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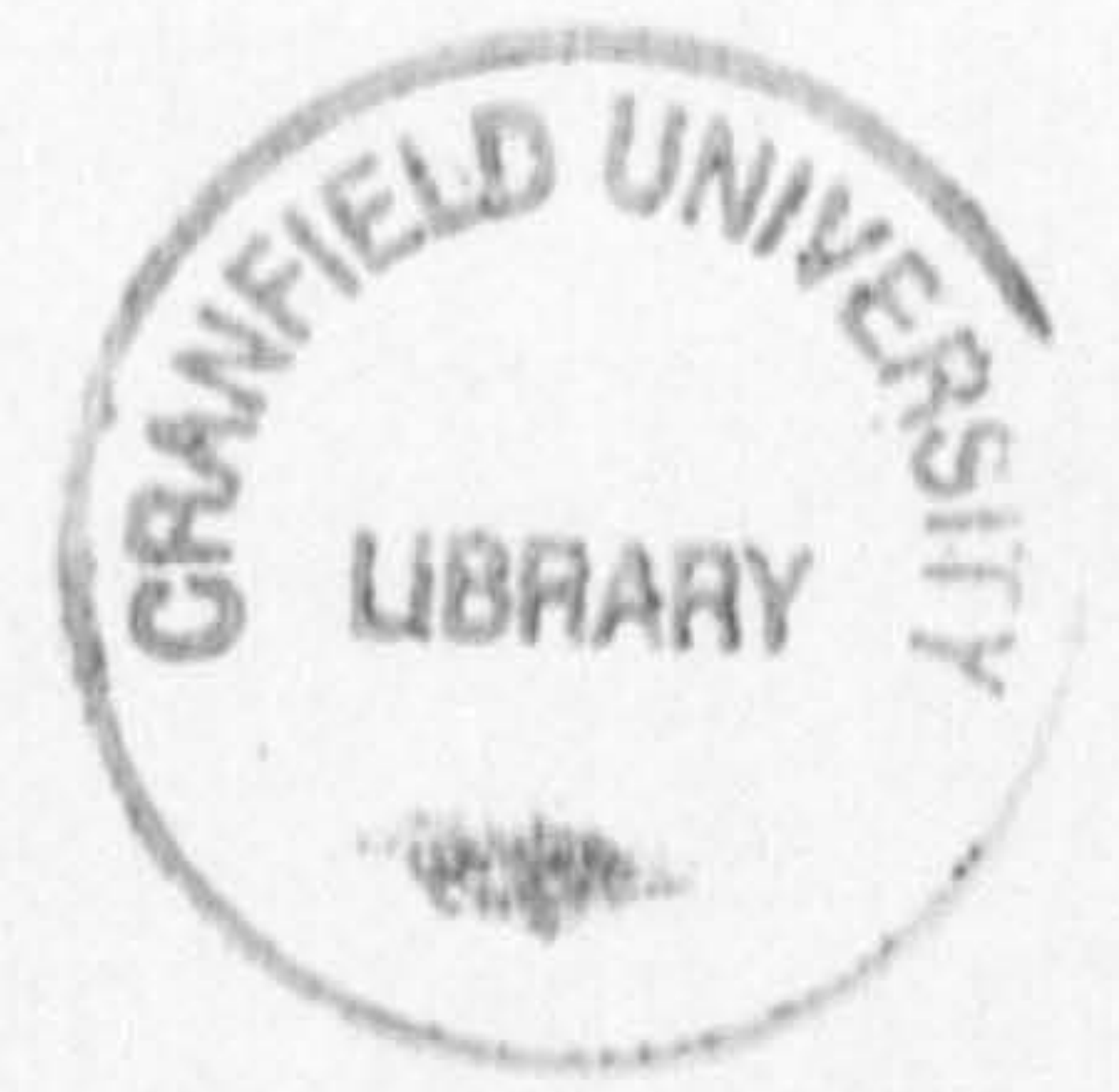
**A Systems Approach to Empowerment  
in Manufacturing Enterprises**

**School of Industrial and Manufacturing Science**

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**Doctorate of Philosophy**





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## **Abstract**

**Business challenges posed by turbulent local and global operating conditions are driving the adoption of new manufacturing strategies. Employee empowerment is viewed as a key enabler of these strategies within manufacturing enterprises. Analysis of the empowerment literature revealed that empowerment is poorly conceptualised. Little empirical evidence exists on the factors that influence the realisation of empowerment in manufacturing production. Parallel analysis in other domains reveals knowledge that could potentially be applied to operationalise empowerment in practice. This knowledge remains unexplored within the context of empowerment.**

**The thesis proposition is that making empowerment operational depends on a prior understanding of the dimensions of the concept, which are specific to differing organisational contexts. The research endorses the necessity of considering empowerment from a differentiated systems perspective. Organisational control is confirmed as a dominant management concern in operationalising empowerment.**

**It was determined that the development of a conceptual framework to synthesise the diffuse elements of empowerment could enhance understanding of the implications of operationalising the concept in manufacturing production. The author develops the framework using theoretical knowledge identified following a detailed analysis of empowerment from literature. The theoretical propositions that constitute the conceptual framework are triangulated and the framework is operationalised using domain targeted industrial trials.**

**The conceptual framework constitutes the prime deliverable of the research. The framework provides a mechanism for envisaging possible empowerment implementation scenarios within the context of manufacturing production. It is intended to be used by senior managers as a means of reflecting on the organisational contingencies of the application domain in which empowerment is to be operationalised.**

To my Mum, Hannah

and

To the memory of my much missed Dad, William



## **Acknowledgements**

I would like to take this opportunity to express my thanks to:

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David for his enduring friendship.

Finally, to John, with gratitude for looking after me and for putting up with the disruption caused to our lives. I am glad he is still on the ground holding my string.

## **The author**

The author was raised in Port Glasgow, on the West Coast of Scotland. During the time of her secondary education, she developed a fascination with the daily progress of ships under construction as she travelled to and from school. This left her with a deep respect for people who manufacture or build things for a living. She is particularly pleased that she has found herself conducting research into the human aspects of manufacturing production at Cranfield University.

She studied Economics, as a mature student, at Warwick University. She has a long and varied work history. She was a programmer/analyst for several years. She moved into project management training, working with Information Systems personnel from blue-chip organisations. The author discovered a talent for teaching, which she decided to develop by undertaking a Postgraduate Certificate in Education. She subsequently taught in secondary schools. The opportunity to pursue a PhD at The CIM Institute, Cranfield University occurred on return from a sabbatical, during which time the author had indulged her passion for travel.

The author feels that the experience and knowledge she has gained from her involvement in many organisations, through both previous employment and research activities, would be of value to organisations that recognise the need to appropriate employee skills and knowledge as a source of competitive advantage. She would ideally like to work in the area of management education in the human aspects of organisational transformation.



## List of Publications

McEwan, A.M. and Sackett, P.J. (1998). 'The human factor in CIM systems: worker empowerment within a high volume production environment'. Computers In Industry, vol. 36, 39-47.

McEwan, A.M. and Sackett, P.J. (1997). 'Theoretical considerations of employee empowerment within Computer Integrated Manufacturing production'. Empowerment in Organisations, vol. 5, no. 3, 129-138.

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'Empowerment in manufacturing enterprises and the Viable System Model: a case study evaluation'. Peter Sackett and Anne Marie McEwan

'An exploration of the concept of empowerment within manufacturing production' Peter Sackett and Anne Marie McEwan

'The Empowerment Enabling Framework' Peter Sackett and Anne Marie McEwan  
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# Chapter One

## INTRODUCTION

Section 1.0 <b>RESEARCH CONTEXT</b>	Section 1.1 <b>MANUFACTURING PRESSURES</b>	Section 1.2 <b>RESPONSES</b> ☆ Advanced Machine Technology ☆ Innovation in Structures and Processes
Section 1.9 <b>THESIS STRUCTURE</b>		Section 1.3 <b>EMPOWERMENT</b> ☆ New Manufacturing Initiatives ☆ Management Control Structures
Section 1.8 <b>SUMMARY</b>		
Section 1.7 <b>METHODOLOGY</b>		
Section 1.6 <b>RESEARCH DELIVERABLES</b>	Section 1.5 <b>RESEARCH OBJECTIVES</b>	Section 1.4 <b>PROBLEM STATEMENT</b>

Figure 1.1 Outline of Chapter One

Figure 1.1 outlines the contents of Chapter One. The context of the research is explained. Business pressures confronting manufacturers are identified and responses to these pressures are summarised. Consequences for the design of production systems within manufacturing enterprises are discussed. This introduces the concept of employee empowerment, which leads to the research problem. The research problem is stated. The research objectives and deliverables are presented. The research methodology is explained and the structure of the thesis is specified.



## **1.0 RESEARCH CONTEXT**

The author's participation within a research project at Cranfield University, investigating the provision of real-time information to support empowered production teams within Ford, led to an initial research interest in the analysis of empowerment within manufacturing production. Later work on the EUREKA INTO<sup>1</sup> programme confirmed that organisational and human issues are of paramount concern within UK small and medium sized manufacturing enterprises. Discussions between the author and managers from a variety of such manufacturing enterprises revealed that the challenge of operationalising empowered work strategies is a source of concern.

Employee empowerment is portrayed as a key to achieving competitive advantage in turbulent local and global markets. There is, however, disagreement about the meaning of empowerment and there are contradictions associated with the concept. Separate academic disciplines utilise the term to describe apparently unrelated phenomena. Analysis of empowerment reveals that the concept is multi-dimensional. The term 'empowerment' encompasses several concepts that can be applied at individual and organisational levels throughout an organisation. Information about any broad subject must be organised around a conceptual framework to make the information useful and understandable (Anthony, 1988).

Work with various small and medium sized enterprises led the author to the view that the development of a conceptual framework, designed to guide the practical realisation of empowered work strategies in manufacturing production, could lead to significant business improvement opportunities. The research that resulted in this thesis is synthesised and presented within such a conceptual framework.

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<sup>1</sup> The EUREKA programme is a European initiative, for the benefit of Small and Medium Enterprises, that encourages collaborative research and development. INTO represented the network that facilitated research that came under the umbrella of the Integration of Technology and Organisation for Quality Production.

## **1.1 MANUFACTURING PRESSURES**

Current business pressures in manufacturing organisations are characterised by:

- customisation
- time-based competition
- globalisation
- cost competition
- customer demands for quality.

These business pressures are mutually reinforcing. Customisation is a process whereby product variety is made possible by technological and business process advancement. Time-based competition arises as manufacturers are compelled by market-led pressures to design, produce and introduce a rapidly evolving mix of easily customisable products to market before their competitors. Customisation and time-based competition lead to short product life cycles (Stalk, 1988; Stalk and Hout, 1990; Hum and Sim, 1996). Globalisation is a 'complex phenomenon' (Dean and Susman: 302). Shortened product life cycles result in rapid diffusion of innovation across countries. The consequence is that, as new manufacturing technologies and work systems are adopted, costs are cut at each stage of the product life cycle. Cost competition intensifies. Globalisation is also the force driving manufacturers to achieve quality at no additional cost. Throughout the 1980s, Japanese electronics and automotive producers led the quality movement by delivering high quality products at competitive prices (Dean and Susman, 1989). The rest of the world's manufacturers now recognise that there is no longer a trade-off between cost and quality. Building low-cost quality into products and processes that are environmentally acceptable has become compulsory in the west. Diffusion of information technology further encourages the process of globalisation.



## 1.2 RESPONSES TO PRESSURES

Changes occurring within manufacturing organisations in response to business pressures include:

- implementation of advanced machine technology
- multidimensional changes to organisational structures and processes
- innovation that results in improvement to production processes.

### 1.2.1 Advanced Machine Technology

Advanced machine technology provides a means of achieving flexible, responsive manufacturing. Kenney and Florida (1993) comment that production technology will become increasingly cybernetic, presenting opportunity for the expansion of operator skills through synthesis of intellectual and manual effort.

There is debate over whether advanced technology is skilling or deskilling (Adler, 1992). Grint and Woolgar (1997) argue that technology is only made relevant through the interpretative actions of those involved with it. Technology is therefore neither inherently skilling nor de-skilling. The use of technology can increase operator skills:

- by providing information that is abstracted and interpreted by operators, giving them control over production processes (Zuboff, 1989; McEwan and Sackett, 1998).
- through organisational restructuring that may accompany the adoption of advanced technology. Devolution of responsibilities for functions like planning and scheduling, previously the province of management, becomes possible.



## **1.2.2 Innovation in Structures and Processes**

Manufacturers' dominant response to business pressures has been to realign traditional organisational structures and processes to become more responsive to market needs. Organisational structures enable organisations to achieve goals and objectives. Hrebiniak et al., (1989) describe structure as comprising of basic organisational design, which is how tasks are divided, plus management control structures. Management control structures consist of a system of responsibilities designed to co-ordinate work effort and to influence individual commitment to achieving organisational goals (Hall, 1991). The distinction between actual task performance and responsibility for that performance is significant. It is feasible that a person performing a task is not held responsible for the outcome. Work roles are changing within manufacturing production to incorporate the redistribution of both task and management control responsibilities.

Processes transform inputs into outputs within organisational structures. Material, work and information processes are controlled and integrated through horizontal and vertical structures, which incorporate work roles, relationships and channels of communication (Brown and Brown, 1994). New production models are emerging and replacing traditional function-centred organisations. The new 'process-centred' production models focus on achieving cross-functional process efficiency and control through work units that perform complete parts of a whole production process (Majchrzak and Wang, 1996; Oakland, 1997). New production models are characterised by:

- reintegration of manual and mental labour, separated in traditional manufacturing
- focus on quality
- focus on process discipline
- continuous task and process innovation
- elimination of waste
- multi-skilled teams (Womack et al., 1990; Kenney and Florida, 1993; Cappelli, 1994).

Enterprise models deploy different critical competencies in pursuit of a variety of competitive strategies. High product complexity and uncertain market conditions result in 'chaotic' production (Factory for the Future, 1995). This implies that fragmented production control is a critical issue for this type of production. Manufacturing flexibility and control may be achieved through cellular manufacturing. Machines, tasks and processes are modularly arranged within cellular manufacturing. Teams within the cells potentially have responsibility for all operations in a subprocess and for co-ordination across subprocesses. Where responsibilities for management and production control are devolved, production operators would have to become skilled in decision making, problem solving and communication.

Low complexity, high volume products compete on price. One way in which organisations that compete on price can differentiate their products is to focus on achieving productivity and quality through Continuous Improvement. Continuous Improvement activities can take place with no restructuring of task division or management control responsibilities (Lindberg and Berger, 1997). Cross-functional problem-solving teams may be superimposed on a largely unchanged management structure. A range of restructuring choices therefore exists in designing new manufacturing production models.

### 1.3 EMPOWERMENT

A range of options for organisational redesign implies that empowerment is likely to take different forms within manufacturing production systems. The changing mix of skills that organisational redesign demands of production operators is embodied within the concept of employee empowerment, which continues to be recommended as a principal strategy in achieving excellent performance within business organisations (Clutterbuck and Kernaghan, 1994; *Competitiveness*, 1994; Foy, 1994; Stewart, 1994; Pfeffer, 1994; Factory for the Future, 1995; The Industrial Society, 1995; Blanchard et



al., 1996; Ginnodo, 1997; Robinson, 1997; Argyris, 1998). Empowerment is widely implicated in the achievement of manufacturing success. Examples of manufacturing enterprises that identify employee empowerment as a key source of high performance are found in Appendix A, under the section entitled 'Empowerment Implicated in Competitive Success'.

### **1.3.1 New Manufacturing Initiatives**

To meet the challenges posed by turbulent competitive conditions, manufacturers are adopting methods and philosophies that necessitate differing degrees of organisational restructuring. The methods and philosophies are applied within manufacturing organisations to achieve innovation and integrated production process control. They include:

- Just-In-Time
- Total Quality Management
- Business Process Engineering
- Total Preventive Maintenance
- Continuous Improvement.

Total Quality Management, Just-In-Time and Business Process Reengineering can be seen as exploitative means of securing management control by ensnaring employees into intensified work (Delbridge et al., 1992; Sewell and Wilkinson, 1992a; Sewell and Wilkinson, 1992b; McArdle et al., 1995; Willmott, 1995; Mitev, 1996; Jones, 1997). There are doubts about the extent to which the nature of production work changes through supposedly increased levels of intellectual input from production operators (Wilkinson, 1997). The author has to declare that she shares some of the misgivings expressed by the critics and is deeply uncomfortable with the term 'empowerment'. These issues are explored in Chapter Three.



Some proponents of Continuous Improvement (Bertodo, 1991; Suzaki, 1993; Daniels, 1995), Business Process Engineering (Hammer and Champney, 1993; Kruse, 1995) and Total Preventive Maintenance (Wilmott, 1994) state that they are empowering philosophies. Empowerment is claimed as a key requirement for successful TQM implementation (Powell, 1995; Rodrigues, 1994; Gatchalian, 1997; Roth, 1997). New wave manufacturing initiatives may be considered faddish, with each superseding the other as expected business gains fail to materialise. However, empowerment re-emerges as a constantly occurring feature of each succeeding initiative.

### **1.3.2 Management Control Structures**

A principle driver of empowerment in manufacturing production is the need for innovation (Kenney and Florida, 1993; Bertodo, 1993). Innovation can be achieved by systematically applying the philosophy of Continuous Improvement throughout a manufacturing organisation. The philosophy is particularly targeted at production operators to harness previously under-utilised knowledge. Innovation need not necessarily engender any widespread change to management control processes. Organisational restructuring is a further key driver of empowerment. Cross-functional process efficiency and control may be sought through the application of initiatives such as Just-In-Time, Total Quality Management and Business Process Re-engineering. Devolved responsibilities for quality, indirect management tasks and integrated process control lead to changed vertical and horizontal management control structures. The concept of empowerment in manufacturing production is inextricable with the dynamics of changing management control structures.

## **1.4 PROBLEM STATEMENT**

Empowerment was identified as desirable by nearly all the managers interviewed by Ezzamel et al. (1996) in their research into human resource practices. Expressed desire to utilise empowerment as a means of improving productivity and quality contrasted

with how human resource strategies were implemented within the organisations that were included in Ezzamel et al.'s research. Human resource strategies were generally not considered as part of an integrated business strategy. The view of one manager interviewed by Ezzamel et al. is that it is easy to develop business, technological and financial strategies but it is the most difficult thing in the world to produce a people strategy and put it into effect (Ezzamel et al.: 66). It would seem that there is a lack understanding of factors that influence the process of operationalising empowerment.

The author reviewed the empowerment literature and found that most writing on empowerment has addressed the benefits of empowerment. It has not focussed on implementation issues (Ford and Fottler, 1995; Pearson and Chatterjee, 1996). There is little guidance in the literature on the process of operationalising empowerment in manufacturing production. This is changing as the accumulated experience of businesses enterprises are increasingly synthesised (Ginnodo, 1997; Robinson, 1997).

A prime problem in operationalising empowerment, which the author identifies from the literature, is how to maintain centralised management control within organisations while simultaneously devolving responsibilities for management and process control (Baker, 1994; Brown and Brown, 1994; Kinlaw, 1995; Simons, 1995; McEwan and Sackett, 1997; Robinson, 1997; Argyris, 1998). There is little research into the the nature of organisational controls that are consistent with new management practices (Daniel and Reitsberger, 1991; Selto et al., 1995). These practices are the drivers of empowerment. The review of the literature also found that empowerment is a disputed and poorly conceptualised concept, which has different interpretations across knowledge domains. It seemed to the author that implementation issues within manufacturing production could only be considered once the concept was thoroughly analysed within that context.

Although there has been little empirical research on empowerment (Cunningham et al., 1996; Honold, 1997), an exploration of literature on systems theory revealed that theoretical knowledge that potentially addresses the control problems associated with



operationalising empowerment has been known for some time. The author decided to explore existing theoretical knowledge, using the analysis of empowerment and the control knowledge from systems theory, to develop and evaluate a conceptual framework. The purpose of the framework would be to centralise existing knowledge that is pertinent in implementing empowered work strategies, making the knowledge available and understandable. The framework could provide a mechanism to realise business benefit by allowing manufacturers to position themselves onto the framework and to map their business requirements.

## **1.5 RESEARCH OBJECTIVES**

The context of this research is Small and Medium Manufacturing Enterprises in the UK that are currently operationalising employee empowerment within their production systems. The objective of the research is:

- to develop a conceptual framework, in which manufacturing enterprises can position themselves to map desired management control structures and innovation practices, which constitute the form of empowerment to be operationalised.

Specific objectives are:

- to assess existing empirical evidence on operationalising empowered work strategies within manufacturing production
- to synthesise from literature the dimensions of empowerment
- to identify issues that are likely to influence the operationalising of empowered work strategies within manufacturing production
- to identify and evaluate theoretical knowledge that may support the operationalising of empowered work strategies within manufacturing production



- to triangulate the premises underlying the framework and operationalise the concept using the domain targeted industrial trials.

Key assumptions underlying the formulation of the research objectives are:

- that knowledge about factors that influence the operationalising of empowered work strategies within manufacturing production remains under-developed
- theoretical knowledge exists that is unexplored within the context of operationalising empowered work strategies within manufacturing production.

## **1.6 RESEARCH DELIVERABLES**

The deliverables from this research are:

- a tool for the collection of empowerment data across knowledge domains
- a comprehensive analysis of the concept of empowerment within manufacturing production
- an exploration of existing theoretical knowledge that addresses problematic issues when operationalising empowered work strategies
- a conceptual framework that provides the basis for further research towards the development of an implementation tool.

## **1.7 METHODOLOGY**

A methodology denotes the establishment of a systematic approach to investigation that allows logical principles to be applied in pursuit of an agreed objective. Sound research

must be founded on a method that ensures its validity and integrity. The research that led to this thesis is exploratory. The aim of exploratory research is to generate hypotheses, which in the author's work takes the form of a conceptual framework (Yin, 1994).

The research methodology utilises a two stage formal approach. A research need is established by reviewing the empowerment literature and the literature on the antecedents of empowerment. The empowerment literature is also reviewed to analyse the concept of empowerment, which is bedevilled by a lack of clarity. Different academic disciplines use the term to describe apparently different phenomena. Practitioners and academics use the term so loosely that it is difficult to determine if like is being compared with like when examining the empowerment literature (Wilkinson, 1998). A prerequisite to constructing the conceptual framework is to analyse and synthesise different interpretations of empowerment from the literature.

Eccles (1993) contends that there is nothing new in empowerment. Other writers imply as much when they equate empowerment with employee involvement and participation. Participation has a research history going back more than 40 years (Nykodym et al., 1994). Eccles remains "sceptical about the practical application of empowerment because its basic techniques have been available, but underused, for decades" (Eccles: 13). He suggests that the best new thing about empowerment is the word itself. Managers must market old, well-known and more productive ways of working; firstly to themselves and then to their subordinates. A further prerequisite to constructing the framework is to establish the commonalities and differences between empowerment and its antecedents. This allows the framework to be constructed using familiar past knowledge, which is combined with theoretical knowledge that is currently unexplored within the context of empowerment.

A fundamental premise of this thesis is that theoretical knowledge that could support the operation of empowered work strategies already exists within the academic discipline of



systems theory. The literature on systems thinking is reviewed to identify knowledge that may be applied to the control challenges associated with operationalising empowered work strategies.

The next stage of the formal process involves the collection of data from case study organisations. The objective of the data collection is to identify factors that emerge as significant in implementing empowered work strategies. The results from the case study evidence provide a means of triangulating the premises that underpin the conceptual framework.

## **1.8 SUMMARY**

The key findings of Chapter One are:

- responses to current manufacturing pressures focus on organisational initiatives that are designed to manage process control. Empowerment is consistently identified as a key element in successfully realising these process-focused initiatives, which may alter the management control structures and processes within manufacturing production systems
- research on factors that influence the operation of empowerment in practice within manufacturing production is uncommon in the literature. There is a lack of knowledge on management controls that are consistent with process-focused initiatives. Maintaining centralised control and simultaneous devolved control is identified as a particular problem in realising empowerment
- a conceptual framework provides a mechanism for understanding information on a topic that is wide in scope. Empowerment is an elusive and disputed concept. It encompasses knowledge from several academic disciplines. The author believes that the development of a conceptual framework could provide business benefit to



manufacturing enterprises by supporting the operation of empowered work strategies within production systems.

## 1.9 THESIS STRUCTURE

The thesis is structured in eight chapters, which are listed in Table 1.1:

- |                                       |
|---------------------------------------|
| 1. Introduction                       |
| 2. Methodology                        |
| 3. Research Strategy and Methodology  |
| 4. Antecedents of Empowerment         |
| 5. Theoretical Knowledge              |
| 6. The Empowerment Enabling Framework |
| 7. Analysis of Case Study Data        |
| 8. Conclusions                        |

Table 1.1 Thesis structure

Chapter One presents the research context, the problem statement and the research objectives. Chapter Two describes the research process and explains why the research methodology was adopted. Chapter Three explores the concept of empowerment. Chapter Four differentiates empowerment from previous management initiatives. The analysis identifies common ground between past and current management initiatives. Organisational control emerges as a key differentiating feature of empowerment. Chapter Five evaluates a systems approach to empowerment. Theoretical knowledge on organisational control is evaluated for possible inclusion within a conceptual framework. The relevance of this knowledge to the operation of empowerment is



stated. Chapter Six develops the conceptual framework, which is named the Empowerment Enabling Framework. Chapter Seven presents analysis of data collected from three case study companies and assesses the empirical data against the conceptual framework. Chapter Eight concludes the results of the research, identifies contribution to knowledge and recommends focus for further research.



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# Chapter Two

## RESEARCH STRATEGY AND METHODOLOGY

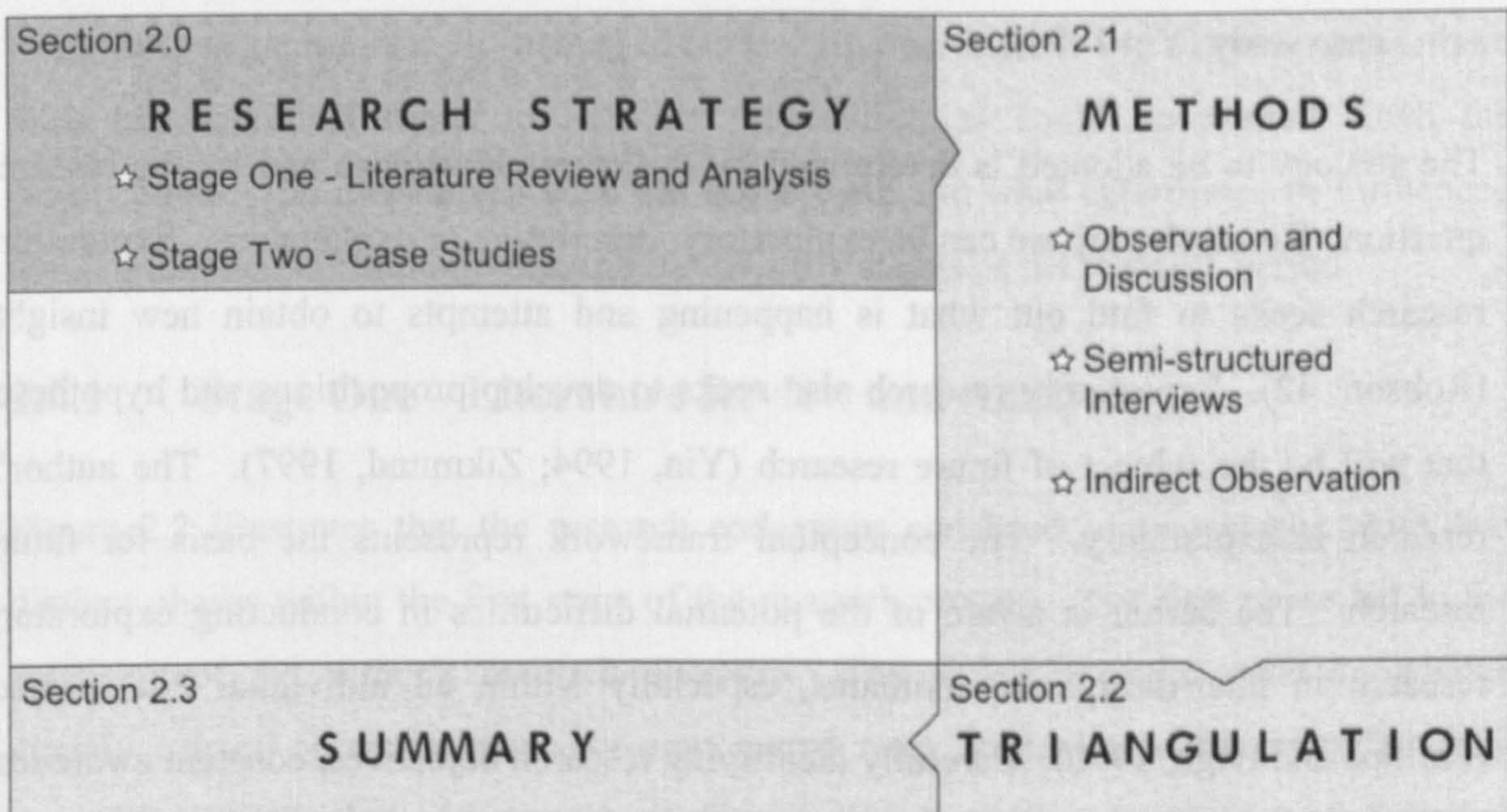


Figure 2.1 Outline of Chapter Two

Chapter Two outlines the development of the research process. It includes a description of the logic behind the selection of the research strategy and the methods used to realise the strategy. Figure 2.1 illustrates the contents of the chapter.



## **2.0 RESEARCH STRATEGY**

Robson (1993) defines strategy as the general approach taken to the conduct of an investigation. Research strategies include:

- experiment
- survey
- archival analysis
- history
- case study (Yin 1994).

The strategy to be adopted is determined by the research purpose and by the research question. Research purpose can be exploratory, descriptive or explanatory. Exploratory research seeks to find out what is happening and attempts to obtain new insights (Robson: 42). Exploratory research also seeks to develop propositions and hypotheses that will be the subject of future research (Yin, 1994; Zikmund, 1997). The author's research is exploratory. The conceptual framework represents the basis for future research. The author is aware of the potential difficulties in conducting exploratory research in inter-disciplinary domains, especially within an individual PhD project (Phillips and Pugh, 1990). Carefully identifying research objectives, constant awareness of the research scope and designing an appropriate strategy help to minimise the risks of the research.

The author's interest in the subject of empowerment arose from her involvement in a previous research project (Dench et al., 1995). The commissioning organisation, an automotive manufacturer, was in the process of devolving increased decision-making to empowered production teams. Real-time operating information was recognised as a key requirement to allow the teams to operate effectively. The author was a member of the project group that was tasked to design a generic model that would facilitate the provision of real-time operating information to empowered production teams. A

working definition of 'empowerment' was adopted as "implying the transfer of power and authority to make decisions based on all available information and resources".

Six companies provided case study evidence, which confirmed that empowerment within manufacturing production is associated with increased levels of decision-making responsibilities for production operators. The definition adopted by the group was adequate, although there was diversity in the nature of empowerment and the degree to which it was experienced by teams within the case study organisations. The author became intrigued by the dynamics of devolving information and responsibilities throughout organisations. It seemed to her that, in operationalising empowerment, there must be theoretical limits to how far responsibilities could be pushed down the organisation. The question of what the limits were and what determined or influenced them dominated the author's thinking in the early stages of the research period.

### **2.0.1 Stage One – Literature Review and Analysis**

Figure 2.2 illustrates that the research endeavour consisted of two stages, with two distinct phases within the first stage of the research process. The first phase led to the finalising of the author's research question. The author assessed what knowledge already existed on operationalising empowered work strategies within manufacturing production, particularly in respect of factors that limit the devolution of decision-making responsibilities. Literature in the domains of operations management and organisational behaviour was initially evaluated through relevant CD-ROMs, databases and journals, accessed through Cranfield University Library.

Since devolving responsibilities and information implies changes to the dynamics of relationships throughout an organisation, literature in the domain of systems theory was reviewed to determine if existing knowledge could inform the author's question on theoretical limits to devolving decision making responsibilities.



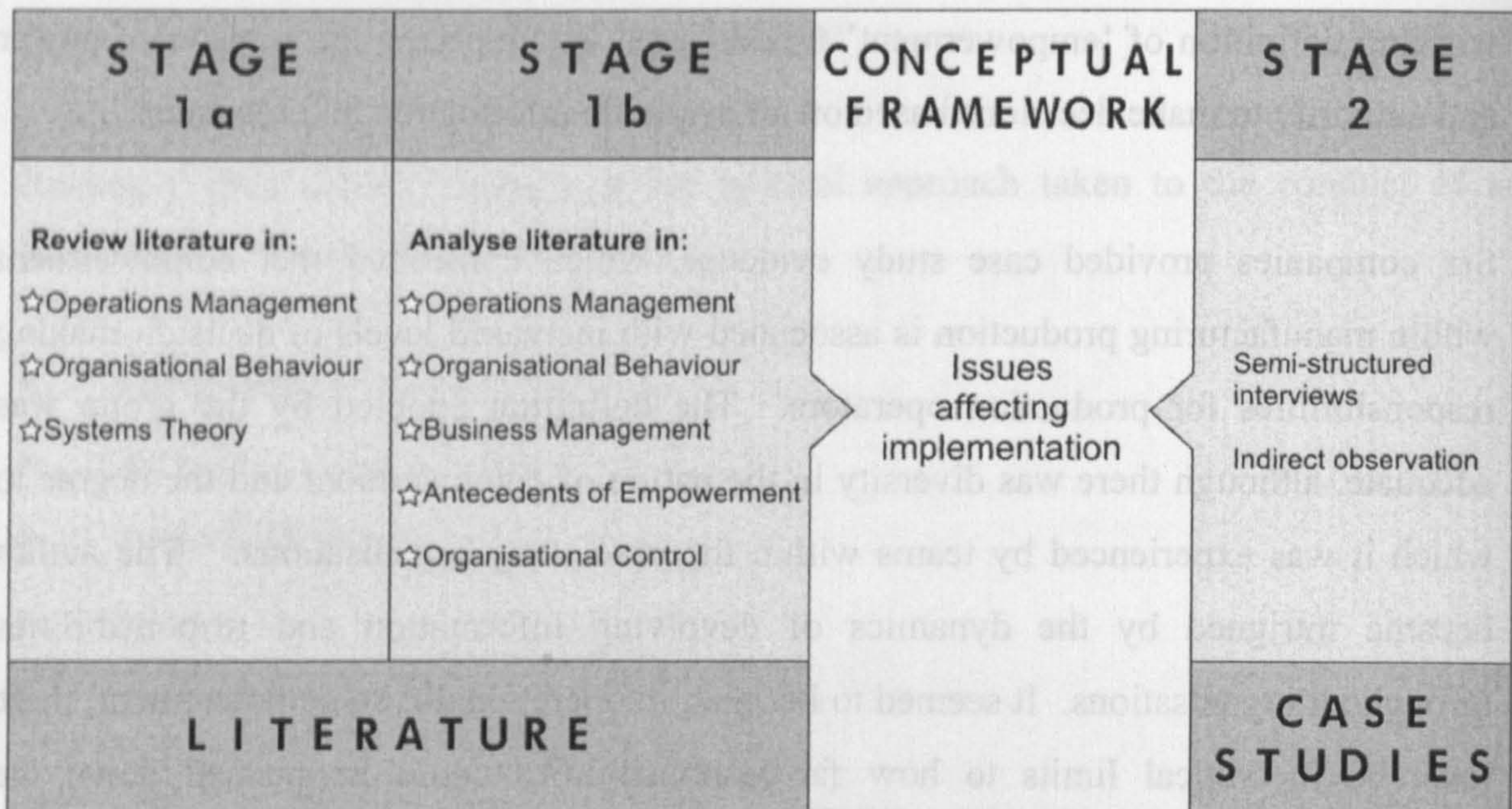


Figure 2.2 The research process

Results from the literature search were initially disappointing, both in quality and quantity of references, with very few academic references emerging. The author acquired increasing confidence in the results of her literature searches when comments made by other authors about the literature confirmed the author's own findings (Marchington, 1995; Harrison and Storey, 1996; Honold, 1997). Investigative work was often necessary. The author's literature search revealed, while scanning a list of references, a journal devoted specifically to empowerment. Perturbed that this journal had not been revealed through the databases, the author checked the journal's entry in Ulrich. It showed that none of the databases at Cranfield Library subscribed to the journal.

Key results from the initial literature review were:

- empowerment is a poorly conceptualised and disputed construct
- there is little knowledge on operationalising empowerment



- centralised management control must paradoxically coexist with the localised control responsibilities that accompany devolved decision making. This is perceived within the empowerment literature as a prime problem for managers and is represented as a barrier to operationalising empowerment
- there is a model within the systems literature that specifies how the paradox of decentralised management control can simultaneously coexist with centralised management control. The literature survey indicated that this knowledge remains unexplored within the context of empowerment.

The definition of empowerment adopted in the earlier research project was sufficient for the purpose and was corroborated by the experience of the case study enterprises. It was, however, an inadequate definition on which to base an understanding of issues that influence operationalising the concept. The author's research question developed to become:

“What existing theoretical knowledge could be identified and synthesised within a conceptual framework to operationalise empowerment within in manufacturing production?”.

The question contains two major areas of investigation:

- what constitutes ‘empowerment’ in the context of manufacturing production
- besides the model revealed through the initial literature survey, what constitutes ‘existing knowledge’ that might be relevant to support the operation of empowerment within in manufacturing production.

With the research question and purpose established, the next step in the process was to design the remainder of the research strategy and data collection methods. The choice



of research strategy is contingent upon the content and form of the research question. These contingent factors are summarised in Table 2.1.

Strategy	Form of research question	Requires control over behavioural events?	Focus on contemporary events?
Experiment	How, why	Yes	Yes
Survey	Who, what, where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes / No
History	How, why	No	No
Case Study	How, why	No	Yes

Table 2.1 Factors that determine research strategy (Yin, 1993: 6)

It seemed to the author that operationalising empowerment could only be considered once the concept within manufacturing production was thoroughly investigated. Table 2.1 indicates that the author had a choice of gathering data from primary sources, through the collection of survey data, or gathering data from secondary published sources. The author chose to assess the different dimensions of empowerment through an examination of the literature. One of the advantages of literature based surveys is that they are a resource efficient method of obtaining information. Time and cost constraints were factors in the decision to use to use published sources but they were not the prime consideration. The early research project had resulted in only a partial understanding of the concept. The author made the judgement that literature would provide a more complete understanding within the time available to her. There is no way of knowing if this choice was the most appropriate. However, the academic literature is mainly critical of the concept of empowerment. It provides a source of



debate that may not have arisen from primary sources and is certainly absent from the more prescriptive empowerment literature.

There is a problem with the quality of the literature on empowerment, which is dominated by practitioner and consultant led contributions. The problem with this is that there may be bias in favour of reporting success and a tendency to minimise conflict or failure (Marchington, 1995). The bibliography in Appendix A, developed by the author, is categorised to differentiate among different types of contribution to the literature. The author used the categories to assist her in questioning the source and motive for contributions. There is little academic research on the subject of empowerment, although this is beginning to change (Hardy and Leiba-O'Sullivan, 1998; McEwan and Sackett, 1998; Wilkinson, 1998).

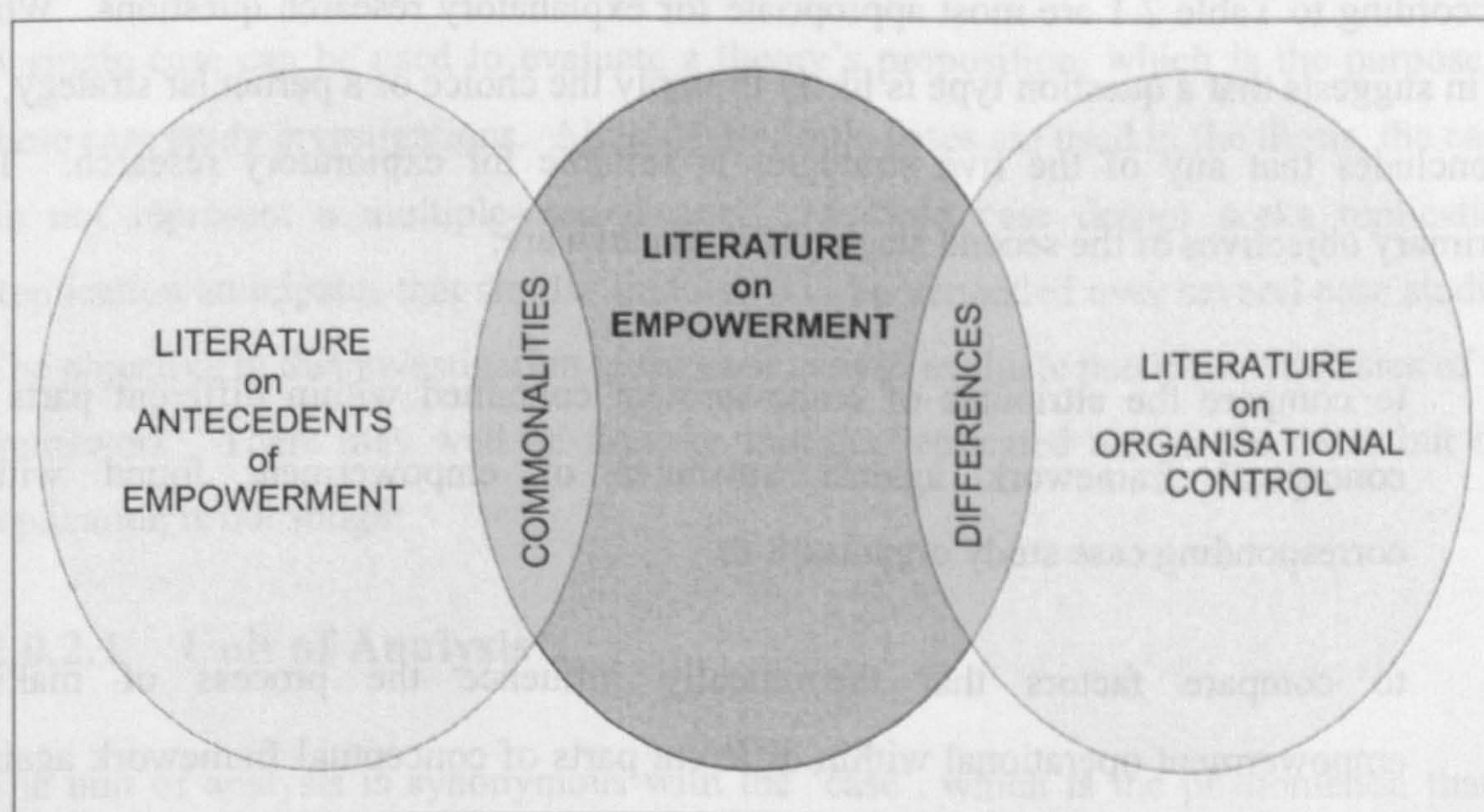


Figure 2.3 Analysis of the literature in the latter phase of Stage One

There are claims that empowerment is not new. The novelty of the research could be questioned if significant knowledge already exists on implementing previous management initiatives and if it was shown that empowerment was no different to previous initiatives. An evaluation of the literature on the antecedents of empowerment



determined the extent to which such knowledge exists. The other main area of investigation was to identify existing knowledge that might be relevant in operationalising empowerment. The literature on the antecedents of empowerment was additionally reviewed to differentiate empowerment from previous management initiatives and to establish commonalities. The commonalities affirm sources of existing knowledge. The differences provide direction in searching the literature of other knowledge domains. Figure 2.3 summarises the literature domains surveyed in the latter phase of Stage One.

### **2.0.2 Stage Two – Case Studies**

The second phase of the research process utilises the case study strategy. Case studies, according to Table 2.1 are most appropriate for explanatory research questions. While Yin suggests that a question type is likely to imply the choice of a particular strategy, he concludes that any of the five strategies is suitable for exploratory research. The primary objectives of the second stage of the research are:

- to compare the attributes of empowerment contained within different parts of conceptual framework against attributes of empowerment found within corresponding case study organisations
- to compare factors that theoretically influence the process of making empowerment operational within different parts of conceptual framework against the influencing factors that emerge within corresponding case study organisations.

These comparisons provides an initial evaluation of the framework's validity. Of the strategies that Yin specifies in Table 2.1, the case study is the most appropriate for this purpose because the strategy focuses on context. A case study is "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence" (Robson:



52). Experiments intentionally separate a phenomenon from its context, history is not applicable to the analysis of contemporary issues and there are limited opportunities to investigate context using surveys (Yin: 13).

Three manufacturing organisations were selected to provide the context for conducting case study investigation. The primary selection criteria were:

- enterprises were to be Small and Medium Sized Enterprises
- enterprises had to have implemented empowered work strategies
- the form of empowerment must differ in each enterprise to compare against specific attributes of the conceptual framework.

A single case can be used to evaluate a theory's proposition, which is the purpose of these case study investigations. Although multiple cases are used in the thesis, the cases do not represent a multiple-case design. Multiple case design seeks replication. Replication anticipates that similar findings will be generated over several case studies. The objective in this investigation is for each case to evaluate particular attributes of the framework. There may well be findings that are replicated across the cases but this replication is not sought.

### **2.0.2.1 Unit of Analysis**

The unit of analysis is synonymous with the 'case', which is the phenomenon that is under investigation. A case could be an individual or an organisation. A case could also be an event or process (Yin: 22). The phenomenon being investigated within this thesis is a concept, which includes its attributes and the factors that influence its realisation. The units of analysis are the concept's differentiated profiles of attributes and influencing factors, which are defined within the boundaries of the conceptual framework. Data is collected from individuals within specific organisational contexts.



The data is used to support, or refute, the theoretical premises contained within the conceptual framework.

## **2.1 METHODS**

Methods are tactics that are deployed to collect data within a particular strategy. The following methods have been used throughout the research:

### **2.1.1 Discussion**

Many visits were made to company sites, conferences and seminars throughout the course of the research period. The author was responsible for co-ordinating UK participation in the EUREKA INTO European research initiative on behalf of the Department of Trade and Industry. She also participated in seminars organised by CLASP, the Bedfordshire and North Buckinghamshire Supply-Chain and Best Practice Network. Discussions with numerous managers at CLASP and INTO events, as well as with colleagues at Cranfield University and at other universities, were invaluable in shaping the author's thinking. The enthusiastic response to the seminar she led on empowerment served to reinforce the key findings that were emerging from the literature. Discussions were particularly useful in affirming that implementation is a critical issue of concern for managers. This supports the rationale underpinning the research question, that providing guidance for operationalising empowered work strategies could bring business benefit to manufacturing enterprises.



### 2.1.2 Process for Data Collection from Published Sources

	Academic Journals	Popular Management Journals
<b>Business Management</b>	Academy of Management Executive Academy of Management Journal Academy of Management Review American Journal of Management Development Journal of Management Studies	Business Horizons Executive Excellence Harvard Business Review Sloan Management Review
<b>Organisational Behaviour</b>	Employee Relations Human Relations Human Resource Management Journal Personnel Review New Technology, Work and Employment Organizational Dynamics	Empowerment in Organizations
<b>Production Management</b>	International Journal of Productions and Operations Management International Journal of Quality and Reliability Management Production and Inventory Management Journal	Industrial Maintenance and Plant Operation online Industry Week Plant Engineering online Total Quality Management TQM Magazine Works Management

Table 2.2 Structured Resource Listing

Empowerment is a concept that embraces separate academic disciplines. The Structured Resource Listing, which is shown in Table 2.2, lists the key journals that were accessed



in analysing empowerment. The process for building the list initially developed from searches of Cranfield University Library system and databases, the most relevant of which were ABI Inform and RAM (Recent Advances in Manufacturing). Search words included:

- employee empowerment
- employee involvement
- corporate culture
- delegation of authority
- employee involvement
- self-directed work teams.

