 1987.

McLoughlin, I., H. Rose, and J. Clark, 'Managing the Introduction of New Technology', Omega, Vol 13: No. 4, 1985 pp.251-262.

McGregor, D. The Human Side of Enterprise, McGraw-Hill: New York, 1960.

MacInnes, J., Thatcherism at Work, Milton Keynes: Open University Press, 1987.

McNamee, P.B. Tools and Techniques for Strategic Management, Oxford: Pergamon Press, 1985.

Manning, P.K. 'Qualitative Methods' in R.B. Smith and P.K. Manning (editors), A Handbook of Social Science Methods, Volume 2: Qualitative Methods, Ballinger; Cambridge, Mass.: 1982, pp.1-28.

Meredeen, S., Managing Industrial Conflict: Seven Major Disputes, Tiptree, Hutchinson, 1988.

Miles, M.B., and A.M. Huberman, Qualitative Data Analysis: A Sourcebook of New Methods. Beverly Hills, CA: Sage Publications, 1984.

Miles, R.E., and C.C. Snow Organisation Strategy. Structure and Process. New York: McGraw-Hill, 1978.

Miles, R.H., Coffin Nails and Corporate Strategies. Englewood Cliffs, NJ.; Prentice-Hall, 1982.

Mills, R.W., 'Management accounting for the new manufacturing environment', in Journal of General Management, Vol.14, No. 1, Autumn 1988, pp.67-77.

Millward, N., and M. Stevens, British Workplace Industrial Relations 1980-1984 : The DE/ESRC/PSI/ACAS Surveys. Aldershot: Gower, 1986.

Mintzberg, H. 'The Manager's Job: Folklore and Fact', in Harvard Business Review, July-August, 1975, pp.49-61.

Mintzberg, H., The Structuring of Organisations. Englewood Cliffs, N.J.: Prentice-Hall, 1979.

Mintzberg, H., 'The Strategy Concept 1: Five Ps for Strategy', in Californian Management Review, Winter 1987, pp. 9-21.

Mintzberg, H., and McHugh, A., 'Strategy Formation in an Adhocracy' in Administrative Science Quarterly, Vol. 30, June 1985, pp.160-190.

Mintzberg, H., and Waters, J.A., 'Of Strategies, Deliberate and Emergent', in Strategic Management Journal, Vol. 6, 1985.

Morgan, G., Images of Organisation. Beverly Hills, Ca.: Sage Publications, 1986.

Morgan, G., and L. Smircich., 'The Case for Qualitative Research' in Academy of Management Science Review, No. 5, 1980, pp.491-500.

Morris, H., 'The UK steel industry and its future', in Ironmaking & Steelmaking, Vol. 16, No. 1, 1989, pp.7-10.

Morton-Williams, J., Making Qualitative Research Work: Aspects of Administration, in R. Walker (ed) Applied Qualitative Research, Aldershot: Gower, 1985, pp.27-42.

National Board For Prices and Incomes Report No. 161, Hours of Work, Overtime and Shiftworking, London: H.M.S.O., 1970.

National Economic Development Office, Large Industrial Sites : Report of the working party on large industrial construction sites, London: H.M.S.O., 1970.

National Economic Development Office, The Introduction and Extension of Shiftworking, National Economic Development Office, 1980.

National Economic Development Office and Manpower Services Commission, Competence and Competition. Training and Education in the Federal Republic of Germany, the United States and Japan, National Economic Development Office, 1984.

Nemeroff, D., Service Delivery Practices and Issues in Leading Consumer Service Businesses: A Report to Participating Companies, New York: Citibank, April 1980.

Nichols, T., The British Worker Question, London: Routledge Kegan Paul, 1986.

Ohmae, K., The Mind of the Strategist: Business Planning for Competitive Advantage, Harmondsworth: Penguin, 1982.

Orenstein, A., and Phillips, W.R.F. Understanding Social Research, Boston: Allyn and Bacon, 1978.

Patton, M. Q., Qualitative Evaluation Methods, Beverly Hills CA.: Sage, 1980.

Perrow, C. Organisational Analysis: A Sociological View, London: Tavistock, 1970.

Peters, T., Thriving on Chaos: Handbook for a Management Revolution, London: MacMillan, 1987.

Peters, T., and Austin, N., A Passion for Excellence, London: Collins, 1985.

Peters, T.J. and R.H. Waterman, In Search of Excellence: Lessons from America's Best Run Companies, New York: Harper and Row, 1982.

Pettigrew, A., The Management of Strategic Change, Oxford: Basil Blackwell, 1988.

Pfeffer, J., and Cohen, Y., 'Determinants of Internal Labour Markets in Organisations., in Administrative Science Quarterly, Vol. 29, 1984, pp. 550 - 572.

Piore M.J. and C. Sabel, The Second Industrial Divide, New York: Basic Books, 1984.

Pollert, A., The 'Flexible Firm' : A Model In Search Of Reality (Or A Policy in Search Of A Practice)? Warwick Papers in Industrial Relations: Number 19. Industrial Relations Research Unit, School of Industrial and Business Studies, University of Warwick: Coventry, 1987.