The Internet became the author's main source of information as the data collection proceeded. Two websites were principally used:

- [www.eevl.ac.uk](http://www.eevl.ac.uk) (Edinburgh Engineering Virtual Library)
- [www.proquest.umi.com](http://www.proquest.umi.com) (ProQuest Direct).

The Edinburgh Engineering Virtual Library provides a gateway to the online version of Recent Advances in Manufacturing bibliographic database, which provides access to over 500 journals in manufacturing. ProQuest Direct provides state-of-the-art online access to an extensive collection of published material that encompasses a range of disciplines. The Structured Resource Listing represents a co-ordinated source of published data on empowerment and is considered one of the deliverables of the thesis.

As published material on empowerment became available, ongoing analysis of the concept confirmed that organisational control and empowerment are inextricably linked. Whereas empowerment in the context of manufacturing production was a topic that was unexplored, organisational control is a subject that has received considerable attention throughout many years. The same is true of the management initiatives that preceded empowerment. The author utilised literature reviews conducted by other authors.



### **2.1.3 Semi-structured Interviews**

The principal method of collecting data within the case studies was through in-depth interviews, which are appropriate for exploratory investigation (Marshall and Rossman, 1983; Oppenheim, 1992). Exploratory interviews are concerned with trying to understand how people think and feel about the topics of concern to the researcher. Interviewers have a handful of topics around which they seek to direct the interview as unobtrusively as possible (Oppenheim: 67). In-depth interviews appear to be synonymous with semi-structured interviews, where interviewers have a list of topics to which they want responses. The interviewer has freedom in the sequencing and wording of questions. Varying amounts of time and attention can be given to topics under investigation (Robson, 1993: 237).

The author negotiated access to a variety of respondents within the production facilities of the case study enterprises. Interviews were limited to an hour in duration, although there were exceptional interviews with key informants that exceeded the limit. Respondents include production operatives, teams leaders, middle and senior management. The contact person within the organisations, two of which were human resource personnel and one was the managing director, chose who would be interviewed by the author. The advantage of this is that key players in operationalising empowerment within each organisation were identified and selected for interview. A disadvantage is that selection by the company representative could have represented a significant source of bias. The author was constantly aware of this potential bias in considering the responses that she received. The author made it known to all potential respondents that she was aware that they had not been voluntarily selected. On the reassurance that the matter was between the author and the respondent, all were offered the choice of whether they wanted to participate. One chose not to participate.



Bias may be introduced into the data collection process by the nature of the questions posed by interviewers. Yin warns of the bias inherent within leading questions (Yin: 85). Bias distorts the objectivity of data. Data quality may also be compromised by interviewee responses. The interviewer must be equally vigilant to the responses received to questions because there are many ways of responding to a question without answering it. These include (Dillon, 1990: 155-163):

- evading the question
- stonewalling, which is answering questions but being deliberately uncooperative
- withholding information
- acquiescing.

Dillon comments that interviewers must be aware of these response strategies in theory and have practical strategies for outmanoeuvring them (Dillon: 154). The author experienced instances where she knew information was being withheld. Further probing yielded information in some cases but in others it was obvious that the respondent was behaving defensively. There was one blatant example of acquiescing. The author and the respondent had formed a good rapport. The author challenged the respondent more directly than she would normally have done. The respondent admitted that he had been telling the author what he thought she wanted to hear. The interview data was discarded.

### **2.1.3.1 Pilot of Interview Process**

The author conducted a short pilot study to give her the opportunity to assess her approach to the process of conducting the semi-structured interviews. This provided reassurance to the author that the use of open questions, guided by a schedule of topics, yielded rich experiential data that addressed the author's requirements. The author



found that having greater interview experience did not make interviewing less challenging. Each interview was unique. The interview process was a focusing mechanism but quality of data varied from person to person.

#### **2.1.4 Indirect Observation**

Documentary analysis is considered to be representative of indirect observation. Rather than direct observation through interview, observation through documents is indirect because they have been produced for another purpose. Documents analysis provides a source of supplementary data within two of the case study organisations analysed within the thesis. It is used more extensively in the other case study organisation. The author experienced problems in gaining access to this company. Permission was willingly granted early on in the data collection phase. High levels of business within the organisation meant that releasing staff for interview was difficult. The author conducted fewer interviews than she would have wished for in this company, although quality data was gathered.

## **2.2 TRIANGULATION**

Triangulation is recommended as a means of reducing bias and increasing the reliability of research outcomes. Researchers confirm convergence through the process of triangulation, which involves examining data on the same subject from multiple sources of evidence. Seeing or hearing multiple occurrences of a finding from different sources, and using multiple methods, provides confidence that the finding is valid. There are five types of triangulation:

- data source triangulation that includes data taken from a variety of places and people, and at different times



- methodological triangulation that includes the use of different methods of data collection, for example interviews or observation
- researcher triangulation
- theoretical triangulation that involves adopting different perspectives on the same data
- data type triangulation that includes quantitative and qualitative data (Yin, 1994; Miles and Huberman, 1994).

Triangulation is seen as a “near talismanic method of confirming findings” (Miles and Huberman 1994: 266). Miles and Huberman prefer to view triangulation as a way of life for the researcher, rather than as a tactic. Analytic deduction requires that a finding explicitly requires a process of hearing or seeing multiple examples of the finding, using different data sources and methods. Triangulation is provided in this thesis through different strategies and data sources within the case study organisations. The case study data was collected with the purpose of triangulating data collected from literature on the attributes of empowerment and the factors that are likely to affect strategies designed to operationalise empowerment. This data led to the specification of the theoretical content of the conceptual framework. The case study data is also subject to a process of triangulation through the different data sources provided by interviewing a variety of people at different levels throughout the case study organisations.

Miles and Huberman propose a hypothetical situation in which different sources of evidence provide either a lack of corroboration or even contradictory evidence. The author has to consider that this could be the outcome of the comparison between the conceptual framework and case study evidence.



# Chapter Three

## EMPOWERMENT

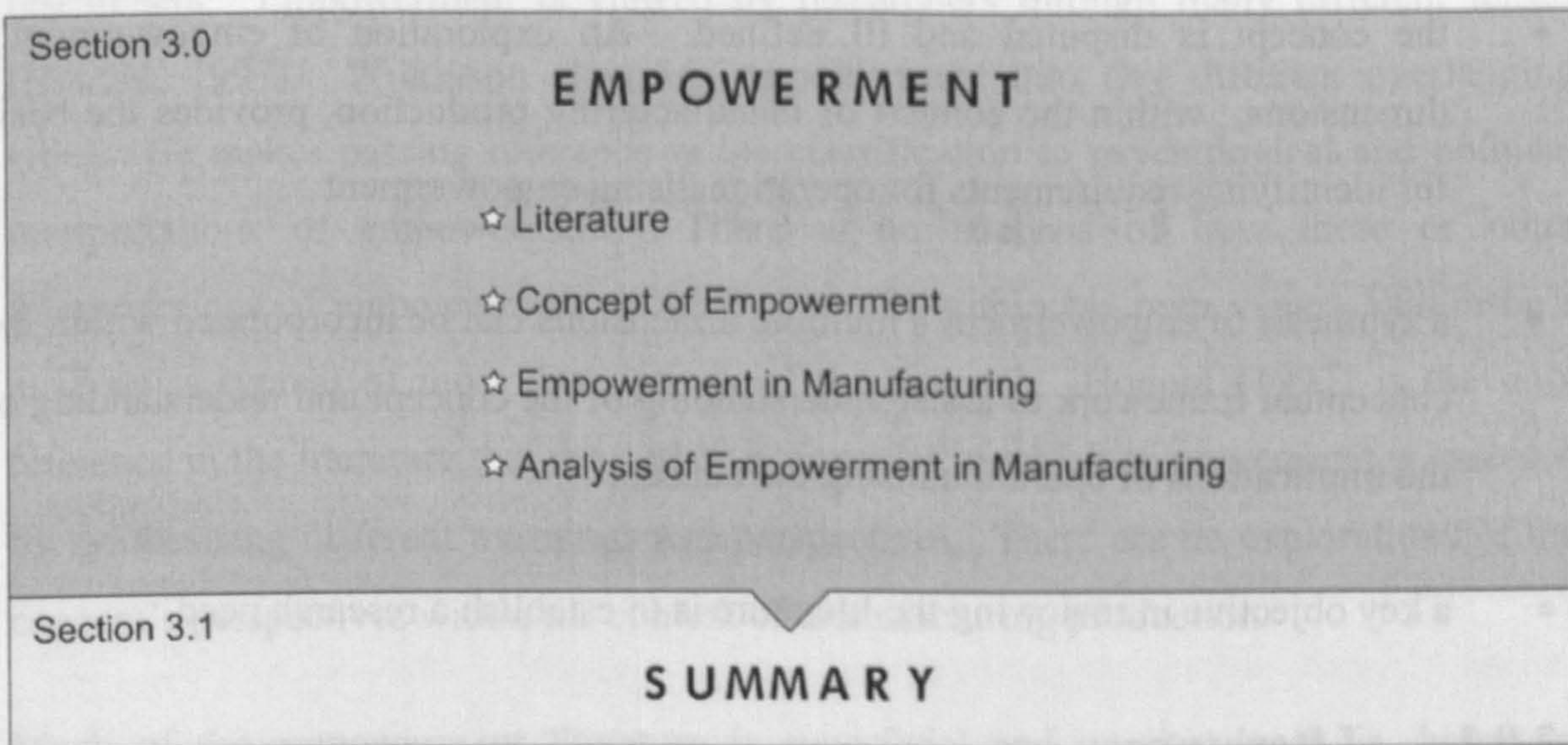


Figure 3.1 Outline of Chapter Three

Chapter Three contributes to establishing a research need. Figure 3.1 indicates the contents of the chapter. The empowerment literature is examined to determine what empirical evidence exists on factors that influence the operation of empowered work strategies in manufacturing production. In the process of determining this knowledge, it is revealed that empowerment is a diffuse concept. The empowerment literature is further evaluated, using the resource tool that was developed in Chapter Two, to determine the attributes of the concept and to examine issues relevant to empowerment in manufacturing production. Identifying the attributes of empowerment is likely to point towards issues that need to be addressed in preparing to make empowerment operational.



### **3.0 EMPOWERMENT**

The author has conducted an extensive review of the concept of empowerment. This fulfils several objectives:

- much of the writing on empowerment is simplistic. The review confirms that empowerment is a complex concept
- the concept is disputed and ill defined. An exploration of empowerment's dimensions, within the context of manufacturing production, provides the basis for identifying requirements for operationalising empowerment
- a synthesis of empowerment's multiple dimensions can be incorporated within the conceptual framework to assist understanding of the concept and understanding of the implications of operationalising the concept
- a key objective in reviewing the literature is to establish a research need.

#### **3.0.1 Literature**

A comprehensive empowerment bibliography, developed by the author, is presented and analysed in Appendix A. The references in the bibliography are categorised to facilitate analysis of the concept. There is disagreement about meanings ascribed to empowerment and separate academic disciplines utilise the term to describe apparently unrelated phenomena. Wilkinson (1998) adds that the prescriptive literature:

- contains little detailed discussion of issues likely to arise on implementation
- trivialises the conflict that exists within organisations
- ignores the business context within which empowerment takes place
- rarely locates empowerment in its historical context.



Wilkinson says that the term 'empowerment' is used loosely by practitioners and academics. He states that "in practice empowerment is usually seen as a form of employee involvement, designed by management and intended to generate commitment and enhance employee contributions to the organisation" (Wilkinson: 45). That may be the case within organisations operationalising empowered work strategies, although no evidence is presented to substantiate this claim. Wilkinson does not make clear who usually sees empowerment in this way, but it is certainly not other academic researchers. Empowerment is viewed by researchers through many different lenses (Honold, 1997). Wilkinson classifies empowerment into five different overlapping types. He makes passing reference in his classification to psychological and political interpretations of empowerment. There is no analysis of how these or other interpretations of empowerment differ from or fit within his own view. Wilkinson's analysis is typical of most descriptions of the concept. Honold (1997) is the only reference in the literature that the author is aware of in which empowerment is assessed by synthesising different meanings and perspectives. There are no explorations of the concept's perspectives within the context of manufacturing production.

Much of the empowerment literature is superficial and uncritical. It is, however, becoming increasingly rich in accounts of the contradictions and difficulties experienced by organisations attempting to effect the transition to empowered work environments (Frey, 1993; Heckscher, 1995; Claydon and Doyle, 1996; Jones, 1997; Lewis and Lytton, 1997; Wicksier, 1997). The author finds it significant that the references in the category "Reasons for Success or Failure" are dominated by the writings of consultants (Bernstein 1992; Cramer 1993; Forrest, 1995; Sykes, 1996; Gatchalian, 1997; Smith, 1997) and contributions to popular management and engineering journals (Bredin et al., 1995; McClenahan, 1995, Anon, 1998; Latino, 1998). This is not to denigrate management consultants but it confirms Honold's view that the empowerment literature is practitioner-led, which implies that theoretical knowledge may be under-exploited.



### **3.0.1.1 Literature on Operationalising Empowerment**

There has been little research into the meaning and effects of empowerment (Cunningham et al., 1996). Honold (1997) confirms that academic research lags behind practitioner interest, which dominates the empowerment literature. In a review of the empowerment literature, Honold gives no indication of how frequently accounts occur of operationalising empowerment nor does she present an analysis of issues that have arisen from accounts of operationalising empowerment. Most writing on empowerment has not focussed on implementation issues (Ford and Fottler, 1995; Pearson and Chatterjee, 1996). This is corroborated by other researchers who state that there are few implementation studies of new manufacturing strategies (Harrison and Storey, 1996) and that there is little empirical research that explores new management techniques in practice (Delbridge, 1998: 8). New manufacturing practices are synonymous with empowerment. Research that investigates the implementation of new manufacturing strategies is explored later in Chapter Three. Research that identifies success factors associated with empowerment is emerging. Results from a longitudinal study conducted over eight years at ten organisations, which transformed from bureaucratic to empowered organisations, confirm that the transformation process is difficult. Organisations are described as “failing their way to various levels of success” (Randolph, 1995).

A search of the bibliography reveals only four references that document the direct experience of operationalising empowerment in manufacturing production (Frey, 1993; Pearson and Chatterjee, 1996; Lewis and Lytton, 1997; Wicksier, 1997). This finding is consistent with claims that practical examples of operationalising empowerment are uncommon. The issue of control is prominent in the majority of these studies. Empowerment in the Pearson and Chatterjee study focuses on devolved responsibility, decision-making and control. At the end of a formal intervention, levels of authority decreased, formalisation of procedures decreased as shopfloor responsibility increased and there was a significant increase in shopfloor decision-making.



Frey (1993) describes his experience as the owner of a small manufacturing company that was forced to transform its working practices to survive. Frey admits to forcing empowerment by use of coercive methods. Problem-solving and cost control responsibilities were gradually released once common interest in the company's survival became established. Frey reported that he was at the time of writing resisting employees' demands for additional operating control authority. Management control is challenged by empowerment.

This is confirmed by Wicksier (1997). He documents the case of a small manufacturing organisation, which was open and informal, that experienced operating difficulties following a period of growth. Formal structures of responsibilities replaced informal working relationships. Factions with competing interests emerged, along with a culture of fear and blame. Management attempted to impose control through retaining decision-making authority. The situation began to change through leadership training. Key business information was shared, although the process was slow and difficult. Management layers were cut. Extra management layers created conflict and interfered with implementation of the new work methods. Devolving power and decision-making control resulted in high levels of organisational discomfort but was deemed to be necessary to meet the demands of quality, innovation and customer focus.

Lewis and Lytton (1997) document the experience of a small manufacturing enterprise that was transformed in stages, with the early stages characterised by enthusiasm but not much change. Production team members currently have very high levels of management responsibilities. There is common understanding and acceptance of organisational objectives throughout the enterprise. Senior management took an uncompromising attitude to conflict and resistance about the new way of working. This is encapsulated in the expression, "If you can't change the man, change the man", which was used within the organisation to emphasise determination to implement change. According to Lewis, "we are all heading west; those who were facing east have now gone their separate ways" (Lewis and Lytton: 33).



These examples of operationalising empowerment all entail changes to organisational structures. McCafferty and Leigh (1997) report on an implementation of a problem-solving project that levered a change in working relationships within a traditional organisation. The implementation initiative changed organisational processes rather than structures. Implementation was effected in stages to promote understanding and to establish common objectives throughout the organisation.

### **3.0.2 Concept of Empowerment**

Price (1993) offers an amusing view, to the author at least, of empowerment. It is “delegation beefed up with a shot of testosterone” and it may be “the latest in a long line of cant terms from the managerial lexicon of hypocrisy...the art of getting employees to do things against their inborn inclination to indolence has a long history”. To Debnath (1996), the term ‘empowerment’ describes a set of values, attitudes and behaviours different from those that existed within organisations in the past. As such, it is a management philosophy that is based on purpose, people and processes (Ghoshal and Bartlett, 1997).

Empowerment reflects an increase in the value of employee input to organisations that ranges from delegated responsibilities (McConnell, 1995), implying no change in task authority, to self-managing production teams that have considerable autonomy in decision making and in exercising management responsibilities. The aim of empowerment is to make the best use of the intellect, creative skills and capacity for innovation of everyone within an organisation. Empowerment is particularly aimed at those employees lower down the organisation, whose knowledge has been traditionally under-utilised. Different interpretations of empowerment are outlined in the following sections and issues arising from the literature are discussed.



### **3.0.2.1 Political Interpretation**

Political empowerment is rigorously analysed by Collins. He allies himself with academics who operate “within a political framework less accepting and certainly more critical of management”. These academics have “tended to argue that empowerment is a control strategy used by managers under certain historical and political circumstances in order to enhance control and accumulation at work” (Collins, 1998a: 53). He defines empowerment as the ability to voice dissent and to demand rights as a citizen (Collins, 1997). To Collins (1996), empowerment, democracy and participation are related concepts. Analyses of empowerment that do not link these concepts are misguided. (Collins: 3). His concern is for academics to build contextual and historically grounded knowledge before offering ‘solutions’ (Collins, 1998b: 91).

Collins argues from a theoretical perspective. Researchers who adopt a political stance may be in danger of producing empirical work that is less than objective. McArdle et al. (1995) produce case study evidence from an electronics company that implemented Total Quality Management. The research speculates whether empowerment is exploitative. The researchers are of the opinion that empowerment is a controlling phenomenon despite favourable worker response. They conclude that workers are being exploited but are unaware of it. They suggest workers are cowed into acceptance because of threats of redundancy. The workers responses appear to have been evaluated within the researchers own value frame of reference.

There may well be controlling managements who attempt to exploit current economic difficulties. Ezzamel et al. (1996: 77) quote a manager who says that difficulties in world markets have been used to “get people on our side, particularly trade unions and employees. And we’ve just kept pushing”. This could be interpreted as a cynical attempt to intensify work and to make it appear attractive by calling it empowerment.



As an illustration of disagreement over interpretations of what constitutes empowerment, Kinlaw (1995) opines that organisations are mistaken in implementing strategies that focus on the political meaning of empowerment. He states that “the first purpose of empowerment in organisations is certainly not to enfranchise. The first purpose of empowerment is to strengthen the performance of the organisation by making fuller use of employee knowledge, skill, experience and wisdom of their people”.

### **3.0.2.2 Power**

The ‘inextricable link’ between power and empowerment is most recently addressed by Hardy and Leiba O’ Sullivan (1998). According to them, much of the writing in the business literature on empowerment is devoid of any discussion of power. Their description of power as ‘a complex, multi-dimensional concept’ is echoed by Brown and Brown (1994: 17), who believe that a consequence of the failure to describe power allows organisational theorists to get away with gross simplifications. Hardy and Leiba O’Sullivan use their analysis of power to suggest that the failure of many empowerment programs may be a consequence of the language of empowerment. This promises the acquisition of power but in practice actually limits its devolution because empowerment programs are designed to avoid conflict by discouraging questioning of organisational goals.

The fact that perceived threats to management power inhibit the process of employee empowerment is illustrated by comments made by managers themselves. One manager interviewed by Hegarty (1995: 25) described himself as “a reformed rottweiler” who operated a dictatorship. He initially found it difficult to let others make decisions and he admitted that he found it hard to see recognition that previously belonged to him going to self-sufficient teams. This manager is describing attitudes. The perceived threat to managers is also revealed to be a consequence of organisational systems that are not aligned with the goals of employee involvement (Fenton-O’Creevy, 1996a). The terms ‘empowerment’ and ‘employee involvement’ are sometimes used



synonymously. Fenton-O'Creevy defines employee involvement as "the effective exercise, by employees, of influence over how their work is organised and carried out". He assesses employee involvement by measuring influence over decision making. Since decision-making is a dimension of empowerment, the terms 'empowerment' and 'employee involvement' can be used interchangeably for the present purpose of discussing power and empowerment.

One of the reasons that middle managers and supervisors resist employee involvement initiatives is to protect their self-interest. The key threat to managers' self-interest is the fear that they will lose control and power ( Fenton-O'Creevy, 1996b). Tannenbaum (1968) proposed that there is not a fixed quantity of control within organisations. Devolving control to subordinates does not result in a loss of control at higher management levels, in fact it is deemed to be a control-enhancing action (Tannenbaum: 20). Kanter postulates that empowerment among managers is a function of access to power that results from the circulation of information, resources and peer support through networking. Fenton-O'Creevy (1996b) recommends that managers need greater access to information and control over resources. In addition, they need access to vertical and lateral integrating mechanisms through which they can exert influence. Fenton-O'Creevy comments that managers paradoxically require greater authority if they are to cease being authoritarian.

A lack of power is not only a problem for middle managers. Burke (1986) and Kanter (1983) refer to the discrepancy of power available to those at upper or middle echelons in an organisation and those at the bottom. Burke defines powerlessness as having responsibility without having access to resources, informal political influence or mobility prospects. It could be argued that many apparently empowering initiatives are in fact disempowering if increased responsibilities are not accompanied by access to resources.



### **3.0.2.3 Psychological Interpretation**

Conger and Kanungo (1988) develop their psychological view of empowerment based on an analysis of power. They differentiate between relational and motivational empowerment. Power in the relational sense occurs as a result of possession of formal authority or control over an organisation's resources. Relational empowerment is the outcome of sharing authority with subordinates. Psychological empowerment as described by Conger and Kanungo builds on Bandura's work on self-efficacy, which refers to a person's self-beliefs in his or her own ability to perform specific tasks (Bandura, 1986). The motivational view of power is determined by an individual's motivational disposition. Individuals are assumed to have an internal need for power that is fulfilled when they perceive that they are in control and can cope adequately with situations and people.

In a five-stage model, Conger and Kanungo suggest strategies to be deployed by managers that will remove organisational conditions deemed to inhibit individual empowerment. The strategies include goal setting, feedback, and rewards contingent upon performance and job enrichment. Thomas and Velthouse (1990) built on Conger and Kanungo's work. They equate empowerment with intrinsic motivation that is linked to task commitment. According to Thomas and Velthouse, intrinsic task motivation is mediated by meaning, competence, self-determination and impact. Meaning is derived from the fit between work and an individual's beliefs and values. Competence refers to his sense of self-efficacy. Self-determination is reflected in autonomy over work pace and methods. Impact is the degree to which an individual can influence strategic or operating outcomes. Altering the organisational environment, such as leadership style and job design, influences the determinants of empowerment.

Spreitzer (1996) extends Thomas and Velthouse's work to specify the content and nature of an empowering environment. Spreitzer concludes that low role ambiguity, wide supervisory spans of control, access to information and a participative climate create opportunities for empowerment through intrinsic task motivation.



### **3.0.2.4 Multi-dimensional Concept**

Many analyses of empowerment yield insights from a particular perspective. In her review of the empowerment literature, Honold (1997) states that empowerment must be regarded as a multi-dimensional concept. She identifies dimensions that appear repeatedly in the literature as:

- leadership that creates visions and develops common goals
- use of teams
- job autonomy and responsibility for decision-making
- control over decisions
- decentralised organisational structures
- controls, flexible enough to permit adaptation, based on checks and balances
- reward systems contingent on performance.

Table 3.1 summarises the attributes of empowerment that emerge from the analysis of the empowerment bibliography in Appendix A. These confirm the attributes that Honold identifies. Analysis of the bibliography also confirms comments she makes about the nature of the literature. Honold states that “of the over 200 articles on employee empowerment, only four were in scholarly, refereed journals” (Honold: 209). She lists Conger and Kanungo (1988), Keller and Dansereau (1995), Spreitzer (1996) and Thomas and Velthouse (1990). These references are comparatively rare but are increasingly evident (Hardy and Leiba O’Sullivan, 1998; McEwan and Sackett, 1998; Wilkinson, 1998).



<b>Individual Requirements</b>	<b>Organisational Requirements</b>	<b>Leadership / Management Requirements</b>
Accountability	Communication channels	Create a 'no blame' culture
Authority	Control processes:	Create reward systems that are consistent with empowerment objectives
Commitment	Operational	
Communication skills	Social	Leadership that empowers through direction/inspiration:
Competence	Strategic	
Congruence between personal and organisational goals	Goals	Aligns direction
	Information systems	Allocates resources
Decision-making skills	Performance measurement systems that are consistent with the goals of empowerment	Clearly defines work roles
Knowledge		Communicates goals, vision and values
Motivation	Policies	Creates structural boundaries
Problem-solving skills	Processes	Sets parameters, goals, vision and values
Responsibility for:	Procedures	
Task innovation	Purpose	Management that empowers through action / participation:
Process innovation	Standards	
Process integration	Structures:	Provides feedback, co-ordinates and communicates
Self-belief	Task control	Minimise adversarial behaviour
Social skills	Management control	Provide access to business and operating information
Technical skills		Provide education / training
		Set high expectations

Table 3.1 Attributes of empowerment



### **3.0.3 Empowerment in Manufacturing**

It is claimed that employee empowerment is necessary for the success of process-focussed management initiatives. Each of the initiatives or philosophies is examined separately, although in practice they tend to co-exist within manufacturing systems and the literature often refers to the practices as occurring simultaneously. Dean and Snell (1991) use the term 'integrated manufacturing' to describe what they then referred to as a new manufacturing paradigm. Three prominent practices comprise this paradigm: Advanced Manufacturing Technology, Just-In-Time and Total Quality Management. From the author's perspective, and in the context of this research, Just-In-Time, Business Process Reengineering, Continuous Improvement, Total Quality Management and operating with reduced management hierarchies are the main drivers of empowerment in contemporary manufacturing production systems.

#### **3.0.3.1 Just-In-Time**

Empowerment of production operators is frequently cited as a key contribution to excellent business performance. High-performing manufacturing enterprises that view empowerment as critical to their success are found in Appendix A, in the section headed 'Empowerment Implicated in Competitive Success'. Many of these enterprises include Just-In-Time within their manufacturing strategies. Empowerment is integral to the success of Just-In-Time implementation (Selto et al., 1995). Just-In-Time is a philosophy applied to production process control. Based on waste reduction and immediate response to customer demand, output is matched to the needs of the market through a 'pull' system; production takes place only when there is demand down stream in the production system. Characteristics that define Just-In-Time systems are:

- workflow integration
- team interdependence
- process simplification.



A fundamental characteristic of Just-In-Time systems is the removal of stocks of work-in-progress, which have traditionally served as buffers that break task interdependencies among manufacturing subunits (Klein, 1991). The effect of removing stock buffers is to make tasks between work units more integrated as completed work is immediately passed on to the next stage of the production process. Just-In-Time requires integration of process stages, functions and goals (Dean and Snell, 1991). Interdependence forces collaboration among individuals within groups and across groups. Work procedures and schedules are simplified in Just-In-Time systems to facilitate the flow of work. Simplified task elements then become standardised (Jackson and Martin, 1996).

Dean and Snell do not use the word empowerment but the changes they infer as necessary to the work of production operators are reiterated by those who invoke empowerment as a key component of Just-In-Time (Selto et al., 1995). Dean and Snell propose that in theory the design of operators' jobs should expand to include increased technical, conceptual and analytical input. They review existing research on the effect of integrated manufacturing on three aspects of job design:

- task complexity
- task variety
- task interdependence.

A task is complex when production operators utilise cognitive skills such as problem-solving, apply judgement and use technical knowledge. The need for increased problem-solving skills for operators should become more prominent. The amount of information operators process in the pursuit of multiple goals should increase (Dean and Snell: 782). Dean and Snell found limited research evidence to support the conclusion that work becomes more mentally challenging within integrated manufacturing. They found limited support for increased task variety and some support for increased levels of interdependence. These findings are inconsistent with the popular view that integrated manufacturing and process-focused initiatives affect operator responsibilities. The ambiguous relationship between job design and integrated manufacturing is reflected in



empirical evidence that highlights diametrically opposed views on the likely effects of Just-In-Time on employee skills and working conditions (Oliver, 1991).

Proponents argue that team working, multi-skilling and job-rotation provide opportunities for expanded and more challenging work for operators. Active problem-solving is required to keep work flowing continuously. Errors have to be anticipated or speedily recovered (Mullarkey, Jackson and Parker, 1995). Balancing these opportunities for skill enhancement is the belief that the need for increased integration may reduce operator control over the timing of work and choice of work method (Klein, 1991; Jackson and Martin, 1996).

Mullarkey et al. (1995) document a positive outcome in a Just-In-Time initiative that was implemented in two phases. After the first phase, there was a perception of greater employee control over work timing and methods. Devolved control responsibilities were experienced. The second phase involved lowering inventories and making changes to shopfloor layout. Employee autonomy was not reduced and work intensification was not observed when inventory was removed. Mullarkey et al. comment that the process of implementation in this case study contributed to the project's success. The phased implementation was accompanied by prior preparation and education of the workforce.

Dawson and Webb (1989) also report that Just-In-Time provides opportunity for increased operator autonomy over the pace of work and greater involvement in production organisation (Dawson and Webb: 236). These benefits are tempered, however, by stress from additional responsibilities and from the lack of control that operators have over business fluctuations.

In a further example of the effects of Just-In-Time implementation, Jackson and Martin (1996) found a reduction in operator autonomy over work timing, an increase in work pressure, a decline in job satisfaction and no additional opportunities for problem-



solving. Jackson and Martin found that despite detrimental consequences of Just-In-Time on the work content, there was no increased strain on operators. Jackson and Martin conclude that this is because operators were involved in the implementation process and felt a sense of ownership for the success of the project.

Selto et al. (1995), conducted research within a division of a major manufacturing enterprise that competes on cost, reliability and innovation. Deficiencies in time-to-market and reliability prompted senior management to adopt Just-In-Time and Total Quality Control to regain competitiveness. Selto et al. identify process knowledge, communication skills, authority and control responsibilities at operator level as essential for the success of Just-In-Time. Selto et al. found that operators at the research site had little or no authority to identify and solve process problems. There was considerable conflict among workgroups and between management and operators. The researchers found that structural conflict between the requirements of empowered operators and an inappropriate management control approach contributed to the conflict and was the most likely barrier to superior performance. Many of the control measures consistent with Just-In-Time were in place but strong vertical management control, typical of traditional manufacturing, probably negated the benefits of appropriate controls (Selto et al.: 681).

Critics of Just-In-Time see the system as a sinister force that allows management to control employees through intensified work, increased surveillance of employee activities, and through the use of peer pressure within teams to exert self-imposed social control (Delbridge et al., 1992; Sewell and Wilkinson, 1992a; Sewell and Wilkinson, 1992b; McArdle et al., 1995; Willmott, 1995; Mitev, 1996; Jones, 1997).

### **3.0.3.2 Business Process Reengineering**

Empowerment is seen to be inherent in Business Process Reengineering (Hammer and Champney, 1993) and a necessary factor in effecting Business Process Reengineering (Kowal, 1995; Kruse 1995). A forum convened by the Economic and Social Research



Council (ESRC) Business Process Resource Centre proposed that high priority be given to human and organisational issues in implementing Business Process Reengineering (Peltu et al., 1996). Greater employee empowerment and local autonomy was proposed as a targeted outcome of best practice.

Kruse proposes that there are three concepts that should guide Business Process Reengineering within manufacturing enterprises:

- federalisation
- process-orientated structuring of organisations
- empowerment of people within organisations.

Kruse defines empowerment as the authority to make decisions by those who have the most knowledge and who are closest to the activity concerned. Speed and quality of local process-based decisions are enhanced through the process of empowerment. Clearly defined policies and expectations minimise risks associated with the devolution of decision-making authority.

Business Process Reengineering has been associated with downsizing, redundancies and the contraction of full-time work (Willmott, 1995a). Implementation may therefore be problematic. Sayer and Harvey (1997) suggest that methodologies linked to business process reengineering reinforce management power. Since control is the focus of Business Process Reengineering, structural change required for organisational transformation is constrained. They believe the concept of empowerment is rhetorical and is in conflict with Business Process Reengineering.

Willmott (1995a, 1995b) is highly critical of the conflation of empowerment and Business Process Reengineering. Business Process Reengineering uses the language and logic of production engineering, which deems people to be malleable, predictable and willing (1995a: 310). He describes the human element of Business Process Reengineering as its Achilles heel. Willmott (1995b) differentiates empowerment



between 'functionalist humanism' and 'democratic humanism'. The functionalist variant assumes that humans desire freedom from bureaucracy. If this freedom occurs, individual needs are satisfied and performance is improved. The democratic variant refers to the freedom to shape the framework in which decisions are identified and made. Functionalist empowerment is replacing democratic empowerment. Its adoption and implementation is not motivated by a desire to change structural inequalities but to enhance performance and profitability. Willmott concludes that faith in empowerment as a means of responding to change ignores the problems generated by the structure of the employment relationship, where some employees are valued for their knowledge and others are dispensable.

### **3.0.3.3 Continuous Improvement**

The objective of Continuous Improvement is to increase the effectiveness of manufacturing performance through a company-wide process of focused and sustained incremental innovation. All employees constantly seek innovation through small-step task and process improvements. Continuous Improvement translates into an organisation-wide capability that is operationalised through policies, practices and behaviours (Caffyn and Bessant, 1995). Empowerment is inherent in the philosophy of Continuous Improvement (Bertodo, 1993; Suzaki, 1993; Daniels, 1995). It is the main enabler of successful Continuous Improvement programmes (CIRCA, 1996).

There are 'permanent' and 'temporary' variants of Continuous Improvement found within manufacturing production. Permanent variants focus on improving work methods and procedures through problem-solving teams that deploy systematic problem-solving methods, measurable objectives, process evaluation and performance feedback (Suzaki, 1993; Lindberg and Berger, 1997). Temporary variants involve teams of employees who come together to solve a particular problem and are then disbanded upon the problem's completion.



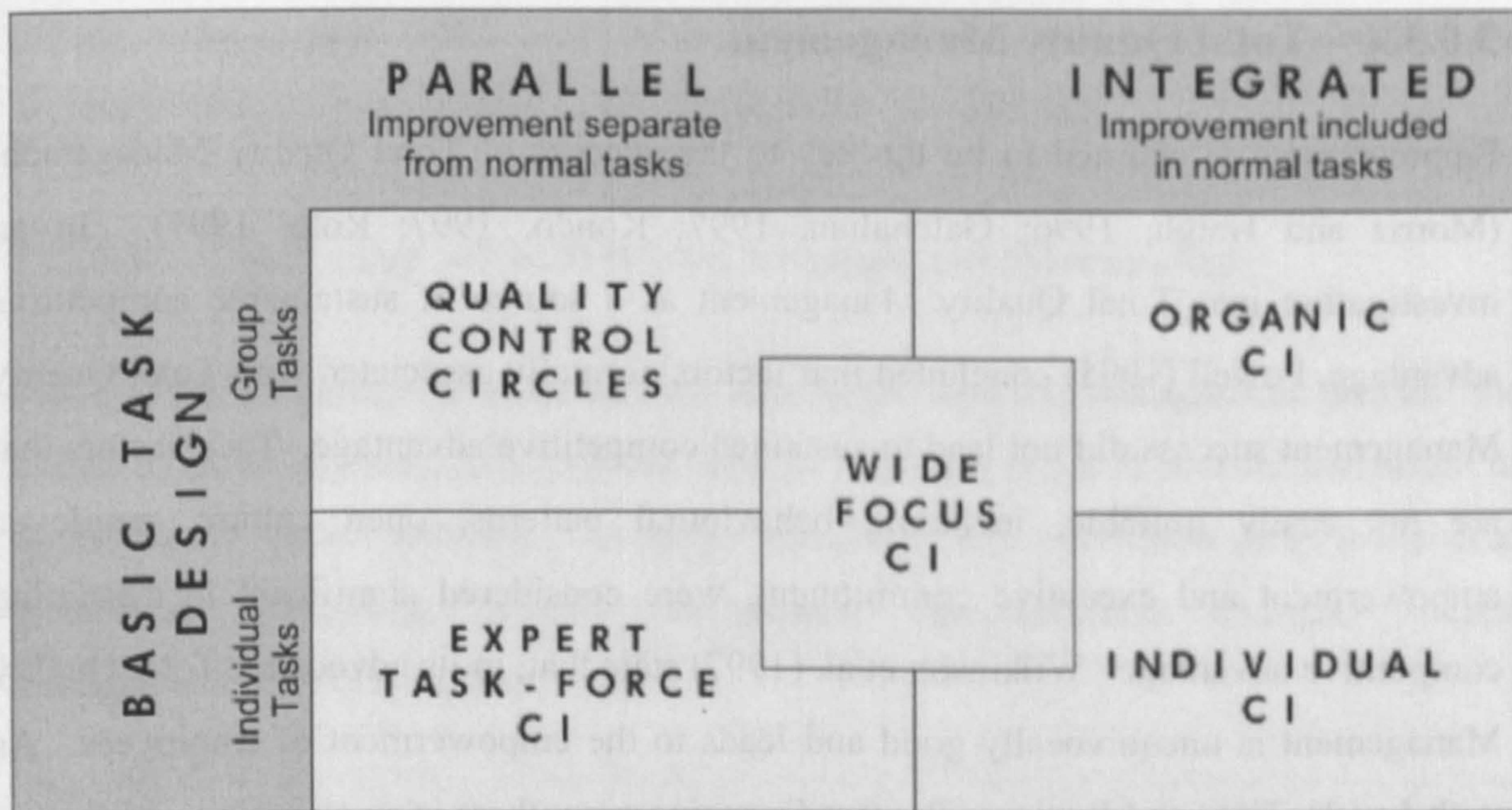


Figure 3.2 Types of Continuous Improvement (Adapted Lindberg and Berger, 1997)

Figure 3.2 classifies types of Continuous Improvement. These are differentiated between activities that are integrated within normal tasks and activities that take place within a parallel structure for innovation generation. Parallel Continuous Improvement is exercised within existing management decision-making structures. Problem-solving techniques are applied to work methods and results from problem-solving investigations are fed back into the formal organisation through suggestion schemes. Decisions to alter standardised work procedures are sanctioned by line management. Quality control circles are mechanisms for facilitating permanent parallel Continuous Improvement. Expert task-force constitutes temporary parallel Continuous Improvement. Organic Continuous Improvement, characterised by group autonomy in planning, evaluating and implementing improvements, is permanent and integrated. It is exercised through multi-functional work teams. Wide-focus Continuous Improvement is a hybrid approach that consists of temporary parallel and integrated activities.



### **3.0.3.4 Total Quality Management**

Empowerment is claimed to be the key to the success of Total Quality Management (Morris and Haigh, 1996; Gatchalian, 1997; Kondo, 1997; Roth, 1997). In an investigation into Total Quality Management as a source of sustainable competitive advantage, Powell (1995) concluded that factors normally associated with Total Quality Management success did not lead to sustained competitive advantage. Tacit factors that are not easily imitable, including behavioural patterns, open culture, employee empowerment and executive commitment, were considered significant in sustaining competitive advantage. Wilkinson et al. (1997) state that, to its advocates, Total Quality Management is unequivocally good and leads to the empowerment of employees. As with Just-In-Time and Business Process Reengineering, there is an opposing perspective that presents Total Quality Management as another management ploy to tighten control over the workforce and to intensify the pace of work (McArdle, 1995; Jones 1997). There is no agreed definition of Total Quality Management. To Rodrigues (1994), it is a long-term commitment to ongoing improvement of quality throughout an organisation's whole system, with all employees actively participating. Hill and Wilkinson (1995) identify three common attributes:

- customer orientation
- process orientation
- Continuous Improvement.

Quality entails meeting customer requirements, which is achieved through a production process that consist of task inputs and outputs within a chained sequence. The eventual recipient of the completed product or service is the customer. Work units that are recipients of output from upstream within the production process are considered to be internal customers. Customer focus is the common goal that drives quality. Continuous task and process improvement by employees at production level is achieved through process simplification, process reengineering, measurement systems and problem solving. An integrated systems perspective is required by all employees in Total



Quality Management. Each work unit within the process chain needs to understand the quality contribution of the unit to the whole production process.

### 3.0.3.5 Operating with Reduced Managerial Hierarchies

Just-In-Time, Continuous Improvement and Total Quality Management provide the means of achieving horizontal process control. Changes to the horizontal dimension of management control structures can occur simultaneously with these process-focussed techniques. Devolving indirect management responsibilities changes vertical management control structures.

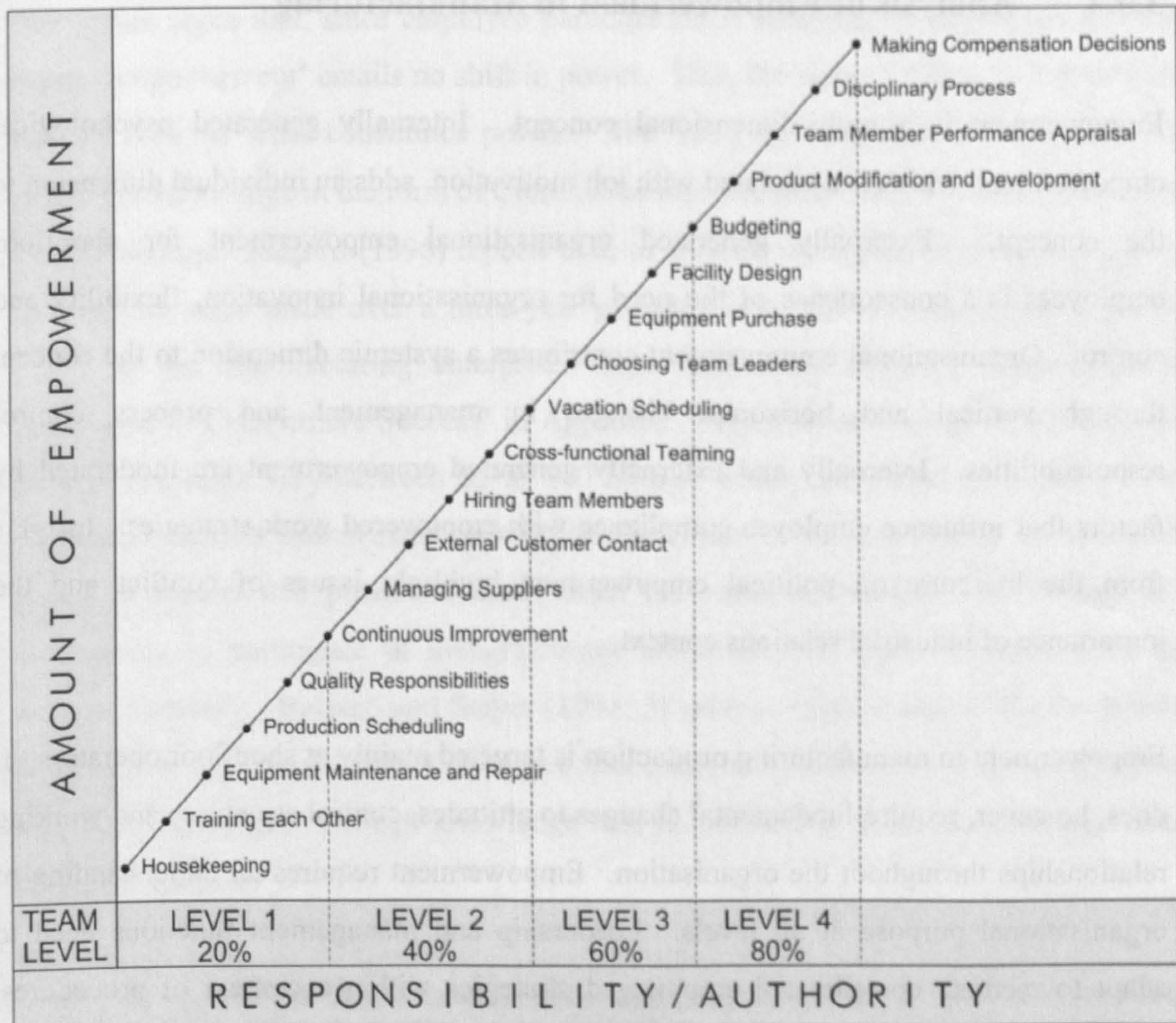


Figure 3.3 The Empowerment Continuum (Wellins et al., 1991)



Figure 3.3 illustrates an empowerment continuum that relates specific responsibilities devolved to production teams with levels of empowerment (Wellins et al. 1991). The continuum is highly simplistic. Skilled empowered teams whose main activities are scheduling, quality and maintenance can have the highest levels of responsibility in automated production (McEwan and Sackett, 1998). The continuum nevertheless shows the nature of indirect functions that are being devolved from middle management to production employees. How managers adapt to changes to horizontal and vertical management control structures within an empowered work context is potentially problematic (Leiba and Hardy, 1994; Roth, 1997; Robinson, 1997; Wicksier, 1997).

### **3.0.4 Analysis of Empowerment in Manufacturing**

Empowerment is a multi-dimensional concept. Internally generated psychological empowerment, which is associated with job motivation, adds an individual dimension to the concept. Externally generated organisational empowerment for shopfloor employees is a consequence of the need for organisational innovation, flexibility and control. Organisational empowerment contributes a systemic dimension to the concept through vertical and horizontal changes in management and process control responsibilities. Internally and externally generated empowerment are moderated by factors that influence employee compliance with empowered work strategies. Insights from the literature on political empowerment highlight issues of conflict and the importance of industrial relations context.

Empowerment in manufacturing production is targeted mainly at shopfloor operators. It does, however, require fundamental changes to attitudes, control structures and working relationships throughout the organisation. Empowerment requires an understanding of organisational purpose at all levels. Leadership and management functions need to adapt to mediate co-ordinated empowered strategies within a context of procedures, processes and structures.



### **3.0.4.1 Criticisms of Empowerment**

Critics of empowerment and new manufacturing practices assemble their arguments around the issues of:

- power
- control
- the limited changes in work performed by production operators.

To some critics, the concept of empowerment must reflect a genuine change in power. Wider employee influence over business strategy would constitute an increase in power. The critics argue that, since employee participation is restricted to production process input, 'empowerment' entails no shift in power. This, the author argues, is a somewhat narrow view of what constitutes power. The value to companies of appropriating employee knowledge in the form of Continuous Improvement suggestions is measurable in cost savings. Shapiro (1996) reports that, as a result of employee ideas, savings of \$13 million were made over a three-year period at one plant of Caterpillar Tractors. Many of the manufacturing enterprises listed under the category 'Empowerment Implicated in Competitive Success' in Appendix A report cost savings from employee ideas. The sums vary between \$1 to \$10 million within the period of a year. New production models cannot function without innovation or process control activities. It could be argued that power emanates from the value of employee knowledge and willingness to participate in manufacturing initiatives, not from strategic decision-making authority. Belasco and Stayer (1994: 3) refer to Marx's axiom that those who hold capital exercise power. They argue that today it is holders of intellectual capital who hold this power through knowledge that is required to meet the challenge from turbulent markets.

Critics of empowerment and new manufacturing practices regard them as controlling phenomena (Sewell and Wilkinson, 1992b; Delbridge et al., 1992; McArdle, 1995;



Jones; 1997). Critical accounts of operator experiences of new manufacturing techniques have focused on the high levels of direct supervisory control and on the high levels of self-control that teams impose on themselves through peer pressure (Garrahan and Stewart, 1992; Graham; 1994). Balanced against management attempts to control production operators, and to secure their compliance with new work practices, is operators' ingenuity and capacity for resistance. Delbridge (1998) categorises varying degrees of operator resistance: surviving the system, moderating the system and beating the system (Delbridge: 194). Surviving the system entails operators distancing themselves from the demands of management, for example, by avoiding overtime and not participating in any form of discretionary behaviour. Moderating the system involves operators maintaining some control over their work effort in a way that is detrimental to management demands. This could include taking informal breaks or indulging in slack time-keeping. Operators that deliberately regulate the quality of their intellectual input display moderating behaviour (Kerfoot and Knights, 1995: 229). Beating the system includes refusal to undertake specific tasks, which is likely to be a collective form of resistance.

The issues of power and control are related. In the author's view, operators have power and their resistance has value where there are costs attached to operator non-compliance with new work practices. Costs could be measured by an assessment of detrimental effects on process innovation and control. Where operator knowledge can be translated into cost savings, management control systems should be designed to minimise operator resistance as far as possible. Adopting the same logic, resistance has little value, in terms of the process of empowerment, if it levers no changes in working conditions in favour of production operators. This concurs with the view that utilising empowerment as a means of responding to change ignores the fact that some employees are valued for their knowledge and others are dispensable (Willmott, 1995b). Management control associated with new manufacturing practices may be perceived as being coercive and excessive in some manufacturing enterprises. Empowerment is irrelevant in these circumstances.



There is no escaping the fact that factory work may be tedious beyond comprehension. Delbridge (1998) conducted his research by working in two factories. He states that when he left this employment his despair at the systematic waste of his colleagues' talents was complete (Delbridge: vii). This view appears to be inconsistent with the notion of empowerment. Empowerment need not involve significant changes in job responsibilities for production operators. Although changes in operating responsibilities may be occurring, the overall redistribution of management control responsibilities remains small (Wilkinson et al., 1997). Where there is no significant devolution of management control responsibilities, the need for process innovation is likely to be a lever in changing management attitudes towards production operators. Changed attitudes translate into working relationships that differ from those found in traditional manufacturing.

The GM-Toyota car plant, NUMMI, in California has a highly standardised model of production, which is associated with Tayloristic time-and-motion methods. It is assumed that detailed standards, implemented with high levels of discipline within a hierarchical organisation, stifle innovation and create motivation problems. This view is turned on its head at NUMMI, where standardised work is seen as the source of creativity and learning. Procedures are designed by the workers, rather than by engineers. Although absolute changes in employee responsibilities may be limited, the design and control of their own work alters the balance of power between labour and management, in favour production employees (Adler, 1993a: 98). The success of the NUMMI model is attributed to high levels of union and worker power Adler (1993a, 1993b). The process of achieving management control was highly significant in obtaining operator compliance within a tightly-disciplined manufacturing system.

The author admitted in Chapter One that she is uncomfortable with the term 'empowerment'. She is also uneasy with some of the accounts, which are found in the empowerment bibliography, of the benefits of empowerment. These accounts ignore the conflicts that operationalising empowerment can generate. They also misrepresent the reality for many working in manufacturing production. The author has a family



member who works in an electronics assembly plant. For several years, in common with his colleagues, he has been on three-monthly renewable employment contracts. This prevents the acquisition of legal rights to redundancy entitlements. The employer can do this because of local labour market conditions. The concept of empowerment is questionable in cases like this, which are increasingly common.

Critical theorists are correct, in the author's view, to query the validity of the concept of empowerment. They provide an insistent reminder that new manufacturing practices emerged in a particular political and historical context, at a time when union influence had diminished within the majority of workforces. Critical theorists suggest that management's traditional controlling function may be strengthened by new manufacturing practices. They speak of the 'managerialist' stance adopted by proponents of empowerment. 'Managerialism' is supposed to represent the views of management, an elite grouping. This is where the author disagrees with the critical theorists. Management is not a homogenous group with united interests. It appears that the group identified as middle management, which includes first-line supervisors, perceives that it has most to lose in contemporary manufacturing enterprises. The corollary to this group feeling threatened is that there are real changes occurring within manufacturing production. The author perceives that, where operator innovation is perceived by management to have monetary value, working relationships are becoming less adversarial and management control responsibilities are changing. Scarborough (1998) affirms this perception when he argues that there is evidence that managerial practices are infiltrating shopfloor social relations as authoritarian managerial practices are challenged.

#### **3.0.4.2 Empowerment and Process Control**

A brief discussion on organisational control structures is necessary before the analysis of empowerment within manufacturing enterprises progresses. Management structures define rules, conventions and responsibilities, which determine the placement of decision-making power within an organisation (Weick, 1969). Control, influence and



the exercise of authority are sanctioned through management control structures and are mediated by social relationships.

Hrebiniak et al., (1989) describe structure as basic organisational design, that is how tasks are divided, plus management control structures. Vertical management control is maintained through the exercise of centralised or decentralised decision-making authority that is incorporated within work roles. The consequence of current trends towards decentralisation is that decision-making authority is redistributed from management down to production level. Horizontal organisational control includes both process control and horizontal management control, which reflects workflow co-ordination responsibilities that arise from decentralisation.

Just-In-Time, Total Quality Management and Continuous Improvement are methods and philosophies applied in pursuit of process efficiency and control. Gunsakeran and Cecille (1998) provide examples of techniques used within a small manufacturing enterprise to achieve process control. They include Total Preventive Maintenance, reduction of changeover time through the method of single minute exchange of die, operation of a kanban system, Continuous Improvement and the use of Hoshin workshops. The workshops are used as vehicles for problem solving and communication to focus on cycle time, waste elimination and work organisation. The process of achieving production control relies on the collaboration of operator ideas, contribution of individual knowledge and willing participation from production operators. The allocation of final decision-making responsibility for process control activities may not be devolved to production operators.

Process control through Continuous Improvement activities may not lead to significant changes in management control structures. There is no change where innovation-generating, evaluation and implementation mechanisms exist separately from work tasks. Job design is augmented to include responsibility for innovation evaluation and implementation with Integrated Continuous Improvement (Lindberg and Berger, 1997).



The research evidence on the effects of Just-In-Time and Total Quality Management on the reallocation of management control responsibilities is mixed. Wilkinson (1997) reports that changes to decision-making responsibilities associated with Total Quality Management are in practice insignificant. Argyris (1998) claims that there has been no sweeping transformation of responsibilities as a result of empowerment within organisations. This concurs with research that indicates that job design is not necessarily augmented to include responsibilities such as problem-solving as a consequence of Just-In-Time (Dean and Snell 1991; Selto et al., 1995; Jackson and Martin, 1996). Further evidence is provided by research conducted within the European auto components industry into high-performing organisations (Oliver et al., 1996; Lowe et al. 1997). The research found that the amounts of responsibility devolved to production operators for quality, allocation of work, control over pace of work and maintenance was no greater in high performing plants than in other plants. High-performing organisations reported a lower level of devolution of responsibilities for quality than did the other organisations. This implies little or no change in management control responsibilities in high-performing organisations. Oliver et al. (1996: 95) state, without defining what they mean by empowerment, that production operators in the high-performing plants “show no evidence of greater empowerment”.

### **3.0.4.3 Empowerment and Management Control**

In contrast with the evidence that indicates limited change to management control responsibilities as a consequence of Just-In-Time and Total Quality Management initiatives, there are examples within the empowerment literature of empowerment that takes the form of significantly devolved management control responsibilities. McEwan and Sackett (1998) provide case study evidence. The Milwaukee Electric Tool Company ([www.usu.edu/~shingo/metco.html](http://www.usu.edu/~shingo/metco.html)) operates cellular manufacturing, where the cells function as mini-businesses. Cell managers and members require the skills to take full responsibility for quality, supplier relations, inventory management and cell management. Self-directed empowered teams at Saturn Corporation are responsible for work scheduling, inventory management, inter and intro-group communication, budget



control, conflict resolution, health and safety, relationships with suppliers and resource management (Ginnodo, 1997). One of the case studies examined in Chapter Seven demonstrates empowerment that involves significantly devolved management control.

The preceding discussion demonstrates that empowerment within manufacturing production can take a variety of forms that achieve organisational control by different means. The need for innovation and control are common across all industrial sectors in manufacturing production. Which is more of a dominant concern is a function of many factors. It is obvious that the form taken by empowerment in a high volume, tightly controlled and standardised manufacturing production environment is likely to differ from that found in a decentralised, low volume and complex production system. There is a need for a contingent approach to be taken when implementing empowered work strategies. Contingency factors are discussed more fully in Chapter 5.

#### **3.0.4.4 Empowerment and Organisational Control**

The fact that empowerment is inextricably linked with organisational control is comprehensively demonstrated by the exploration of Just-In-Time, Continuous Improvement, Business Process Reengineering and Total Quality Management. The effects of process-focussed initiatives on operator job design are ambiguous. Tight process discipline was found to be a consistent feature of high performing manufacturing enterprises in the European auto components industry (Oliver et al., 1996 and Lowe et al., 1997). The same research found little evidence of devolved management control responsibilities. How manufacturing enterprises achieve organisational control is of critical concern in identifying which attributes of empowerment are associated with a particular control outcome.

Figure 3.4 illustrates a range of possible control outcomes from implementing new production arrangements (Dawson, 1994). These control outcomes are stated from the perspective of task structure as well as management control structures. The top left-hand quadrant describes a situation in which task structures change towards



teamworking but management control structures remain as before, with strong supervisory control. The top right-hand quadrant describes a change to teamwork and changed management control structures that reflect a reduction in supervisory control.

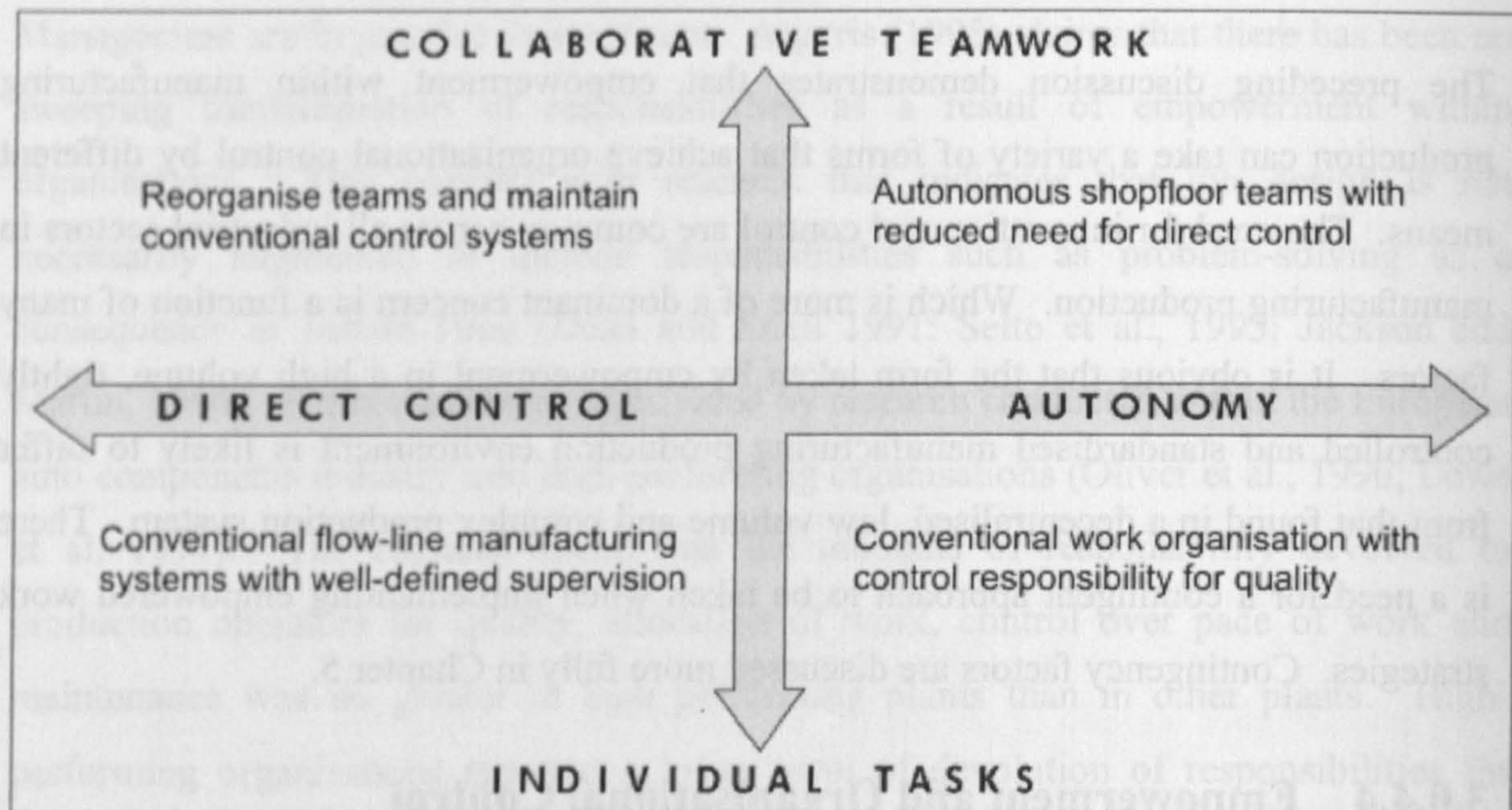


Figure 3.4 Control and new production arrangements (Adapted from Dawson (1994))

The bottom right-hand quadrant represents unchanged task structures and changes to vertical control structures only in respect of responsibility for quality. Dawson characterises the bottom left-hand quadrant as technologically controlled manufacturing. In terms of new production arrangements, this represents no change in either task structure or management control structures. According to Dawson, there is detailed division of labour and strong supervisory management within this quadrant. Dawson contends that this model of production tends to lead to shopfloor conflict, high labour turnover and adversarial industrial relations.

Extrapolating from Dawson's framework, it would seem that there is no scope for empowerment in manufacturing enterprises within the bottom left-hand quadrant. This is not true. Adler (1993) has demonstrated that empowerment arising from innovation through parallel continuous improvement is consistent with standardised production under traditional management structures. Empowerment in the top left-hand quadrant



will similarly arise from parallel continuous improvement. Unchanged vertical management control structures implies that horizontal communication among teams and the integration of process control that is required by new wave manufacturing strategies remains the responsibility of supervisors. Empowerment in the top right-hand quadrant incorporates continuous improvement, either integrated or parallel, along with devolved responsibilities to production teams for direct management control and horizontally integrated process control. Empowerment in the bottom right-hand quadrant is restricted to devolved responsibility for quality and for continuous improvement.

Selto et al. (1995) present the case for consistency in aligning management control structures with Just-In-Time. They view process knowledge, communication skills, authority and control responsibilities at operator level as essential for the success of Just-In-Time. Selto et al. found an absence of devolved authority for identifying and rectifying process problems. Selto et al. concluded that there was structural conflict between the limited operator responsibilities for problem-solving and strong vertical management at the research site. This structural inconsistency was identified as contributing to the considerable conflict that exists among workgroups and between management and operators.

Jackson and Martin (1996) reported case study evidence that revealed a similar lack of opportunity for additional problem solving within a manufacturing enterprise that implemented Just-In-Time. This research differs from Selto et al. in that the implementation of Just-In-Time was unproblematic. Management preparation and involvement of the workforce in the implementation process resulted in success. Working relationships between management and production operators were poor at the research site investigated by Selto et al. The contrast between these two cases indicates that the lack of problem-solving responsibilities in the Jackson and Martin research was compensated by a management approach that encouraged operator commitment and motivation to support Just-In-Time.



Adler views how the NUMMI system was implemented as critical to the plant's success. The system makes production problems immediately visible. Visible control under an autocratic management would result in ubiquitous surveillance. Adler claims that the system works because management is regarded as a support function rather than a controlling hierarchy. Tensions and frictions remain within NUMMI but it is reported that the workforce adopt a mature and pragmatic realism. The imperative of effectively managing the implementation process of empowered work strategies is confirmed by favourable responses to the Just-In-Time initiatives that were documented by Mullarkey et al., (1995) and Jackson and Martin (1996).

Creating the climate and structures within which responsibilities can be exercised should be a critical organisational objective in confronting the challenges posed by turbulent market conditions (Partnerships With People, 1997). Identifying the form of empowerment that corresponds to a particular profile of organisational control structure provides a basis for constructing a set of principles to guide empowerment strategies.

### **3.0.5 Establishing a Research Need**

Research on implementing work methods that are intended to create empowerment as a key outcome is uncommon. Empowerment and new manufacturing practices are synonymous. There are two key sources of empowerment: the need for process innovation through harnessing the intellectual input of production operators and empowerment resulting from restructured organisational control dynamics. A generic five-stage model for implementing Continuous Improvement, for use within manufacturing enterprises, has been developed using the results from a large scale UK research project (Bessant and Caffyn, 1997). The model specifies evolution from sporadic, uncoordinated Continuous Improvement activities within an organisation to the point where Continuous Improvement is absorbed as a way of life throughout the organisation. The model focuses on behavioural routines associated with successful implementation at each stage. Significant empirically-based research into factors that facilitate the process of innovation in manufacturing enterprises therefore already exists.



There is no research on operationalising empowerment specifically from an organisational control perspective. The drivers of empowerment include process-focussed initiatives like Total Quality Management, Just-in-Time and Business Process Reengineering. There are a variety of management control outcomes from new management practices, which implies that there are multiple forms of empowerment. There is a need for to support practical realisation of empowerment from the perspective of management control. The author believes that this support has to begin with a comprehensive understanding of the form of empowerment and the issues to be addressed in operationalising empowerment, within the context of the business environment in which is to be operationalised. A conceptual framework is a means of capturing this knowledge. The conceptual framework that author develops encapsulates all dimensions of empowerment, including innovation and control, using existing theoretical knowledge. The theoretical premises underpinning the framework are validated using case study evidence. Bessant and Caffyn's work on the process of implementing Continuous Improvement provides an important additional source of validation. The research need is only partly established. Claims that empowerment is no different to previous management initiatives must be evaluated, since implementation knowledge may exist.

### **3.1 SUMMARY**

The main points to emerge from Chapter Three are:

- empowerment is a multi-dimensional concept, arising from innovation in production processes and from changing organisational control requirements; the core techniques supporting empowerment and process control are synonymous
- a contingent approach must be taken to operationalising empowerment because of the various permutations of management control structures within manufacturing production systems



- preparing for the process of implementing empowered work strategies is consistent with favourable employee response
- a research need is partly established.



# Chapter Four

## ANTECEDENTS OF EMPOWERMENT

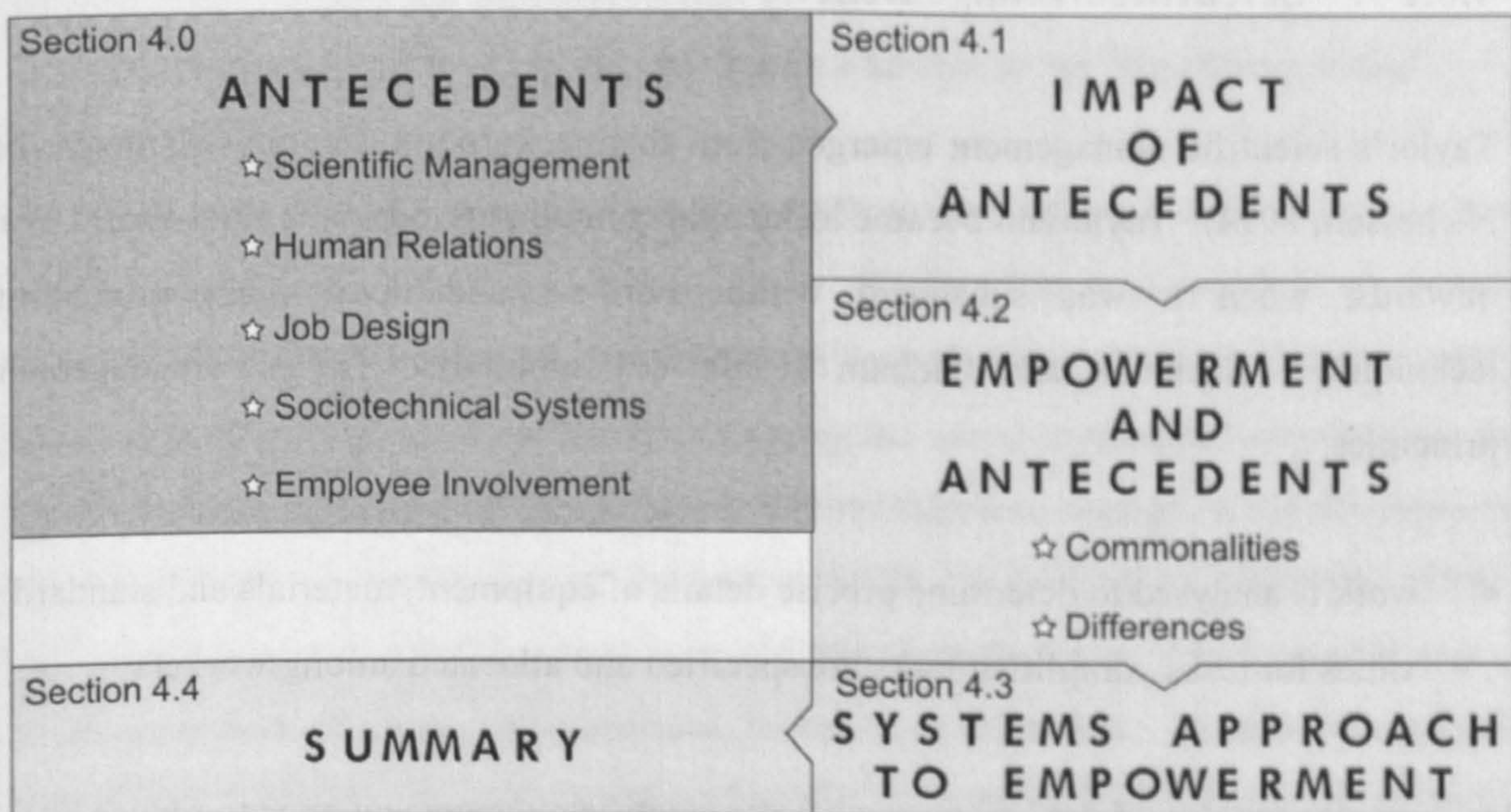


Figure 4.1 Outline of Chapter Four

The contents of Chapter Four are summarised in Figure 4.1. Empowerment is sometimes used synonymously with past management initiatives. Chapter Four explores the antecedents of empowerment to establish what knowledge exists on implementation of past initiatives. Differences and commonalties between empowerment and past management initiatives are determined. Past knowledge that is relevant to operationalising empowerment may contribute to the conceptual framework. Differences from past initiatives highlight the need to harness knowledge previously unexplored within the context of empowerment for inclusion within the framework.



## **4.0 ANTECEDENTS OF EMPOWERMENT**

The history of developments in management methods in organisations is well-documented (Blackler et al., 1978; Hackman and Oldham, 1980; Holloway, 1991; Marchington et al., 1992; Fenton-O'Creevy and Nicholson, 1994; Collins, 1995; Wilkinson, 1998). The study of management methods began as the scale and complexity of organisations increased in the period following the Civil War in the US (Fenton-O'Creevy and Nicholson, 1994).

### **4.0.1 Scientific Management**

Taylor's scientific management emerged from this background (Fenton-O'Creevy and Nicholson, 1994). Taylorism became influential from the period of the First World War onwards, when it was subsumed within Ford's standardised mass production techniques. Hackman and Oldham (1980: 49) summarise Taylor's management principles:

- work is analysed to determine precise details of equipment, materials and standard times for tasks; simplified tasks are specified and allocated among workers
- employees should not be overqualified; scientific management aims to reduce reliance on employee skills through work simplification
- managers ensure that work is performed exactly to the specification of the work analysis; close supervision is deemed necessary to ensure compliance
- adherence to work procedures and practices is linked to the payment of bonuses.



## **4.0.2 Human Relations**

Social problems arising from application of Taylor's management methods led to the emergence of the 'human relations' tradition of management during the 1920's and 1930's. Human relations began with experiments at the Hawthorne plant of the Western Electric Company in Chicago. Investigations were carried out to try to determine reasons for poor productivity and high worker dissatisfaction at the plant. Initial results found that altered aspects of working conditions were not key factors in increasing efficiency in work performance. Subsequent investigations found that people worked harder if they felt they were being given attention or participating in something new (Blackler et al., 1978: 12). This has become known as the 'Hawthorne Effect'.

The subsequent research also highlighted the influence of informal work groups on how employees perceived work and reacted to it. Productivity was found to depend on social relations within the factory (Hackman and Oldham, 1980; Holloway, 1991). Improving worker motivation through changing the social context of work became the goal of human relations. Human relations writing therefore centred on the development of supervisory and management leadership skills. According to Holloway (1991), human relations interventions were designed to induce the consent and commitment of workers without changing organisational structures or technology. Human relations did not replace Taylorism. By ameliorating the adverse social effects of scientific management, human relations seemingly offered management a way of improving productivity while continuing to operate standardised production.

## **4.0.3 Job Design**

Humans are assumed to search ultimately for 'self-actualisation' through personal development and a sense of accomplishment in their activities. Since this was unlikely in many industrial jobs, the solution was to redesign work to meet self-actualisation needs. Job design shifted away from focus on working relationships as a means of



targeting employee motivation and back to an emphasis on individuals. Herzberg et al. (1959) claimed that factors such as supervision and working conditions, while important, were not directly related to self-actualisation.

Herzberg's motivation-hygiene theory differentiates between work factors that are motivators and those that are hygiene factors. Motivators are key sources of motivation and include recognition, achievement, responsibility and personal competence. Hygiene factors are not critical to self-actualisation. They include company policies, supervisory practices, pay and working conditions. Herzberg proposes that jobs enriched to include motivators will enhance work motivation.

Job design encompasses job enlargement and job enrichment. Job enlargement is the outcome of allocating responsibilities for more than one task to an operator (Holloway, 1991). Herzberg (1987) claims that job enlargement efforts are problematic because of what he calls horizontal job loading. Horizontal job loading, through job rotation or the completion of multiple tasks, does nothing more than enlarge the meaninglessness of an already meaningless job (Herzberg: 114). Job enrichment occurs through vertical job loading. Vertical loading reflects the opportunity to add responsibility, growth potential, recognition and achievement to jobs.

Hackman and Oldham build on Herzberg's work in the Job Characteristics Model. Job characteristics theory postulates that an individual will be motivated to work when jobs are designed to satisfy three critical psychological states. These include:

- the need for meaningful work
- the need to be responsible for work outcomes
- the need for performance feedback.



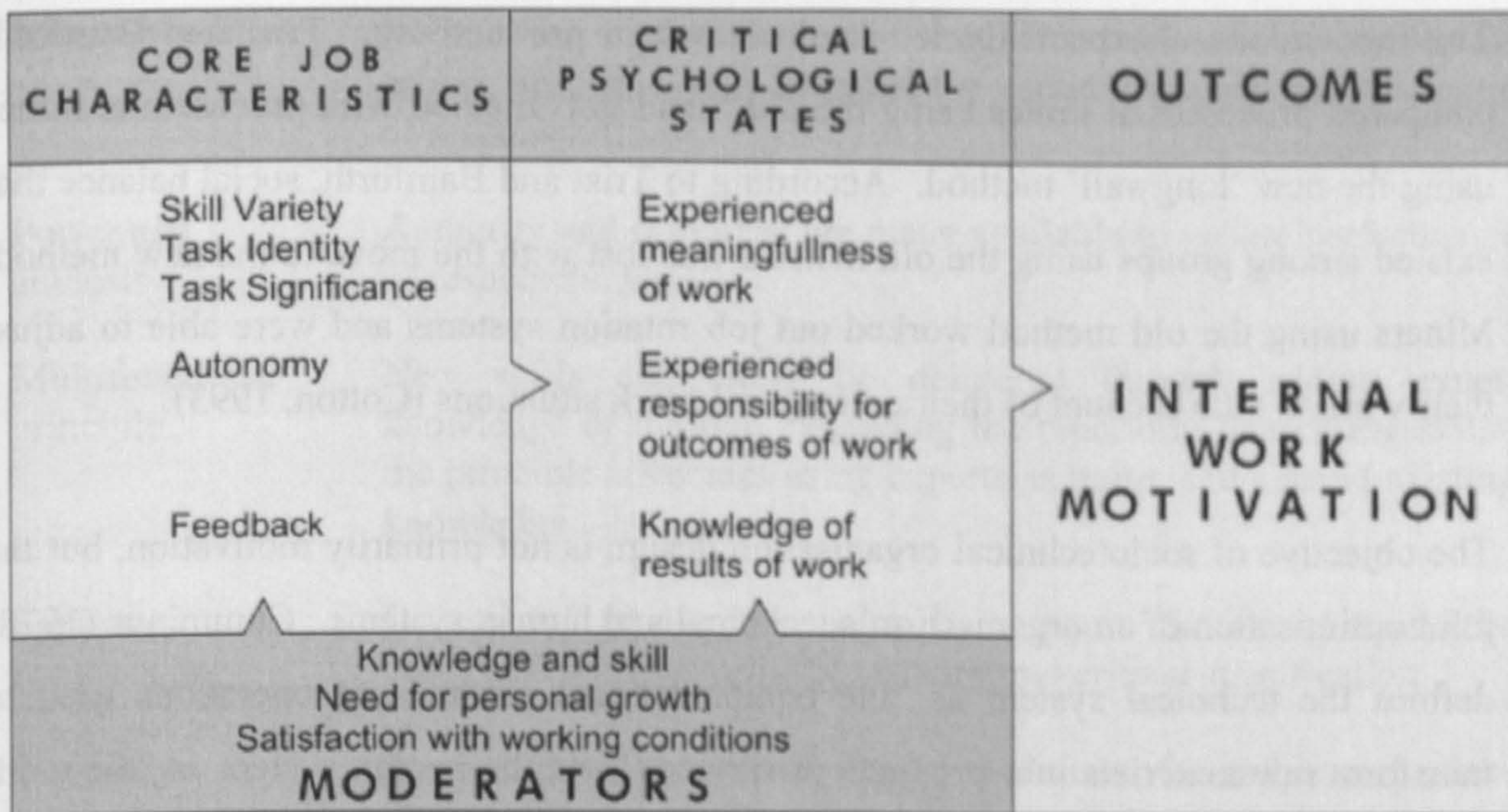


Figure 4.2 The Job Characteristics Model (Hackman and Oldham, 1980)

Figure 4.2 illustrates core job characteristics associated with each of the psychological conditions that must be met if jobs are to be motivating. Task identity is the extent to which a job has an identified outcome. This reflects satisfaction with a sense of completeness. Task significance reflects the degree to which there are consequences for poor task performance. An otherwise unchallenging task may have a high degree of meaning because of the safety implications of a manufactured product. The motivating potential of a job is modified by personal characteristics. The model emphasises the need for a fit between an individual and a particular job.

#### 4.0.4 Sociotechnical Systems

Whereas in the US job design focused on individual jobs, the sociotechnical approach, pioneered by the Tavistock Institute in the UK, focused on the design of work groups within organisations. Sociotechnical systems theory has its genesis in the Trist and Bamforth (1951) study into the effect on social groups of technological changes in the method of coal-getting in the UK coal mining industry. The revised method necessitated the use of new machinery and the accompanying design of specialised jobs.



The innovations unexpectedly led to decreases in productivity. Trist and Bamforth compared processes at mines using the old 'hand-got' method with processes at mines using the new 'longwall' method. According to Trist and Bamforth, social balance that existed among groups using the old method was lost with the move to the new method. Miners using the old method worked out job rotation systems and were able to adjust their work to take account of their colleagues' work situations (Cotton, 1993).

The objective of sociotechnical organisation design is not primarily motivation, but the joint optimisation of an organisation's technical and human systems. Cummings (1978) defines the technical system as "the equipment and methods of operations used to transform raw materials into products or services" and the human system as "the work structure that relates people to the technology". When these are optimised, employee needs are satisfied, productivity increases and the organisation is adaptable to change (Pasmore and Sherwood, 1978). Pasmore and Sherwood emphasise that each sociotechnically designed organisation is unique and that no single method of intervention should be advocated. While Cherns recognises that there is no blueprint for implementing sociotechnical design, he proposes a number of common sociotechnical principles. These are listed in Table 4.1.

PRINCIPLE	DESCRIPTION
Compatibility	Different perspectives exist among organisational participants; conflict is inherent in design; consultation is required to achieve optimal design
Minimal critical specification	System design states what must be done within a system; how something is done is made as discretionary as possible
Variance control	Responsibility for controlling variance from production goals is given closest to the source of task execution
Boundary location	Organisational boundaries are drawn such that the sharing of information, knowledge and learning are unimpeded



Information flow	Information is directed to the team or individual responsible for action; information is essential for variance control and discharge of responsibilities
Power and authority	Authority and resources are made available to ensure performance of responsibilities
Multifunctional principle	New skills can either be delivered through adding expert knowledge or through expanding the repertoire of existing skills; the principle advocates using experts as trainers to expand existing knowledge
Support congruence	Control of production teams by support functions should be congruent with the principle of minimal critical specification
Transition	Managing the stresses of change is planned for and is part of the design task
Evaluation	Cherns refers to this as the "Forth Road" principle. Redesign is a continuing part of organisational redesign. Equipping operating teams to implement redesign is necessary

Table 4.1 Sociotechnical design principles (Cherns, 1978; Cherns 1987)

#### 4.0.5 Employee Involvement and Participation

There is broad consensus that participation is a management led philosophy which purports to increase employees input into organisational decision making (Wall and Lischerhorn, 1977; Cotton, 1988; Plunkett and Fournier, 1991; Fenton-O'Creevy and Nicholson, 1994; Lawler, 1992). Participation can include indirect influence through joint consultation but this aspect of participation is excluded from the present discussion. To Ackers et al. (1992), employee involvement is more heterogeneous in its motives, method and impact than older theories of participation, which were fostered by trade unions and were intended to strengthen employee influence over strategic decision-making.

Defining terms is problematic. 'Participation', 'participative management' and 'employee involvement' are often used synonymously in the popular management and



management research literatures (Foy, 1991; Cotton, 1993). Cotton (1993) states that there are numerous terms referring to a myriad of techniques. It is argued that a central concept of involvement or participation underlies all of them. Fenton-O'Creevy and Nicholson define participation as "an umbrella term covering all ways in which employees may purposefully influence managerial decision making" (Fenton-O'Creevy and Nicholson: 6). Employee involvement, in this view, is a form of participation intended to increase employee commitment and contribution to the organisation. It incorporates elements of human relations, job design and sociotechnical systems interventions.

To Ledford and Lawler (1994), employee involvement can only be effective if it is implemented using a systems approach since "any intervention that is not reinforced by multiple subsystems is unlikely to have major effects on performance because it is likely to be overwhelmed by organisational subsystems that do not reinforce participation". The four critical processes required to sustain employee involvement are the provision of information, rewards, knowledge and power (Lawler, 1992). Marchington et al. (1992) use the term employee involvement to describe a more ad hoc approach adopted by organisations. An organisation may have a mix of employee involvement initiatives in place at any one time. Waves of interest in different techniques reflect temporal responses to particular business pressures.

Table 4.2 summarises employee involvement initiatives (Marchington et al, 1992; Lawler et al, 1992). Employee involvement encompasses a range of interventions. Something as trivial as increasing communication by means of house journals to radical job design and self-managed work teams can constitute employee involvement. Employee involvement does not imply any redistribution of decision making authority or power, although some forms of management initiatives may require such a redistribution (Marchington et al., 1992).



Information	Knowledge / Training	Rewards	Power Sharing
Competitors' performance	relative Leadership	Employment security	Job redesign
Financial:	Multi-skilling	Performance based:	Self-managing work groups
Company results	Problem-solving	Individual incentives	Quality groups
Unit performance	Team-building	Team incentives	Quality of working life committees
Operating performance:		Profit sharing	Surveys
Company		Gainsharing	Suggestion schemes
Unit		Employee shares	Units that function as businesses
Team		Non-monetary rewards	
Strategic:		Skill based pay	
Plans / goals			
New technologies			
Other:			
House journals			
Employee reports			
Team briefings			

Table 4.2 Employee involvement initiatives

## 4.1 IMPACT OF ANTECEDENTS

The impact of the antecedents of empowerment can be assessed by the diffusion of past initiatives and by the effect they have had on organisational performance. Although employee involvement evoked interest among academics in the 1960s and 1970s, practical implementations were rarely encountered until the 1980s, when demanding global competitive conditions fuelled increasing practitioner interest (Lawler, 1992; Ledford and Lawler, 1994; Fenton-O'Creevy and Nicholson, 1994).

Despite the stress over the past 40 years on the importance of co-operation between technical and human systems, research repeatedly shows that production systems under perform because social, organisational or human factors are ignored in systems design.



Sociotechnical systems theory has had limited practical impact (Benders et al 1995). Although management interest in Herzberg's ideas was enthusiastic, few examples of job enrichment programmes were found in practice, at the time of writing, within direct production work (Blackler et al., 1978).

These observations of the limited diffusion of past management initiatives are in contrast to research that reports positive effects of job redesign and participation on job satisfaction and productivity. Both the job design and participation literatures have been heavily criticised. Blackler et al. cite a major review of the job design literature. The review criticised the job design literature for its 'missionary zeal'. The reviewer claims that only positive results are published and that poor research designs are characteristic of the job design literature (Blackler et al.: 43). Academic research into job design has focused on the effects on employee satisfaction and motivation rather than on what influences job design (Dean and Snell, 1991). According to Dean and Snell, job design theory remains underdeveloped.

The author could find no academic research on implementing past management initiatives. This is unsurprising, given that practical implementations were rarely encountered until recent years and that most academic research has focused on the effects of job design on employee satisfaction. The lack of implementation studies affirms the finding from the review of the empowerment literature that implementation remains a key area for investigation. Knowledge of factors that influence the process of implementing empowered work strategies in manufacturing production could be of significant business benefit to manufacturing enterprises.

The research findings on the effectiveness of participation and involvement are equivocal. In his review of studies that are themselves reviews of empirical research into the effectiveness of employee involvement, Cotton (1993) concluded that "all of the reviewers found considerable heterogeneity in their reviews...studies examining the same outcomes would find totally different results". Differences in methodology and



terminology used in empirical research are partly responsible for diversity in outcomes. For example, Cotton et al. (1988) reviewed studies that measured the effects of participation on job satisfaction and productivity. They grouped the studies by form of participation and found very different outcomes for different forms of participation.

Ledford and Lawler (1994) criticised a meta-review conducted by Wagner (1994) on the grounds that his definition of participation was too narrowly drawn, influencing the studies Wagner included in his review and the effect this had on his results. Besides criticising Wagner's definition of participation, Ledford and Lawler (1994) question the usefulness of yet another meta-review of meta-reviews. They call for more context-dependent research that encompasses systemic interactions within organisations.

Schuster et al. (1997) provide an example of such research. The research tests the proposition that conscious interventions that emphasise high levels of employee involvement can produce higher motivation and commitment, leading to improved organisational performance. The authors claim that previous evidence in support of this proposition is largely anecdotal. Schuster et al. reported a successful implementation strategy that included all the organisational processes that Lawler identified as critical in attaining organisational effectiveness.

## **4.2 EMPOWERMENT AND ANTECEDENTS**

Figure 4.3 summarises characteristics of the antecedents of empowerment. Past management initiatives have been developed in response to concern over motivation and its effect on productivity. Increased productivity through leadership-mediated employee motivation is the key objective of human relations theory. Theories of job redesign also target individual motivation through job content. Sociotechnical interventions are not primarily designed to influence motivation. The key difference in the sociotechnical systems approach to increasing productivity is the focus on synergy arising from an organisation's optimised technical and human systems.



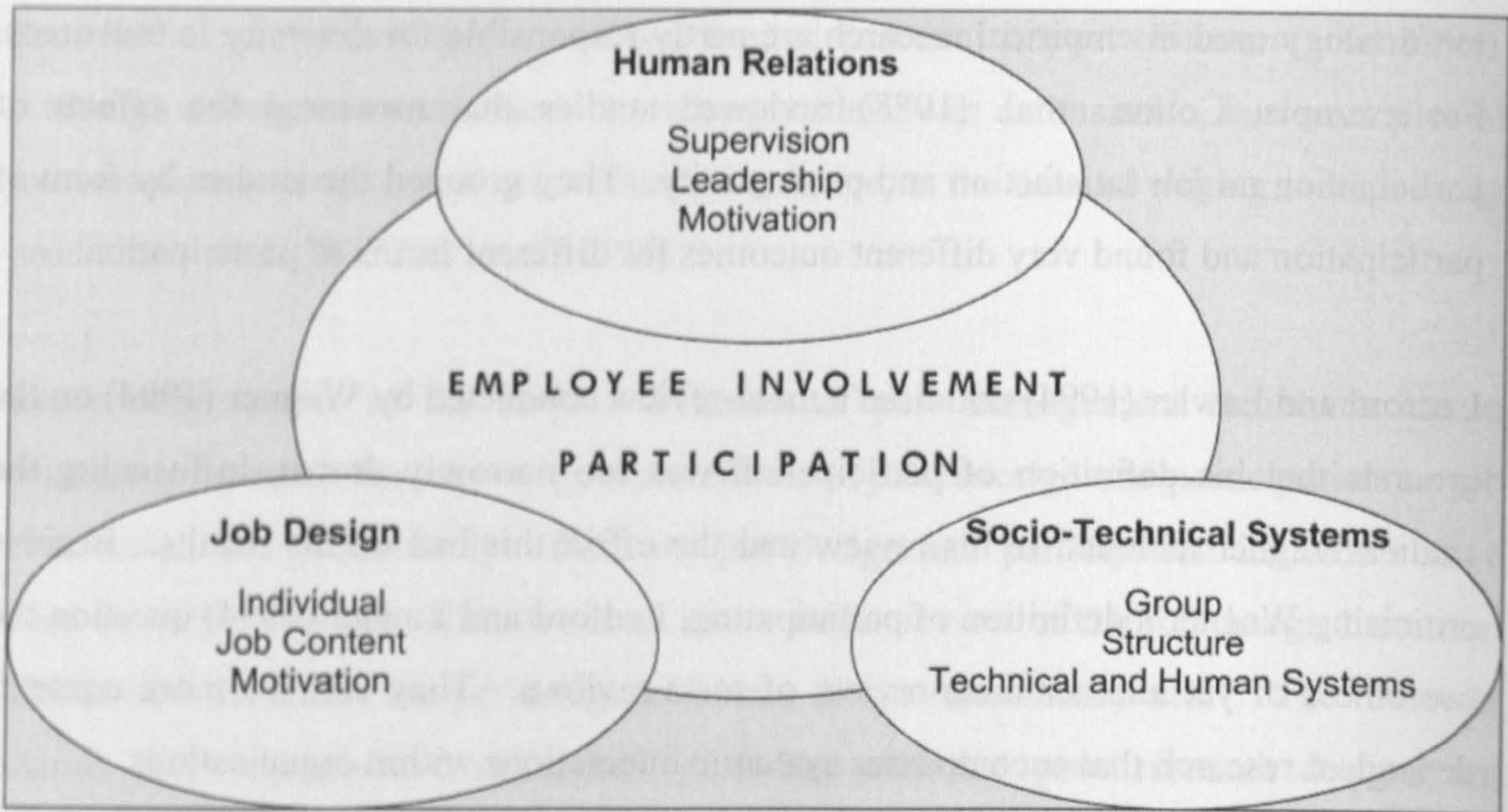


Figure 4.3 Characteristics of the antecedents of empowerment

#### 4.2.1 Commonalties with Empowerment

The emphasis in the empowerment literature on the influencing role of leadership in organisational change has obvious roots in human relations theory. Increased responsibilities through autonomous decision-making is a key dimension of sociotechnical systems theory. Vertical job loading are tenets of job redesign theory. Job redesign and sociotechnical systems characteristics are integral to the psychological models of empowerment developed by Conger and Kanungo (1988), Thomas and Velthouse (1990) and Spreitzer (1996).

Cummings (1978) suggests that the conditions that lead to self-management, an intrinsic feature of sociotechnical system design, may coincidentally be sources of motivation. Factors that influence self-regulation within work groups, such as skill variety, task identity and task significance, are also the motivating job characteristics in Hackman and Oldham's model. Features of sociotechnical systems include devolution of decision-making and problem-solving responsibilities, control of process variance, provision of information and multi-skilling. They are also attributes of empowerment. Empowerment is driven by a need to respond to market forces. The same is true of



previous involvement strategies. Job design, championed by academics in the interest of increasing productivity through motivation, was in practice partly determined by economic and labour market forces. Economic considerations influenced the diffusion of job design. Blackler et al. (1978, p18) believe that a major factor in the lack of job redesign programmes evident within direct production was that managers and industrial engineers saw no real economic argument for fundamentally changing work systems.

Holloway (1991) cites an early example of the introduction of job enlargement within IBM that was a pragmatic response to counter a shortage of experienced machine setters and inspectors after the Second World War. Although sociotechnical systems theory developed with a systems focus on productivity, the most famous examples of sociotechnical production, at Volvo's Udevalla and Kalmar plants, were instigated in an attempt to address labour market problems through job motivation. The Udevalla plant emerged at a time when Volvo was operating in a protected niche market, demand was high and production was at capacity. The break with Taylorism and Fordism was a deliberate attempt to make automotive work more palatable to overcome labour shortage (Adler and Cole, 1993). Employee involvement is introduced in response to labour and product market pressures (Ackers et al., 1992).

Critics of empowerment regard it as a controlling phenomenon. The same criticism has been levelled at job redesign. Twenty years ago, Blackler summarised criticisms of job redesign as "a modern variant of 'human relations' management. Despite its language of 'self-fulfilment' and 'personal development', it may be more correctly described as a management control device...while appearing to promise fundamental change, in practice job redesign changes may involve only marginal issues. The legitimacy of prevailing power...limit appreciations of alternative action" (Blackler et al.: 43).

Knowledge arising from theories of motivation, job design and human relations are included within the conceptual framework that is developed in Chapter Six. Differentiating factors are identified. These provide direction in searching for relevant knowledge, to augment that already identified, to include within the framework.



### **4.2.2 Differences from Empowerment**

It would seem this far that there is nothing new in empowerment. An examination of employee involvement reveals that the difference lies in an increasing focus on organisational control that is absent from previous initiatives. Currently changing task and process control dynamics are leveraging changes in managerial control practices (Scarborough, 1998).

In their review of employee practices in 25 different organisations, covering 38 sites, Marchington et al. (1992) documented a diverse range of employee involvement practices. The dominant practices in use throughout the period of the research were:

- downward communications
- upward problem-solving schemes
- financial involvement
- representative participation.