Popper, K., The Logic of Scientific Discovery, New York, Science Edition, 1961.

Porter, M.E., Competitive Strategy: Techniques for Analysing Industries and Competitors, New York: Free Press, 1980.

Porter, M.E., Cases in Competitive Strategy, New York: Free Press, 1983.

Porter, M.E., Competitive Advantage, New York: Free Press, 1985.

Prais, S.J., Productivity and Industrial Structure: A Statistical Study of Manufacturing Industry in Britain, Germany and the United States, Cambridge: Cambridge University Press, 1981.

Pratten, C.F., Economies of Scale in Manufacturing Industry, Cambridge: Cambridge University Press, 1971.

Pugh, D.S., and D.J. Hickson, Organisational Structure in its Context: The Aston Programme 1, Aldershot, Gower, 1976.

Purcell, J., and K. Sisson, 'Strategies and Practice in the Management of Industrial Relations', in G.S. Bain (ed), Industrial Relations in Britain, Oxford: Basil Blackwell, 1983.

Quinn, J.B., Strategies for Change: Logical Incrementalism, Homewood Ill.: Richard D. Irwin, 1980.

Quinn, J.B., H. Mintzberg and R.M. James, The Strategic Process: Concepts, Contexts and Cases, Englewood Cliffs, NJ.: Prentice Hall, 1988.

Ravetz, J.R., Scientific Knowledge and its Social Problems, Oxford: Clarendon Press, 1971.

Reich, R.B., The Next American Frontier, Harmondsworth: Penguin, 1984.

Reitzel, J.M., and Lindmann, B., 'Historical Evidence' in R.B. Smith and P.K. Manning (editors), A Handbook of Social Science Methods, Volume 2: Qualitative Methods, Ballinger, Cambridge, Mass.: 1982. pp 167-196.

Rhodes, D.W., 'Can HR respond to corporate strategy?' in Journal of Business Strategy, Vol.9, March-April 1988, pp.57-58.

Rice, A.K., Productivity and Social Organisation, London: Tavistock, 1958.

Richardson, Peter R., Cost Containment, New York: Free Press, 1988.

Robinson, O. and J. Wallace, 'Growth and Utilisation of part-time labour in Great Britain', in Employment Gazette, Vol. 92, No. 9, September, 1984. pp.391-397.

Robinson, P., The Unbalanced Recovery, Deddington:Phillip Allan, 1988.

Rubery, J., F. Wilkinson, and R. Tarling, Flexibility in the Use of labour and Fixed Wage Costs, EEC Labour Market Studies 81/23, Brussels, E.E.C. 1981.

Rubery, J., R. Tarling and F. Wilkinson, 'Flexibility, Marketing and the Organisation of Production.' in Labour and Society, Vol. 12, No. 1, January 1987, pp.133-151.

Sandretto, P.M., and G. Daubert, 'The Learning Curve' Harvard Business School Case Services: Teaching Note 9-182-130, 1986.

Sasser, W.E., 'Match Supply and Demand in Service Industries', in Harvard Business Review, November-December 1976.

Scarman, The Rt.Hon Lord, (Chairman) Report of an Inquiry: The Brixton Disorders: 10-12 April. 1981. Cmnd. 8427, London, H.M.S.O. 1981.

Schein, E. Organisational Psychology (3rd Edition), Englewood Cliffs, NJ.: Prentice-Hall 1980.

Schneider, B., 'The Service Organisation: Climate is Crucial', in Organisational Dynamics, Autumn 1980, pp.52-65.

Schonberger, R.J., World Class Manufacturing : The Lessons of Simplicity Applied, New York: Free Press, 1986.

Senker, P., and M. Beesley, 'The Need for Skills in the Factory of the Future', in New Technology, Work and Employment, Vol.1, No. 1, 1986, pp. 9-16.

Sheaff, M., 'NHS Ancillary Services and Competitive Tendering' in Industrial Relations Journal, No. 2, Vol. 19, Summer 1988, pp.93-105.

Silverman, D., Qualitative Method and Sociology, Aldershot: Gower, 1985.

Simon, H., The New Science of Management Decision, New York: Harper Row, 1960.

Slatter, S., Corporate Recovery: A Guide to Turnaround Management, Harmondsworth, Penguin, 1984.

Sorge, A., and W. Streeck, 'Industrial Relations and Technical Change: the Case for an Extended Perspective' in R. Hyman and W. Streeck (eds) New Technology and Industrial Relations, Oxford: Basil Blackwell, 1988, pp.19-45.

Tansey, W.J., 'What Marketing Offers Banks', in The Banker, June, 1985, pp.37-42.

Teesside Survey and Plan, London: H.M.S.O., 1969.

Thompson, Hugh, 'Customer Loyalty Counts for Less and Less', in The Banker, Vol. 136, No. 725, 1986.

Thompson, J.D., Organisations in Action, New York: McGraw-Hill, 1967.