Downward communications included house journals, newsletters and employee reports that differed in content, style, and professionalism. Structured communication methods such as team briefings were included in downward communications. The frequency, purpose and information content of team briefings again varied across and within organisational units. Upward problem-solving schemes included suggestion schemes, attitude surveys and Total Quality Management activities. Financial involvement referred to profit sharing or share ownership. The most common vehicle for representative participation was consultative committees.

The most popular mixes of initiatives practised within the research sample included house journals, team briefings, Total Quality Management and consultative committees. Total Quality Management was only recently introduced into many of the companies at the time of the research. All but six of the companies had introduced Total Quality Management or customer care programmes. It is significant that only a fifth of the



research companies utilised formal problem-solving groups. Of those companies that had a suggestion scheme, over half the sample, none regarded it as central to employee involvement. Problem-solving and suggestion schemes are considered key elements of Continuous Improvement and Total Quality Management philosophies.

Two of the same authors, writing five years later, reported on research they conducted into employee involvement in Total Quality Management (Wilkinson et al., 1997). Involvement practices found in the research companies are categorised as:

- educative
- changes to work processes
- problem solving teams.

The educative strand of involvement activities is concerned with increasing customer awareness. This is achieved through house journals, training and establishing customer contact. Changes in work processes within the sample companies ranged from removing quality inspectors to significant restructuring of work responsibilities within production cells or autonomous teams. The final category of practices take the form of quality circles, quality action teams or problem-solving groups. These involvement practices indicate an increasing emphasis on process control than in the earlier research.

Wilkinson et al. continue to use the collective description of 'employee involvement' for recent developments in management innovation. According to Wilkinson (1998), it is not always clear that like is compared to like when encountering the term 'empowerment'. The content of employee involvement initiatives is qualitatively different between Marchington et al. (1992) and Wilkinson et al. (1997). The author questions whether like is being compared with like.

Many of the methods and principles associated with empowerment are identical to those associated with job redesign and sociotechnical systems design. Empowerment is clearly rooted in past management initiatives. The differentiating factors between



empowerment linked to new production models and past management initiatives is the need for management of innovation and the imperative of achieving horizontally integrated process control.

None of the past initiatives addresses innovation. Sociotechnical systems theory does address cross-boundary management and control issues. There is continuing debate over the relative merits of lean production and the sociotechnical production model (Adler and Cole, 1993; Berggren, 1993; Berggren, 1994). Differences and similarities between the models are discussed in the literature (Niepce and Molleman, 1996; Dankbaar, 1997; Maccoby, 1997).

The focus of process control differs between lean production and sociotechnical systems. The philosophy of waste elimination through the application of Just-In-Time and Continuous Improvement is key within lean production. This includes eliminating work-in-progress from the production process, which creates greater task interdependency. Tight process discipline is further maintained through standardised work procedures. It was demonstrated earlier in the chapter that the effect of process focused techniques, such as Just-In-Time, on job design is varied. Management control responsibilities may or may not be devolved to production operators. Dawson (1994) claims that there are fewer supervisory levels within lean production compared to traditional manufacturing models. While the number of supervisors may decrease in lean production, team performance is co-ordinated and controlled through an intensified supervisory function (Dawson, 1994: 30). Teams exert self-imposed social control through peer pressure (Delbridge et al, 1992).

Sociotechnical systems theory stresses work group autonomy rather than process discipline. Buffers in the form of work-in-progress are necessary to ensure autonomy. While the sociotechnical principle of autonomy in variance control at the point of knowledge remains key within empowered work strategies, there may be problems with the sociotechnical emphasis on autonomy, apart from the issue of work-in-progress.



Heckscher (1995) is scathing about empowerment that devolves greater autonomy to work groups. He argues that, although delayering yields temporary performance flexibility, autonomous groups eventually build walls around themselves. Empowerment initiatives that expand autonomy worsen bureaucracy and increase organisational politics. According to Heckscher, empowerment initiatives need to concentrate primarily on collaborative working to be effective.

Management control structures are fundamentally challenged by empowered work strategies. Eccles (1993) concurs that control is a dominant issue when operationalising empowerment. He comments that management has to be prepared to reshape organisational structures and processes if significant gains are to be made. Changes to management control structures present potential difficulties at all levels within organisations. There is a need for co-ordinated, systemic approaches that address control issues when operationalising empowered work strategies. It is for this reason that those who equate employee involvement with empowerment give an impression of 'business as usual', detracting from the potential changes to control responsibilities demanded by new manufacturing strategies.

### **4.3 SYSTEMS APPROACH TO EMPOWERMENT**

The foregoing argument concludes that the key differentiating factors between the antecedents of empowerment and new manufacturing strategies are the need for process innovation and integrated cross-functional process control. Changing control dynamics as a consequence of focus on process control imply that a systems approach should be adopted to implementing empowered work strategies. Fenton-O'Creevy and Nicholson (1994), investigating the role of middle management in implementing employee involvement initiatives, concluded that their findings could only be unravelled and reintegrated within a total systems perspective. They define a systems perspective as the analysis of a phenomenon within its wider context of influences, all of which comprise a total interconnected system. They specify that to be effective organisational



change strategies must be directed at the level of process. Communications and management style are manifested at the level of process within an enterprise. The level of structure encompasses organisational design, which includes the allocation of resources and specification of systems and procedures. The subject of organisational control within a systems context is explored in Chapter Five. The notion of organisational control at the level of structure and the level of process is incorporated within the development of the conceptual framework in Chapter Six.

Several references in the literature indicate that a systems approach to operationalising empowerment is required (Vogt and Murrell, 1991; Brown and Brown, 1994; Brower, 1995; Kinlaw, 1995). Control as a central issue in operationalising empowerment is analysed in these text. The concept of empowerment, however, remains undifferentiated and is not specifically analysed within the context of manufacturing production. The conceptual framework developed in Chapter Six differentiates empowerment from the perspective of differing manifestations of management control within the context of manufacturing production.

#### **4.4 SUMMARY**

The key points to emerge from Chapter Four are:

- a review of the literature on the antecedents of empowerment confirms that there is little existing knowledge on factors that influenced the implementation of past management initiatives
- features of past management initiatives relevant to empowerment, which are incorporated within the conceptual framework, include:
  - \* the influence of leadership
  - \* job enrichment through the devolution of management control functions



- \* motivation theories that stress the importance of performance feedback and recognition, the need for meaning in work and the motivating effect of experiencing a sense of responsibility for the outcome of work performed
- the principal difference between past initiatives and empowered work strategies is the emphasis on innovation and process control, which was absent from previous initiatives
- the focus on cross-functional process control in new manufacturing strategies implies that a systems approach should be adopted when operationalising empowerment.



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# Chapter Five

## THEORETICAL KNOWLEDGE

Section 5.0 <b>PARADOXES</b>	Section 5.1 <b>SYSTEMS THINKING</b> ☆ Organisations and Organising	Section 5.2 <b>ORGANISATIONS AS SYSTEMS</b> ☆ Systems Engineering
Section 5.7 <b>SUMMARY</b>		Section 5.3 <b>CYBERNETICS</b>
Section 5.6 <b>CRITICISMS</b> ☆ Countering the Criticisms	Section 5.5 <b>VIABLE SYSTEMS</b> ☆ Viable systems ☆ Requisite Variety ☆ Recursion ☆ The Model ☆ Empowerment	Section 5.4 <b>CONTROL</b> ☆ Strategic ☆ Operational ☆ Social

Figure 5.1 Outline of Chapter Five

One of the key differences between empowerment and previous management initiatives is the emphasis on process control in contemporary manufacturing production. Chapter Four reviewed theories of motivation and job design, which are relevant in implementing empowered work strategies. This chapter explores theoretical knowledge on control in organisations to assess the validity of incorporating this knowledge within the framework, along with knowledge from motivation theories. Figure 5.1 outlines the content of Chapter Five.



The chapter initially explores the paradox of the organisational need to achieve centralised management control with simultaneously devolved local control. The subject of systems thinking is examined and the concept of an organisation as a system is introduced. The subject of control within organisations is explored, which provides the context for an analysis of the Viable System Model. The relevance of the model in implementing empowered work strategies is specified. Criticisms of systems thinking and the Viable System Model are addressed.

## **5.0 PARADOXES IN ORGANISATIONS**

It is important to manage the paradoxes inherent in implementing new manufacturing strategies (Partnerships with People, 1997; Thompson, 1998). Paradoxes that confront enterprises implementing Total Quality Management include:

- diversity that exists within a common vision
- creativity that is encouraged within a consistent approach
- evolutionary continuous improvement with simultaneous radical step-changes
- autonomy in decision-making within the constraints of standardisation and control
- conflict is welcomed within cohesive teams
- performance targets that are set to be achievable with simultaneous stretch targets
- team effort is rewarded but the motivational climate is created for individuals (Thompson, 1998).

The fourth of these paradoxes is of direct relevance to this thesis. A challenge to management control within organisations is how to devolve control of production management to production level while simultaneously maintaining centralised co-ordinated control. This is a fundamental problem of flexible organisational design (Simons, 1995). Argyris (1998) comments that, despite empowerment's "much touted potential", there has been no sweeping metamorphoses within the majority of



workforces. He says that the reasons for this are complex. Obstacles to achieving empowerment are presented by production employees and management. A major limiting factor, however, may be management concerns over control. Argyris differentiates elsewhere between espoused theory and theory-in-use (Argyris and Schon, 1978). Managers may say that empowerment is desirable (espoused theory) but they may be loath to abandon the command-and-control model to which they have become accustomed (theory-in-use). Research by Howard (1996) and Weerakoon and Lai (1997) confirms that there is more talk than action from managers when it comes to empowerment. Argyris (1998) speaks of a "battle between autonomy and control that rages on while the potential for real empowerment is squandered" (Argyris: 103). Many other writers have highlighted the issue of maintaining a balance between autonomy and control (Baker, 1994; Brown and Brown, 1994; Kinlaw, 1995; Simons, 1995; McEwan and Sackett, 1997; Robinson, 1997).

Thompson focuses on leadership as a means of managing the control / autonomy paradox. Leaders monitor key performance indicators while allowing discretion as to how the targets are met. Maintaining direct contact with leaders is seen to be beneficial for both subordinates and leaders. While close links with leadership may be effective in facilitating devolved responsibilities, clearly specified mechanisms could provide additional means of managing the process of devolving control while encouraging simultaneous centralised control. Changing control dynamics, which result from the implementation of empowered work strategies, occur across functions throughout manufacturing enterprises. Adopting a systems perspective to analyse organisational control is appropriate.



## **5.1 SYSTEMS THINKING**

The discipline of systems thinking emerged around fifty years ago (Flood and Jackson, 1991). Systems theory has been out of favour for some time (Spencer, 1994). Organisational restructuring associated with Total Quality Management, Just-In-Time and Continuous Improvement has re-focused academic and practitioner attention on systems thinking (Parnaby, 1988; Flood and Jackson, 1991; Senge, 1991; Hitchins, 1992; Flood, 1993; Parnaby, 1993; Dooley et al, 1995; Stacey, 1996; Oakland, 1997).

According to Checkland (1981), understanding the process of scientific activity is necessary to appreciate the nature of systems thinking. In science, investigation of complex real-world phenomena is conducted through experimentation, where the design of an experiment defines a reduction of the world's complexity for the purpose of investigation. This approach to scientific investigation is 'reductionist'. Reductionism assumes that systems are amenable to analysis. The division of an entity into components will not distort the phenomena under investigation. Components are assumed to behave in the same way, whether viewed in isolation or as part of the system in which they exist (Checkland, 1981: 59).

Reductionism is synonymous with mechanistic thinking. Systems viewed from a mechanistic perspective can be described as deterministic. Mechanistic systems operate with no margin of error, are predictable and are governed by fundamental laws. The natural state of a mechanistic system is equilibrium; disturbances to equilibrium are controlled by negative feedback mechanisms (Dooley et al., 1995).

In contrast to the reductionist approach, systems thinking is a philosophy that views entities from the perspective of the whole. In this view of the world, the behaviour of a system cannot be inferred from the components that comprise the system. The sum of the whole is greater than the sum of its parts, the difference being attributed to emergent properties that could not be allocated to individual parts. Systems thinking evolved from



within the field of biology. Systems concepts of self-organisation, survival and adaptability reflect the discipline's biological origin.

Ackoff (1983) articulates the distinction between reductionist and systems thinking when he states that "viewed structurally, a system is a divisible whole. Viewed functionally, it is an indivisible whole in the sense that some of its essential properties are lost in taking it apart". Ackoff's insight highlights that the same manufacturing system can be viewed from different perspectives. Checkland similarly differentiates between systematic and systemic thinking. Systematic systems thinking is equated with systems of integrated components and is consistent with reductionist thinking. Systemic thinking models whole complex networks of interactions.

### **5.1.1 Organisations and Organising**

Weick (1969) differentiates between the concept of an organisation and the process of organising. He describes an organisation as a conjunction of procedures, interpretations, behaviours and objectives to be achieved (Weick: 4). He also describes an organisation as "relationships and variables tied together in a systematic fashion, affected by direction of influence, strength of links, time taken for information to circulate etc. (Weick: 87). He stresses that an organisation is not tangible. The appearance of continuity and repetition in processes across time is attributable to the rules and procedures that regulate behaviour.

The process of organising is a dynamic, active cognitive process (Argyris and Schon, 1978). Systematic rules, conventions and procedures provide the structure within which organising and social processes occur. Weick's description of organisations and organising can be summarised in the context of Ackoff's structural and functional system perspectives. Task responsibilities and management control responsibilities, which are designed to co-ordinate work effort, are defined and structured through work roles. Organisational structures are divisible and analysable. Viewed as a functional



whole, the complexity of personal interactions that constitute the process of organising render the system incapable of division.

## **5.2 ORGANISATIONS AS SYSTEMS**

Schoderbeck et al. (1978) propose that the study of organisations is best approached from a systems perspective, with the principal focus on inter-relationships and interdependency of groups. They envisage organisations as the interaction of “organised complexities”. Organised complexities are “phenomena that are composed of a very large number of parts which interact in a non-simple way” (Schoderbeck et al.: 118). Organised complexities have a specific structure and exhibit purpose. Purpose is achieved within organised complexities through the pursuit of goal attainment.

Viewing organisations from a systems perspective has a long history (Burns and Stalker, 1961; Emery and Trist, 1965; Katz and Kahn, 1978). Katz and Kahn adopted a systems view of organisations, applying open-systems theory to their exploration of organisations. Open systems are complex networks of elements that interact, forming organised information feedback loops, to maintain a cyclical exchange of inputs and outputs with their operating environment (Flood and Jackson, 1991). Burns and Stalker demonstrated that the operating environment is a key determinant of organisational structure. Emery and Trist argued that the mechanisms of open-systems do not sufficiently describe the effects of increasingly turbulent operating environments. They proposed that an additional concept, the causal texture of the environment, is required to enhance this understanding. Causal texture describes how inter-related environmental developments, independent of an organisation and its immediate relations, can crucially affect organisations.



### **5.2.1 Systems Engineering**

Systems engineering is a methodology, associated with new manufacturing practices, that is applied to the design of manufacturing systems. The Toyota production system typifies a systems engineering approach to manufacturing system design (Parnaby, 1993). Systems engineering is experiencing a surge in popularity within manufacturing. It is recognised as a powerful strategy in achieving competitiveness in world markets (Parnaby, 1988; Hitchins, 1992; Parnaby, 1993).

Systems engineering is based on control principles. Manufacturing subsystems are ordered, structured and integrated to achieve overall system purpose at lowest cost and with minimum complexity (Hitchins, 1992; Parnaby, 1993). There are three types of system that can be engineered:

- application systems, which are delivered to a customer in fulfilment of a contract
- engineering systems, which constitute the people, methods, procedures and organisation that are required to develop and implement an application system
- support systems, which facilitate operation of application systems (Hitchins, 1992).

Systems engineering represents reductionist, systematic thinking because design and control of manufacturing systems proceed in rational and well ordered steps (Checkland, 1981). Hitchin's view of systems engineering, by contrast, emphasises the importance of emergent properties, which he defines as system properties that are perceived by external observers. Emergent properties within systems engineering are inherent in dynamic organisational processes, which are a function of organisational management control structures. Adopting a systemic view of dynamic control processes may have implications for how production control can best be achieved.



It is recognised that people are key to achieving production and quality control within manufacturing systems (Feigenbaum, 1991; Bertodo, 1993). However, an emphasis on reductionist systematic thinking in the control of human behaviour remains prevalent in manufacturing enterprises. This is clearly demonstrated by Robb (1984), who maintains that "an engineer who understands how to control a complex physical system also understands how to control an analogous managerial system: all he requires to do is to generalise his engineering knowledge and then transport it to his managerial problems". Ackoff argues that such reductionist analysis fails to provide the understanding that emerges through synthetic systems thinking. He states that this is particularly the case with phenomena such as social systems that cannot be treated in a mechanistic manner.

According to Hitchins (1997: 115), engineering managers seem so obsessed with exerting and maintaining control that they disregard the havoc that excessive control wreaks on the business. Behavioural control within organisations is widespread. Management practice over the years has given 'considerable attention' to reactive operational control, to the relative neglect of proactive operational control. At the same time, there has been pervasive proactive control over the behaviour of individuals (Mills, 1983; Manz et al., 1987). It would appear that exerting and maintaining control has been largely attempted through reductionist behaviour control.

The language and logic of production engineering deems people to be malleable, predictable and willing (Wilmott, 1995a). This implies that behaviour can be easily controlled. Individual human beings are complex entities. Complexity within manufacturing organisations is increased through processes of social interaction. Integration activities associated with Just-In-Time, Total Quality Management and Business Process Reengineering contribute to increasing the complexity of social processes. Emergent properties of creativity and innovation materialise from social processes. Behaviour, and therefore control, is not capable of reductionist analysis. Tight production process discipline remains a critical objective within manufacturing production (Lowe et al., 1997). The devolution of decision-making authority down and



throughout organisations is changing the dynamics of management and production control. How control is successfully achieved is a key issue for enterprises to resolve.

Feigenbaum (1991), writing about implementing Total Quality Systems, states that, "the systems challenge that must be met is massive...in part, because the managerial approaches that are needed to operate these systems are not yet widely enough practised in industry". The engineering tradition of reductionist systems practice in manufacturing must, it seems to the author, be complemented by consideration of the same manufacturing system from a different perspective. A systems view that models a manufacturing system in terms of management control structures and processes could provide a basis for understanding the principles underlying the implementation of empowered work strategies.

### **5.3 CYBERNETICS**

Cybernetics is the science of communication and control in animals and machines. The objective of a cybernetically designed system is self-regulation through the processes of control and communication. Cybernetic systems are goal seeking. Self-regulation is achieved by directing activity towards goal achievement. Communication among a system's components, and between the system and its environment, is achieved through the transfer of information. Control is regulated through negative feedback, which is information about actual performance that is fed back into the system and compared to a pre-specified goal.

There are three different types of feedback systems:

- first-order feedback. The object of first-order feedback is to monitor and regulate deviations from an externally determined goal that the system or system participants cannot change



- second-order feedback. There is a choice of possible control actions in this order of feedback. The system or system participants can choose to minimise deviations or change the goal
- third-order feedback. This order of feedback entails the greatest amount of control choices. There is capacity for learning within third-order feedback systems. It is sometimes difficult to differentiate between second-order and third-order feedback systems (Schoderbek et al.: 123).

Nadler (1977) makes an important distinction between feedback in mechanical systems and feedback in social systems. Feedback does not automatically create change within social systems. People in organisations can choose to ignore feedback, intentionally or unintentionally.

## 5.4 CONTROL IN ORGANISATIONS

The term 'control' has different connotations depending on the perspective and values of the person using it. Godfrey et al. (1997) illustrate this by describing the process for monitoring machine output in one of their research companies. Output from a machine was constantly monitored such that the final product was traceable back to the operator. The research team members from a human resources background thought this demonstrated surveillance consistent with a Taylorist mode of work. The researchers from a quality management perspective viewed the procedure as part of acceptable process control that ensured continuous improvement by the operators (Godfrey et al.: 563). Control is a topic that has been the subject of much attention over the years. An examination of the entire control literature is outside the scope of the author's research<sup>1</sup>. This review illustrates that there are different types of control. The object of the review

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<sup>1</sup> Tannenbaum (1968: 7) wrote, "the theoretical analysis of control in social systems has a long and venerable history". Since then, a 'considerable literature' has emerged on how management controls should be designed to be consistent with organisational structure and context. See Selto et al. (1995) for a list of references.



is to identify which of the varying types of control are likely to be affected by empowered work strategies.

Organisation implies control, which brings about achievement of the ultimate purpose of the organisation (Tannenbaum, 1968). Oakland (1997: ps33) defines control as “the process by which information or feedback is provided so as to keep all functions on track, being the sum total of the activities which increase the probability that planned results will be achieved”. Control can be broadly categorised as:

- strategic
- operational
- social.

#### **5.4.1 Strategic Control**

The strategic management literature advocates that organisations need to establish systems of strategic controls to identify and monitor their competitive positions (Daniel and Reitsperger, 1991). Decentralisation within organisations requires the fulfilment of two conditions. Senior management must always be aware of the strategic position of the business and know when to intervene to keep the business on track. The other condition is that managers of subunits within the organisation must know what constitutes performance that is consistent with strategy. Research indicates that few organisations meet these conditions (Gould, 1991). The following types of control are associated with strategic control:

##### **Informational Control**

Informational control provides a means of ensuring strategic control (Picken and Dess, 1997). Managers learn through informational control to scan the strategic environment to assess whether current organisational goals remain compatible. Organisational



assumptions, goals and objectives must be continually evaluated and adapted where appropriate in response to environmental change.

### **Interactive Control**

As well as looking outward into the operating environment, managers must control strategy by looking inwards to the organisation, through a system of interactive control systems (Simons, 1995). Interactive control systems are formal information systems that managers use to keep regularly involved in subordinates' decisions. Characteristics of interactive control systems include:

- a focus on constantly changing information that senior management identifies as strategically significant
- the identification of such information demands frequent attention from operations management
- information generated by interactive control system are best discussed in face-to-face meetings
- the interactive control system provides a mechanism for debate that challenges assumptions and objectives.

Osborn (1998: 488) differentiates between planned, top-down strategy and strategy that emerges from the process of monitoring threats and opportunities. He views interactive control as a means of surfacing and acting upon emergent strategies.

### **5.4.2 Operational Control**

Task completion and integration of workflows are monitored through operational control. According to Ouchi (1977), operational control is maintained by focusing primarily on output or on behaviour. In theory, which dominates depends partly on the



nature of the task, technology and the extent of formalised rules. In practice, behavioural control appears to be widespread. Manz et al. (1987) state that management practice over the years has given 'considerable attention' to reactive operational control, to the relative neglect of proactive operational control. At the same time, organisational design and structure implies that proactive control over the behaviour of individuals is pervasive (Mills, 1983; Manz et al., 1987).

To Ouchi, behaviour control is deemed to be feasible and appropriate where there is a high degree of formalised rules and procedures. Behaviour control is inappropriate where tasks are complex and unpredictable. Output control requires the existence of valid output measures. The following types of control are associated with operational control:

#### **Diagnostic Control Systems**

Outputs are compared to pre-set standards of performance through negative feedback in diagnostic control systems. A process of iteration, where inputs and production processes are adapted, allows output to be closely matched with goals (Simon, 1995).

#### **Systematised Control**

Systematised, Discretionary and Developmental are modes of operational control that originate from the work of Van de Ven et al. (1974). Slocum and Sims (1980) and Dean and Snell (1991) have both made use of the control categories defined by Van de Ven et al.. The control categories are differentiated by the amount of discretion devolved to production employees in exercising diagnostic control. Systematised control consists of detailed procedures and standards to be adhered to by employees. Systematised control is applicable to routine, repetitious tasks. Slocum and Sims state that systematised control requires little problem-solving communication between management and subordinates. This observation is no longer relevant. Management control structures may remain typical of traditional manufacturing control but current organisational



control processes are highly dependent on production operator collaboration in problem-solving.

### **Discretionary Control**

Discretionary control consists of a range of alternative contingencies and guidelines for the exercise of discretion when production employees are confronted with problems. Discretionary control is applicable for problems that occur sporadically within moderately defined limits. The range of responses is defined in advance.

### **Developmental Control**

Developmental control consists of specified goals to be achieved, directed by a set of norms and behavioural expectations. This mode of control is deemed to be applicable for complex tasks that require the application of problem-solving and decision-making skills.

### **Self-managed Control**

Output control, behavioural control, formal leadership, roles, systematised, discretionary and developmental modes of control are all external control mechanisms (Mills, 1983). There is an argument that says that all control is essentially self-imposed. Individuals assess external control mechanisms and decide the extent to which they will comply. Figure 5.2 illustrates a model that integrates external and self-imposed control (Manz et al., 1987).

Three major components of control are the setting of standards, evaluation of performance against standards and consequences arising from performance evaluation. External control and self-control lie along a continuum that represents each control component.



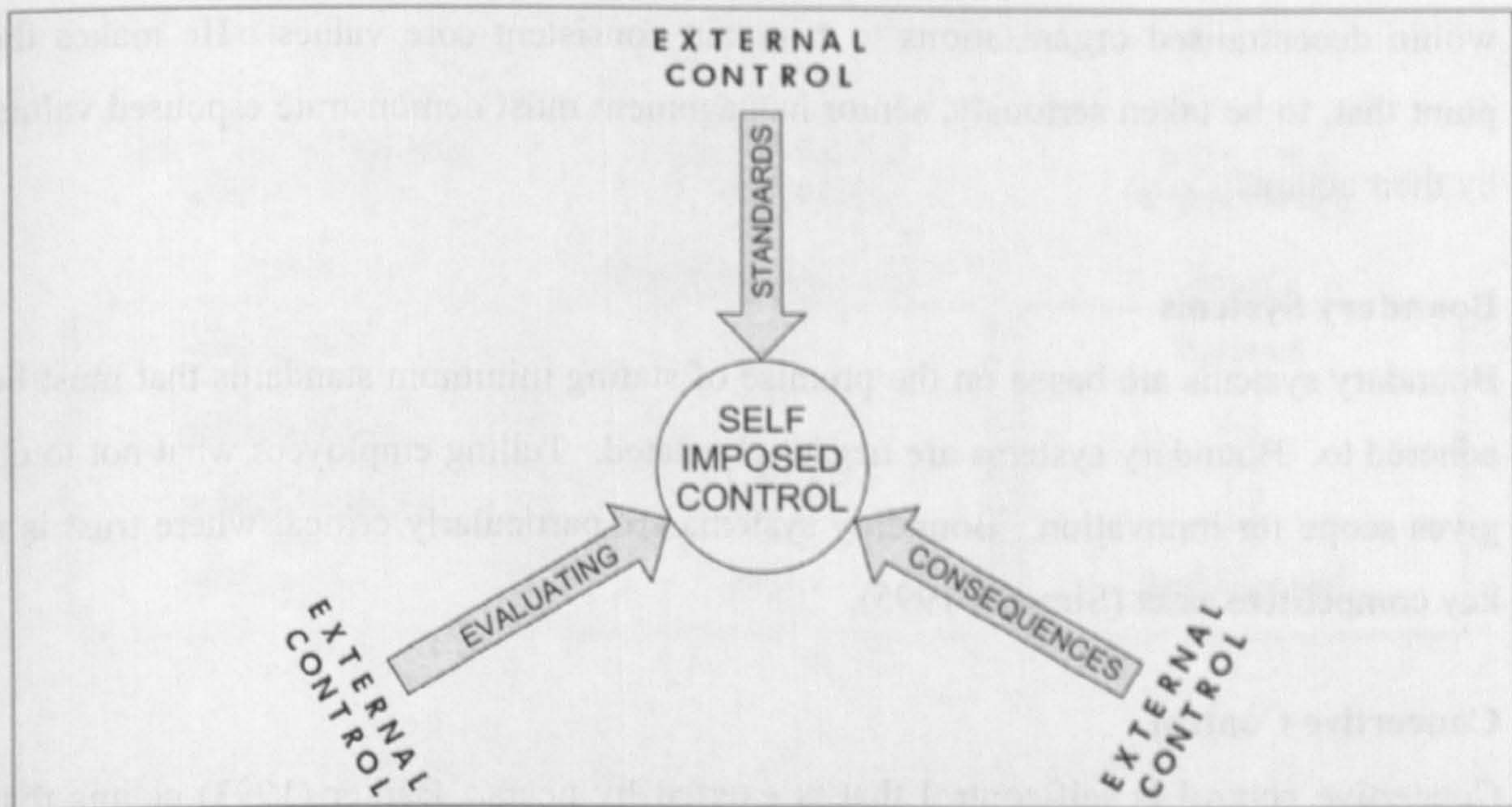


Figure 5.2 Integrated model of control in organisations (Manz et al., 1987)

In the extreme, control can originate entirely outside the individual or it can originate within the individual. Objective self-control is manifest in the setting and evaluating of standards. Subjective self-control arises through individual psychological perceptions of control. Mills (1983) stresses that self-controlled employees remain very much controlled through self-imposed norms.

### 5.4.3 Social Control

According to Tannenbaum, organisational control processes “help circumscribe idiosyncratic behaviours and keep them conformant to the rational plan of the organisation” (Tannenbaum: 3). Social control is manipulated by a variety of mechanisms:

#### Belief Systems

Belief systems are used by senior managements to disseminate values and direction (Simons, 1995). Simons believes that formal belief systems are particularly necessary



within decentralised organisations to maintain consistent core values. He makes the point that, to be taken seriously, senior management must demonstrate espoused values by their actions.

### **Boundary Systems**

Boundary systems are based on the premise of stating minimum standards that must be adhered to. Boundary systems are negatively stated. Telling employees what not to do gives scope for innovation. Boundary systems are particularly critical where trust is a key competitive asset (Simons, 1995).

### **Concertive Control**

Concertive control is self-control that is exerted by peers. Barker (1993) claims that self-managing teams exemplify the notion of concertive control. He documents a case study that illustrates how concertive control develops. According to Barker, peer management is created through consensus on shared values. Peers then enforce these values on each other by a system of rules that they develop. This combination of peer pressure and regulation of self-defined rules produces a powerful means of social control.

## **5.4.4 Summary of Control**

Figure 5.3 summarises the foregoing review of control types. It illustrates the levels of strategic control responsibilities and the forms of social control that are conceptually consistent with different forms of operational control. Empowered work strategies explicitly affect operational control of production processes through devolved responsibilities for process control and integration. The different forms of diagnostic control, which range from systematised to self-control, represent increasing degrees of empowerment.



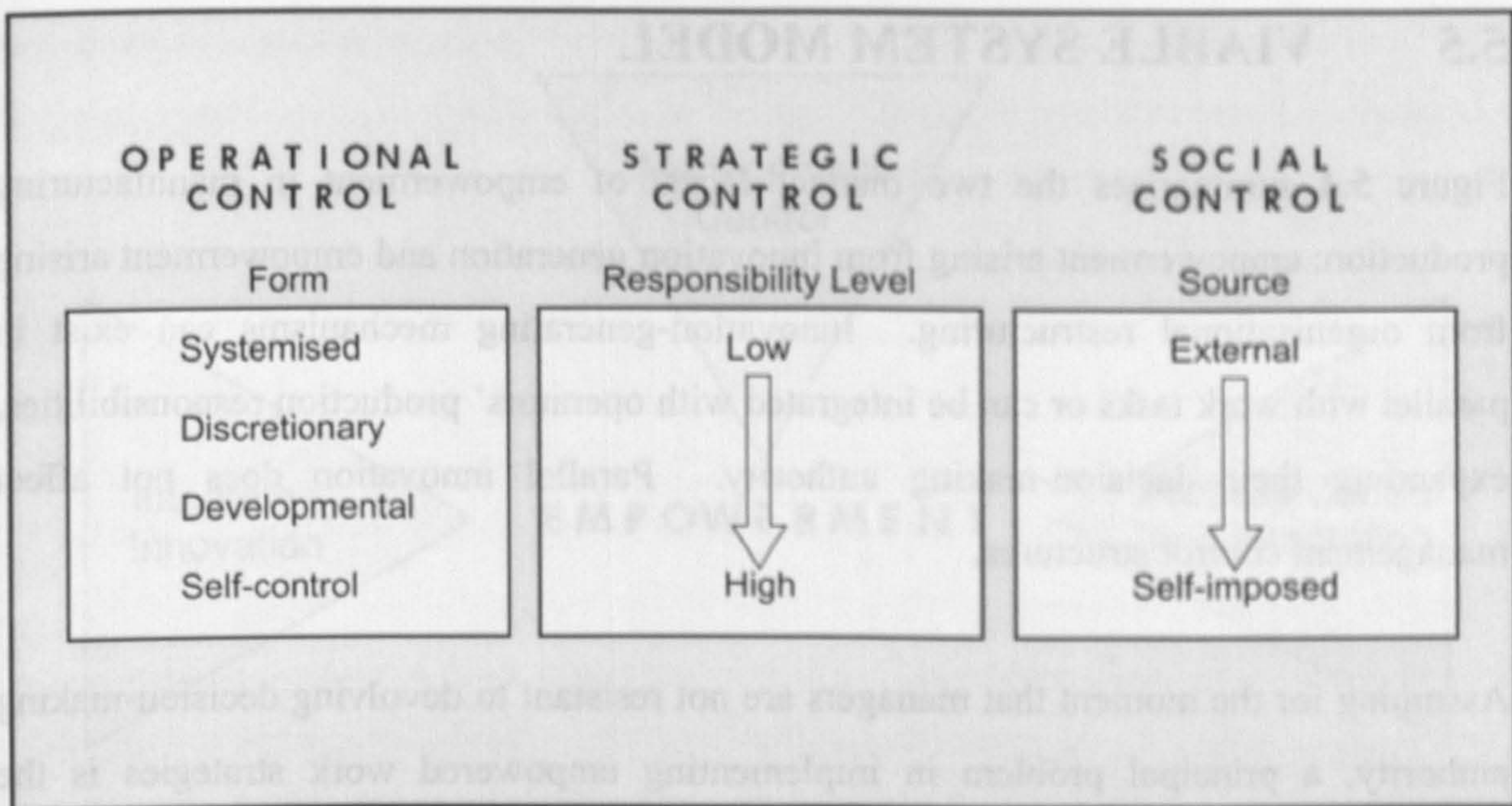


Figure 5.3 Types of control.

Continuous Improvement leads to a proactive focus on operational control that complements the reactive control that may be associated with operational control. Decentralisation can result in wider responsibility for strategic control throughout the organisation. Social control is complex. Organisational purpose is accomplished or defeated through the mutual influence created by alliances and norms that exist among people (Weick, 1969). Managements can design social control systems but their success or failure depends on whether people choose to comply. Even where operators comply with organisation objectives, the interactions that mediate workplace relationships create unintended consequences despite the efforts of those seeking to exert social control. Social settings refuse to be wholly predictable (Delbridge, 1998: 40). This affirms the distinction between the systematic nature of organisations and the indivisible, systemic nature of the process of organising.



## 5.5 VIABLE SYSTEM MODEL

Figure 5.4 summarises the two distinct facets of empowerment in manufacturing production: empowerment arising from innovation generation and empowerment arising from organisational restructuring. Innovation-generating mechanisms can exist in parallel with work tasks or can be integrated with operators' production responsibilities, expanding their decision-making authority. Parallel innovation does not affect management control structures.

Assuming for the moment that managers are not resistant to devolving decision-making authority, a principal problem in implementing empowered work strategies is the paradoxical requirement of devolving decentralised management control throughout an organisation while maintaining co-ordinated centralised control. The Viable System addresses this paradox.

The Viable System Model was developed more than twenty years ago (Beer 1981, 1985). It is based on cybernetic principles of self-regulation, communication and control. The model specifies various management functions that achieve distributed and co-ordinated control throughout an organisation, by means of information feedback. Control mechanisms within the Viable System Model allow for simultaneous centralised control and decentralised autonomous control. Mechanisms are stable forms of communication, which systemically mediate an organisation's management functions in order to fulfil organisational objectives (Espejo et al., 1996: 105). The Viable System Model can be used either as a diagnostic tool or as an aid to guide organisational design. It is the model's potential in facilitating the re-structuring of management control responsibilities that is of relevance to the author's thesis.



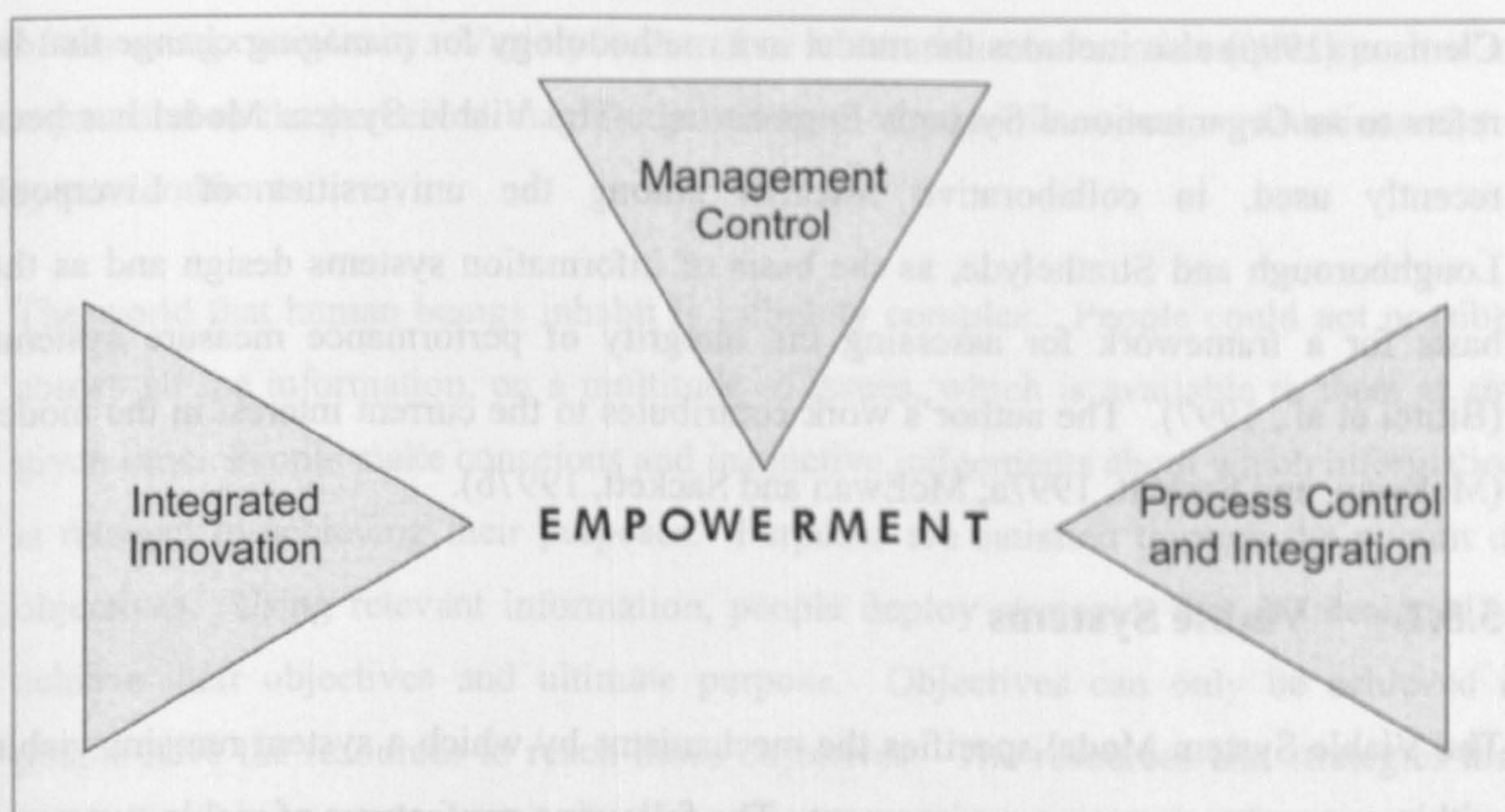


Figure 5.4 Summary of empowerment in manufacturing

According to Espejo and Gill ([www.phrontis.com](http://www.phrontis.com)), the model has been used extensively in organisational redesign and as a management support tool in change management initiatives. Similarly, Clemson (1996) has been using the model for the past twenty years. Whilst consultants may be utilising the model within organisations, there is scant evidence in the systems literature that illustrates how the model is being used and implemented in practice. Espejo and Harnden (1989) and Brocklesby and Cummings (1996) do provide documented examples of applications of the model. Espejo and Gill confirm, however, that the model has made little impact on general managerial practice. Academic interest in the model is not a new phenomenon. To Jackson (1986), organisational cybernetics, which focuses on the Viable System Model, is “an approach rich in insight with much potential for future development” (Jackson:189). The Viable System Model is currently attracting renewed academic and consultant attention. Flood (1993) includes the Viable System Model within a toolbox approach to systems interventions, which he calls Total Systems Intervention. This approach is applied to the exploration of a new understanding of Total Quality Management. Espejo et al. (1996) demonstrate the relevance of the model’s principles to organisational learning.



Clemson (1996) also includes the model in a methodology for managing change that he refers to as Organizational Systems Engineering. The Viable System Model has been recently used, in collaborative research among the universities of Liverpool, Loughborough and Strathclyde, as the basis of information systems design and as the basis for a framework for assessing the integrity of performance measure systems (Bititci et al., 1997). The author's work contributes to the current interest in the model (McEwan and Sackett, 1997a; McEwan and Sackett, 1997b).

### 5.5.1 Viable Systems

The Viable System Model specifies the mechanisms by which a system remains viable within a complex operating environment. The following are features of viable systems:

- they are able to maintain a separate existence
- they have problem-solving capabilities
- they are viable if they can survive and adapt in the face of unfamiliar disturbances that impact upon them from a wider operating environment (Jackson, 1986; Espejo, 1989; Espejo et al., 1996).

### 5.5.2 Requisite Variety

The model describes how systems cope with complexity. Complexity within the Viable System Model is defined and regulated through the concept of requisite variety. Variety is a term used by Ashby (1958) to describe the occurrence of distinct elements from among a set of elements. For example, the set 'c, b, c, a, c, c, a, b, c, b, b, a' contains twelve elements but only three that are distinct. The set is said to have a variety of three (Ashby: 125). Variety is not an objective measure. It is subjective because an observer within the system has to apply perception and judgement to the task



of assessing complexity. Variety is therefore an heuristic index of complexity. It is an expression of the perceived magnitude and type of possible events or situations that a system confronts.

The world that human beings inhabit is infinitely complex. People could not possibly absorb all the information, on a multitude of issues, which is available to them at any given time. People make conscious and instinctive judgements about which information is relevant to achieving their purposes. Purposes are satisfied through the pursuit of objectives. Using relevant information, people deploy strategies that are designed to achieve their objectives and ultimate purpose. Objectives can only be achieved if people have the resources to reach those objectives. The resources and strategies that people deploy to achieve their objectives constitute requisite variety.

The same principle applies within organisations. A system must be capable of absorbing variety if it is to maintain viability. In order to do that, a system must display requisite variety. This means that the variety displayed within the system, the resources and strategies for meeting the system's objectives, must at least match the variety impacting upon the system from its operating environment. This is known as Ashby's Law of Requisite Variety. It is a fundamental prerequisite of viability and it is a central concept within the Viable System Model. If requisite variety is not inherent within a system, the system is unable to cope with its complex environment and it ceases to become viable.

Complexity is regulated within a particular viable system by means of attenuators and amplifiers. Attenuators regulate complexity by reducing the amount of variety within a system. In an attempt to reduce uncertainty, operating standards and simplified work routines are applied when implementing Just-In-Time. These are examples of attenuators. Amplifiers increase the variety that is deployed within the system in response to systemic variety. Exploiting existing resources more effectively, or adding further resources, would amplify response variety. Empowered work strategies,



designed to encourage innovation and to harness previously under-utilised intellectual capacities, amplify response variety.

### **5.5.3 Recursion**

Recursion is the second fundamental concept that underpins the model. Recursion is closely linked with the need for a system to display requisite variety. The Viable System Model is structured as a hierarchy of nested viable systems that carry out the organisation's prime activities. Prime activities are those that are critical to the functioning of the entire system. In the case of a manufacturing organisation, the highest-level viable system is the entire enterprise. The lowest-level systems could consist of production cells on the shopfloor. Each of the systems contained within higher-level systems is a viable system in its own right. All the viable systems within the entire system are subject to the same principles and control mechanisms.

Recursive structures are necessary if requisite variety is to be maintained. Lower-level viable systems absorb complexity from higher-level systems. Complexity must be devolved down the organisation, if higher-level systems are not to be overwhelmed by the complexity that the organisation absorbs from the operating environment. By the same reasoning, lower-level systems must have the necessary resources and capabilities to equip them to deal with devolved complexities.

Figure 5.5 illustrates Hitchens' conception of the systems principles that underlie systems engineering. Systems hierarchically contain, and are contained within, other systems. Hitchens describes systems engineering as the 'glue' discipline that maintains cohesion and connectivity to parts (Hitchens: 210). He does not specify how this cohesion is to be achieved. The Viable System Model provides mechanisms for achieving systems integration.



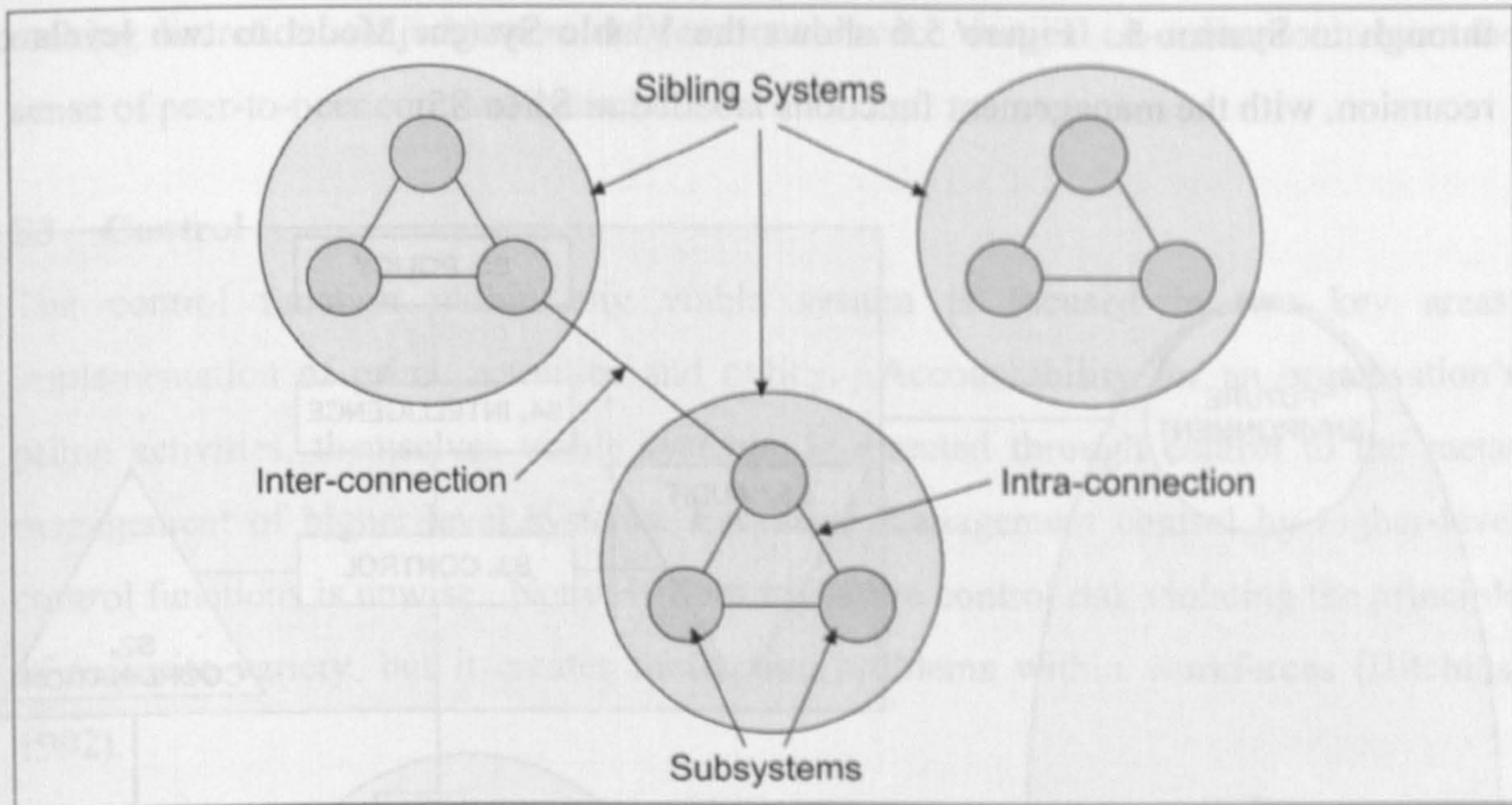


Figure 5.5 The Principle of Recursion (Hitchins, 1992)

#### 5.5.4 The Viable System Model

The intention here is not to elucidate the model in detail. Since the author's purpose in explaining the model is to demonstrate its relevance in implementing empowered work strategies, only the rudiments of the model's main functions are described. Espejo and Gill claim that one of the reasons the model has not gained more popularity within the general management population is that the ideas contained within the model are not intuitively easy to grasp. The author disagrees.

The model is based on cybernetic principles of communication and control through information feedback. It is underpinned by the two fundamental concepts of recursion and requisite variety, which result in a structure of inter-linked viable systems. Each viable system has five management functions that are necessary if the organisation and subordinate systems are to operate effectively. How responsibilities for these functions are allocated and who assumes the responsibilities are not specified within the model. In the terminology of the Viable System Model, the functions are known as System 1



through to System 5. Figure 5.6 shows the Viable System Model to two levels of recursion, with the management functions labelled as S1 to S5.

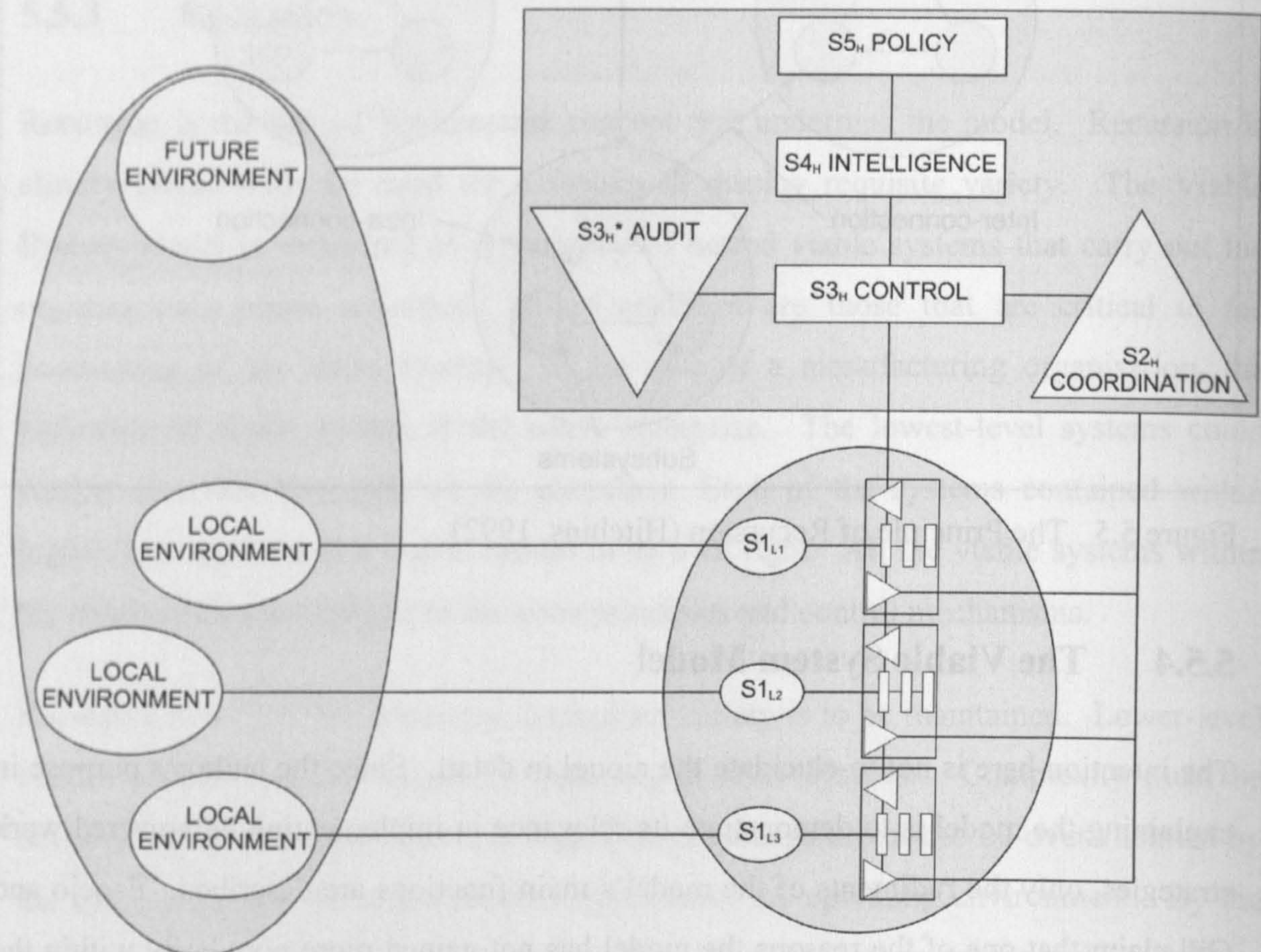


Figure 5.6 Viable System Model (Adapted from Brocklesby and Cummings, 1996)

The five management functions are :

### S1 Implementation

Each viable system's primary activities are implemented by this function.

### S2 Co-ordination

System 2 through to System 5 are known collectively as the management 'meta-system' (Espejo and Harnden: 414). Co-ordination is a process of adaptation by mutual adjustment (Espejo and Gill). Lateral co-ordination implies autonomous decision-



making discretion and judgement at operational level. Vertical co-ordination retains the sense of peer-to-peer communication.

### **S3 Control**

The control function within any viable system is focused in two key areas: implementation of prime activities and policy. Accountability for an organisation's prime activities, themselves viable systems, is directed through control to the meta-management of higher-level systems. Excessive management control by higher-level control functions is unwise. Not only does excessive control risk violating the principle of requisite variety, but it creates motivation problems within workforces (Hitchins, 1992).

The co-ordination function is designed to operate closely with control in order to overcome the need for direct intervention in operational activities. Control absorbs residual variety that is not dealt with by co-ordination. The more active the co-ordination function, the less recourse there is to the intervention of the control function. The control function is additionally responsible for contributing to shaping and regulating organisational policy. Autonomy of organisational subsystems facilitates flexibility, but it can also create deviance from organisational purpose. Control facilitates cohesion among subsystems by regulating consistency of purpose. It does this by looking inwards to the system's operations to scan for strategically significant information that requires senior management attention.

The function S3\* is an important part of control. It is an audit channel that is used by control to monitor the quality of the information that it receives. Control needs to know that the information that it receives, about what is happening within a particular system's operations, is accurate. Infrequent and unpredictable checks, part of a declared policy throughout the organisation, are made by the higher level control function. These checks by-pass the subordinate system's management meta-system and communicates



directly with the subordinate systems' operations. To avoid defensive behaviour, people throughout an organisation need to understand the reason why such checks are deemed to be necessary.

Espejo and Gill state that this channel could potentially be misused by higher management levels that meddle in the affairs of lower management. This behaviour, they point out, is self-defeating because it contradicts the principle of requisite variety. Higher-level complexity would increase to the extent that organisational effectiveness would be threatened and system viability eventually threatened.

#### **S4 Intelligence**

The control function looks inwards to regulate cohesion of system stability. The intelligence function looks outwards into the system's environment to scan for threats and opportunities. The intelligence function is focused on the future. Conditions in the market and the relative position of competitors could constitute the environment for the whole organisation. Day-to-day relationship with customers, suppliers or other production teams could be part of an empowered production team's external environment.

#### **S5 Policy**

The control function looks inwards to scan for current strategic issues. Intelligence looks outwards to scan for potential future strategic issues. It is the policy function's prime responsibility to monitor the interactions between intelligence and control (Espejo, 1989: 88). Intelligence and control are highly inter-connected and must be in balance. Intelligence and control are filtering functions. According to Espejo et al., information reaching policy should be minimised through the interaction of policy and control. Final policy decisions are made by the policy function on issues that have already been filtered and debated throughout the organisation (1996: 113).



For the sake of clarity, the communication channels within and across all the viable systems are simplified in Figure 5.6. It can be seen from the diagram that the higher-level co-ordination function communicates with each of the three lower-level system's co-ordination function. At the same time, because they are part of the higher system, the lower co-ordination functions communicate among themselves to co-ordinate the higher system's operations. Espejo claims that the more the co-ordination function is developed, the more autonomy is possible at lower organisational levels (Espejo, 1989: 95). This implies that there is a process by which responsibilities are devolved. Higher-level co-ordination may adopt a more dominant role in the early stages of implementing empowered strategies that involve process integration. Co-ordination responsibilities are increasingly absorbed by the lower systems as learning occurs.

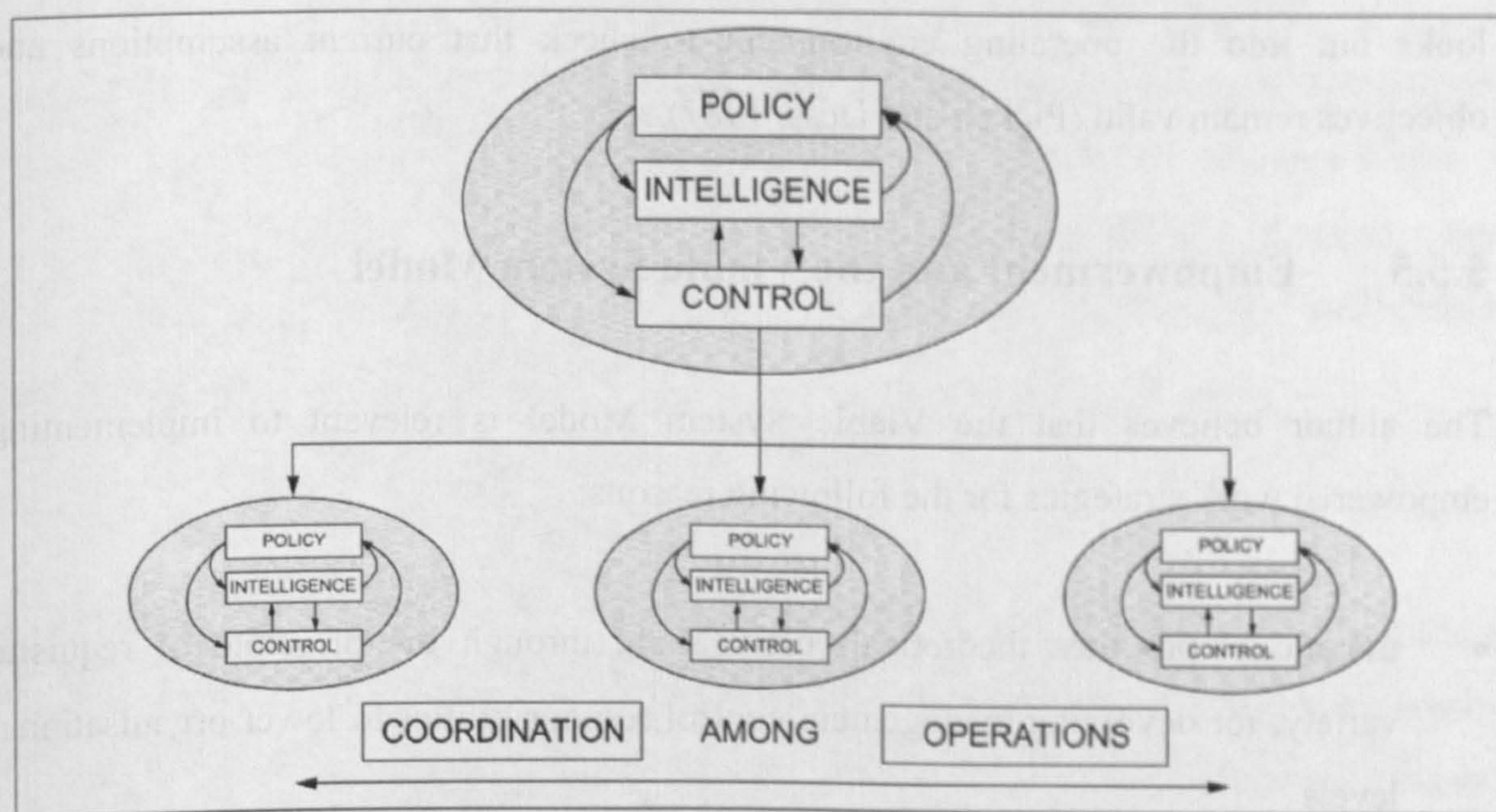


Figure 5.7 Interactions among policy, intelligence and control

Figure 5.7 illustrates the interactions among control, intelligence and policy. The organisational purpose and values of a higher-level system are clarified by policy. Values and purpose are transmitted to subordinate systems through the higher-level control function, which communicates with lower-level policy functions. The policy



function within a lower-level system receives the overall system purpose and values and represents them to the lower system. In practice, the three functions are not necessarily distinct entities. Responsibility for policy, intelligence and control could, for example, be allocated to one individual within a small organisation.

The author has not encountered any reference in the empowerment literature that links empowerment to the Viable System Model. Attributes of the model that are identified as having relevance to empowerment and organisational design are, however, being articulated independently by other authors. The control function is analogous to interactive control systems (Simons, 1995; Osborne, 1998). Interactive control systems are designed to look inwards to an organisation to highlight emerging strategy issues. The intelligence function is comparable to informational control. Informational control looks out into the operating environment to check that current assumptions and objectives remain valid (Picken and Dess, 1987).

### **5.5.5 Empowerment and the Viable System Model**

The author believes that the Viable System Model is relevant to implementing empowered work strategies for the following reasons:

- the model provides theoretical justification, through the principle of requisite variety, for devolving management control responsibilities to lower organisational levels
- the model demonstrates how varying degrees of self-regulation can be achieved among and within systems



- the model provides communication channels and procedures that allow the apparently paradoxical requirement of local self-regulation and simultaneous centralised control
- the model provides a framework for determining the implications of implementing empowered work strategies at different organisational levels.

### **5.5.5.1 Theoretical Justification**

The Viable System Model is a management control model that regulates organisational complexity arising from the system's environment, which contains far more complexity than the system. Current turbulent operating conditions are a consequence of changing dynamics in global competition. The principles of recursion and requisite variety offer insights as to why empowered work strategies are appropriate organisational responses to turbulence in global market conditions. By devolving responsibilities for management control and responsibilities for integrated production process control, manufactures are effectively operating the principle of requisite variety in response to business pressures.

### **5.5.5.2 Self-regulation**

Earlier discussion in section 5.1 of this chapter differentiated between systematic and system thinking. A systematic view of a system is amenable to reductionist analysis. Systemic thinking demands that a system be analysed from the perspective of the entire system. Systemic thinking is not subject to reductionist analysis. The concept of an organisation and the process of organising is analogous to systematic and systemic thinking. If it is the case that the process of organising is not capable of reductionist analysis, then the tendency of engineering managements to attempt to control operator behaviour in a reductionist manner is misplaced. The Viable System Model is not being proposed as a tool to secure mechanistic control within manufacturing organisations.



Rather, the model offers a way in which self-regulation can be directed. Communication channels specified by the model, through feedback and information exchange, enable the process of organising. Information exchange is guided by organisational procedures and by management control responsibilities that are assigned to work roles.

Cherns' (1978, 1987) statement of principles common to sociotechnical systems, listed in the previous chapter's analysis of empowerment, includes the principle of minimum critical specification. This principle states that systems design should specify what must be done to achieve systems objectives but that there should be discretion and autonomy in how objectives are pursued. Minimum critical specification is designed to maximise organisational flexibility and to reverse bureaucratic thinking. It is essential for the functioning of self-regulating systems (Morgan 1986).

Minimum critical specification applies to the control of a system's operational activities. It also applies to the design of management control structures. Morgan recommends that work roles are left as ambiguous and overlapping as possible so that the organisation's structure can adapt to changing circumstances. Although multi-skilled teams provide this sort of flexibility, it is difficult for the author to envisage that this course of action would be widely feasible within manufacturing production, where integrated process discipline is correlated with competitive success. Morgan admits that there is a danger that such flexibility could lead to chaos. Spreitzer (1996) reports results from her research, and summarises evidence from previous research, that indicates that psychological empowerment is associated with low role ambiguity. Clear goals, tasks and lines of responsibility are key determinants of psychological empowerment.

The point that Morgan makes is that defining work roles too rigidly may compromise system flexibility. The author sees no conflict between the principle of minimum critical specification and clearly defining work roles. To Morgan, minimum critical



specification is defining “no more than is absolutely necessary for a particular activity to occur” (Morgan: 101). The Viable System Model adheres to minimum critical specification by articulating the five management control functions necessary for system viability. These are manifested in responsibilities that are determined in whatever manner is most appropriate to the organisation. However management control responsibilities are determined, they must be clearly assigned. The process of adaptation depends upon it. Systems adaptation is achieved through the interaction of the policy, intelligence and control functions. The exercise of these responsibilities provides monitoring mechanisms that facilitate responses to environmental complexity. Rigidity within the Viable System Model is discouraged through adaptation.

The degree of internal self-regulation within a system’s operations, which are themselves viable systems, can differ according to the relationship between the implementation and control functions.  $S1_{L1}$ ,  $S1_{L2}$  and  $S1_{L3}$  in Figure 5.8 could be taken to represent three different empowered production teams. If it is supposed that the teams are at different stages of maturity, it is conceivable that the relationship between control and operations implementation could differ among the teams. An organisation that instigates an empowered work strategy may choose to exercise greater initial management control over operations. Discretionary or systematised control could operate at the outset. A range of pre-specified contingencies permits production teams to have problem-solving responsibilities within defined limits. As more management control responsibilities are absorbed in time by operations, the emphasis on tight management control lessens. The exercise of developmental control permits yet more decision-making latitude.



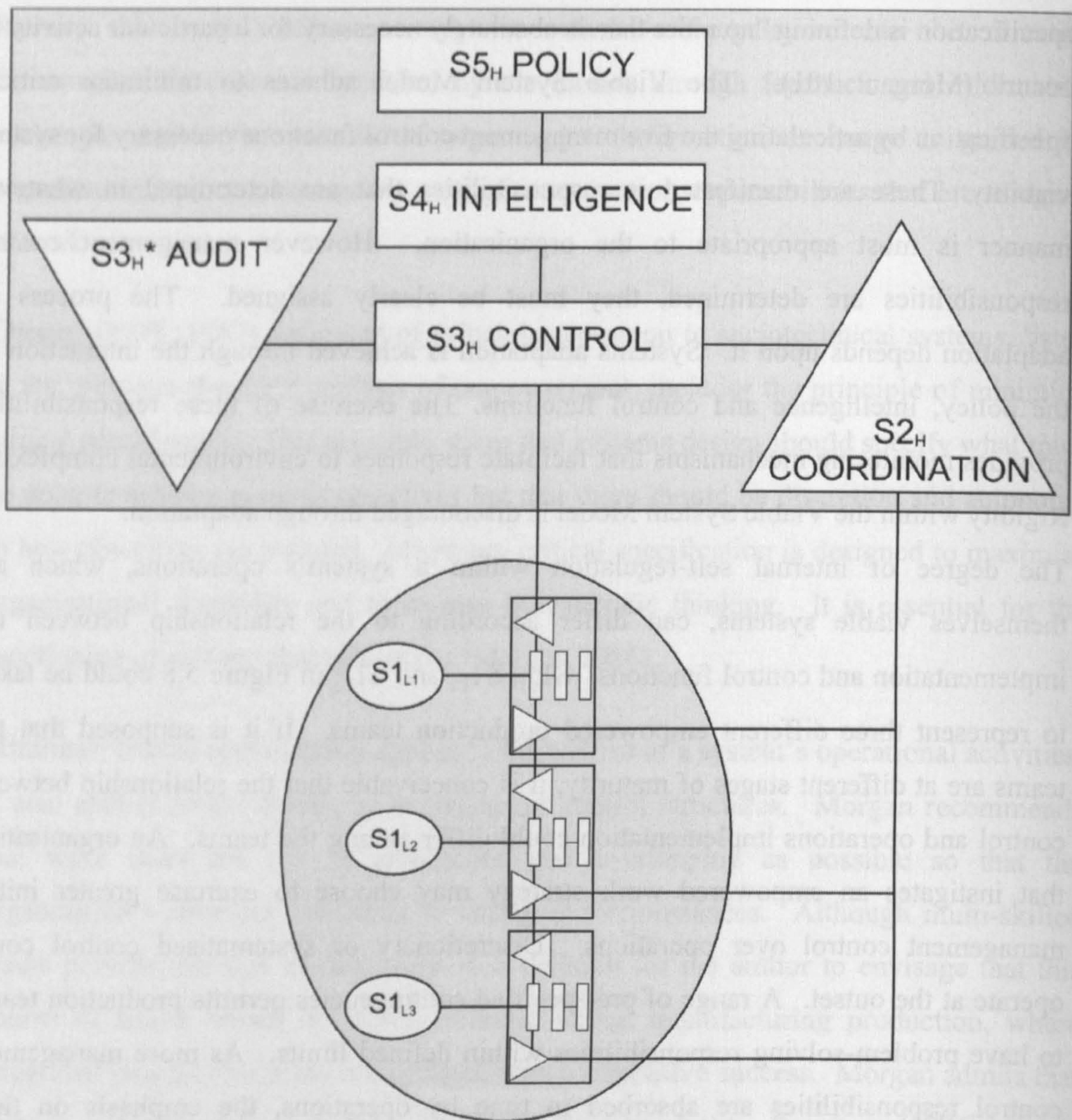


Figure 5.8 Detail of Viable System Model

Highly empowered production, self-managed teams could assume responsibility for the control and operations functions, including being accountable to the meta-management system of higher-level systems for operations performance. A less empowered team would have a management function to which it reported within the subordinate system. The management function would then be accountable to the higher-level meta-system for the team's performance.



The higher-level system could bestow greater self-determination on the subsystems through the co-ordination function. Because of the need to maintain requisite variety, it is not in the higher-level system's interests to closely monitor co-ordination among the subsystems. The higher-level co-ordination function, however, may be more involved in subsystem co-ordination when empowered work strategies are initially implemented. Co-ordination among subsystems could become more autonomous as teams get accustomed to taking on responsibilities for process integration.

The Viable System Model relies on networks of feedback mechanisms that monitor the achievement of short-term and long-term goals. Feedback can be of first, second or third-order. First-order feedback compares actual performance to a predetermined goal. Goals cannot be challenged. Only corrective action in pursuit of the goal can be taken. As teams become more empowered through increased management control and operations control, requisite variety demands commensurate increases in choice of control strategies. Deviations from a goal can be either minimised or the goal can be questioned and changed. This second-order choice of strategies may be appropriate for decision-making authority that is restricted to production issues. Highly empowered teams can effectively become mini-businesses. Third-order control strategies, which allow maximum latitude in choice of adaptive actions, are required. Such teams therefore need the five management functions to determine system viability. The principles underlying the Viable System Model, together with the control mechanisms it contains, provide manufacturing organisations with a rich source of principles to follow when operationalising differing degrees of self-regulated empowerment.

### **5.5.5.3 Autonomy and Control**

Discrepancies between the expressed desire for empowerment and what actually happens in practice indicate that implementing empowered work strategies is problematic. It is a moot point whether the Viable System Model provides the means for changing managerial attitudes. It does provide a theoretical solution to the paradox



of retaining centralised organisational control while allowing simultaneous local self-regulation. The need to observe the principle of requisite variety by devolving complexity is the key to increased local self-regulation. Centralised control is achieved through the communication channels and control mechanisms that link recursive viable systems. Referring back to Figure 5.3, each of the three S1 systems has its own control function that ensures self-determined control. Each of the three control functions is simultaneously autonomous and accountable to the higher-level system's control function. This interaction of the control functions ensures that control is simultaneously localised and centralised.

#### **5.5.5.4 Empowerment at Varying Organisational Levels**

The five management functions are applicable to all viable systems at all levels. Although common at all levels, the functions obviously have a different focus depending on a system's place in the overall system. For example, the GRAI methodology (Graphe à Résultats et Activités Interliés), which takes a conceptual view of manufacturing systems, proposes that a manufacturing system consists of three subsystems (Doumeingts, G. et al., 1987). These are the physical system, the decision system and the information system. The decision system is represented hierarchically. Decisions taken at the top of an organisation are long-term strategic decisions, which affect large domains throughout the manufacturing organisation. The time-scale of such decisions is long, with the effects being felt over a sustained period. Operating decisions tend to be more limited in scope and their effects are felt for a relatively short time. In fact, many operating decisions are made in real-time.

If many of the decisions taken at the level of middle management are being devolved down to the shopfloor, because organisations are functioning with flatter management structures, then this has implications for the type of decisions that middle managers and production teams are now likely to be making. Production teams remain primarily responsible for short-term operating decisions. It would also be expected that



production teams, as they become empowered with greater degrees of decision-making authority, would be involved in more strategic decisions. Middle management would still be involved in monitoring the activities of subordinate systems, although requisite variety stipulates that micromanaging by higher level systems violates the law of requisite variety. Middle management would play an increasingly critical role in coordinating the activities of flatter organisations. They are likely to become more strongly focused on strategy formulation and implementation. According to the principle of requisite variety, senior management could be in danger of becoming overwhelmed by the complexity of market turbulence if this complexity was not absorbed.

Fixed strategic goals become dysfunctional in unpredictable markets. The process of strategy formulation should be highly dynamic. The relationships among strategy formulation, implementation and control need to be closely interactive. Assumptions and goals need to be continuously monitored, tested and reviewed. Controlling strategic change is difficult. Picken and Dess claim that leaders and managers can best serve their organisations by introducing a sense of direction and logic to the incremental process of strategic control. Managers need to understand the organisation's strategic environment and be able to evaluate critically any changes to that environment.

Osborne (1998: 483) comments that the topics of strategy, control and systems have been studied individually in depth. He contends that interactions among the domains offer leverage for competitive adaptation and performance. The Viable System Model provides a framework for integrating strategy, control and adaptation, through the mechanisms of the policy, intelligence and control functions. These adaptation functions provide a means of continuously monitoring the validity of organisational goals and purposes. Recursion provides the mechanism for appropriately applying policy, intelligence and control, according to the focus of a particular system. The model provides understanding of the implications of implementing empowered work strategies from the perspective of shopfloor teams, middle and senior management. The



Viable System Model provides an unambiguous theoretical statement of the critical contribution of middle management in shaping organisational strategy. Research by Floyd and Wooldridge (1997) confirms that middle management involvement is significant in strategy definition. Middle management resistance has frequently been identified as a significant barrier to the success of employee involvement practices (Fenton O'Creevy, 1996a). Fenton O'Creevy recommends that resources, rewards, recognition and responsibilities are given considerable attention for this group. Responsibilities for strategy development, co-ordination and control are clearly indicated by the model. Empowering employees require that managers are also empowered. This will only be achieved if shared goals and a common purpose are evident within the organisation (Fenton O'Creevy, 1996b).

## **5.6 CRITICISMS**

Despite the theoretical relevance of systems theory and the Viable System Model in operationalising empowerment in organisations, both have attracted criticisms. These are:

- information does not flow unimpeded, as suggested by open systems theory, but may be used to further individual ends and frustrate organisational objectives
- systems theory ignores the reality of conflict within organisations
- viable systems require acceptance of organisational goals among system participants. In reality, individuals pursue a multitude of purposes, which may coincide with organisational purpose or deflect from organisational intent
- the Viable System Model is inherently autocratic.



### **5.6.1 Countering the Criticisms**

Stacey (1996) differentiates between legitimate and shadow networks of relationships among organisational members. The legitimate system is established to realise organisational purpose, that is purpose determined by senior management (Anthony, 1998), through the allocation of formal authority and responsibilities. These authorities and responsibilities are exercised within the confines of an approved set of values. The shadow system constitutes an informal network of relationships that serve a diverse set of purposes, which range from personal politics to sabotage of the legitimate system (Stacey: 27). The shadow system allows people to take their own informal authority. This could and have the effect of undermining formal authority or it could lead to self-organisation that produces creative change. Stacey argues that it is mainly within the shadow system where creativity takes place within the organisation.

Management control structures represent the legitimate system of the organisation, with control responsibilities and authority attached to work roles. The process of organising represents systemic complexes of interactions that are outcomes from both the legitimate and shadow systems. Stacey proposes that how the legitimate and shadow systems interact determine the basic dynamics of an organisation.

#### **5.6.1.1 Information**

Shapiro (1996) confirms the influence of the shadow system in her criticism of supposedly open systems. She is particularly concerned about the reality of information flows within organisations. Open systems theory relies on a free flow of vertical and horizontal information throughout organisations. In practice, employees withhold information in the form of knowledge, ideas and data. Shapiro envisages a continuum of barriers to the circulation of information, from “lack of rewards” to “lack of rewards



plus the existence of substantial (but subtle) penalties” (Shapiro: 69). She believes that there is risk attached to sharing information through official channels. Information flows freely through the unofficial grapevine. This unofficial information is often perceived as more reliable than that which flows through official communication channels. Shapiro asserts that the grapevine is a fact of organisational life. It cannot be controlled. Those in authority should confront issues that emerge from the grapevine with the object of building trust and encouraging ideas and observations to flow more freely. This endorses Stacey’s view that it is the interaction of the legitimate and shadow systems that determine organisational dynamics.

### **5.6.1.2 Systems Theory**

Collins (1998) criticises systems theory on several grounds, all of which could be contested. He asserts that there is a tendency in systems theory to treat abstract concepts as though they represent what people actually do. To Collins, “it seems that roles do things to people” within systems theory (Collins: 151). This seems to the author to be obviously not the case. There would be no conflict within organisations if roles did things to people. Weick (1969: 3) states that roles are significant in so far as there are mutual expectations attached to them. They define what an organisational member expects from himself and from other people. Expectations might suggest a particular course of action but there is no guarantee that an individual will behave in a particular way because he has been assigned a role.

Collins also perceives that the actions of people within systems theory are swept aside by a focus on the supposed structure of the system. According to Weick (1969: 3), an organisation is “an identifiable social entity pursuing multiple objectives through co-ordinated activities and relations among members and objects. Such a social system is open-ended and dependent for survival on other individuals and sub-systems in the larger entity”. Weick’s view of an organisation concurs with the systems perspective of an organisation, which focuses principally on inter-relationships and interdependency



among groups of people (Schoderbeck, 1978). Proponents of the Viable System Model view the enterprise as “a dynamic phenomenon that is continuously constituted and reconstituted in the trajectory of its existence” (Espejo and Hamden, 1989: 452 – 453). The interactions of people are implicit within the abstraction of systems theory. The messy, political reality of organisations does not, it seems to the author, invalidate the use of theoretical abstraction as a means of understanding organisational reality. Abstraction in systems thinking is intended to assist understanding of basic principles of organisation. The neatness of a systems model is not intended to represent reality.

To Collins, a consequence of abstraction is that the reality of conflict within organisations is neglected. The author believes that this is a valid point. There are reminders within systems thinking that achieving a workable level of stability within organisations is partly a matter of conflict-resolution (Haberstroh, 1968). While definitions of organisations as systems implicitly acknowledge conflict through the multiple interactions of individuals who pursue multiple objectives, conflict does not receive prominent attention within systems theory.

### **5.6.1.3 Viable System Model**

A criticism of the Viable System Model is that there is no mechanism contained within the model to facilitate debate on different viewpoints on organisational goals and values (Jackson, 1989). Jackson articulates the critics’ view that the only way in which autonomy can be devolved to subordinate parts in the Viable System Model is if there is agreement over organisational goals (1989: 422). Proponents of the Viable System Model tend not to stress conflict. If anything, conflict appears to be determinedly glossed over. Jackson believes that the model facilitates the emergence of shared goals, through the policy function of the model. Espejo and Hamden (1989: 458) argue that the Viable System Model does not assume the agreement of all participants. In their view, participants at different structural levels attribute their own purposes according to how they see the organisation. Nevertheless, Espejo and Hamden maintain that the model is



a generative mechanism, which enables dynamic structures to be continually created through the coherent participation of all organisational members. Conflict surely arises if “in the social domain, every individual viewpoint has, in one form or another, vested interests in particular social, political and intellectual structures” (Espejo and Harnden, 1989: 455). The belief that ‘shared goals’ and the ‘coherent participation of all organisational members’ are outcomes of the model in practice imply that conflict, which may be destructive or constructive, is managed or resolved.

Conflict can materialise in several ways. Fundamental conflict may exist in attempting to obtain compliance with organisational purpose and goals, which is essential for the functioning of the control and communication mechanisms within the Viable System Model. Management strategies must be directed both at the level of process and at the level of structure to be effective (Fenton-O’Creevy and Nicholson, 1994). The legitimate system of an organisation encompasses both the level of structure and the level of process. The Viable System Model addresses the level of structure of an organisation’s legitimate system, through allocation of responsibilities for the management functions. The outworking of management control responsibilities take place at the level of process, shaped and reinforced by beliefs, core values and management style. Conflict, and mechanisms for facilitating different viewpoints, also materialise at the level of process. The level of process is not prescribed by the Viable System Model (the exception is the audit channel that the control function uses to monitor the quality of information it receives about operations; the model specifies that this communication channel is used unpredictably and intermittently). How compliance with organisational goals is achieved is a matter for individual enterprises.

Senior management within manufacturing enterprises that are implementing empowered work strategies appear to be ruthless in their determination to obtain adherence to common organisational goals from all organisational participants (Frey, 1993; Wicksier, 1997; Lewis and Lytton, 1997). Those who obstruct or do not commit to organisational goals leave the organisation or are dismissed. However, this ultimate sanction follows



periods of communication and persuasion from senior management about the reasons for pursuing organisational goals (Frey, 1993; Wicksier, 1997; Lewis and Lytton, 1997). If operationalising the Viable System Model means that there must be common agreement over organisational goals, as the critics maintain, then this reflects the reality of what is occurring in practice.

The need to obtain common consent on organisational goals is illustrated by research that reported the effects of inconsistency between the level of structure and process within the production system of a manufacturing enterprise (Selto et al., 1995). Destructive conflict among workgroups and between management and operators was reported to be prevalent within a manufacturing production site that implemented a Just-In-Time initiative. Strong vertical management control practices, a legacy of traditional management prior to implementing Just-In-Time, were inconsistent with organisational goals. The researchers concluded that this inconsistency caused the Just-In-Time implementation to fail.

The few documented examples that exist of operationalising empowerment demonstrate that conflict is inherent in the process, either through the process of transition or through structural inconsistency. The author provides empirical evidence in Chapter Seven of the fact that conflict may be present within organisations at the level of process even when there is common commitment to organisational goals. This type of conflict arises from differing individual perceptions of how best to achieve organisational goals. The principles underpinning the Viable System Model could be valuable in implementing empowered work strategies that devolve management control responsibilities. The author believes that conflict has to be explicitly recognised as inevitable in the dynamic outworking of the model's control mechanisms.

Critics of the Viable System Model contend that it is inherently autocratic because it serves the interests of the most powerful within organisations. The model could be interpreted as being compatible with senior management desire to get people to conform



to the management functions in a uniform manner. In accordance with the sociotechnical principle of minimum critical specification, the Viable System Model dictates necessary management functions and communication channels at the level of structure. Frequency and type of information to be communicated are not specified at the level of process. Senior management may initially behave autocratically in obtaining commitment to organisational goals. Once commitment is voluntarily established, autocracy at the level of process violates the principle of requisite variety and may invite destructive participation in the organisation's shadow system. Collaboration required by process innovation and integrated process control could be jeopardised. Utilising the model in an autocratic manner, particularly in current operating conditions, would seem to be self-defeating.

## **5.7 SUMMARY**

The key points to emerge from Chapter Five are:

- the difference between a static organisation and the dynamic process of organising is analogous to the difference between reductionist and systemic thinking. The process of organising is incapable of division because of the complexity of personal interactions. Engineering management has traditionally attempted to exert reductionist behavioural control to human behaviour. Systems thinking implies that human behaviour is not amenable to reductionist control
- the Viable System Model within organisations addresses an organisation's legitimate system only at the level of structure, by stipulating the management functions that are necessary to achieve system viability and distributed autonomy. How the model's management control functions are experienced within an organisation will depend critically upon management action at the level of process. The model does not specify actions at the level of process



- the level of process is key in implementing empowered work strategies, which is particularly significant in accommodating the conflict that is inherent in operationalising empowerment.



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# Chapter Six

## THE EMPOWERMENT ENABLING FRAMEWORK

Section 6.0 <b>CONTINGENCY FACTORS</b>	Section 6.1 <b>FRAMEWORK CHARACTERISTICS</b>
	Section 6.2 <b>CONCEPTUAL FRAMEWORK</b> ☆ Empowerment Profiles
Section 6.3 <b>SUMMARY</b>	

Figure 6.1 Outline of Chapter Six

This chapter draws together theoretical knowledge from Chapters 3, 4 and 5 to construct a conceptual framework, which is designed to support the operation of empowered work strategies from the perspective of production operators and frontline management. The author defines frontline management as team leaders and the level of management that co-ordinates the activities of team leaders. Contingency factors that are likely to influence the choice of implementation strategy are reviewed. A statement is made of the characteristics that the conceptual framework should display. The elements of the framework are then described.



## 6.0 CONTINGENCY FACTORS

Analysis in Chapters Three and Five indicates that organisational control is variously realised within different manufacturing enterprises. Empowerment derives from:

- the need for process innovation
- changing horizontal management control responsibilities, as a consequence of process-focused manufacturing initiatives
- changing vertical management control responsibilities, as consequence of the trend for manufacturers to operate with fewer levels of management.

It is obvious that strategies for operationalising empowerment will differ according to the drivers for change. Multitudes of factors influence the design of management control structures. Hall's (1991) analysis of the foundation literature on organisational analysis is comprehensive. The following brief review of a selection of the foundation literature indicates that contextual factors, such as technology, size and environmental complexity, are shown to be key determinants of organisational structure. Organisational design is also a matter of choice. The purpose of this review is to argue that there is no direct correlation between organisational structure and a particular manifestation of empowerment.

Organisational structure can be viewed as a 'complex medium of control which is continually produced and recreated in interaction, and yet shapes that interaction: structures are constituted and constitutive' (Ranson et al., 1980: 3). This emergent perspective of structure is consistent with the definitions of organisation that are outlined in Chapter Five (Weick, 1969; Argyris and Schon, 1978). Elements of structure include the number hierarchical levels, the degree of horizontal task division, the extent to which procedures are formalised and whether decision making authority is



centralised or decentralised. Multiple management control structures can co-exist within the same organisation.

Differing types of management organisational structures correlate with technologies employed within organisations (Woodward, 1958; Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Perrow, 1970). Difficulties are raised by the concept of technology (Hinings et al. 1976: 105). Some researchers view it as a machine-based concept that refers to the degree of automation and integration of work-based processes. Perrow views technology in terms of knowledge responses and information, which transform 'raw material' into products and services. This concept of technology includes more than machinery. Perrow uses his analysis of technology to propose that technology determines structure. He admits that his analysis is entirely speculative (Perrow: 82).

	Discretion	Power	Co-ordination	Inter-dependence	Discretion	Power	Co-ordination	Inter-dependence
Technical	Low	Low	Plan	Low	High	High	Feed	High
Supervision	High	High	Feed	Low	High	High	Feed	High
	Decentralised				Flexible, Polycentralised			
	CRAFT				NON - ROUTINE			
Technical	Low	High	Plan	Low	High	High	Feed	Low
Supervision	Low	Low	Plan	Low	Low	Low	Plan	Low
	Formal, Centralised				Flexible, Centralised			
	ROUTINE				ENGINEERING			

Figure 6.2 Technology / Structure Framework (Perrow, 1970: 81)

Perrow predicts that organisations, assuming they have knowledge of the sociology of complex organisations, will adapt their structures to fit their technology (Perrow: 80).



He uses the variables of group discretion, power, basis for co-ordination within a group and interdependence to argue his case for technological / structural congruence. Figure 6.2 reproduces the framework that captures his hypothesis.

The framework represents structural variables as applied to lower and middle management within manufacturing production. Middle management is responsible for production administration, labelled Technical in the framework. Lower management supervises production. The Non-Routine organisation is characterised by the need to acquire knowledge of unfamiliar situations and to manage a large number of unexpected occurrences. Co-ordination within groups is a process of mutual adjustment through feedback. Interdependence among groups is high.

Perrow offers the view that most enterprises fit into the Routine category. Familiar situations are encountered within relatively certain production processes. Discretion for supervisory and technical personnel is limited, but middle management have more power. Predetermined planning replaces feedback as a co-ordination mechanism.

The Engineering model is characterised by familiar situations, but with an increasing level of unexpected occurrences. The technical level within the Engineering model behaves as in a Non-Routine organisation, while supervisory management behaves according to the Routine model. The Craft model represents the converse to the Engineering model.

Woodward's (1958) empirical evidence demonstrated a relationship between production systems and patterns of organisation. She defines technology as a 'system of techniques', which implies the inclusion of knowledge (Woodward:10). Woodward concluded that technical methods, designed to exert control over production, were the most important factor in determining organisational structure. Enterprises grouped according to technical methods used were found to share structural characteristics. Woodward defines technical complexity as the extent to which the production process is



controllable and its results predictable (Woodward: 12). Hierarchical levels, first-line supervisor span of control, and the ratio of management to other personnel, among other effects, all varied with the groups' technical complexity. Technology was also found to be instrumental in setting the tone of human relationships within the research enterprises. Woodward commented that her findings cast doubt on the existence of universal principles of management, which at the time were widely assumed.

Based on empirical evidence, Burns and Stalker (1961) confirmed that management systems do not conform to one ideal type. Like Woodward, Burns and Stalker found that management systems are dependent on rates of technical change or market conditions (Burns and Stalker: 96). Unfamiliar problems and a high degree of unexpected occurrences are prevalent in turbulent operating conditions. Burns and Stalker propose that 'organic' management structures, comprising networks of control, communication and authority responsibilities, are appropriate in these circumstances. 'Mechanistic' structures, which are hierarchical and formalised, are appropriate in relatively stable operating conditions. Organic structures are synonymous with Perrow's Non-Routine model and mechanistic structures are comparable to the Routine model.

Lawrence and Lorsch (1967) investigated organisational structures under differing market conditions. They acknowledged the influence of the Woodward and Burns and Stalker research, and confirmed their observations. Lawrence and Lorsch selected enterprises from three different industries to examine states of complexity, which they term 'differentiation', and integration. Differentiation includes task division, distribution of vertical and horizontal management control, and the extent of formalised procedures. Lawrence and Lorsch additionally include within differentiation attitudes, behaviour and orientation towards goal achievement.

These three groups of industries within the study operated in different product markets. The group of enterprises selling plastics operated in highly competitive, continually changing and turbulent operating environments, where competitive advantage was based



on frequent product innovation. Although market uncertainty was high, production process was characterised by certainty. Production variables could easily be measured and monitored. The two other industries, standardised containers and packaged food were selected to show the effects of differing rates of change in operating environments. The sources of competitive advantage in standardised containers were delivery times, quality and cost minimisation. There was no significant product development and production process certainty was high. Competitive advantage in the packaged food sector was through product innovation, to a lesser extent than in the plastics industry.

		<b>D I F F E R E N T I A T I O N</b>	
		High	Low
Uncertainty	High	Super Value Goods <b>Fitness for Purpose</b>	Fashion <b>Timeliness</b>
	Low	Consumer Goods <b>Value for Money</b>	Simple Components <b>Price</b>

Figure 6.3 Enterprises categorised by product complexity / market uncertainty

Figure 6.3 shows manufacturing sectors categorised by product complexity and market uncertainty (Factory for the Future, 1995). The basis on which each of these companies would compete is indicated. The plastics manufacturers in the Lawrence and Lorsch study would fit into the low complexity / high market uncertainty category. The standardised containers manufacturers would fit into the low complexity / low uncertainty category. It is unclear into which category the packaged food manufacturer would fall. One of the major conclusions from this work is that organisational structures and their associated technologies are heavily influenced by external market conditions. The enterprises that manufactured plastics, which experienced very



turbulent market conditions, were found to be more differentiated than enterprises within the other sectors. A high degree of differentiation would also be predicted for enterprises within the high product complexity / high market uncertainty category. The manufacture of aircraft would be typical of this category.

Highly differentiated structures increase the need for integrated control and co-ordination. Hall (1991) cites Pfeffer and Leblebici (1973) who, in common with Lawrence and Lorsch, found that control and co-ordination increases in competitive situations. Rodrigues (1994), conversely, reports that organisations confronting crisis conditions increase formalisation and standardisation of operating procedures. The research on environmental effects appears to be ambiguous.

Differentiation also increases with the size of the enterprise. Hall additionally reviews research on the effect of size on structure. Debate about whether size or technology principally determines organisational structure continued until researchers began to examine the mutual effects of size and technology. The relationship between technology and size is not simple. A large size can co-exist with both routine and non-routine technology (Hall: 86). Hall concludes that there are multiple explanations of structure, which must include historical and cultural factors. Starkey and McKinley (1993) claim that the biggest barrier to Ford's UK attempt to implement organisational change is a legacy of poor industrial relations. It is feasible to suppose that management attempts to adapt organisational structures could be hindered by a culture that is resistant to change. This resistance to change may be an entirely rational response to past management tendencies to invest in technologies that have negative associations for the workforce.

The research evidence from the foundation literature suggests that environmental and market factors strongly affect the nature of technology used in manufacturing enterprises. There is, however, no automatic relationship. A centralised management control structure may be the most appropriate for an organisation, but it may also reflect



management beliefs about the capabilities of those lower down the hierarchy to make decisions for themselves. There is choice in how organisations are structured to respond to environmental complexity. Woodward found that levels of hierarchy and the ratio of management to manual workers both increased with technical complexity. The current trend is for manufacturing enterprises to function with fewer levels of management, with production teams responsible for making decisions previously made by more senior management.

Analysis in Chapter Three shows that there are varying effects on job design following implementation of Just-In-Time (Mullarkey et al., 1995; Jackson and Martin, 1996; Selto et al., 1995). Dean and Snell (1991) concluded that contextual variables can have encouraging or discouraging influences on the redistribution of management control responsibilities. They initially argued that managers within high-performing enterprises would have no incentive to redesign jobs. Contrary to expectations, their results indicated that high performance can accelerate changes to job responsibilities. Such manufacturing enterprises have the financial resources and the required skills to implement a programme of job redesign. Dean and Snell suggested that the same reasoning applies to the size of an organisation. Large organisations could be associated with organisational inertia but they could also have the resources to implement a change programme.