Tichy, N., Managing Strategic Change: Technical, Political and Cultural Dynamics, New York: John Wiley, 1983.

Townsend, P., P. Phillmore and A. Beattie, Inequalities in Health in the Northern Region: An Interim Report. Bristol University, 1987.

Trades Union Congress, New Jobs: Economic Adjustment and the Labour Market. T.U.C. London. 1985.

Trist E.L., G.W. Higgin, H.Murray and A.B. Pollack, Organisational Choice. London: Tavistock, 1963.

Trist, E.L., The evolution of socio-technical systems : a conceptual framework and an action research program. Issues in the Quality of Working Life, Occasional Paper No. 2, Ottawa: Ontario Quality of Working Life Centre, Ontario Ministry of Labour, June 1981.

Trist, E.L., 'QWL in the 1980's' in The Quality of Working Life in the 1980's, by H. Kolodny and Hans van Beinum, New York: Praeger, 1983.

Turner, B.A., 'Some Practical Aspects of Qualitative Data Analysis: One Way of Organising the Cognitive Processes Associated With The Generation of Grounded Theory' in Quantity and Quality, Amsterdam: Elsevier Scientific Publishing. Vol. 15, 1981 pp.225-247.

Turner, G., 'A New Strategy at Barclays', in Long Range Planning, Vol. 18., 1985 No. 3 pp.12-16.

van Beinum, H., 'New Technology and Organisational Choice' in OWL Focus, Volume 6, Issue 1, 1988, pp.3-10.

Vittas, D., 'Banks' Relations with Industry: An International Survey' in National Westminster Bank Quarterly Review, February 1986, pp.2-13.

Voss, C., C. Armistead, B. Johnston and B. Morris, Operations Management in Service Industries and the Public Sector, John Wiley, 1985.

Walker, R., An Introduction to Applied Qualitative Research in Applied Qualitative Research, Aldershot: Gower, R. Walker (ed), 1985(a), pp.3-26.

Walker, R., Evaluating Applied Qualitative Research in Applied Qualitative Research, Aldershot: Gower, R. Walker (ed), 1985(b), pp.177-196.

Walton, R.E., 'From control to commitment in the workplace' in Harvard Business Review, March-April 1985, pp.77-84.

Waterman, R.H., The Renewal Factor: Building and Maintaining Your Company's Competitive Edge, London: Bantam, 1988.

Watson, T. J., Management Organisation and Employment Strategy: New Directions in Theory and Practice, London: Routledge & Kegan Paul, 1986.

Wax, M.L., 'On Fieldworkers and Those exposed to Fieldwork' in Human Organisation, Vol. 36, 1977, pp.321-328.

Weick, K., The Social Psychology of Organising, Reading, Mass., Addison-Wesley, 1979.

White, M., Shorter Working Time. Report No. 589, Policy Studies Institute, London, 1980.

White, M., Shorter working time through national industry agreements, PSI Research Paper No. 38, 1982.

Whyte, W.F., Street Corner Society: The Structure of an Italian Slum, Chicago: (2nd Edition), University of Chicago Press, 1955.

Wickens, P., The Road to Nissan: Flexibility, Quality and Teamwork, Basingstoke: MacMillan, 1987.

Wilkinson, B., The Shopfloor Politics of New Technology, London: Heinemann, 1983.

Wilkinson, F., (Ed), The Dynamics of Labour Market Segmentation, London: Papers of the Second Conference of the International Working Party on Labour Market Segmentation held at the Free University, West Berlin, 7 to 11 July 1980, Academic Press, 1981.

Wilkinson, F., 'The restructuring of labour markets', in Labour and Society, Vol. 13, No. 4, October 1988, pp.339-346.

Williams, H., and D. Charles, 'The Electronics Industry in the North-East: Growth or Decline?' in Northern Economic Review, No. 13, Summer 1986, pp.29-38.

Williams, K., J. Williams and C. Haslam, 'Do Labour Costs Really Matter?', Work, Employment and Society, Vol. 3, No. 3, September, 1989, pp.281-305.

Wirth, L., Preface to Karl Mannheim's Ideology and Utopia, New York: Harcourt, Brace and World, 1949.

Withington, J., Shutdown: The Anatomy of a Shipyard Closure, London: Bedford Square Press, 1989.

Wood, S. 'Recruitment in the Recession Personnel Management' in Personnel Management, November 1982, pp.40-42.

Wood, S. 'New Wave Management' in Work, Employment and Society, Vol. 3, No. 3, 1989, pp.379-402.

Woodward, J., Management and Technology, London: H.M.S.O., 1958.

Woodward, J., Industrial Organisation: Theory and Practice, London: Oxford University Press, 1965.

Wyles, C., 'Shorter hours need not cost any more', Works Management, November, 1983.

Yin, R.K., Case Study Research, Beverly Hills, Ca., Sage Publications, 1984.

Yorks, L., and D.A. Whitsett, 'Hawthorne, Topeka and the Issue of Science Versus Advocacy in Organisational Behaviour', Academy of Management Review, January, 1985, pp.21-30.