The author believes that it is not possible to predict, on the basis of current knowledge, which form of empowerment will be consistent with a specific enterprise model. Based on the underpinning theory, the framework to be developed will consist of a variety of guideline profiles to focus management activities for a specific type of empowerment. Management within a manufacturing enterprise would initially use the conceptual framework to identify the type of empowerment that is most appropriate for that enterprise's particular set of manufacturing objectives and contextual circumstances. The exercise of identifying which form of empowerment is to be operationalised entails assessing management control structures and processes. This would then allow the



enterprise to benchmark their existing practices against the corresponding organisational conditions and management activities that are likely to facilitate the operationalising of the relevant form of empowerment.

## **6.1 FRAMEWORK CHARACTERISTICS**

The framework should:

- make explicit the need to take a differentiated approach to implementing empowered work strategies. This characteristic derives from analysis in Chapters Three and Five, which indicates that organisational control is variously realised within different manufacturing enterprises
- have the capacity to address empowerment from a systems perspective that includes input from production operators and frontline management. This characteristic follows from the argument in Chapters Four and Five, which identifies the need to adopt a systems approach to implementing empowered work strategies
- incorporate theoretical knowledge on all dimensions of empowerment, discussed in Chapters Four and Five.
- address the paradox of achieving local control while maintaining centralised control. This paradox is discussed in Chapter Five.

The framework is developed to provide comprehensive understanding of the diffuse concept of empowerment. The author intends that manufacturing enterprises could use the framework as a means of reflecting on an enterprise's own set of organisational and contextual circumstances when implementing an empowerment strategy. It is not offered as a 'proven path' series of recommendations, which have been criticised as simplistic and misleading (Clemson, 1996; Collins, 1998).



## **6.2 THE CONCEPTUAL FRAMEWORK**

The conceptual framework, known from this point as the Empowerment Enabling Framework, is constructed from the perspective of production operators and frontline management within manufacturing enterprises. Strategies for operationalising empowerment at production level involves input from more senior management. A separate framework would be required to understand the theoretical implications of implementing empowered work strategies specifically from the perspective of senior management, whose roles would focus on integrating the diverse capabilities of frontline management, shaping strategy and developing competencies (Floyd and Wooldridge, 1997; Ghoshal and Bartlett, 1997).

The Empowerment Enabling Framework incorporates knowledge from theories of motivation, organisational control and systems thinking, including the Viable System Model. The Viable Systems Models is discussed in Chapter Five. Theoretical knowledge is assembled within five Empowerment Profiles that represent particular forms of empowerment. Different forms of empowerment are associated with combinations of management control structures and processes, and conditions that stimulate individual motivation. Knowledge of factors that are conducive to producing motivation are included within the Empowerment Mix of the framework. Theoretical knowledge on control is included within the Control Mix of the framework. There is a separate Empowerment Mix and Control Mix for each Empowerment Profile.

The remainder of this chapter outlines the logic behind the Empowerment Profiles, followed by an explanation of the Empowerment Mix and Control Mix components of the framework. The development of the framework is completed by descriptions of management activities, drawn from research and theory, that are associated with each Empowerment Profile.



### 6.2.1 Empowerment Profile Logic

The Empowerment Profiles in Table 6.1 are associated with a particular form of empowerment. The profiles are logically derived from the analysis in Chapter Three of empowerment in manufacturing. The Empowerment Profiles incorporate structures, processes and activities that enable empowerment to be operationalised. The form of empowerment associated with each Empowerment Profile is determined by its source. Empowerment may arise from the need for process innovation, requiring little or no devolution of management control responsibilities. Empowerment can entail significant devolution of management control responsibilities. Higher numbered profiles in the Empowerment Enabling Framework indicate increasing degrees of management control devolved to production teams. A mixture of profiles can simultaneously exist at the same level in an organisation (McEwan and Sackett, 1998).

Profile Number	Description
1:	
1.1	No devolved responsibilities for horizontal or vertical management control
1.2	Parallel innovation
2:	
2.1	Minimal exercise of horizontal management control responsibilities
2.2	Minimal devolution of vertical management control responsibilities
2.3	Parallel innovation
3:	
3.1	Moderate exercise of horizontal management control responsibilities
3.2	Minimal devolution of vertical management control responsibilities
3.3	Integrated innovation



4:	
4.1	Significant exercise of horizontal management control responsibilities
4.2	Moderate devolution of vertical management control responsibilities
4.3	Integrated innovation
5:	
5.1	Significant exercise of horizontal management control responsibilities
5.2	Significant devolution of vertical management control responsibilities
5.3	Integrated innovation

Table 6.1 Empowerment Profiles

To recapitulate, Lindberg and Berger (1997) discriminate between parallel and integrated innovation. Parallel innovation functions within existing management control structures. Production operators make improvement suggestions. Resulting changes to work procedures are sanctioned by management. Integrated innovation expands operator work to include responsibility for the evaluation and implementation of task and process improvement activities.

The differentiation among minimal, moderate and significant exercise of horizontal management control responsibilities is understood by comparing activities associated with Total Quality Management and Just-In-Time. Total Quality Management requires production operators to participate in the process of maintaining quality throughout the production process. These activities may be perceived as being relatively insignificant (Wilkinson, 1997), requiring little exercise of management control responsibilities. Operators participating in Just-In-Time may require problem solving, process integration activities, communication and social skills. Responsibilities for problem solving, for example, but not for process integration could constitute moderate devolution. Responsibilities for process integration and problem-solving represent significant devolution of horizontal management control responsibilities.



The same logic applies to the differentiation among minimal, moderate and significant devolution of vertical management control responsibilities. Responsibilities for functions such as quality and maintenance could constitute minimal devolution. Further responsibilities, for example production scheduling and customer / supplier relationships, could represent moderate devolution. Significant management control responsibilities could include financial decisions that impact on the business long-term.

### 6.2.2 The Empowerment Mix

Figure 6.4 shows a schematic representation of the Empowerment Mix for each Empowerment Profile. The Empowerment Mix focuses on management activities and organisational conditions that would be expected to be consistent with a particular Empowerment Profile. Psychological empowerment, internally generated within an individual, is positively associated with job motivation.

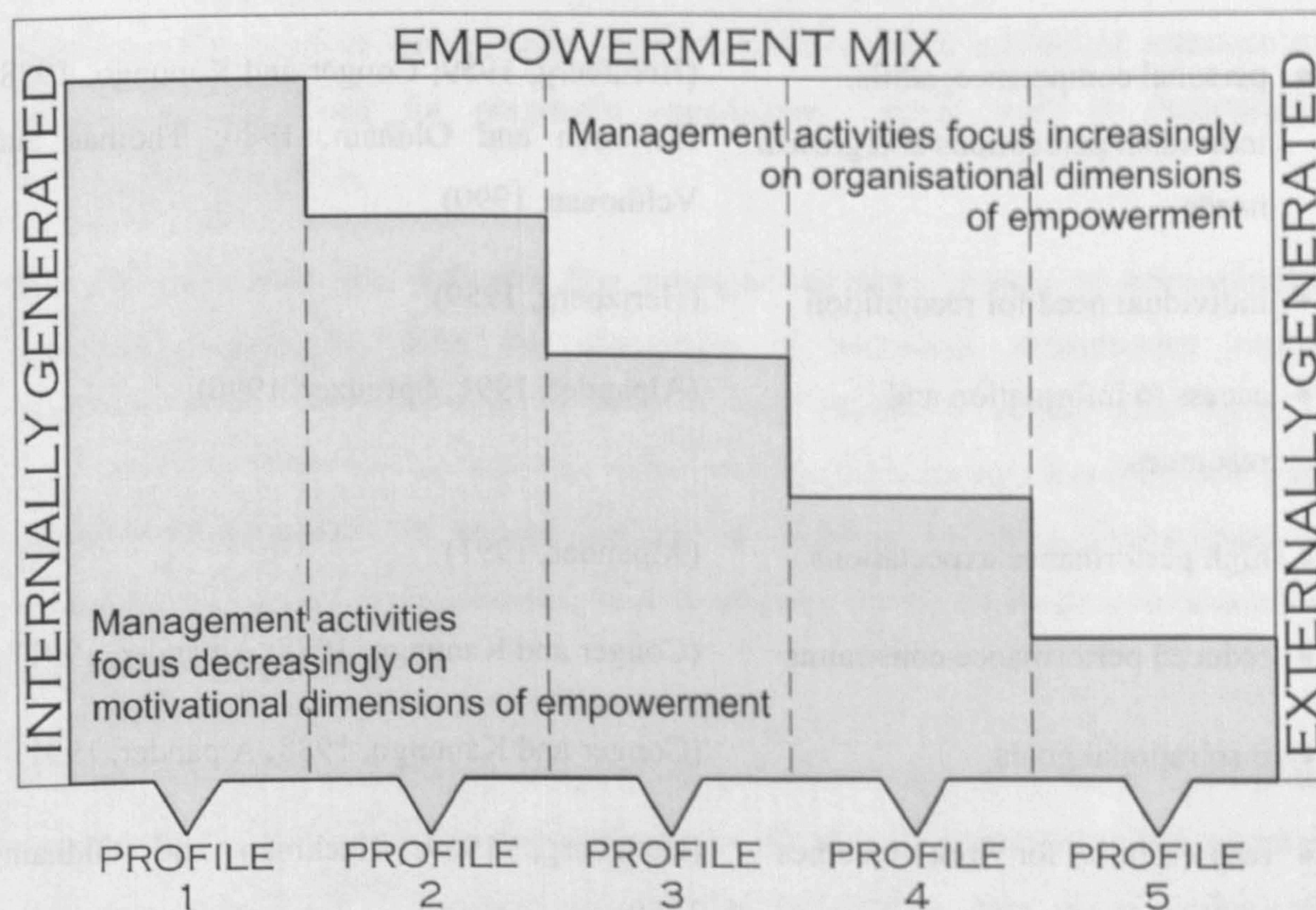


Figure 6.4 The Empowerment Mix



Theory suggests that individual motivation can be stimulated by enriched work within the context of an empowering environment (Conger and Kanungo, 1988; Thomas and Velthouse, 1990; Spreitzer, 1996). Motivation and psychological empowerment are deemed to be a function of:

- individual need for achievement (Hertzberg, 1959)
- individual need for feedback (Hackman and Oldham, 1980; Conger and Kanungo, 1988)
- low role ambiguity (Spreitzer, 1996)
- knowledge of task accomplishment (Hackman and Oldham, 1980; Thomas and Velthouse, 1990)
- meaningful work (Hackman and Oldman, 1980; Thomas and Velthouse, 1990)
- personal competence, skills, individual perceptions and growth needs (Hertzberg, 1959; Conger and Kanungo, 1988; Hackman and Oldham, 1980; Thomas and Velthouse, 1990)
- individual need for recognition (Hertzberg, 1959)
- access to information and resources (Alpander, 1991; Spreitzer, 1996)
- high performance expectations (Alpander, 1991)
- reduced performance constraints (Conger and Kanungo, 1988; Alpander, 1991)
- inspirational goals (Conger and Kanungo, 1988; Alpander, 1991)
- responsibility for work outcomes (Hertzberg, 1959; Hackman and Oldham, 1980).



Motivation theories propose that motivation is a function of work content. Work is motivating if it provides opportunity for achievement, recognition, is meaningful and has identifiable outcomes. Leadership that inspires and creates a participative working environment influences motivation. Managers within manufacturing production may adopt varying roles in supporting empowered work strategies, according to limitations on the meaningfulness and enrichment potential of work. Where work is routine, unchallenging, and without scope for redesign, the author believes that work can be enriched through focusing on task and process innovation rather than on re-structured management control responsibilities. A sense of achievement and recognition could be fostered through feedback on achievements in contributing to process innovation.

It has previously been suggested that job redesign should be undertaken to enhance motivation. Current emphasis on the devolution of management control responsibilities is a response to turbulent market conditions. Motivational empowerment, a state which is an outcome of the fulfilment of individual need for power through being in control, is coincidentally inherent within tasks that are enriched with additional management control responsibilities for pragmatic expediency. Such work is theoretically intrinsically motivating.

The Empowerment Mix indicates that management tasks change as empowerment increasingly emanates from the absorption of additional management control responsibilities. Empowerment Profile 4 and Profile 5 reflect this form of empowerment. Management activities within these profiles focuses less on encouraging individual motivation. It instead creates an enabling operating environment by providing resources and information, and developing the managerial competencies of production teams.

The attributes of empowerment, summarised in Chapter Three from the analysis of the empowerment bibliography in Appendix A, are presented in Table 6.2. The summary indicates leadership and management activities required to meet the individual and organisational needs inherent in the various forms of empowerment. Combined with



factors associated with motivation, this provides a resource for organisations to benchmark their own positions.

<b>Individual Dimensions</b>	<b>Organisational Dimensions</b>	<b>Leadership / Management Requirements</b>
Accountability	Communication channels	Create a 'no blame' culture
Authority	Control processes:	Create reward systems that are consistent with empowerment objectives
Commitment	Operational	
Communication skills	Social	Leadership that empowers through direction/inspiration:
Competence	Strategic	
Congruence between personal and organisational goals	Goals	Aligns direction
	Information systems	Allocates resources
Decision-making skills	Performance measurement systems that are consistent with the goals of empowerment	Clearly defines work roles
Knowledge		Communicates goals, vision and values
Motivation	Policies	Creates structural boundaries
Problem-solving skills	Processes	Sets parameters, goals, vision and values
Responsibility for:	Procedures	
Task innovation	Purpose	Management that empowers through action / participation:
Process innovation	Standards	Provides feedback, co-ordinates and communicates
Process integration	Structures:	
Self-belief	Task control	Minimise adversarial behaviour
Social skills	Management control	Provide access to business and operating information
Technical skills		Provide education / training
		Set high expectations

Table 6.2 Summary of empowerment attributes



### **6.2.3 The Control Mix**

The Control Mix focuses on control structures and processes that would be expected to be consistent with individual Empowerment Profiles. A specific combination of motivational management activities, control structures and control processes arises from the Empowerment Mix and Control Mix within each Empowerment Profile. Although the Empowerment Mix and Control Mix are shown as separate inputs into the Empowerment Profiles, motivation and control are inter-related. Control is enabled by feedback which, under certain circumstances, motivates by creating internal and external reward expectancies. Feedback can also negatively affect behaviour, causing decreased performance and defensive behaviour (Nadler, 1977: 79).

Figure 6.5 shows the addition to the framework of the Control Mix and the Viable System Model functions. The Viable System Model management functions are represented within the framework at identical lower-levels of recursion. An equal degree of requisite variety is assumed to be present within each Empowerment Profile. The Control Mix differentiates between responsibilities allocated at the level of structure and the outworking of those responsibilities at the level of process. The Viable System Model determines organisational structure through the allocation to work roles of communication and management control responsibilities. How the model's management control functions are experienced within an enterprise will depend critically upon the actions of organisational participants at the level of process. The model does not specify actions at the level of process.

The abbreviations used to describe the Viable System Model management functions within the framework are:

**S** = responsibility for the management function is maintained at a higher supervisory level within the lower viable system



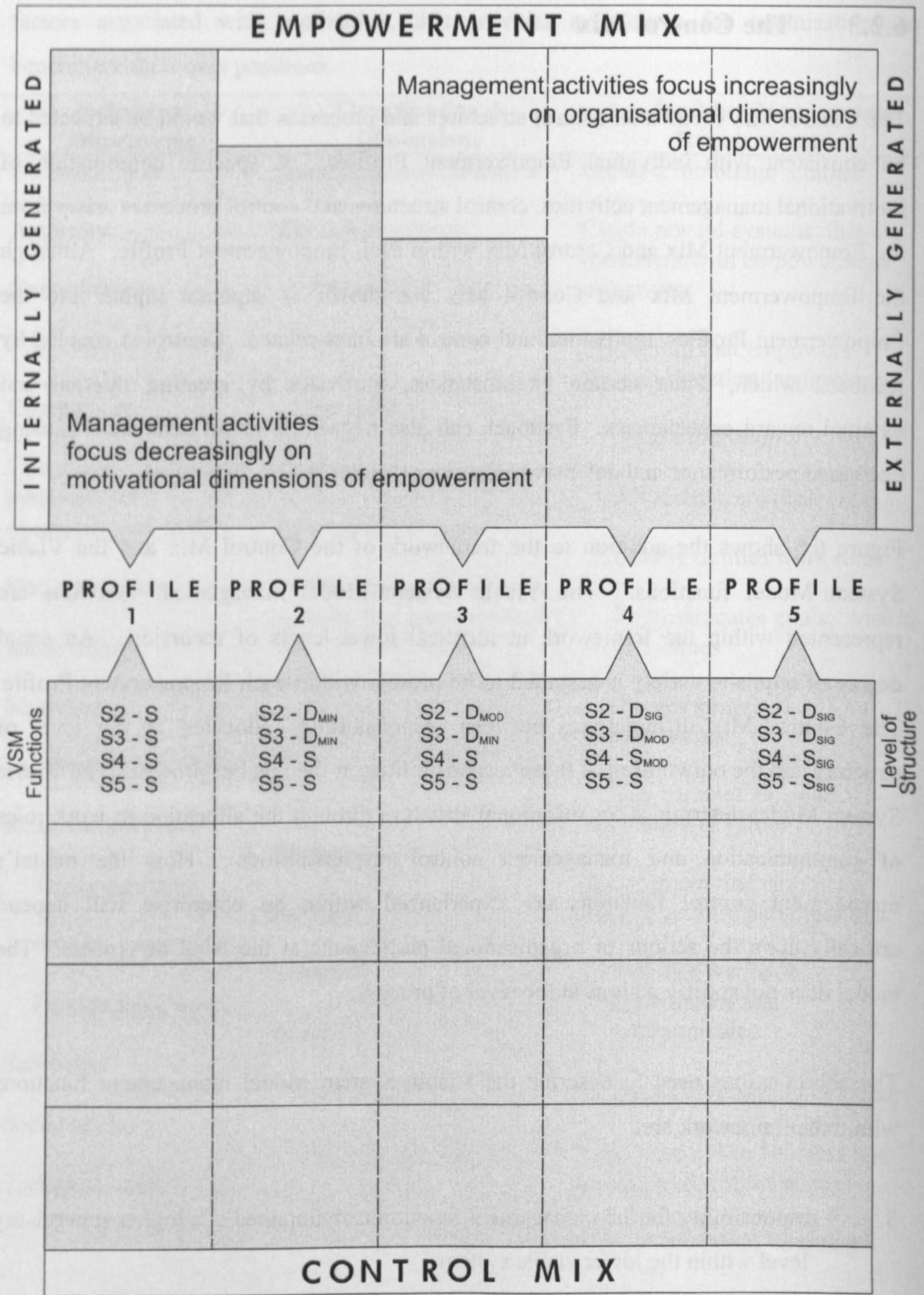


Figure 6.5 The Viable System Model within the Framework



**D<sub>MIN</sub>** = minimal responsibility for the management function is devolved within the lower viable system

**D<sub>MOD</sub>** = moderate responsibility for the management function is devolved within the lower viable system

**D<sub>SIG</sub>** = significant responsibility for the management function is devolved within the lower viable system

**S2** = Co-ordination

**S3** = Control

**S4** = Intelligence

**S5** = Policy

The paradox of maintaining centralised control at the same time as achieving local control is resolved within the Viable System Model. This is possible through the combination of adherence to the principle of requisite variety and through the interaction of the control functions among different recursion levels. The resolution of the paradox is implicit within the framework, which has the principles of recursion and requisite variety embedded within it.



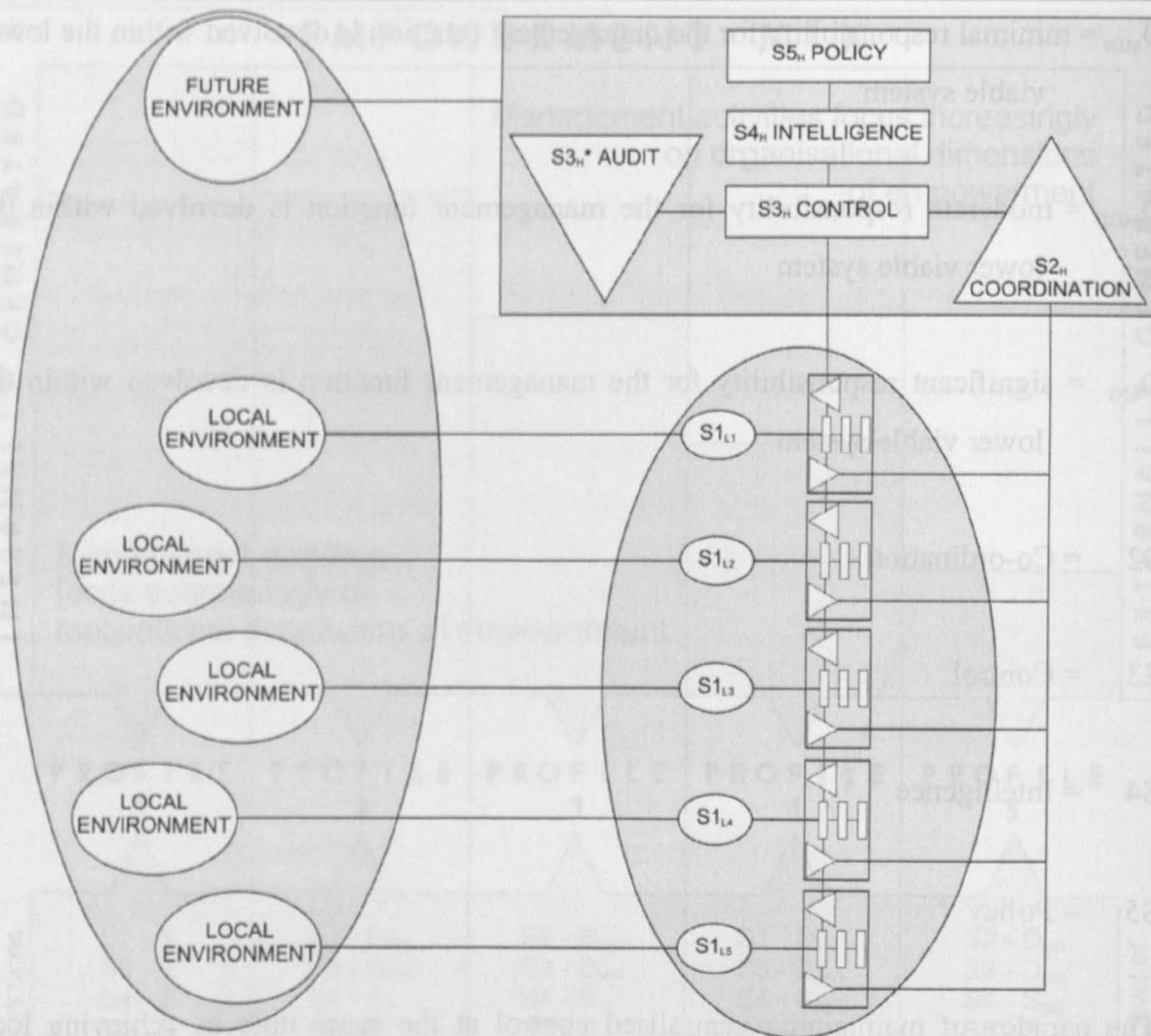


Figure 6.6 The Viable System Model

The Viable System Model is shown to two levels of recursion in Figure 6.6.  $S1_{L1}$ ,  $S1_{L2}$ ,  $S1_{L3}$ ,  $S1_{L4}$  and  $S1_{L5}$  represent lower level viable systems. Each lower level viable system exhibits a different manifestation of empowerment. Each lower level system is included in the framework within the respectively numbered Empowerment Profile.

The entire conceptual framework is presented in Figure 6.7. Operational, strategic and social control are exerted at the level of process within organisations. Different theoretical types and sources of operational, strategic and social control are included within the Empowerment Profiles.



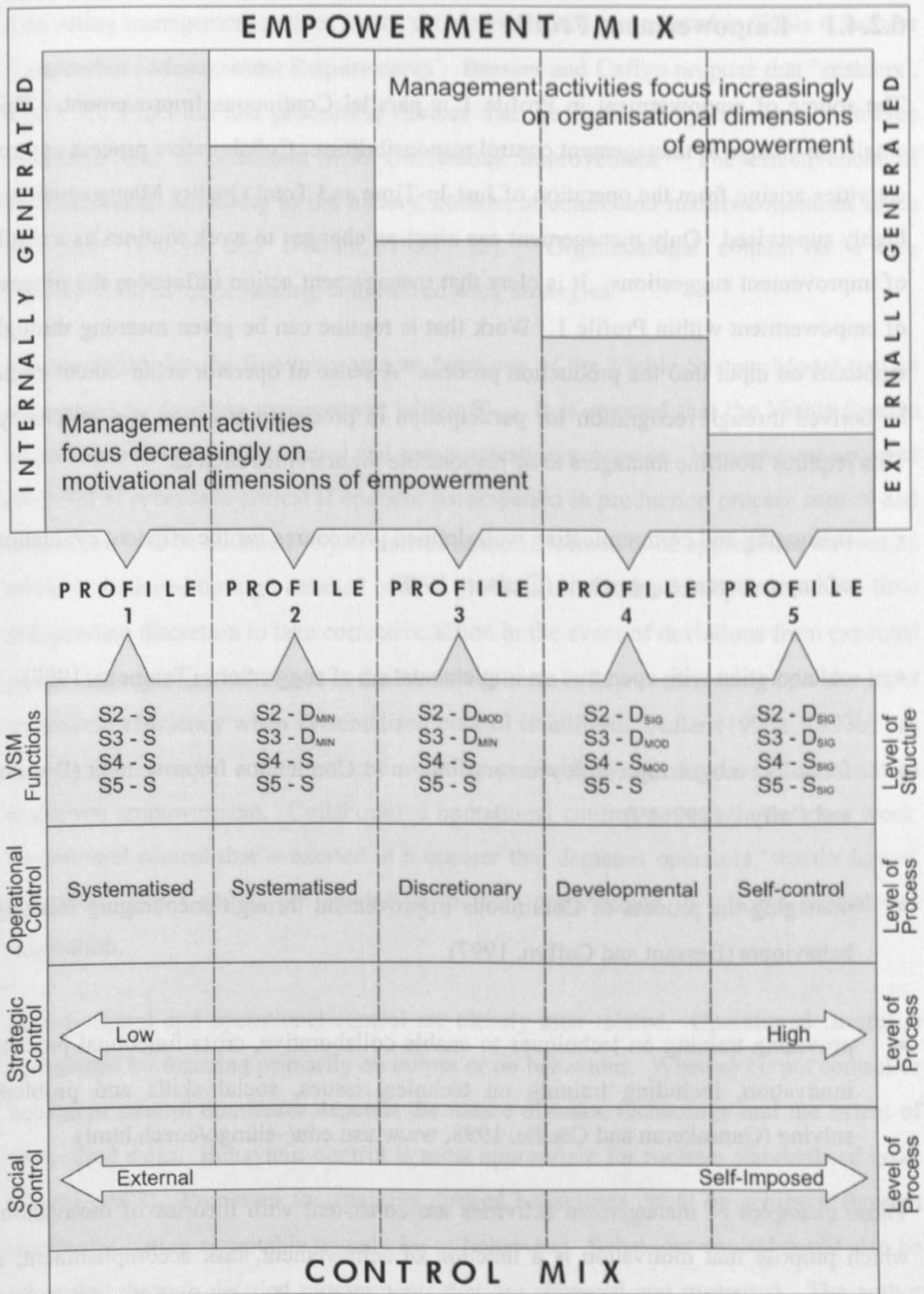


Figure 6.7 The Empowerment Enabling Framework



#### **6.2.4.1 Empowerment Profile 1**

The source of empowerment in Profile 1 is parallel Continuous Improvement. This entails no change to management control responsibilities. Collaborative process control activities arising from the operation of Just-In-Time and Total Quality Management are highly supervised. Only management can sanction changes to work routines as a result of improvement suggestions. It is clear that management action influences the process of empowerment within Profile 1. Work that is routine can be given meaning through emphasis on input into the production process. A sense of operator achievement could be derived through recognition for participation in process innovation and efficiency. This requires frontline managers to be responsible for activities such as:

- instigating and communicating well-defined procedures for the efficient evaluation of improvement suggestions (Casison, 1998)
- collaboration with operators on implementation of suggestions (Taninecz, 1997)
- formally recognising employee contribution to Continuous Improvement (Bessant and Caffyn, 1997: 19)
- managing the process of Continuous Improvement through encouraging learning behaviours (Bessant and Caffyn, 1997)
- providing training on techniques to enable collaborative, cross-functional process innovation, including training on technical issues, social skills and problem solving (Gunsakeran and Cecille, 1998; [www.usu.edu/~shingo/coach.html](http://www.usu.edu/~shingo/coach.html)).

These examples of management activities are consistent with theories of motivation, which propose that motivation is a function of achievement, task accomplishment, a sense of responsibility for work outcomes and individual recognition needs. The list of



motivating management actions is not exhaustive. Others are listed in Table 6.2 under 'Leadership / Management Requirements'. Bessant and Caffyn propose that 'enablers', which are structural and procedural devices that are deployed by managers, reinforce behaviour that is consistent with Continuous Improvement. The effectiveness of enablers varies according to the history, culture, structure and market conditions of an enterprise (Caffyn and Bessant, 1995: 12). Organisational context is a key consideration in implementing empowered work strategies.

Responsibility for the five management functions of the Viable System Model remain supervised by frontline management within  $SI_{L1}$ . It is stressed that the Viable System Model does not prescribe control and communication processes. Management action at the level of process is critical if operator participation in production process control and innovation is to be obtained. Systematised control, deemed to be appropriate for routine work, is achieved through detailed control procedures. Production operators have little independent discretion to take corrective action in the event of deviations from expected goals. Management behaviour at the level of process is key to increasing operator input to process efficiency when systematised control is utilised. Adler (1993a, 1993b) has shown that operator collaboration in setting procedures and standards can result in employee empowerment. Collaborative operational control potentially enriches work. Operational control that is exerted in a manner that demeans operators 'wreaks havoc' (Hitchens, 1997) and is not conducive to their participation in process control and innovation.

Social control and operational control are closely inter-related. Operational control is maintained by focusing primarily on output or on behaviour. Whether output control or behaviour control dominates depends the nature of tasks, technology and the extent of formalised rules. Behaviour control is most appropriate for routine, standardised tasks (Ouchi, 1977). Processes for attaining desired behaviours could be achieved through minimally stating acceptable boundaries of behaviour. Behaviour control could also be attempted through detailed requirements that are observed and measured. The author provides empirical evidence of the consequences of such methods of achieving social



control in Chapter Seven. Simons (1995) suggests that social control is most effective when influenced through the dissemination of corporate vision and values throughout the organisation. The Viable System Model provides a recursive structure for the dissemination of vision and values, by means of the policy function, throughout the organisation. Opportunities for shaping business strategy are likely to be negligible within Profile 1.

#### **6.2.4.2 Empowerment Profile 2**

The source of empowerment in Profile 2 remains mainly focused on innovation but there is a small amount of increased vertical management control resulting from devolved responsibility for quality management. Quality inspection is removed from a separate function, which expands operator tasks to include self-inspection. An element of change to horizontal control structures arises through operator responsibility for inspecting the quality of components received from the previous stage in the production process. As in Profile 1, operator participation and collaboration in Just-In-Time and Total Quality Management, through innovation activities, is critical. Operators still have no authority to sanction changes to work standards.

The Empowerment Mix of motivational management activities within Profile 2 remains as for Profile 1. The addition of quality responsibilities may not enrich the work of production operators to any great extent. The Control Mix for Profile 2 is also very similar to that found in Profile 1. The structure of responsibilities within  $S1_{L2}$  differs from  $S1_{L1}$  only in respect of minimal amounts of responsibility devolved from frontline management to operators. The responsibilities affect the co-ordination function, S2, and the control of operations, S3. At the level of process, systematised operational control is applicable, there is little opportunity for strategic input and social control is externally influenced through management activities that attempt to facilitate the absorption of corporate values. Management behaviour at the level of process remains key in influencing operator input to process efficiency within Profile 2.



### **6.2.4.3 Empowerment Profile 3**

The source of empowerment within Profile 3 is more influenced by the redesign of management control responsibilities. In addition to devolved responsibilities for functions such as quality and maintenance, changes to vertical control structures now include the responsibility for problem solving. Continuous Improvement activities are integrated within operators existing task responsibilities, rather than parallel as in Profile 1 and Profile 2. Horizontal management control increases for operators as work groups take on responsibilities for the evaluation and implementation of task and process improvements.

Work is theoretically more inherently motivating within Profile 3 than in Profile 1 and Profile 2. Problem solving may lead to an increasing sense of responsibility for work outcomes, a sense of achievement, recognition and knowledge of task accomplishment. The mix of management activities that support the implementation of empowered work strategies changes from primarily encouraging motivation to creating the organisational environment in which operators can perform their augmented responsibilities. The activities of managers focus increasingly on organisational and structural issues in facilitating the implementation of empowered work strategies. This includes making available resources to operators as they develop problem-solving and decision-making skills. Boundaries on limits to authority need to be set and clearly communicated. Performance expectations, measures and targets must also be communicated, along with procedures, policies and standards.

The Control Mix of structures and processes change to reflect the changing nature of empowerment. As in  $S1_{L2}$ , it is the co-ordination and control functions (S1 and S2) that are affected within  $S1_{L3}$ . Production operators assume increasing responsibility for the co-ordination function through process control responsibilities. Frontline management retain responsibility for process integration. Additionally, they retain responsibility for scanning the environment for threats and opportunities, for aligning strategic direction



and for monitoring the co-ordinating activities of production operators. They also communicate with management in the higher level system, which monitors operations within the lower level systems.

Discretionary operational control at the level of process, which allows limited corrective actions by operators within specified boundaries, is consistent with the changes to management control responsibilities taking place within  $S1_{L3}$ . It remains likely that operators' involvement in strategy formulation would be limited, since their increased responsibilities are restricted to the operational domain. Setting boundaries gives scope for innovation. This form of social control, coupled with dissemination of values and vision, is appropriate within  $S1_{L3}$ .

#### **6.2.4.4 Empowerment Profile 4**

The source of empowerment within Profile 4 is increasingly influenced by the redesign of management control responsibilities. Significant horizontal control responsibilities, encompassing problem-solving and process integration, are devolved from frontline management to production operators. Increasing levels of responsibilities for activities that were previously the province of management, such as production scheduling, are vertically devolved. Continuous Improvement is integrated. Production operators' business awareness, accumulated knowledge and confidence accelerate as increasing levels of responsibilities are absorbed. Responsibilities for developing supplier and customer relationships are therefore consistent with this level empowerment.

The Empowerment Mix of management activities is focused increasingly on creating the organisational context to facilitate the work of production operators. Work is enriched through the addition of responsibilities that provide meaningful work and opportunities for accomplishment and recognition, which is the case in Profile 4. There is therefore a reduced need for managers to focus on encouraging motivation, compared to Profiles 1, 2 and 3, although there is still a need for formal leadership, direction and encouragement. In his discussion on the control of self-management, Mills (1983)



argues that self-management involves operating in an environment in which information tends to be equivocal. Formal leadership provides assurance and support to individuals operating under such uncertain conditions (Mills: 448).

The Control Mix of structures and processes change to reflect the changing sources of empowerment. The control, co-ordination and intelligence functions (S1, S2 and S3) are affected within  $S1_{L4}$ . Production operators take complete responsibility for co-ordination. Management within  $S1_{L4}$  retains some control for monitoring co-ordination but the balance of responsibility is principally with operators. Operators also potentially contribute to the intelligence function. If devolved management responsibilities include supplier and customer relationships, strategic opportunities and threats are likely to emerge from these sources. Developmental control that denotes increasing levels of operator discretion is applicable within  $S1_{L4}$ . Social control at this level of self-management is deemed to be self-imposed.

#### **6.2.4.5 Empowerment Profile 5**

Production operators have maximum latitude for vertical and horizontal management control within Profile 5. The mix of management activities that support empowerment are focused entirely on creating the organisational context to facilitate the work of production operators. The Control Mix of structures and processes reflect the fact that production operators are entirely responsible for all the management functions within  $S1_{L5}$ . The supervisory level of management that existed within the viable systems  $S1_{L1}$ ,  $S1_{L2}$ ,  $S1_{L3}$  and  $S1_{L4}$ , and which communicated with the control function of the higher level viable system, is no longer necessary. Production operators within  $S1_{L5}$  now communicate directly with the control function of the higher level viable system. At the level of process, the opportunity for input to strategy formulation is high. Social control is self-imposed. Regulation of behaviour by self-directed teams through self-defined rules and peer-enforced shared values produce a powerful means of social control (Barker, 1993). Lewis confirms the disciplinary efficacy of peer pressure (Lewis and Lytton, 1997: 127).



### **6.3 SUMMARY**

A conceptual framework, the Empowerment Enabling Framework, was presented. The framework is designed to support the implementation of empowered work strategies from the perspective of production operators and frontline management. The following key points emerge from Chapter Six:

- multiple factors influence how management control structures change in response to new management practices. The starting point for using the Empowerment Enabling Framework is the management control structures and innovation processes that constitute the form of empowerment to be operationalised.
- the management control structures and innovation processes are mapped onto the corresponding Empowerment Profiles, which indicate organisational conditions and management activities that theoretically facilitate the operation of empowered work strategies
- the Empowerment Mix within Empowerment Profiles 1 and 2 is dominated by theories of motivation
- the Control Mix of management structures and management processes drive the empowerment process in Empowerment Profiles 3, 4 and 5.



# Chapter Seven

## ANALYSIS OF CASE STUDY DATA

Section 7.0	<b>VALIDATING THE FRAMEWORK</b>
Sections 7.1, 7.2 & 7.3	<ul style="list-style-type: none"> <li>☆ Context</li> <li>☆ Form of Empowerment</li> <li>☆ Factors Influencing Empowerment</li> <li>☆ Issues Arising</li> <li>☆ Mapping onto the Empowerment and Control Mixes</li> <li>☆ Summary of Mapping</li> </ul>
Section 7.4	<b>SUMMARY</b>

Figure 7.1 Outline of Chapter Seven

The experience of three manufacturing enterprises that have implemented empowered work strategies is examined in this chapter. The enterprises are described, including contextual factors and the form of empowerment found within the enterprises. Factors that emerge as influencing the operation of empowered work strategies are stated. Particular issues that emerge from each enterprise are discussed. Each enterprise is examined and mapped against a corresponding Empowerment Mix and Control Mix within the relevant Empowerment Profile.



## 7.0 VALIDATING THE FRAMEWORK

The Empowerment Enabling Framework is derived from theory. The objective of this chapter is to assess the theoretical content of the framework. This is achieved by assessing the experience of manufacturing enterprises that have implemented empowered work strategies. If issues that arise in practice are addressed by the theory within the Empowerment Enabling Framework, then this indicates that the framework may be developed to guide manufacturers in implementing empowered work strategies.

	PROFILE 1	PROFILE 2	PROFILE 3	PROFILE 4	PROFILE 5
<b>Profile Identifiers</b>	1.1 1.2	2.1 2.2 2.3	3.1 3.2 3.3	4.1 4.2 4.3	5.1 5.2 5.3
<b>Motivation Mix</b>	Focus on individual job satisfacion: <ul style="list-style-type: none"><li>• feedback</li><li>• information</li><li>• communication</li></ul>	Focus on individual job satisfacion: <ul style="list-style-type: none"><li>• feedback</li><li>• information</li><li>• communication</li></ul>	Focus on <ul style="list-style-type: none"><li>• individual job satisfaction</li><li>• co-ordination and integration</li><li>• develop competencies</li></ul>	Focus on creating an enabling environment: <ul style="list-style-type: none"><li>• set boundaries</li><li>• develop competencies</li><li>• monitor</li><li>• support</li></ul>	Focus on creating an enabling environment: <ul style="list-style-type: none"><li>• set boundaries</li><li>• develop competencies</li><li>• monitor</li><li>• support</li></ul>
<b>Control Structure: VSM Functions</b>	S2 - S S3 - S S4 - S S5 - S	S2 - D <sub>MIN</sub> S3 - D <sub>MIN</sub> S4 - S S5 - S	S2 - D <sub>MOD</sub> S3 - D <sub>MIN</sub> S4 - S S5 - S	S2 - D <sub>SIG</sub> S3 - D <sub>MOD</sub> S4 - D <sub>MOD</sub> S5 - S	S2 - D <sub>SIG</sub> S3 - D <sub>SIG</sub> S4 - D <sub>SIG</sub> S5 - D <sub>SIG</sub>
<b>Operational Control</b>	Systematised	Systematised	Discretionary	Developmental	Self-control
<b>Strategic Control</b>	Low	Low	Medium	High	High
<b>Social Control</b>	External	External	External / Self-imposed	Self-imposed / External	Self-imposed

Table 7.1 Enterprise Positioning Grid



	SOURCE OF EVIDENCE	PROFILE 1	PROFILE 2	PROFILE 3	PROFILE 4	PROFILE 5
<b>Profile Identifiers</b>	Company Documentation			✓		
	Dialogue	✓		✓		✓
	Interview Data	✓		✓		✓
	Observation	✓		✓		✓
	Published Data (book, newspaper)					
<b>Motivation Mix</b>	Company Documentation			✓		
	Dialogue	✓		✓		✓
	Interview Data	✓		✓		✓
	Observation	✓		✓		✓
	Published Data					✓
<b>VSM Functions</b>	Company Documentation					
	Dialogue	✓		✓		✓
	Interview Data	✓		✓		✓
	Observation	✓		✓		✓
	Published Data					
<b>Process Control: Operational Social Strategic</b>	Company Documentation			✓ (social)		
	Dialogue	✓		✓		✓
	Interview Data	✓		✓		✓
	Observation	✓		✓		✓
	Published Data					✓

Table 7.2 Sources of evidence

Empowerment Profiles are determined by identifying the source of empowerment within the enterprise, or part of the enterprise, that is seeking to operationalise empowerment. Enterprises are mapped onto the framework, using criteria summarised



within the Enterprise Positioning Grid represented in Table 7.1. Profile identification is made with reference to Table 6.1 in Chapter Six. Organisational conditions and management activities associated with the Empowerment Mix for each Empowerment Profile are deduced from the argument in Chapter Six, section 6.2.2. The organisational conditions and management activities are identified from the summary of empowerment attributes in Table 6.2 of Chapter Six, and from factors identified from research. These are listed in section 6.2.2 of Chapter Six. The characteristics of the Control Mix, at the level of structure and at the level of process, are outlined in Chapter Five. Abbreviations used to identify the Viable System management functions for each Empowerment Profile are explained in Chapter Six in Section 6.2.3.

The case study enterprises are evaluated against the positioning criteria using documentation, deductions from company information (assembled from dialogue or from documentation), observations and interview data. The sources of evidence matched against the Enterprise Positioning Grid are identified in Table 7.2. The case study enterprises are allocated within Profile 1, Profile 2 and Profile 3. Justification for allocating the case studies within these profiles is outlined case by case in the remainder of the chapter.

A selection of excerpts of transcripts from the interviews, which are important in supporting the author's argument, are included in Appendix B. The transcripts are annotated and referenced within the text of the chapter. Interviews are numbered within enterprises and identified by a code that represents a particular topic. For example, [1.1.COMM] identifies a piece of text within Enterprise One, Interview One about the subject of communication.



## **7.1 ENTERPRISE ONE**

The first enterprise to be used to evaluate the Empowerment Profiles within the Empowerment Enabling Framework is a manufacturer of Constant Force and Constant Torque Springs, Seat Belt Retractor Springs and Pedestrian Guidance Systems.

### **7.1.1 Context**

The enterprise's business is split into three main product areas: the High-Volume sector and the Traditional sector, both of which manufacture springs. The Barrier sector makes guidance systems for queue management in public places. The enterprise is the recipient of many manufacturing awards, including a Queens Award for Export, current at the time of the research, and a recent Overall Regional Award for enterprises of less than 300 employees. The enterprise, with a turnover exceeding £5m in 1996, exports to 38 countries. The sustained strength of sterling presented a challenge to the enterprise at the time the research was conducted. Management estimates that efficiency savings due to Continuous Improvement suggestions has cut labour costs by 15-20%.

### **7.1.2 Form of Empowerment**

There is currently no clear devolution of management control responsibilities to shopfloor level. Work is unskilled with little opportunity for expanding the content. Management within the enterprise is working towards operators taking responsibility for their own jobs [1.1.OWN]. Operators are asked not to call on Team Leaders. The policy is to get operators performing their work without direct supervision, so that Team Leaders will be available for Kaizen activities. By implication, problem-solving would become part of the operators' remit. Weighed against this, the Production Director simplified the machines to make the work easier for operators [1.2.SIMPLIFY] and responsibilities are being managed very tightly. Responsibilities allocated to operators remain small [1.1.DEFJB].



The process of Continuous Improvement is managed in parallel to the operators' normal task activities. There are five Kaizen teams, each responsible for a specific area of the business. The teams are made up of Operators, Team Leaders and members of management. One day in every working week is nominated Kaizen day. The teams meet regularly to consider improvement suggestions, to monitor the progress of innovations that have been agreed for implementation and to maintain the momentum of Continuous Improvement. The limited range of operator responsibilities and the parallel innovation maps this enterprise onto Empowerment Profile 1 of the Empowerment Enabling Framework, described in Table 6.1 of Chapter Six.

### **7.1.3 Factors Influencing Empowerment**

The key influencing factors that emerged within this enterprise are:

- Communication was identified as a key factor in establishing a secure working environment where operators can speak their minds [1.4.COMM]. This is in contrast to what happened previously. One of the operators, while remaining critical of management, [1.4.DISAG], identified communication among management and shopfloor as the main difference between the organisation as it is now compared to before Continuous Improvement was initiated. [1.4.OLDORG]
- Management believes that feedback on the process of management to production teams is key in building trust between management and shopfloor. One of the operators complained that management does not carry initiatives through to completion. Management appears very willing to recognise that this occurs. A prime example would be an early attempt at generating Continuous Improvement suggestions. The response from operators to an exercise to generate suggestions was overwhelming. Management had not properly considered what the process would be for evaluating and implementing the suggestions. The initiative collapsed. The Production Director said that if there were negative responses to



Continuous Improvement within the workforce then the responsibility for that lay with management. [1.1. MANRESP].

- Comments made by senior management reflect their awareness of and willingness to acknowledge the importance of 'soft' issue like leadership, individual need for recognition, personal development and confidence building. [1.1.PERSDEV, 1.1.CONF, 1.1.REC, 1.2. REC) When asked what her role entailed, the Production Manager gave as much prominence to her responsibility for the personal needs of staff as she did to production control responsibilities. Her responses throughout the interview reflected an awareness of motivation. For example, in discussing operator response following the collapse of the first Continuous Improvement initiative, she attributed their change from eagerness to disillusionment to the fact that the operators could see no rewards for their efforts. [1.2.REWARD] Despite the evidence of management awareness of these issues, there are claims from a manger that the Company as a whole is not effective in involving the workforce. [1.3.INVOLVE]

#### **7.1.4 Issues Arising**

The following issues emerged from the interviews. The author feels that they deserve comment.

##### **7.1.4.1 Operator Response to Continuous Improvement**

The view among management is that there is no discernible resistance from production operators to Continuous Improvement. One manager perceives that operators are enthusiastic in their participation in Continuous Improvement. [1.2.ENTHUS], [1.2.ENTHUS.2]. Interview responses from the operators indicated no resistance. At the same time, little overt enthusiasm among operators for Continuous Improvement



emerged from the interviews. One of the operators, who was responsible for a suggestion that saved the company significant amounts of money, was dismissive of her achievement. She said her suggestion was “just a passing comment” that she never anticipated would have the impact it has had. The same operator said that in the end operators do what they are told. Another operator said that he had stopped making suggestions because he feels that management does not listen. This particular operator highlights a possible problem in disseminating business information. He is aware that his product area is the most profitable within the company but he perceives that significantly more attention is given to the High Volume area, which he resents. A further example of the pragmatism of operators was given to the author by an operator in the Traditional sector of the business. This man operated an antiquated machine. He told the author that he had always had pride in his work and had striven to make whatever improvements he could. He showed the author a schedule that he had developed for other operators to use in his absence. The schedule effectively encapsulated the operator’s tacit knowledge of his machine, which he was eager to make available to other operators. This operator said that management was only doing what he had always done.

#### **7.1.4.2 Feedback**

One of the operators claims that the only time the team receives operating information is when something goes wrong. [1.1.FEED] Management is aware that mechanisms for disseminating feedback within the enterprise are inadequate and the issue was being given attention at the time of the research. [1.1.INFO]

#### **7.1.4.3 Preparation for Continuous Improvement**

The Production Director views the team leaders as pivotal in the process of sustaining commitment to culture change and Continuous Improvement. He recognised that



management and team leaders had to be prepared before assuming responsibility for organisational change. A prerequisite to implementing Continuous Improvement was middle management training, which included team leaders. Training in personal development and in techniques of monitoring was given to 35 managers, over a year before the bottom-up change initiative began. [1.1.PREP] This is consistent with other research that confirms that preparation for change initiatives correlates with successful operationalising of empowered work initiatives.

#### **7.1.4.4 Structure**

A key issue, in the context of this research, is the importance of structure. The company remains a functionally structured organisation. This impacts significantly on the culture change that Production management is attempting to effect. The Engineering Department, which interfaces with production, found that it could not cope with the volume of work generated by Continuous Improvement. The Production Director identified structure, not people, as the principle problem he encountered in implementing Continuous Improvement. [1.1.SYS-SUP]

#### **7.1.4.5 Control**

Control of management processes is identified as a critical requirement in operationalising empowerment. The Production Director stated that empowerment means structure and control. [1.1.EMP] Social discipline is not inherent in Western culture. It has, therefore, to be imposed. He referred particularly to middle management. Where management has had control prior to an organisational change, they resist submitting to a more disciplined approach. He identified the middle management group as the group that could make or break a change initiative. The disciplined approach requires that managers have confidence and trust in the leadership.



### **7.1.5 Mapping on to the Empowerment Mix**

The main source of empowerment for production operators and team leaders within this enterprise is through innovation and through ownership for their work performance. The type of work associated with Empowerment Profile 1 is likely to be routine and unchallenging. The process of manufacturing springs, in both the High Volume and Traditional sectors of the business, is highly routine, as is the assembly of the barrier products. Psychological empowerment reflects self-confidence and self-perception of capabilities, which are unlikely to be stimulated by such routine work. Participation in Continuous Improvement may provide opportunity for increased psychological empowerment. Psychological empowerment is associated with theories of motivation, which propose that motivation is a function of work that is enriched to fulfil individual needs for recognition and achievement. These motivation needs cannot be met by work that is inherently unchallenging. It may be possible that recognition and achievement needs can be met through participation in process innovation. Management activities in stimulating motivation by providing feedback, recognition and knowledge of accomplishment in achieving process innovation, rather than task accomplishments, could possibly contribute to realising empowerment within Empowerment Profile 1.

There is evidence of considerable awareness within senior management of the importance of leadership in setting strategic direction, providing information, providing honest feedback and in building the trust and confidence of managers, particularly Team Leaders. These can be considered the key factors that influence empowerment within this enterprise. Motivation theory refers specifically to the provision of performance feedback. The production teams receive feedback on team performance on quality, output and scrap rates. The provision of operating feedback is recognised as inadequate. There is little evidence of consistent individual recognition for contribution to process efficiency. [1.3.REC]. It is difficult to know to what extent the view that the Company is not effective in involving the workforce reflects a personal perception. [1.3.INVOLVE] Negative operator comments and an apparent lack of enthusiasm for



Continuous Improvement may indicate that management's objectives in disseminating its human resource policies are not being fully met. Motivation theory suggests that it might be advantageous for management to consider a well-publicised programme of feedback on achievement on innovation and performance.

### **7.1.5.1 Mapping on to the Control Mix**

Since the source of empowerment associated with Empowerment Profile 1 is innovation that requires no additional management control responsibilities being given to production operators, the Viable System Model is not relevant in operationalising empowerment at operator and team leader level in this case. The Control Mix of Empowerment Profile 1 indicates that responsibilities for none of the Viable System Model management functions is devolved to production teams. This is the case within the case study enterprise. Based on the comments of the Production Director, it would seem that the model could be a useful tool to adopt to maintain management control at higher levels of management. How this control is achieved has significance for production teams. The Production Director commented that there must be trust between senior management and managers being controlled. The need for control at more senior levels of management does not directly affect the assessment of empowerment requirements at operator and team leader level within the context of the Empowerment Enabling Framework. If it is resented, however, it may have an indirect effect on team leaders through potential barriers to communication and feedback. This example illustrates that operationalising empowerment at operator and team leader level is likely to be significantly influenced by structural conditions at higher levels of management.

Systematised operational control, where operators have little discretion, is incorporated within Empowerment 1 as typical of the form of operational control that is consistent with routine work. Documentation provided to the author confirms that systematised control corresponds with the type of operational control that is present within the case study enterprise. There was no evidence that operators were involved in strategy



formulation. No evidence of overt social control emerged from the interviews; it is not possible to assess the type of social control that exists within this enterprise.

### **7.1.5.2 Summary of Mapping on to Empowerment Profile 1**

It can be concluded, from the prominence the topics received during the interviews, that leadership in setting strategic direction, provision of information, provision of feedback and in building the trust and confidence of managers are viewed by management as key mechanisms that influence empowerment. These factors correspond with those that are consistent with theories of motivation. Occurrence of these motivating factors validates the prominence of motivating management activities within the Empowerment Mix of Empowerment Profile 1.

The critical requirement that was identified for the operation of Continuous Improvement within this enterprise, and therefore empowerment, is a supporting organisational structure. The limitations imposed on the Production Department by the Engineering Department's inability to absorb increased levels of work arising from Continuous Improvement constituted a major frustration for senior management within Production. There is currently no scope for representing this important finding within the Empowerment Enabling Framework. The finding did not emerge as such a critical requirement of empowerment from the analysed bibliography in Appendix A. Table 6.2 is amended to include a 'supporting organisational structure' as an organisational requirement of empowerment. This finding highlights that the Empowerment Enabling Framework is in a currently undeveloped form and may eventually include further refinements, such as an attempt to prioritise the individual, organisational and leadership requirements in Table 6.2 to match specific Empowerment Profiles.



## **7.2 ENTERPRISE TWO**

The second enterprise is a facility that manufactures high technology machines for use within the textile industry. At the time data was collected for the thesis, the enterprise employed approximately 300 people and had an annual turnover of £35m.

### **7.2.1 Context**

The company exports 90% of its output and repeatedly has been the recipient of a Queens Award for Export Achievement, most recently in 1994. Sales of the enterprise's product are affected by changes in fashion. In addition, at the time the author conducted her investigation within the enterprise's production facility, the textiles industry worldwide had been in recession for several years. Sustained strength in the value of the pound created further business pressure for the enterprise. Senior management within the organisation, as a result of accumulated business pressures, were forced to embark upon a programme of redundancies early in 1997.

### **7.2.2 Form of Empowerment**

The form of empowerment within this enterprise maps onto Empowerment Profile 3 of the Empowerment Enabling Framework, described in Table 6.1 of Chapter Six. Continuous Improvement is integrated. Problem-solving responsibilities within and across manufacturing cells constitute moderate changes to horizontal management control responsibilities. Devolved responsibility for quality constitutes minimal changes to vertical management control structures. Centrally controlled autocratic management previously dominated the culture. The enterprise is committed to effecting a complete culture change that embraces Continuous Improvement, problem solving and lean processes, which aim to reduce inventories and response times. The factory has been extensively restructured to enable cellular manufacturing and to facilitate lean



processes. The factory is divided into four zones, which are further divided into manufacturing cells. Team leaders of manufacturing cells report to Zone Managers, who report to the Production Manager. He has a key role in co-ordinating the activities of the zones. Team Leaders are instrumental in maintaining the impetus of Continuous Improvement.

### **7.2.3 Factors Influencing Empowerment**

The author visited this enterprise following an exercise that senior management had conducted, which involved all production personnel. Code-named Week 37, the object of the exercise was for management to gather feedback on management processes. Senior management were shocked at the level of hostility and negativity that they encountered. The author found this a difficult case to analyse. The evidence is sometimes strongly contradictory. It is significant that of all the operators the author interviewed, all were negative in their responses. One long-serving operator was particularly aggrieved that he had been selected for redundancy, which he challenged with the help of the union. He supplied the author with documentation that detailed the selection for redundancy criteria and his defence. A team leader, who was positive in his reaction to his own experiences of the enterprise's culture, reported positive attitudes within his own team. He said that there was a will within his team to 'put things right'. This contradicts the overwhelming negativity of the operators' collective responses, which may have been very much affected by the redundancies that had taken place about ten months prior to the author's visit. The factors that influence empowerment in this case are stated negatively and are explored in the following section.

### **7.2.4 Issues Arising**

The major issues that emerged from data collected at this enterprise focuses on the effectiveness of performance measures, the difficulty of achieving common



understanding of organisational objectives, the difficulty of achieving effective communication and balancing standardisation with autonomy.

#### **7.2.4.1 Performance Measures**

Factors that impinge upon the effectiveness of performance measures within this enterprise are:

- an apparent lack of understanding at operator level of the relevance of performance measures [2.2.PERF-REL]
- perceptions that the measures do not focus on core activities [2.2.PERF-FOC]
- resistance to a measure of behaviour, which is viewed as key by senior management.

There are 12 key measures that are centrally displayed on diagrams within the production facility, known as Radar Charts. Key operating measures are additionally maintained and displayed on boards at the cells. There is cynicism among the operators about the value of the Radar Charts. A view expressed by one operator was that the charts were for the benefit of visitors. A senior manager commented that the company has a 'terrible reputation abroad' for quality. [2.1.QUAL] He confirmed that the charts, apart from signalling to the workforce the company's commitment to measurement, are partly intended to indicate to potential customers that the company is quality driven.

Key measures include a high proportion of 'soft' measures, directly designed to influence behaviour. There has been vigorous debate within the organisation that the measures should be more focused on quality of the product, rather than on what some people regard as peripheral issues. People are aware of what is important but they feel that the measures do not focus on core activities. One manager commented that there is a lack of ownership of the performance measures, which means that they are viewed as



not being relevant and as unnecessary distractions from real work. This is confirmed by comments made by operators.

A key measure that is used to effect culture change is Philosophy of Work. This measure attracted severe criticism during the Week 37 exercise. It is applied throughout the whole organisation and measures seven mandatory behaviours, through a process of monthly evaluation. The measure is used to assess salary reviews in preference to skills, since skills are dismissed as ineffective if deployed with inappropriate behaviour. A senior manager commented that Philosophy of Work is a piece of social engineering. [2.1.SOCIAL-ENG] The measure is deemed to be particularly necessary for new recruits who have come from a traditional manufacturing culture. The senior manager commented that Philosophy of Work has limited currency. It is a mechanism for facilitating the transition to changed patterns of behaviour. The problem with Philosophy of Work is that it was included within the criteria for redundancy selection and it has become tainted. A working party formed to follow up on Week 37 has determined that, although Philosophy of Work is crude, it can be used as a skeleton for an adapted measure of behaviour.

#### **7.2.4.2 Common Understanding of Organisational Objectives**

A serious lack of understanding among senior managers was revealed only four months prior the author's involvement with the enterprise. [2.1.COMM-STRAT.1] A strategy of cascading policy deployment throughout the organisation was introduced two years prior to the research, in 1995. Policy deployment aims to encourage people to take ownership of their part in the process of achieving organisational objectives. Interview 2.1 outlines the way policy deployment operates. [2.1.POL-DEP] It is an integrated process, requiring top-down and bottom-up communication among all organisational participants. A senior manager informed the author that he gave an introduction to a group of senior managers at the beginning of that year's round of policy deployment. On summarising five main elements of the enterprise's strategy, he realised that two of



the six managers did not think about strategy in the way in which it was presented. This prompted him to conduct an awareness exercise throughout all levels of management. The senior manager found that there was a large amount of misunderstanding about corporate objectives, from team leaders upwards. Achieving common understanding on organisational objectives is problematic. [2.1.COMM-STRAT.2]

### **7.2.4.3 Communication**

Managers identified communication as a problem. The Production Manager articulated the frustration he encounters because of the difficulty of communicating through multiple levels within the organisation. [2.2.COMM-LAYER] He also believes that senior managers are, to some extent, out of touch. Middle managers are not communicating upwards, perhaps through fear. [2.2.MID-MAN-COMM]. Senior managers are not communicating organisational strategy and performance information. [2.1.COMM-PER]

One senior manager identified communication as the way to address mismatches in perceptions throughout the organisation. He used the example of the policy deployment meeting to illustrate that a lack communication produces severe and serious problems. He also stressed that the experience of the policy deployment meeting enhanced learning about communication, saying that “you tell them what you are going to tell them, tell them what you are telling them and then tell them what you have told them”. This perception of communication ignores the two-way processes necessary for communication to be effective.

### **7.2.4.4 Standardisation and Autonomy**

A key responsibility of the Production Manager is to co-ordinate the activities of the Zone Managers, who have a high degree of autonomy in exercising their



responsibilities. This has created a problem for the Production Manager. The Zone Managers now have expectations about the degree of independence that they have in their roles. They may perceive that their autonomy is compromised by having to adhere to standardised procedures. One of the Zone Managers told the author that he would not like his autonomy to be threatened. The Production Manager graphically describes the process of co-ordination as comparable to 'herding cats'. [2.2.IND-EXP]

Empowerment of the Zone Managers is associated with freedom that could descend into anarchy. He comments that a consequence of the way expectations have developed could be that people will not tolerate being told what to do.

#### **7.2.4.5 Training**

A view expressed to the author was that the training in technical issues resulted in good levels of technical expertise but that inter-personal skills were generally poor within the organisation. Neither the Zone Managers nor the Production Manager have had training in inter-personal skills. 'Soft' skills, which are equated with being consensual, are not generally discussed for fear of being thought 'namby pamby'. [2.2.NOTRAIN]

#### **7.2.4.6 Conclusion of Issues Arising**

The notion could be construed from the foregoing analysis that this enterprise is achieving little success in operationalising its culture change programme. This would be incorrect. Commenting on the Week 37 exercise, one of the senior managers said that any organisation that takes people away from their normal managers, provides facilitators and encourages feedback is bound to bring out concerns. There is evidence that managers are continually evaluating their processes and demonstrating their capacity to learn through willingness to change their approaches to achieving organisational objectives. [2.1.MAN-LRN] Individual managers are aware of individuals need for direction and feedback on performance. [2.1.MOTIVATE],



[2.2.MOTIVATE] The opportunity for providing such feedback through the monthly meeting between supervisors and operators may provide an effective vehicle for encouraging individual performance and building relationships. The lack of training in inter-personal skills might indicate that this opportunity is not being optimised. [2.2.NOTRAIN] Managers that do not have innate communication skills may be disadvantaged in developing the capabilities of their subordinates. .

### **7.2.5 Mapping on to the Empowerment Mix**

While operator job content is expanding through problem-solving and quality, theoretically affecting the sense of ownership for outcomes, the changes in responsibility are not large. Theory suggests that a significant input from management remains necessary in influencing motivation. A high input of motivating management activities is theoretically consistent with Empowerment Profile 3. This appeared not to be the case within this enterprise. There is strong focus on changing the culture and measuring behaviour, perhaps to the detriment of systematically rewarding and recognising achievements. A well received monthly review that is designed to monitor progress and to encourage communication may be an effective mechanism for conferring recognition. If this was being effectively deployed, it should have emerged from the interviews with the operators. It did not. The only significant indication of correlation between any of the propositions of motivation theory and experience within the enterprise came from the Team Leader who said that a sense of ownership was the main satisfaction he obtained from his work. The same Team Leader expressed confidence in and implied that he has high expectations of his team. Other managers are aware that 'soft' issues may be motivating. There may, however, be misunderstanding about 'soft' skills, which are equated with consensual management. The lack of training in personal development and management skills is questionable for an enterprise that is so focused on commitment to a company culture.



### **7.2.5.1 Mapping on to the Control Mix**

The Control Mix of structures, process and management activities within Empowerment Profile 3 need to reflect the vertical and horizontal changes to management control structures implied by the addition to operator work of problem-solving and quality responsibilities. The author established that task and process problem solving responsibilities apply within and across teams. These responsibilities can be represented within the co-ordination function of the Viable System Model, while the Team Leader as frontline management retains control responsibilities.

Control, communication and co-ordination increase significantly in complex organisations. Complexity has increased in this enterprise through the restructuring of the production system into zones and cells, which require co-ordination. Although changing attitudes and behaviour are key organisational objectives, the enterprise has significant structural issues of communication and control to confront throughout the organisation, including at the highest levels of management. The Viable System Model could, the author believes, be highly relevant in facilitating the process of control and communication within this enterprise as a whole. The model could be used to allocate specific responsibilities for control and communication among existing identifiable systems. The enterprise could be represented by the model at three levels of recursion. The top level could comprise meta-management at board and senior level, with the four zones as System 1 (operations), which are viable systems in their own right. Each zone contains manufacturing cells, which again are viable systems that have responsibility for their own management functions. Policy deployment, a key management strategy within the enterprise, is a top-down and bottom-up process that could be enabled through the policy function of the Viable System Model.

The author asked the Production Manager, who is responsible for co-ordinating the activities of the manufacturing zones, how he would keep himself informed of events without being too prescriptive. He said that the key is to set measures that directly reflect organisational objectives and to instigate a process of monitoring that includes



increased levels of checking from a variety of sources. [2.2. PERF-MEAS-PROC] [2.2 PERF-MEAS-CHECK] The Production Manager admitted that he had omitted to check in the past that tasks were being performed. He intended to rectify that by increasing his level of monitoring. He is well aware that this approach requires a high degree of trust between himself and the Zone Managers. This approach precisely describes the audit function, which is the mechanism within the Viable System Model that allows the control function of a higher-level management system to bypass the control function of a lower system to check directly with operations within the lower system. In this case, the Production Manager would bypass the Zone Managers to check with Team Leaders.

The Empowerment Enabling Framework indicates that discretionary operational control is consistent with empowerment characterised by Empowerment Profile 3. This correlates with the type of operational discretion that is evident at manufacturing cell level within this enterprise. Problem-solving is part of operator responsibilities. There was no evidence either way of the involvement of operators in strategy formulation. Achieving social control through a process of continual and detailed performance measurement was very much in evidence. It is suggested that social control is most effectively achieved through minimally specifying acceptable behaviours and that excessive attempts to control behaviour encourages participation within the shadow system. There is a belief that excessive control wreaks havoc within production systems. Changed behaviour and attitudes, of management and shopfloor operators, are necessary if production facilities are to be transformed from traditional manufacturing systems to systems that are flexible to confront current business pressures. Management has choice in the approach it adopts in achieving observable behavioural change.

### **7.2.5.2 Summary of Mapping on to Empowerment Profile 3**

The main issues to arise from the data collected within this enterprise are the degree of negativity reported by operators, the ambivalence expressed by managers about 'soft' management and the challenges of communication and co-ordination throughout the



enterprise. The object of the mapping exercise is to evaluate the validity of the theoretical focus of motivation and control that is specific to particular Empowerment Profiles. There is scant evidence of motivational management action. This is not to say that motivational activities do not occur; evidence of their occurrence does not emerge from the data. The data confirms the Control Mix within Empowerment Profile 3.

The evidence from this enterprise demonstrates a prime use of the conceptual model. Solutions to problems within this enterprise, identified by management, can be suggested by the theories within the Empowerment Enabling Framework. Problems include achieving common understanding of organisational objectives, the difficulty of achieving co-ordination and communication throughout the organisation and the paradoxical requirement of achieving simultaneous centralised control with devolved autonomy. The Viable System Model offers solutions to each of these problems. Insight into why there was operator resentment towards the Philosophy of Work measure could be gained by theory, outlined in Chapter Five, which contends that minimally specifying acceptable limits is more effective than close control. The notion of the shadow system, also outlined in Chapter Five, confirms that people adopt their own means of subverting the constraints imposed on them. The inclusion of motivation theories within the Empowerment Enabling Framework, and the apparent absence of widespread motivational management could be useful in presenting options for future action. Theory therefore can offer solutions. The author is not implying that theory offers an ideal or even a correct solution. Confidence in theory increases the more it is confirmed by empirical evidence. Theory can also be used as a means of reflecting on experience in relation to theoretical propositions.

### **7.3 ENTERPRISE THREE**

The third enterprise is a small manufacturing facility that specialises in the fabrication of stainless steel, mild steel and aluminium. The enterprise is small. It employed 29 people at the time of the author's last visit and had an annual turnover of £2m.



### **7.3.1 Context**

Working practices have been transformed over a period of approximately 10 years. Turnover has doubled, with a reduced workforce, over the period of the organisation's transformation to its current position. After a period of growth in sales, the Company experienced a three-month period in 1996 where sales declined dramatically. The company recovered following voluntary pay cuts and voluntary redundancies. It is looking to expand sales by 125% over the next five years (Sunday Times, 1998).

### **7.3.2 Form of Empowerment**

The form of empowerment within this enterprise maps onto Empowerment Profile 5, described in Table 6.1 of Chapter Six. There are significant degrees of devolved management control and integrated Continuous Improvement. The transformation of the enterprise's structure and working relationships began with a series of goals that the managing director set the workforce:

- to simplify the manufacturing process
- to reduce working inventory
- to increase the skills and flexibility of the workforce
- to maintain and improve product quality
- to be customer focused.

Manufacturing processes were simplified through close collaboration with the design departments of the enterprise's customers, who were encouraged to adapt their designs to the enterprise's manufacturing capabilities. Building relationships with their suppliers reduced inventories. Continuous Improvement was implemented as the key to achieving Total Quality Management within the enterprise. Continuous Improvement is integrated within the work of production team members. Team leaders evaluate initial



feasibility of a Continuous Improvement suggestion. Once feasibility is established, the team member that proposed the idea is tasked with implementing it.

The transformation of the enterprise also entailed restructuring. Layers of management were eliminated. Responsibilities previously the province of management, for example quality inspection, were devolved to production teams. A functional structure arranged around welding, fabricating and polishing specialities was replaced by manufacturing cells, comprising multi-skilled teams that encompass welding, fabrication and polishing. There were four cells at the time of the author's last visit. Each cell has a team leader, who reports directly to the senior management team.

The enterprise has evolved to the extent that the production teams effectively run their own mini-businesses. The teams are responsible for setting their own work schedules, setting their own pay, recruiting new staff and maintaining relationships with customers and suppliers. The teams have the authority to source their own suppliers if needed. Teams perform their own job costing, which includes materials costs and time estimates. They negotiate terms with customers and then make decisions on delivery dates, to which they must commit.

### **7.3.3 Factors Influencing Empowerment**

Factors identified here are taken principally from an account of the company's experience written by the managing director. Success in operationalising the work methods within the enterprise is attributed to:

- the imperative of having common agreement on organisational goals
- team leaders that motivate and maintain Continuous Improvement effort
- senior management provides resources, encouragement and vision



- financial, technical and inter-personal skills training. Training and communication help to overcome resistance by enhancing understanding on the reasons for change
- ownership of cost control
- ownership of solutions to problems. Solutions introduced by management elicited unfavourable reaction from team members. The same solutions become acceptable when identified by team members (Lewis and Lytton: 133)
- ownership of workflow management. The teams are contracted to work annualised hours. Teams manage their own workflow. They can decide their own hours of work. The only stipulation is that quality products are delivered to customers on time. Interview data confirms that annualised hours are welcomed for the opportunity to control workflow but also because they remove the threat of having to work short weeks. The assurance of having regular, guaranteed amounts of salary is appreciated
- recognition, both financial and verbal is viewed by management as important. Interview data confirm that team members appreciate not being taken for granted
- direct responsibility for meeting customer requirements.

The need for agreement on common goals, the importance of leadership and the key requirement to train all emerge strongly from the analysis of the attributes of empowerment in the bibliography in Appendix A. The motivating effects of ownership for outcomes and the need for recognition also emerge from the analysis of the empowerment bibliography but these factors are more prominent in the theories of motivation that are included in the Empowerment Mix in the Empowerment Enabling Framework.



### **7.3.4 Issues Arising**

A significant finding from this case study is the inter-personal friction that emerged from the data. Out of three interviews, two separate issues were revealed in one interview and another was dominated by an account of misplaced expectations that led to tension between individuals.

#### **7.3.4.1 Inter-personal Relationships**

A team member promoted to team leader had to contend with the demoted ex-leader remaining as a member of the team. [3.1.DEM] The circumstances leading up this person's demotion was not discussed but the fact that the demotion occurred implies that friction may have existed. The presence of the ex-team leader created a difficult situation for the new team leader. The same interview yielded an insight into another source of friction. The topic under discussion was training. [3.1.FRICT] The team leader informed the author that a team member was under-performing, despite having been given substantial amounts of training. The issue was not pursued during this interview but it emerged during another. [3.2.FRICT]

#### **7.3.4.2 Misplaced Expectations**

A member of the same team as the team leader that was interviewed spent some time explaining the difficulties he had been having with the team leader. The team leader had been with the company for ten years. The team member was highly ambitious for a management position and thought that this company was the place to progress. Rather than his enthusiasm being rewarded, the team member felt that the team leader was antagonised by it because he had been in the company a long time. The team member became disillusioned. He was issued with a written warning for his attitude.



[3.2.WARN] He admitted that he had developed a negative attitude towards the company. On reflection, he realises that the scope for progression to team leader is limited, unless the enterprise expands. The team member spoke positively about the company, saying that it was still one of the best he had worked for. [3.2.POS] His comments indicate that he may retain ambiguity in his attitude to what he perceives the company expects from him.

### **7.3.4.3 Communication**

One of the Team Leaders highlighted the difficulty of achieving effective communication within the team. [3.1.COMM.1] He commented that he had a problem in the past with team members not implementing customer requirements in his absence. The process of rectifying the situation is continual evaluation and analysis until customer requirements are understood. Communicating clear goals and individual responsibilities in relation to the team's major customers to team members was critical in resolving the problem. [3.1.COMM.2]

### **7.3.4.4 Conclusion of Issues Arising**

This enterprise is small and products are not highly complex. Any increased complexity experienced within the organisation as a result of decentralising management control is moderated by the relatively uncomplex nature of the enterprise. The evidence presented indicates that the outworking of new operations management practices is highly dynamic. The organisation's transformation has evolved to a mature stage. Working relationships between senior management and production personnel are based on trust and mutual respect. There is united commitment to achieving the paramount organisational objective of meeting and exceeding customer expectations. Despite the existence of such favourable conditions, which are the basis of the enterprise's continuing success, tensions emerge at the level of process between people. Recalling



the author's argument in Chapter Five, conflict would appear to be inevitable within any organisation where latitude is allowed in deciding how to achieve organisational objectives because individual perceptions and views differ. How tensions and conflict are to be resolved is an important policy issue for any organisation implementing empowered work strategies.

### **7.3.5 Mapping on to the Empowerment Mix**

This enterprise maps onto both the Empowerment Mix and the Control Mix of Empowerment Profile 5. Theories of job design propose that motivation is stimulated by individual need for achievement, feedback, task accomplishment, recognition, responsibility for work outcomes and meaningful work. Ownership of solutions to problems, responsibility for workflow and recognition are among the factors attributing to success in operationalising work methods within the enterprise, according to the Managing Director. Theoretical enabling factors include access to information and resources and the setting of high performance expectations. These conditions are found within this enterprise. That these factors are motivators for the operators and team leaders within this enterprise is implied by their commitment to the high levels of responsibilities of the work, which was confirmed through the interviews. The interviews with the operators did not directly confirm the theoretical factors.

#### **7.3.5.1 Mapping on to the Control Mix**

The principles underlying the Viable System Model are implicitly affirmed through the experience of this enterprise. Viability requires a system to have the potential to respond to unfamiliar disturbances such that a catastrophic event can be survived (Espejo, 1989: 78). Viability in this enterprise can be judged by its ability to achieve sustained competitive advantage, constantly responding to changing environments and effectively overcoming periods of economic turbulence. This has been achieved through appropriating the intellectual capacities of all employees within the enterprise



and through the flexibility of the workforce. Adherence to the principle of requisite variety is apparent in management's unwillingness to interfere unless the interests of the enterprise are perceived to be under threat. For example, in managing annual hours, the managing director comments that "the crucial element was that management tried to be involved as little as possible" (Lewis and Lytton, 1997: 120). Interview data with one of the team leaders confirms that management takes action as a precaution when the teams are in danger of not meeting their targets. Management otherwise adopt a monitoring and supporting role. Teams continue to have the same high levels of responsibilities during difficult periods.

The enterprise's primary activities are clearly identified as those performed within the customer-dedicated manufacturing cells. The teams are responsible for procuring additional business from their existing customer base, which is facilitated by the on-going close working relationships that exist between the team members and customers. The teams are responsible for controlling their own operations. In terms of the five management functions that must be exercised within viable systems, the production teams' responsibilities map precisely onto the expected Viable System Model responsibilities that are specified within Empowerment Profile 5 of the Empowerment Enabling Framework. The team are responsible for looking inwards to control operations, including financial monitoring of operations. It is the teams' responsibility to ensure that at least 85% of man-hours is generating revenue (Sunday Times, 1998). Management use a computerised system to generate detailed data on time and resources used on a job, which is fed back to the teams to allow them to monitor their own profitability. The teams set their own business projections, which they present to management. Financial reports are presented by the teams to management each month. The teams are responsible for generating business to rectify any shortfall. Performance data on "everything you can think of" is publicly displayed. The intelligence function is also the teams' responsibility, which is enabled through close contact with existing customers, the main source of the enterprise's new business. There was little evidence of the need for co-ordination among the groups. Each group has parallel responsibilities to a customer base. A continual awareness of policy is fostered through close



communication between the teams and senior management. Senior management would constitute the meta-system of the whole enterprise. The main function of management is to monitor the progress of the subsystems, which are the manufacturing cells in this case. The managing director has said that management identifies where working time is allocated and acts to initiate improvements.

The type of operational control that is associated with Empowerment Profile 5 is self-control. Performance is monitored through a system of measures. There are few prescribed procedures and production teams have maximum latitude in achieving performance targets. The teams have high levels of strategic influence. The degrees of operational, strategic and social control identified within this enterprise maps onto the degrees of control specified at the level of process within the Empowerment Enabling Framework. Disciplined behaviour is an outcome of team compliance with the organisational objective of exceeding customer expectations. The Managing Director recognises that peer pressure is an effective means of exerting social discipline and commitment to the team.

## **7.4 SUMMARY**

The objective of this chapter was to evaluate the theoretical content of Empowerment Profiles 1, 3 and 5 within the Empowerment Enabling Framework. The Empowerment Mix is shown within the Empowerment Enabling Framework as representing differing types of management activities, which support the form of empowerment associated with each Empowerment Profile. This was based on motivation theory that perceives work as inherently motivating if it includes opportunity for achievement, recognition and a sense of ownership for outcomes. Management in Empowerment Profile 1 would be expected to focus on motivational activities, more than in the other Empowerment Profiles, to compensate for the typically unchallenging work that is associated with this Empowerment Profile. Empirical evidence confirmed that there was strong commitment to communication, honest feedback and personal development of staff.



This indicated an awareness of motivational issues. There was little systematic feedback on innovation success. Theory suggests that such feedback may provide stimulation through rewards, recognition and a sense of achievement. The author encountered little real enthusiasm for Continuous Improvement. Management appear to have been successful in creating a working environment in which people feel secure but this is not yet reflected in a committed response to Continuous Improvement. The conclusion from this enterprise is that it validates the Empowerment Mix within Empowerment Profile 1. Management are aware of the needs of individuals in creating a positive working environment, although a degree of operator dissatisfaction remains.

The Empowerment Mix of the Empowerment Enabling Framework was designed to reflect the logical proposition that there is less need for management to be as critically concerned directly with sustaining motivation where work is theoretically intrinsically motivating. Management instead encourages motivation by providing resources and creating an enabling operating environment. Experience of Enterprise Three, which was used to validate Empowerment Profile 5 appears to support this theoretical proposition. Although management continue to be aware of individual need for recognition by making an effort to convey appreciation for work effort that exceeds expectations, their principal role is in providing expertise and resources to ensure that the teams perform. Enterprise One and Enterprise Three represent the extremes within the Empowerment Enabling Framework.

The experiences of the three enterprises clearly map onto the Control Mix for each Empowerment Profile. The applicability of the Viable System Model was demonstrated in each enterprise. Operational, social and strategic control was confirmed as having merit in indicating the differing dimensions of control at the level of process within individual Empowerment Profiles. Management control at middle management level and above was shown to be an issue in Enterprise One and Enterprise Two. The Empowerment Enabling Framework is designed to include structures and process that are required to operationalise empowerment at the levels of operator and frontline



management. The experience of these two enterprises reveals that a key issue of concern to senior management was the need to control and impose structure to maintain standardisation. Operationalising empowerment at the lowest level of responsibility within organisations therefore requires effective structures and procedures throughout the whole of an organisation. The author believes that she has demonstrated the validity of the Control Mix aspect of the Empowerment Enabling Framework. The Empowerment Mix is partly validated. The Empowerment Profile device is shown to be an effective means of synthesising the organisational and psychological interpretations of empowerment. It is also effective in differentiating the concept within the context of manufacturing production.



# Chapter Eight

## CONCLUSIONS

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The final chapter evaluates the outcomes of the research against the research assumptions and objectives. Key conclusions from the research are outlined. The author's contribution to knowledge is presented and recommendations for future research are suggested.

### 8.0 THE RESEARCH ASSUMPTIONS

The research set out to explore the question of what existing theoretical knowledge could be identified and synthesised within the Empowerment Enabling Framework to guide the operation of empowerment, from the perspective of production operators and frontline management, within manufacturing production. The research was motivated by the author's initial investigation of the concept of empowerment, prior to the formulation of the research question. The investigation identified a key problem that is associated with realising empowerment in practice within organisations. It also uncovered theoretical knowledge from another knowledge domain, which was unexplored within the empowerment literature, that seemed highly pertinent to the identified problem.

The initial investigation of empowerment led the author to assume that theoretical knowledge may exist that is unexplored within the context of operationalising empowered work strategies within manufacturing production. The author additionally assumed that knowledge about factors that influence the operation of empowered work strategies within manufacturing production remains under-developed. The reason for



making this assumption is because the initial investigation uncovered little research on operationalising empowerment, particularly in relation to the implications for organisational control.

The lack of research into factors that influence the operation of empowered work strategies seemed to offer a means of contributing to knowledge. A fundamental problem with empowerment is the fact that it is so poorly conceptualised. The author believes that successfully operationalising empowerment is dependent upon a thorough understanding of the dimensions that the concept assumes within specific organisational contexts. The author believed that a conceptual framework could provide a mechanism for synthesising different strands of disparate theoretical knowledge. It seemed highly likely to the author that any theoretical knowledge uncovered would be interdisciplinary because the initial investigation revealed that empowerment is a diffuse concept that encompasses several knowledge domains. The author envisaged that a conceptual framework would enhance understanding by bringing this diffuse knowledge together, making visible the influencing factors that are relevant for specific organisational contexts.

An analysis of the concept of empowerment reveals that the principal drivers are the need for innovation and potential changes to organisational control mechanisms that arise from process-focused initiatives. The assumption that knowledge of factors influencing operation of empowered work strategies may remain under-developed was shown to be partly correct. Significant empirically-based research exists on the process of sustaining Continuous Improvement within manufacturing enterprises, which includes knowledge on factors that influence operation of Continuous Improvement initiatives. Empirical knowledge on factors that influence empowerment predominantly arising from changing control mechanisms was found to be under-developed. There is a need for operational support for empowerment from the perspective of management control. The research assumption is accepted as valid and establishes a research need.



The Empowerment Enabling Framework encapsulates all dimensions of empowerment, including innovation and control, using existing theoretical knowledge and is validated using case study evidence. The existing research on factors influencing the process of Continuous Improvement provides an important additional source of validation for the theoretical propositions encapsulated within the Empowerment Enabling Framework. The author's assumption that relevant theoretical knowledge may exist that has not been explored within the context of empowerment is also accepted as valid. The knowledge is principally concerned with organisational control and is included within the framework.

## **8.1 DELIVERABLES**

The research objectives have been met. A conceptual framework to facilitate the operation of empowered work strategies, from the perspective of production operators and frontline management within manufacturing enterprises, was developed. A research need was established by reviewing the existing empirical evidence on operationalising empowered work strategies within manufacturing production. An analysis of empowerment was conducted as a prerequisite to developing the Empowerment Enabling Framework. This was formatted as a Structured Resource Listing for use as a research tool. Issues that are likely to influence the operationalising of empowerment were identified from the analysis. This led to the identification of relevant theoretical knowledge. This was included within the Empowerment Enabling Framework, which was triangulated using case study experience.

## **8.2 CONTRIBUTION TO KNOWLEDGE**

The author's contribution to knowledge results from her evaluation of the concept of empowerment. Both practitioners and academics loosely use the term 'empowerment'. The author conducted a comprehensive analysis of the concept within the context of manufacturing production. An outcome of the analysis included the Structured



Resource Listing, presented in Chapter Two. A further outcome of the analysis was the identification of innovation and management control structures as key generators of empowerment within manufacturing production. This identification led to the specification of differentiated forms of empowerment. The specification of differentiated forms of empowerment according to source is a major contribution to knowledge. The consequence of differentiating the forms of empowerment is that existing theoretical knowledge, addressing issues likely to influence how empowerment is made operational, is synthesised through the Empowerment Enabling Framework and targeted within specific Empowerment Profiles.

### **8.3 CONCLUSIONS**

The framework is intended to be used as a tool by those managers, who have responsibility for investigating the organisational conditions required to operationalise empowered work strategies within manufacturing production, to assist them in preparing for an eventual implementation strategy. Using the framework enables visualisation of empowerment as a function of innovation and management control processes. Empowerment is an outcome, not a technology. Reflecting on her work, the author realised that this conclusion was implied but not made explicit in the analysis of empowerment. It reflects both the organisational and political dimensions of empowerment. Opportunities for more stimulating work is an outcome of restructured management control responsibilities. Recognition of the value of intellectual input for production operators enhances the status of previously menial work. Increased value is measurable in bottom-line benefits. Work may remain largely menial but a realisation of the value of operators' process knowledge could be viewed as politically empowering. Empowerment is also an input. There are clear associations in the literature between empowerment and the effective use of process control technologies. Organisational conditions and management activities that are consistent with psychological empowerment are shown to be associated with successful Continuous Improvement and Just-In-Time implementations.



The framework can encourage managers to think of their intended application domain in an abstract manner, which may be contrary to their to day experience, and so provide new insight. Initial focus is therefore on understanding the intended application domain from the perspective of innovation and management control structures. This generates definition on what empowerment means within the context of the enterprise. It could also require managers to consider the systemic complexities inherent within the concept of empowerment, encouraging enhanced appreciation of the challenges that may be encountered in operationalising the concept. Once the form of empowerment to be operationalised is agreed upon, the application domain can be positioned within a corresponding Empowerment Profile, which incorporates the theoretical content of the framework. It is envisaged that the tool could be developed for use in facilitating organisational change within an entire enterprise. Identifiable units within an enterprise could also use the framework. Differing skill mixes and production processes normally exist within the same enterprise. The framework can formalise, and so sustain, differentiated forms of empowerment appropriate to each work unit.

The empirical evidence from the case study enterprises confirms that adopting a systems approach to operationalising empowerment, apart from being necessary, points to issues that emerge as key concerns in all the case study enterprises. Essential notions within Systems Theory include the centrality of purpose or goal driven behaviour, using feedback information received through communication channels to assess progress and remedial action for goal achievement. Within Enterprise Three, obtaining common agreement on organisational purpose was viewed as critical at the outset of the change in working practices. Generating common assent to new ways of working was determinedly pursued. Enterprise Two is the most complex of all the case study enterprises, with complexity arising from the product and from a differentiated management control structure. At the outset of culture change within this enterprise, there was a concern to change from an autocratic management structure to one where autonomy increased through decentralised decision making. Co-ordination and communication pose significant challenges for Enterprise Two. This is now



exacerbated by middle management expectations of autonomy. The centrality of purpose has been compromised by a lack of appreciation of the inherently paradoxical nature of empowerment, which demands structures of controls to enable freedom of action.

An unexpected finding of the research was the importance attached to the need for structure and controls within Enterprise One. Although there may be no devolution of management control responsibilities, the approach to operators assuming a greater sense of personal responsibility for their work is to make them completely accountable for small units of tightly defined job responsibilities. Responsibility means checking. The social culture that exists within the UK means that discipline has to be imposed. A senior manager stated that culture change means empowerment, which in turn means structure and control. Control within Enterprise Three is not at all prescribed but the self-imposed team discipline in evidence throughout this enterprise is highly effective in achieving organisational objectives. The two extreme examples, Enterprise One and Enterprise Three, confirm the control types at the level of process that are included within the Enterprise Profiles 1 and 5. The emphasis on structure that emerged from Enterprise One is confirmed by rare longitudinal research that exists into factors that influence empowerment. This found that more structure, rather than less, is necessary for successfully operationalising empowerment.

Each of the enterprises mapped with ease onto the Viable System Model within the Empowerment Profiles. It was shown in Chapter Seven to be highly relevant in addressing the control and communication issue prevalent within Enterprise Two. The model could support the existing policy deployment technique being implemented throughout the enterprise by specifying communication channels and management functions that focus simultaneously on current and future concerns within teams or zones. The model could provide a means of re-establishing focus on organisation purpose by providing understanding that control and autonomy are not in conflict.



Enterprise Three is currently relatively uncomplex. The model could provide a guide for future action in the event that the Company expands in size.

An important insight into inter-personal communication emerged from Enterprise Three. A relatively high level of inter-personal friction was observed in the interviews. The enterprise is operating under favourable market conditions with a workforce that is mature in its understanding of exceptional commitment to customer requirements and pursuit of quality. The emergence of conflict within Enterprise Three was a result of expectations that were mis-aligned between an individual operator and what the Company expected of him. Individual perceptions over how best to achieve an objective may cause conflict. It is uncertain whether this finding could be extrapolated to the rest of the enterprise. The finding is, however, consistent with the author's contention in Chapter Five that disagreement is bound to arise where individuals have latitude in decision making. People have different perceptions of the same issue and subscribe to their own solutions in pursuing organisational objectives. Company policy on conflict resolution should be a priority for any enterprises intending to operationalise empowerment. Conflict may be regarded both positively and negatively.

Preparation has been shown to be consistent with successful implementations of empowered work strategies. This is demonstrated from research outlined in Chapter Three. It was also confirmed in Enterprise One, where senior management adopted a strategy of preparing and developing the management and team leaders that were to drive the culture change, for a period of one year, before embarking on a programme of Continuous Improvement. It is difficult to compare the experiences of Enterprise One and Enterprise Two in effecting their respective culture changes. The complexity of Enterprise Two may significantly increase the culture change endeavour. However, the stress on personal development and preparation in Enterprise One seems to have gained universal 'buy-in' to the initiative, even if operator response to Continuous Improvement is somewhat muted. This 'buy-in' was referred to several times by



Enterprise Two respondents but the author was unaware of preparation for culture change.

A final conclusion that emerges from the case study enterprises confirms an aspect of systems theory that was stressed in Chapter Five. The difference between the static property of an organisation and the dynamic process of organising provides a critical insight into operationalising empowerment within manufacturing production. Existing research and results from the case studies, Enterprise One in particular, confirm the paramount need for control structures and processes in realising empowerment. The Viable System Model provides guidance in creating structures of management and communication responsibilities. The model creates expectations of individual actions through the allocation of roles and responsibilities but it does not specify action at the level of process. Evidence from Enterprise Two and Enterprise Three highlight that actions and inter-personal relationships at the level of process ultimately realise or frustrate empowerment. Understanding of the effects of actions at the level of process is key to successfully operationalising empowerment.

### **8.3 FURTHER RESEARCH**

The finding that preparation correlates positively with successful implementation of empowered work strategies lends support to this thesis. A tool can be developed from the refined Empowerment Enabling Framework to prompt managers to examine their own intended application domain, increasing understanding of the issues involved in operationalising empowerment. The following areas for further investigation resulted from the author's exploratory research:

- Investigation into factors that affect the process of operationalising empowerment at the level of process within each of the Empowerment Profiles would significantly extend the utility of the Empowerment Enabling Framework.



- Management control and the need for structure were revealed from the research investigation. The Viable System Model was found have potential application within each of the targeted enterprises. A fundamental principle that underpins the Viable System Model is the principle of Requisite Variety. This is a heuristic measure, dependent on the judgement of the observer, of the amount of complexity confronting the a viable system. Participants within a system apply attenuators, which filters out problem situations, or amplifiers, which expand the repertoire of options open to the system in confronting complexity. Research into how Requisite Variety is assessed and how decisions are made in arriving at assessments could be a useful addition to existing knowledge on how the Viable System Model could function in practice.
- Investigations into how the boundaries of applying the model are determined could make the model more targeted and specific in its use.
- Much of the case study data, on which the author's analysis is based, is taken from the point of view of management. The author had not intended this. Data was gathered from all levels within the case study enterprises but the most revealing insights tended to merge from management. Specific investigation into what factors determine operator compliance or non-compliance with empowered work strategies would add to the validity of the Empowerment Mix.
- The attributes of empowerment and the individual, organisational and management requirements to realise the concept were summarised in Chapter Three. The Empowerment Enabling Framework could be developed by investigating envelopes of individual, organisational and management requirements to target specific to individual Empowerment Profiles.
- Further research should be conducted to investigate whether there is a fit between the framework and empirical experience for Empowerment Profiles 2 and 4.



- Following development and refinement of the framework, the author envisages that it could have application within the Extended Enterprise to assess partnership compatibility across the Value Chain.

The author regards her area of research as both fascinating and important. There is evidence that disseminating previous management initiatives proved to be unsustainable. The challenges of contemporary manufacturing indicate that there is now no option except to change. The wide-ranging nature of the subject demands that knowledge should be presented in a format that encourages managers to think about the complexity of operationalising empowered work strategies. The work identifies the dimensions of empowerment and presents them through the Empowerment Enabling Framework. Differentiating the concept targets specific organisational contingencies and so defines knowledge boundaries for managers. The author believes that refining the Framework beyond its current status offers opportunity to expand practical understanding of operationalising new work strategies, providing business benefit to manufacturing enterprises competing under increasingly challenging conditions.



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## **Appendix A**

### **Analysis of Empowerment Bibliography**



Appendix A contains an analysed bibliography of empowerment references. The purpose of the bibliography is to determine the attributes of empowerment, particularly within manufacturing production. The bibliography is categorised to facilitate analysis of where and in what form empowerment occurs in the literature. References listed in the bibliography are arranged as follows:

- Concept of Empowerment
- Concept Discussed Within Main Subject of Analysis
- Empowerment Implicated in Competitive Success
- Empowerment in Manufacturing Organisations
- Empowerment in Other Organisations
- Guidance for Implementation
- Reasons for Success or Failure
- Research Associated With Empowerment (Manufacturing)
- Research Associated With Empowerment (Other).

It is sometimes unclear which category is the most appropriate for a particular reference. For example, McEwan and Sackett (1998) is categorised under 'Concept of Empowerment' but could also have been considered under 'Empowerment in Manufacturing'. The article predominantly probes the theoretical nature of empowerment in a variety of manufacturing environments. Manufacturing case study evidence is used to support the analysis.

Accounts of the outcomes of empowered work strategies are categorised as 'Empowerment in Manufacturing'. Focus in this category is on description of strategies and outcomes. Accounts of extraordinary company performance, where empowerment is identified as key, are included in 'Empowerment Implicated in Competitive Success'. Focus in this category is on performance. Academic investigation is categorised as 'Research Associated With Empowerment'. The author's judgement in allocating a reference to a particular category could in some instances be contested.



## CONCEPT OF EMPOWERMENT

Analysis or discussion of empowerment is the main focus of these references.

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This category incorporates a wide divergence of views from various philosophical standpoints. Empowerment is associated with:

**Aligning / understanding organisational purposes and processes (19, 31)**

**Autonomy and control (2, 3, 21, 30, 36, 37, 43)**

**Barriers (21, 45)**

**Commitment (2)**

**Control (19, 35)**

**Delegation (34)**

**Devolved responsibility, authority for problem-solving and decision-making (1, 16, 24, 25, 41, 45)**

**Information - provision, interpretation and management (1, 19, 32, 45)**

**Intellectual capabilities, talents and skills (4, 6, 7, 19, 24)**

**Leadership / role of managers in goal setting, creating structure / boundaries, aligning purpose, motivating, communicating vision, values, allocating resources (3, 5, 6, 25, 27, 31, 40, 43, 44)**

**Linked to (or equated with) employee involvement / participation (22, 39, 45, 50)**

**Management accountability (21)**

**Managerial control - threat to (4, 31)**

**Multiple meanings (42)**

**Myth (20)**

**Political perspectives (8, 9, 10, 11, 12, 13, 14)**



**Power (18, 26)**

**Psychological perspectives (15, 31, 46, 47)**

**Senior management support (33)**

**Training (44)**



## CONCEPT DISCUSSED WITHIN MAIN SUBJECT OF ANALYSIS

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The dominant topics of analysis in this category are:

**Business Process Reengineering (4, 14, 17, 24, 25, 32, 36, 46, 47)**

**Change management (22, 39)**

**Changes to how management is understood and enacted (40)**

**Competitive advantage through people (37)**



**Continuous Improvement (2, 8)**  
**Control (11, 12, 29, 42, 49)**  
**Culture change (28)**  
**Design of information systems (33)**  
**JIT (7)**  
**Leadership (1, 3, 6, 16, 19, 34, 43)**  
**Link between people management and business results (35)**  
**Organisational structure (9)**  
**Reward and appraisal (20)**  
**Role of management (5, 10, 27)**  
**Technology (13)**  
**TQM (15, 23, 26, 31, 38, 44, 45)**



**EMPOWERMENT IMPLICATED IN COMPETITIVE SUCCESS**

Employee empowerment is identified as a key determinant of performance excellence by government-sponsored research (3) and by the Industrial Society (8). Other sources include manufacturing award winners (5, 7, 10,12, 13, 14, 17). These references tend to emphasise success without alluding to difficulties of implementation. Blackburn and Rosen (Research Associated with Empowerment (other): 1) investigated Baldrige award winners in the US. They demonstrate that such awards do not necessarily imply sustained success.

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<http://www.dircon.co.uk/equindex/EQA97page.html>.
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[www.milliken.com/environ3.html](http://www.milliken.com/environ3.html).
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- |                                   |  |
|-----------------------------------|--|
| Coach                             | <a href="http://www.usu.edu/~shingo/coach.html">www.usu.edu/~shingo/coach.html</a>         |
| Freudenberg-NOK                   | <a href="http://www.usu.edu/~shingo/freud-nok.html">www.usu.edu/~shingo/freud-nok.html</a> |
| Johnson Controls, Georgetown      | <a href="http://www.usu.edu/~shingo/georgeto.html">www.usu.edu/~shingo/georgeto.html</a>   |
| Johnson Controls, Lexington       | <a href="http://www.usu.edu/~shingo/jcilex.html">www.usu.edu/~shingo/jcilex.html</a>       |
| Lear Corporation                  | <a href="http://www.usu.edu/~shingo/learwin.html">www.usu.edu/~shingo/learwin.html</a>     |
| Milwaukee Electronic Tool Company | <a href="http://www.usu.edu/~shingo/metco.html">www.usu.edu/~shingo/metco.html</a>         |
| TREMEC                            | <a href="http://www.usu.edu/~shingo/tremec.html">www.usu.edu/~shingo/tremec.html</a>       |
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How empowerment is manifested within these enterprises is briefly summarised as:

**Coach: Manufacturer of Leather Goods**

**Continuous Improvement**

Training focuses on business, technical and social skills. Organisation restructured to support flexible manufacturing. Clearly defined roles and responsibilities

**Experience of Multiple Companies: (Caudron, S., 1998)**

Consistent features of successful companies:

Training

Link performance to measurable business results

Goals

Communication

**Experience of Multiple Companies: (Verespej, M.A., 1998)**

Summary of 10 Industry Week best companies for 1997. Each take own path but commitment from all workers. Senior management set the stage.

Continuous Improvement

Communication – using a variety of vehicles

Focus on critical performance issues

Alignment of goals throughout the organisation

Goals must be measurable



Close relationships with suppliers and customers

Integration of techniques to achieve objectives

**Ford – Livonia Transmission Plant: (Suzik, H.A., 1998)**

Continuous Improvement

Communication

Empowerment viewed as the key ingredient in turning the performance of the plant around. Increased authorities for production operators. Total Productive Maintenance.

**Freudenberg-NOK: Automotive Supplier (gaskets)**

\$1.1 million saved in first three quarters of 1997

50% increase in product mix over 18 months, while maintaining operational gains

Continuous Improvement - cross-functional teams formed as needed

Two layers of management for 200 people

Empowerment - culture established where generation of ideas, information and action is normal

Structures in place and specific action taken to ensure that operating groups are aligned with company goals and vision. Radical change to structures. Business cells and policy deployment

**General Motors, Hewlett-Packard, US Steel etc: (Heaton, W.E., 1998)**

Intellectual assets – as other assets depreciate, value of people increases

Training

Developing of ‘soft skills’ – conflict management, influencing, decision-making

Continuous Improvement – set clear goals and expectations

Long-term commitment, with senior management commitment



Cutting costs – reassure that people will not be made redundant through improvements

**Haworth Furniture Manufacturers: (Casison, J., 1998)**

Continuous Improvement – well defined evaluation process. High level of participation.  
Achievement recognised. \$7 million in one year

**Johnson Controls, Georgetown : Automotive Supplier (seat assembly)**

Continuous Improvement - \$3.5 kaizen cost savings in 1996

Just-In-Time

Aim to have empowered people - empowerment for decision-making

Stress on training

**Johnson Controls, Lexington: Automotive Supplier (power seat adjusters)**

Continuous Improvement - \$10.2 cost savings

Close relationship with customers

Empowerment stated as the means of providing customers with highest quality products

**Lear Corporation: Automotive Supplier (injection moulded interior trim parts)**

Continuous Improvement

Empowerment – team involvement in decision-making, problem-solving. Provision of business and operating information to production teams viewed as key. Self-directed empowered teams comprise more than half of the plant workforce. Teams are responsible for all changes within the plant. Each team has a budget for implementing improvements



**Milliken: Manufacturer of Textile Products**

Continuous Improvement – arises because of empowerment.

5 'W's of empowerment:

What are you going to do?

Where?

When?

Who?

Why?

'H' – How ?

Leadership

Teamwork

Education

Concepts of empowerment, teamwork and leadership utilised aggressively pursuing environmental goals

**Milwaukee Electric Tool Company:                      Manufacturer of Electric Drills**

Cellular manufacturing

Continuous Improvement

Just-In-Time

Empowerment – cells function as mini-businesses. Cell manager and members should possess the skills needed by owner of a small to medium size enterprises. Cell manager responsible for training and for implementing cellular principles. Cell members responsible for quality, manufacturing documentation, supplier development, inventory management and cell management



**Rockwell / Reliance Electric: Manufacturers of industrial AC motors**

Total Quality Management

Just-In-Time

Restructured plant layout

Wider product mix

Empowerment – problem-solving, increased decision-making, innovation.

Communication through newsletter, business review meetings. Recognition

**Schindler Elevator Corp: Elevator manufacturer**

Processes changed (factory layout and inventory) but equal focus on changed attitudes

Make-to-order

Just-In-Time

Responsibilities for quality, cost and safety

Empowerment through STPM (Schindler Total Productive Maintenance; includes elements of Total Productive Maintenance, Total Quality Management and Just-In-Time)

Process of implementation slow and difficult

**Senco Products: Manufacturer of nails and staples (Taninecz, G., 1997)**

Continuous Improvement

High volume, 900 stock units

Quality

Just-In-Time

Training

Empowerment – ownership of production process. Collaboration between process engineers and hourly workers



**SGS Thompson:        Semiconductor Manufacturer**

Continuous Improvement – based on local process ownership, centred around principles of Total Quality Management, which entailed breaking down barriers between product lines

Empowerment stated as a principle of Total Quality Management

Systems thinking perspective. Goal driven. Constant performance measurement

**Tenneco Automotive:                    (Hasek, G., 1997)**

Continuous Improvement – kaizen events scheduled weekly

Teams – project teams

Technology provides real-time feedback to production operators

Empowerment – 30% production teams are self-directed. 86% are ‘empowered’.

Empowered teams require management input on production scheduling, scrap reporting, human resources and training. Self-directed teams are more highly trained

**TREMEC:                    Automotive Supplier (rear wheel drive transmissions)**

Cellular manufacturing – group technology; each group is a factory within a factory

Total Productive Maintenance

Total Quality Management

Continuous Improvement

Stress on education

**Valeo Wiper Systems:                    (Gunsakeran, A. and Cecille, P., 1998)**

Just-In-Time – tools for achieving. Requires empowerment



**Varian Vacuum Pumps: (McClenahan, J.S., 1997)**

**Total Quality Management – employees responsible for root-cause analysis**

**Management control for 13 functions devolved to teams, not supervisors:**

**Production scheduling**

**Training**

**Quality**

**Skills certification**

**Daily job assignment**

**Safety**

**Holiday scheduling**

**Inter-team communications**

**Managers responsible for ‘big picture’ issues**

## **EMPOWERMENT IN MANUFACTURING ORGANISATIONS**

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Company publicity and accounts of successful initiatives (5, 17, 19) report unproblematic experience of implementing empowered work strategies. Significantly, those written from or reporting an employee perspective (2, 14) are highly critical of empowerment. There are instances of resistant employees and managers who changed (7, 10). Adler (1) documents experience of standardised production and empowerment within an automotive environment. Employees control the process of standardising tasks. Conflict is mentioned in the account but the overall impression is that employees take a pragmatic approach to new work methods. Wicksier (21) and Frey (7) present



accounts that highlight the difficulties in implementing empowered work strategies.  
Empowerment is associated with:

**Changing adversarial behaviour – management and unions (7)**

**Continuous Improvement (5, 8)**

**Employee involvement (6)**

**Intellect and knowledge through devolved decision making, responsibility, information and power (10)**

**JIT (8)**

**Managers absorbing tasks from above (10)**

**Managers letting go of control (20)**

**Managers set parameters and clear out the way (11)**

**Motivation - comes from a desire for excellence, sense of realism and trust ( 1)**

**Performance measures (8)**

**Problem-solving (7)**

**Process of change over time (7)**

**Provide cost information (11)**

**Purpose (20)**

**Self-directed work teams (3)**

**Sharing profits and responsibilities that accompany success (and failure) (7)**

**Total Quality Management (4, 9, 14)**

**Training**

**(8)**



## EMPOWERMENT IN OTHER ORGANISATIONS

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Empowerment associated with:

**Accountability (7)**

**Commonly accepted goals (8)**

**Creativity and innovation (1, 2, 4)**

**Decision-making (3)**

**Devolve authority (5)**

**Executive commitment (1)**

**Feedback (2)**

**Focus on strategic responsibilities of management (4)**

**Goal-achievement (3)**

**Information sharing (4)**

**Processes (7)**

**Process consultation (7)**

**Responsibilities (2, 7)**

**Roles (7)**

**Skills (7)**

**Systems (7)**

**Training (7)**



## GUIDANCE FOR IMPLEMENTATION

Some of the references in this category are among the most simplistic and prescriptive in the bibliography. Potter (18) lists a number of points he refers to as an 'empowerment tool kit'. According to him, there are "only a few basic points to bear in mind if we want to create an organization of empowered individuals" (Potter: 8). Dickmeyer and Williams (7) present a technique, born out of consulting experience, for which they make dramatic claims. Rapid 'transformational results' are promised. The technique, catalytic empowerment, is described as 'affordable'. It is difficult for the author to see this article as anything other than a sales pitch, despite the fact that it appeared in a refereed journal.

Belasco (1) offers a particularly problem-free book on how to effect organisational change. Organisations are slow to change so its participants need to be taught to change. Obstacles will be overcome with persistence. Blanchard et al., (3), Foy (9), Plunkett and Fournier (16), Scott and Jaffe (19), Stewart (21) and Wellins et al. (24) take a similar unproblematic stance.

Diagnostic and training tools include Baruch (2); Ford and Fottler (8); Johnson and Thurston (12) and Nicholls (14).

Brown and Brown (6), Kinlaw (13) and Vogt and Murrell (23) adopt a multi-dimensional systems approach to implementing empowerment. Brower (5) presents a model for implementing empowerment that adopts an explicitly systems approach.

Robinson (17), despite the unpromising title of the book, guides the reader through the changes required to organisational structures and processes when implementing empowerment within a manufacturing environment. Suzuki (22) focuses on the process of Continuous Improvement within manufacturing enterprises. Ginnodo (10) presents contributions on empowerment from several 'experts', along with case studies.



Ginnodo (10) presents contributions on empowerment from several 'experts', along with case studies.

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2. Baruch, Y. (1998). 'Applying empowerment: organizational model'. Career Development International, vol. 3, no. 2, 82 – 87.
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5. Brower, M.J. (1995). 'Empowering teams: what, why and how'. Empowerment in Organisations, vol. 3, no. 1, 13 – 25.
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7. Dickmeyer, M. and Williams, B. (1995). 'Gordon Gecko versus Tom Sawyer: catalytic empowerment techniques'. Empowerment in Organizations, vol. 3, no. 1, 32-39.
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9. Foy, N. (1994). *Empowering people at work*. Gower, Aldershot.



10. Ginnodo, B. (1997). *The power of empowerment*. Pride Publications, Arlington Heights, Illinois.
11. Goetsch, D.L. and Davis, S. (1995). *Implementing Total Quality*. Prentice-Hall, New Jersey.
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17. Robinson, R. D. (1997). *The empowerment cookbook*. McGraw-Hill, New York.
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21. Stewart, A., M. (1994). *Empowering people*. Pitman Publishing, London.
22. Suzaki, K. (1993). *The new shop floor management: empowering people for Continuous Improvement*. The Free Press, New York.
23. Vogt, J.F. and Murrell, K.L. (1990). *Empowerment in organisations: how to spark exceptional performance*. Pfeiffer & Co, San Diego.
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Empowerment is associated with:

**Accountability, alignment of direction, authority and ableness (5)**

**Continuous improvement (22)**

**Contingent approach to implementation (4, 8)**

**Leadership – setting visions, enabling subordinates, remove barriers, create culture (1, 6, 15, 21, 22, 23)**

**Leadership / Management responsible for:**

**Designing organisational context**

**Nurturing skills**

**Providing information**

**Setting boundaries**

**Setting expectations**

**Defining roles**

**Providing feedback**



**Defining resource control**

**Identifying training needs**

**Consistently modelling desired behaviour**

**Recognising and rewarding performance**

**Enable contributions of subordinates**

**Implement recommendations**

**Solicit feedback**

**Listen**

**Align goals and objectives**

**Keep focus on organisational objectives** (Contributions from Mohrman,S.; Byham W.C.; Somers, K. and Conference Attendees. In (10))

**Middle management responsibility for devolving strategy (20)**

**Organisational factors:**

**Mechanisms for enhancing common understanding of empowerment for facilitating common acceptance of vision and values**

**Performance management and measurement systems**

**Communication mechanisms**

**Reward systems**

**Information systems**

**Training – technical, social-skills and problem-solving skills (Byham, W. in (10))**

**Process control through goal setting, problem-solving, CI and feedback (22)**

**Structures, relationships, values and attitudes (19, 23)**

**Systemic and multi-dimensional approach to implementation (6, 13, 19, 23)**

**Unity of purpose (11)**



## REASONS FOR SUCCESS OR FAILURE

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13. Latino, C. (1998). 'Management side of engineering'. Plant Engineering, vol. 52, no. 5, 30-38.
14. Lepree, J. (1995). 'Quality strategies '95'. Chemical Marketing Reporter, vol. 247, no. 15, SR6-SR7.
15. McClenahan, J.S. (1995). 'Empowerment's downside'. Industry Week, vol. 244, no. 17, 57-58.
16. Rothstein, L.R. (1995). 'The empowerment effort that came undone'. Harvard Business Review, vol. 73, no. 1, 20-31.
17. Smith, B. (1997). 'Empowerment – the challenge is now'. Empowerment in Organisations, vol. 5, no. 3, 120 –122.
18. Sykes, P. (1996). 'Empowerment: nobody said it would be easy'. Works Management, vol. 49, no. 3, 37-41.



Factors that influence success or failure:

**Access to information (7, 14)**

**Authority equal to responsibility (14)**

**Business information aligned to strategic objectives (8)**

**Change of focus and control at all levels (3)**

**Cohesive strategy of skills, accountabilities and communication processes (18)**

**Clearly defined responsibilities (14)**

**Communication (11, 15)**

**Control (12)**

**Culture must support decision-taking (10)**

**Define standards (14)**

**Failure - focus on immediate concerns (6)**

**Feedback (14, 17)**

**Leadership (1, 7, 12)**

**Long-term purpose (2, 13)**

**Managers eliminate constraints (9, 17)**

**Measurement (15)**

**Middle management (4)**

**Permission to make mistakes (14)**

**Shared vision, values and goals (10, 15)**

**Time (10)**

**Training (13)**

**Trust (2, 13, 14)**



## RESEARCH ON EMPOWERMENT (MANUFACTURING):

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6. Powell, C. and Jewson, J. (1992). Empowerment – The Tools And The Process. In: *Conference Proceedings of the American Production and Inventory Society*, 194-197.
7. Pun, K. and Chin, K. (1998). 'Implementing JIT/MRP in a PCB manufacturer'. Production and Inventory Management Journal, vol. 39, no. 1, 10-16.
8. Selto, F.H., Renner, C.J. and Young, S.M. ( 1995). 'Assessing the organizational fit of a Just-In-Time manufacturing system: testing, selection, interaction and systems models of contingency theory'. Accounting, Organization and Society, vol. 20. Nos 7 & 8, 665-684.



9. Simons, D.E., Shadur, M.A. and Preston, A.P. (1995). 'Integrating TQM and HRM'. Employee Relations, vol. 17, no. 3, 75-86.
10. Weerakoon, T.S. and Lai, Kee-Hung. (1997). 'Organization performance: empowering the workforce'. Total Quality Management, vol. 8, nos 2 & 3, S305-S309.

**Alpander:** management and motivation. Questionnaire to German, Australian and Japanese subsidiaries of a pharmaceutical company. Results analysed by country. Individuals in all countries, to differing degrees need control. Conclude that managers set inspirational goals, provide access to resources, reduce performance constraints and express high expectations of performance.

**Heckscher:** interviewed over 250 middle managers in 14 large companies (c/f Kinlaw who says small companies leading the way). Participative management not accomplished much. Downsizing increases organisational politics. Discrepancy between perceptions of senior and middle management. Rhetoric and reality. Restructuring yielding disappointing results. Fundamental increases in organisational effectiveness not materialising. Empowerment: create something new or reinforce old ways. Expanding autonomy blocks systemic innovation. Overcoming barriers means focussing honestly on purpose. New relationships required by involvement in strategic purpose are threatening. System of co-ordination needs to be constructed.

**McArdle et al.:** case study evidence from an electronic company implementing TQM. The research speculates whether empowerment is exploitative. The researchers are of the opinion that empowerment is a controlling phenomena. Despite favourable worker response, they conclude that workers are being exploited but they are unaware of it. They suggest that workers are cowed into acceptance because of threats of redundancy. Workers responses evaluated within the researchers own value frame of reference.



**McCafferty and Leigh:** case study documenting culture changes within a traditional management structure to a delayered structure that focuses on problem-solving and continuous improvement. Change driven by environmental and cost pressures. Having specific tasks focussed effort. Stages included obtaining support, define required improvements, ensure team understanding, establish common objectives, implement and review. Success of the problem-solving exercise has started a process of change as production teams become aware of possibilities.

**Pearson and Chatterjee:** the researchers confirm that implementation aspects of empowerment remain unexplored. This field experiment documents the process of implementation within a subunit of an industrial workshop where locomotives are maintained. The results of the research provide support for a cluster approach to implementation, which needs to be initiated at a local level and extended through a ripple effect.

**Powell and Jewson:** case study of a US automotive supplier of brake systems to GM (Delco Chassis) changing from a traditional to new style management. Changes included installation of quick-change tools. Organisational changes equally important. Relationships changed from parent-child to adult-adult. Provision of accurate and timely business information (goals, budgets, costs, competitors) seen as critical in effecting change. Use of performance measures and trust were key factors in changing responsibilities. Experience showed that techniques are not optional and must become ingrained in management structures.

**Pun and Chin:** Case study of a Just-In-Time/MRP implementation within a PCB manufacturers, including the implementation of a Kanban system. The planned implementation process focused on education, with concept training to senior management and then to all employees. Emphasis on leadership, preparation, communication, education and collaborative problem solving.



**Selto, Renner and Young:** the researchers report experience within a manufacturing division of a Fortune 500 organisation that implemented JIT/TQM. The object of the research was to test different manifestations of contingency theory. Selto et al. report that there is little research into the changes required to organisational design (structure, context and control) when introducing manufacturing practices such as JIT/TQM). Their research examined the relationships among organisational structure, manufacturing methods and management controls at workgroup level. Management control practices at the research site frustrated efforts and were inconsistent with empowerment. Information and authority to self-manage were absent. Intragroup and structure conflicts impeded superior performance.

**Simons et al:** the research examines the experience of a manufacturing unit that implemented TQM. The unit is a foundry that supplies flanged pipes, valves and fittings to a variety of industries. Supply to Toyota so quality requirements are high. The research examines the possible contradictions between TQM and human resource management. An organisation-wide approach required by both. An integrated strategic view to implementing HRM and TQM adopted. Success dependent upon senior management. Importance of structure in maintaining centralised core values and decentralised execution.

**Weerakoon and Lai:** need to conform to ISO 9000 results in many companies professing empowerment but not practising it. Critical dimensions leading to empowerment are generally seen as: leadership, information, planned quality management, support of human resources, product quality, supplier quality, customer focus, public responsibilities. The results of the exploratory survey of 26 manufacturing organisations showed a lack of management commitment to empowerment and negative perception of employees.



**RESEARCH ON EMPOWERMENT (OTHER)**

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4. Ezzamel, M., Lilley, S., Wilkinson, A. and Willmott, H. (1996) 'Practices and practicalities in human resource management'. Human Resource Management Journal, vol. 6, no. 1, 63 – 80.
5. Foster-Fishman, P. (1995). 'The inserted pyramid: How a well meaning attempt to initiate employee empowerment ran afoul of the culture of a public bureaucracy'. Academy of Management Journal Best Papers Proceedings.
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8. Keller, T. and Dansereau, F. (1995). 'Leadership and empowerment: a social exchange perspective'. Human Relations, vol. 48, no. 2, 127-145.



9. Kerfoot, D and Knights, D. (1995). 'Empowering the 'quality' worker? The seduction and contradiction of the Total Quality phenomena'. In: Wilkinson, A. and Willmott, H. (eds). *Making quality critical: new perspectives on organisational change*. Routledge, London.
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16. Schuster, F.E., Morden, D.L., Baker, T.E., McKay, I.S. et al. (1997). 'Management practice, organizational climate and performance'. Journal of applied Behavioural Science, vol. 33, no. 2, 209-226.



**Blackburn and Rosen:** Interviews with senior management representatives of Baldrige award winners to profile HR practices. 14 key practices. Includes empowering employees to make quality decisions and having systems of upward and lateral communications.

**Claydon and Doyle:** case study in a data management organisation in the financial sector. Research based on semi-structured interviews. Focuses on tensions and contradictions inherent in empowerment, which involves both coercion and consent and discipline and autonomy. Reports on rhetoric and reality. Some managers interpret empowerment as being able to “run their own show”. Employees feel dumped on when mundane tasks devolved. Subordinates unclear about limits of discretion. Experts withhold knowledge in cross-functional teams because others perceived to be encroaching on their territory. Frustrations with expectations being raised and not met.

**Cunningham et al.:** survey of 38 organisations, followed by semi-structured interviews at 13 of the organisations. Research reveals limitations and tensions. Little dissemination of power and close control over employees. Main intent of empowerment to increase employee commitment and flexibility. Concept is practitioner driven. Strong managerial controls still in evidence.

**Ezzamel et al.:** interviews with managers from a wide variety of organisations. Examining issues arising from designing and implementing human resource strategies. Empowerment identified as important by a majority of the managers. Empowerment being used as a code for increased responsibility and work intensification. Tension of the employment relationship. Internal inconsistencies. No new understanding between employees and employers. Recession makes it legitimate to constantly push for change.



**Foster-Fishman:** case study of failed attempt to introduce empowerment into a traditional bureaucratic culture. Resistance because of the reform programme were inconsistent with employee expectations.

**Gilbert and Nelson:** documented experience of US Air Force base implementing TQM. 5 year project written at three-year point. Lessons learned include:

Increased understanding of employee frustration and anger at having to change. There has to be patience and persistence when implementing change programmes. Future TQM programmes will be developmental (a programme can only be evaluated in place) – the TQM process includes alternatives routes at different levels. Training as an initial step does not necessarily excite interest – this must be somehow accomplished. Leaders create constancy of purpose; constant improvement means constant ambiguity and partnerships need to be nurtured.

**Kappelman and Prybutok:** field study of a TQM implementation at 52 branches of a US bank. Concluded that employees empowered with a small degree of control over a change process produced increased motivation and commitment to the change. Training communicated management's serious intent about empowerment.

**Keller and Danseraeu:** survey of 92 people from management and hourly-paid employees at US computer company. The research investigated the role of leadership in empowerment, from the perspective of social exchange theory. Empowerment understood as self-efficacy. Leaders shown to affect subordinates perceptions of control through support for self-worth

**Kerfoot and Knights:** analysis of the contradictions that arise in implementing TQM within the financial sector. Contradictions include the need for employees to commit to quality initiatives while there is extensive rationalisation and redundancies. Having 'the right attitude' conflicts with job insecurity. Compliance to TQM goals at the same time



as being thinking, active agents. Detrimental influence of rank. Quality programme subverted by existing dominant groups.

**Northwood University:** focus groups from organisations participating in the research into the reality of implementing empowerment report “disturbing issues”. Among consequences of implementing empowered work were higher rates of labour turnover, a reaction of cynicism and distrust among workers and managers reluctant to share decision-making. The concept has appeal among business leaders but almost none of the research participants offered compensation for additional responsibilities.

**Panteli:** both case studies examine empowerment arising from the use of information technology. Employees with a wide range of responsibilities, through information are not necessarily empowered. They have no additional control over the workplace. High standardisation, lack of worker discretion, constant monitoring, information with limited knowledge and responsibility without authority were characteristic of ‘empowered’ organisations investigated in the research. IT enabled empowerment suits managerial and organisational purposes.

**Parker and Price:** empowerment defined as the belief that one has control over decision making. Using survey data from a social work context, evidence is presented that suggests managers who are perceived by subordinates to be in control of decision-making positively influence subordinates own sense of control over decision-making. Managers who exercise power in a supportive manner are an empowering force for their subordinates.

**Powell:** survey evidence used to investigate TQM as a sustainable source of competitive advantage. The finding suggest that factors normally associated with TQM success do not lead to sustained competitive advantage. Tacit factors, not easily



imitable, are associated with sustained advantage. These include behavioural patterns, open culture, employee empowerment and executive commitment.

**Randolph:** longitudinal research conducted over eight years at ten organisations that transformed from a bureaucratic to an empowered organisation. Randolph stresses that the transformation process is difficult. He describes all the organisations as “failing their way to various levels of success”. They made many mistakes but learned from them. The organisations succeeded by appreciating the paradoxes and value changes inherent in the transformation process. Leadership is identified as critical in effectively implementing the three key keys to empowerment: open and candid sharing of business information, more structure (rather than less) and use of teams.

**Schuster et al.:** this significant reference provides a review of the literature that demonstrates the link between management practice, organisational climate and high-level performance. The research tests the proposition that conscious interventions that emphasise high levels of employee involvement can produce higher motivation and commitment, leading to improved organisational performance. The authors claim that previous evidence in support of this proposition is largely anecdotal.

The company being evaluated, a dairy processing and marketing concern, initiated a new corporate strategy in 1987. The objectives of the strategy were to:

- involve all employees in affecting five critical business success factors (quality, customer service, cost-effectiveness, innovation and managing the environment)
- each employee to become manager of his own job
- empower employees through increased decision-making authority



- team structure.

An Equity Committee was established to monitor the effectiveness and fairness of management systems. A seven-step implementation strategy was evaluated over a five-year period, which correlated with a 66% increase in profitability. The baseline condition of the human organisation was established through the collection of survey data. Key opportunities for improvement were identified. Concurrently, performance measures and reward systems were reviewed to be consistent with the desired organisational changes. Barriers that impede social interaction were removed (separate dining rooms, reserved parking spaces). Results of changes were communicated to employees. The condition of the human organisation was then re-measured.

Operating income before expenses was chosen as the key indicator of the success of the strategy. The 66% increase in profitability over the period was attributed to the strategic changes. Industry performance, and the performance of the organisation's competitors, was flat over the same five-year period. The researchers claim that the superior performance of the organisation cannot be claimed to be the result of any unique environmental, economic or competitive factors that differentiated the organisation from the rest of the industry, apart from the employee-centred management strategy.

Substantial investment in training both management and non-managerial employees was a critical feature of the success of the strategy.



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## **Appendix B**

### **Selected Interview Transcripts**



Company One

Interview One

Production Director

*When was CI introduced at the Company?*

A Total Quality programme was started before I arrived about 6 years ago. My understanding is that this failed quite miserably. People just didn't take it on board. We then embarked again, just after I started, upon change - we didn't call it a TQ programme - we changed it, we really just said that we needed a culture change that had to come from the bottom up.

We embarked upon a complete training programme for about 35 people from middle management all involved in manufacturing and operators who we thought could make good team leaders as we developed the culture. They were given training in developing themselves and in techniques of monitoring CI etc. [1.1.PERSDEV]

They were taken off site one day a month session into a hotel. The aim was to develop these people into a team, to give them some skills and to give them confidence to take on this programme. [1.1.CONF]

Part of that programme was to talk about CI and how we should start it.

That was really the first success we had. From that, within the company, we started CI teams on the lines. We had maybe 50% success on that. It wasn't really what we wanted. We took on probably too much. People came back with lists of maybe 50 - 80 ideas and we never really had the facilities to back that up. So I think we've evolved. So we keep learning as we go along. [1.1.MNLRN]

That went on for 18 months two years and we did have some successes. We used a 4 stage format to monitor CI. That is still going to be the basis of what we do now.

We did a year's training before we really did anything. [1.1.PREP]

We then started on the CI programme with CI teams. We were slowly changing culture, certainly in this part of the company.

We went on to Kaizen, which is still CI; a workshop approach - getting people involved. But we still have learned that management still have to be in control and that hasn't gone away. I think more and more that tells us that that is the way it has to be. So we are empowering people to have an input in what they are doing, there's no doubt about that.

*In the first CI effort, was your main problem the high level of suggestions coming back?*

I think that is the problem. I think people are quite willing to join in and be involved and I don't think we've had a major negative problem. [1.1.NONEG]

If there's been a major negative attitude from the shopfloor people it's because of our doing, its because we have not done what we as management said we would do. [1.1.MANRESP]

I can't really say that we've had anybody who's been negative. We did say when we started the CI / culture change improvement, when we involved everybody in information feedback meetings, that this would now be part of everybody's terms and conditions of employment. We now tell everybody when they come into the company that this is part of our culture - we expect them to be involved. They asked what they would get out of it and we told them possibly nothing, except that you may have a job in 12 months time because if we don't do it, then you won't have jobs. Competitors who are doing it will go ahead of us and therefore we will fall by the wayside.



We try to be honest with people that there may be nothing in it for them. [1.1.HONEST]

We didn't dangle that as a bad thing. This is just the way it is. Some of the people we thought would respond badly actually responded quite well. Some people say to me now, "I thought that this was going to be the last time we did it.", and I have to say to them that we have had to re-visit it. We have agreed that we will not change the name. Will just use Kaizen no matter what we do. People have said, "Oh, no. Something new again."

The obstacles are really more management than they are shopfloor. Its putting all the other things in place to make sure it happens. You do need controls. [1.1.MANOBST]

*Are you thinking of making structural changes to cope with operator response?*

We have now made someone a Kaizen manager. His sole responsibility is now to develop this Kaizen approach. One day a week is Kaizen Wednesday and on that day people hold 2 workshops, one morning and one afternoon. They are review meetings to review what the teams are doing and to make sure that action plans are made up with people's responsibilities.

*Is this a means of sustaining continuity and motivation?*

Yes, absolutely.

*Do you see this as a means of handing over eventual control to the operators for the assessment of CI suggestions?*

The team picks the priorities of what needs to be done. The team is not just the shopfloor. It's a mixture of people. It is supervision, shopfloor people - they make the decision of what they want to do, with some guidance. When we started out, we worked

with the Kaizen Institute. Their philosophy is bring everybody in, make sure everybody is involved and it sounds wonderful but it doesn't really help you as a manager to manage your roles so what we try to do is

we help steer people in the right direction and we give them some focus on the things that they pick. [1.1.CIDIRECT]

Whether we would eventually allow them 100% choice, I would say possibly no because you can't. I think we still have to manage the company and I think that if their priorities were the same as ours we would leave that alone. But if they are not, then we will try to help persuade them. Other people we've spoken to who are doing Kaizen have said the same thing.

It's great, get people involved but they have to come along. It's not a matter of discussion, although we've met companies where they make it voluntary, but I don't think that works. A culture change is a culture change. [1.1.COMPULSORY]

*At the outset, is management autocratic?*

Yes, you are starting to control in very small areas now. We have one of our parent companies, a seat belt manufacturer, they have taken on this kaizen on board and they are probably 6 months - 12 months in front of us and they have it down to having control of someone, for example, who works in the store. He comes out on a 15-minute trip down the factory so that they have controlled what he does. Whereas before he did what he wanted to do they've now become much more autocratic and they say, "Right, it takes you 15 minutes to do that". They've cut stock and w.i.p. to this 15 minute kanban approach. They now control what he does.

*Do you see empowerment as being inconsistent with that approach?*



No, because within that he has to make his own decisions but what we are doing is making the decisions easier for them.

We are saying to an operator, that is your responsibility, you have got to do that properly. The chunks (we are addressing) are smaller and more manageable. Where before we might have taken on the whole line, we are now giving them small bits to develop. We are going to give you all the tools now get on with it. We are starting to define job descriptions tighter and tighter. [1.1.DEFJB]

*Can we talk about the procedure for monitoring suggestions?*

Do you mean from the point of view of actually monitoring if what we've done works or not?

*No, how much autonomy does an operator have in implementing the suggestion or does it have to be evaluated?*

Within the kaizen workshop approach, that tends to come up in the workshop and the team would agree that they would do something about that. In fact, what we said was anyone who brings up an idea we would try to do something about that idea. Does that answer your question?

*I am trying to understand who is responsible for evaluation. Is it still management? Is it still management controlled?*

Yes. In all fairness we balance the kaizen teams so that there's more management than there are shopfloor people. It is balanced to give them an input but not really total decision-making.

*Is that the way it is going to stay?*

Yes, I don't think that will change. The more people we talk to, the more people say that's how they do it and that's how it should be done.

*If you have no intention of moving towards further devolvement of responsibilities, do you see a problem with maintaining motivation if operators get to point where they feel that they can that they can contribute no more?*

Not really, because CI is exactly what it says, it is continuous. It never stops.

What we are going to give them is a controlled way of being involved. Before we started this, an operator might say, "Ah well, I told the supervisor this and the supervisor said it was a waste of time". That wouldn't happen now. They have the right to get their query put down in writing so that a decision would be made about it. [1.1.PROC]

No, I think there will be no negative reaction and I think we will never stop. People will not lose interest. I think there will be a point where new ideas will peak but we are now looking at long term development of equipment which will involve engineers coming in and working with the team. We are already talking about the next series of equipment and products we are going to make so that will then start another round of CI. We are not stuck with a product or production process which is going to stay static. That is where the variety will come. A lot of people are satisfied with a small input whereas others want to become more involved. The majority will have better understanding of their role and how that can help which is mainly what they didn't have before. They know that their contribution will be recognised.[1.1.REC]

*What sort of performance measures are used on the shopfloor?*



We have a bonus scheme where we work on a three monthly rolling scheme so what they actually do in this three months is paid in the next three months. The bonus is paid in arrears. That helps us. The type of work done means that it is quite difficult to motivate to we still have a bit of a bonus scheme. They are measured by a standard rate per hour. We use a minutes per piece measure to monitor performance on the shopfloor, as well as scrap. Really that is it. That is a group policy. Our group head office understand minutes-per-piece and that's what we use. It is also quite a good indicator of what goes on. But we do get deeper. We are looking at all aspects of efficiency.

We are developing, through Kaizen, a worksheet for each line which takes into absenteeism, scrap, efficiency by operator, efficiency to work-to-lists, cost of despatch, despatch to customer...certainly we are trying to feed back to people, "Did you supply what the customer wanted?" Did the product get shipped and if so what was the cost of shipping? People can then understand the implications if things go wrong. [1.1.PERF]

*You are very aware of the strategic importance of information?*

Oh, yes.

*Do the operators get overall business information or do they get specifically information about their own operating contribution?*

No, the MD does a quarterly feedback information meeting to everybody and in that they will get company figures. Nothing is kept secret. They are told exactly what profit is made. We do not go into too much detail so that people can understand that we are either making a profit or not and also the contribution made by different areas. There is a slide somewhere (search for overhead, not found) We have three distinct sales areas in the company. We looked at sales for these areas, the cost of material and labour, the contribution of each of these areas so that people can understand the whole mix of the

company. There was a lot of information fed to them but we are careful. We have found that they do not want overload.

*At what is the cut off point?*

They get more detail of their own specific areas because that is what they know they can change. People want an overview of the company, that's all. We try to show them key ratios that affect them so we try to get details of materials information down to the lines. We are not there yet. We are currently in the middle of addressing management structure to try to get more information down to the shopfloor. [1.1.INFO].

*You made the point that management was more a source of problems in implementing CI rather than the shopfloor. My perception is that the problem is not one of attitude. Is that correct?*

No, it is not attitudes. It is more about sensitivity. People are more concerned about changing titles. When you change someone from being a manager to being a team leader...

*Is that important to people?*

Oh, yes. Very much. It is surprising how important that is. By introducing kaizen, I suppose the idea is to flatten the structure of the company so that makes people nervous because you suddenly see someone who is called a manager suddenly becoming a team leader they see it as a retrograde step.

We try to tell them, and what our policy is here is to get the people on the shopfloor doing their job without supervision and therefore then the Team Leaders can then



develop kaizen and spend more time on trying to improve the ideas that people come up with. [1.1.OWN]

We ask operators not to call on the Team Leaders. We are changing structure, not numbers of people. We are changing their job roles and trying to make it so that if we do free people up then they can go on to CI and help develop it.

*The Quality Manager was telling me that efficiency savings as a result of CI has helped the company to cushion the effects of the recent strength of sterling.....*

Yes, over 4 years we have improved direct labour costs from 15 - 20%. The operators know that they have made a contribution to this - but there are limits to empowerment. We have actually changed our mind on this. When we started we didn't see any limits. We were going to empower...but as we go on we realise that there have to be controls. Otherwise you have people going off on their own. Empowerment is about changing the culture and really about doing what we should have been doing all along. What we hope to do is to change the culture. You go three paces forward and two back but eventually it is a change of culture which we are after. Nobody has written the book which tells you how to do it. You learn from others.

*What have your own particular frustrations been in introducing CI within the Company?*

CI has been focused on manufacturing, not throughout the whole company. This is a general tendency, not just within The Company. CI needs to be implemented throughout the whole company. That is one frustration. We were not structured properly to make CI happen and to back up what we were trying to do.

More facilities are needed to develop CI. We have an engineering dept which is fine for what we were doing. Suddenly you start bringing in teams and they start to generate an awful lot of work. We found that we didn't have the means in place to deal with that work. The main problems have been structural, not to do with people. [1.1.SYS-SUP]  
That has not been a problem since day one. I worked for a Japanese company and I was once told, "If you were in Japan, you would be a very good manager." I said, "I don't know what you mean". They said, "Well the difference between your culture and ours is that in our culture, if we have a meeting at which it was agreed that we were going to do something, it would be done. We would work all the hours necessary and you would not have to go back and check because that is our culture. In England, that does not happen. You come up with lots of good ideas but they do not get followed through and that just about sums us up.

That is why we are trying to change the culture, which means empowerment, which means structures and control. [1.1.EMP]

We probably have to have controls whereas in Japan they don't need them. Their own society has control already in place. The amount of discipline in their culture is something that we do not have. I worked for a Japanese company for 5 years and I was in Japan for 6 weeks. I saw a lot of good and bad things. I actually saw people struck over the side of the face because of quality problems. On the good side, an employee had problems at home with their baby and everything was done automatically to support him and to make sure that everything was OK. You have got to empower people, more probably at a middle management level. They are key to this thing working or not working, they have to have confidence and trust in you as a leader that you are not going to move them along so that they lose their job. One of the things we try to be here - in fact we have been - is honest. We have tried to be honest from day one but the middle management have been the ones who have had to change. Where they have had control before, they are giving that away to a more disciplined approach and people don't want to do that. "I will handle that. That is my job...." That sort of barrier needs to



be broken. When we make mistakes, we tell them. What we learned is this, and what we are going to do is this.....I really did change manufacturing quite a bit. It really was quite old-fashioned before I came. People do know that we will make decisions to try to take the company forward, rightly or wrongly. Team leaders are the key. They can make it or break it.

Enterprise One

Interview Two

Production Manager

*How long have you been with the Company?*

About 13 or 14 years. When I first joined the company I was a machine operator on the shopfloor and after about two years I was made up to Team Leader and it as just gone from there.

*When did you move to your present position?*

About three years ago.

*So you will have seen all the changes?*

Oh yes, I have seen a great deal of changes. They really took off 4 or 5 years ago. This was to do with the problems the company was having at the time - who owned whom. The company was taken over by the current parent company and it is only since then that things have really started, since a little bit of money has been made available. I should say that a lot of change started since the Production Director arrived in the company.

He made gradual changes but then he showed us different sorts of equipment that could be introduced onto the lines for easy maintenance and easy for an operator to come to terms with. They were really basic machines. The ones we had beforehand were a bit too technical for us so that there was only a small number of people who could put them right. [1.2.GRAD]



He has taken us to other companies and we have looked how they have followed through on CI. Everyone has their own way of doing it but they all come out with their own set of results. It is a company thing. I don't think that you can write it down and say that this is the way to do CI.

*What does your current job entail?*

I am manager of the area. I am responsible for the staff in the high volume area and it is basically making sure that they complete their work to lists which are generated from the scheduling from the customers.

I am also responsible for the staff's personal needs to ensure that they are looked after. The disciplines of the line and also I have supervision who look after the day to needs of the line. I am more for looking forward. [1.2.CARE]

*Do you have much contact with your opposite numbers in the other production areas (Barriers and Traditional)?*

When we were on the same site we did – not so much now - but our actual jobs never really crossed. There has been a restructuring in the last few weeks. I used to have three co-ordinators. High volume has now been cut in half and I am responsible for half and Shirley is now responsible for the other half. He hasn't demoted or promoted anybody but titles aren't mentioned any more. It is really to get a clearer focus on certain areas and aim for positive issues, targeting scrap, for example. On some lines it was worse than others so it was to take the pressure from one person having to figure out what was going on there and there are two of us highlighting different areas.

*Could you tell me how the recent changes have affected your job?*

In all honesty, it has made my job a lot easier. I say that because when the customer schedules came in it was more fire fighting. You would have 6 machines making a product then there would be a change in schedule. Everything would go berserk. There was no flow. Well, there was an individual flow. It was one person doing something. Well, now there are groups of a minimum of 6 and a maximum of 10 on a line and they do a consistent product. The actual operators are taking ownership of their own lines.

*Would you say that was the biggest operating change you have seen?*

Operator participation is the biggest change that has happened. Instead of managers coming down and saying we are going to do X, Y and Z the operators are saying, well what if we did so and so? Do you think that would improve the line. It is now coming across from them. They talk about things over their tea breaks as well, coming up with ideas and getting involved, whereas before they never used to. [1.2.ENTHUS]

*How did you feel when you were first introduced to this new way of working?*

It was a bit frightening, really, purely because of change. You are never sure of whether things are going to work out. It is also exciting because you have never before been given the opportunity. I think that it was a combination of apprehension and excitement.

*Was that apprehension about your own abilities or about what would happen?*

It wasn't my own abilities. I am quite happy to share what I know about how the lines work. It was just the uncertainty of change. You hear about other companies who have been doing it and they make it sound so easy. When it first started it wasn't easy. You used to have loads of meetings with loads of people from the shopfloor and they would all be coming up with their own ideas. You would have lists and lists of ideas. At the



end of the day, you think, what am I going to do with these? We failed. I will be quite honest with you, we failed. We tried to do it all at once and you can't do that. As it has gone on, we have tried to give everybody a little something. Most recently we have been involved in kaizen which has been the most successful way of implementing CI.

*What was the difference between that and the CI initiative?*

It was probably that it was more organised. We had probably had got a bit bogged down with trying to take a little bit of other companies' experiences.

The operators had also lost interest. They had been eager and had suggested new ideas. They could see no rewards for their efforts. They thought, here we go again. What are we doing this for? [1.1.REWARD]

The biggest breakthroughs we actually had – and this might have been a little bit of judgement and a little bit of luck – and that was a group of girls who work on one of the lines. They work very, very closely as a team of people.

One of them was the spokesperson for the line and every time they went to a meeting she would say things like, "I have heard it all before, you tried all this before". Then, one day out of the blue they actually came up with a plan to improve the line. It has been very successful. That helped spur a few of the other lines. [1.2.ENTHUS.2]

It has only been this year that management have been getting specialists in Kaizen and we have been going through the training of how they would do it. It is a proper format to follow. It has made it a lot better.

*Could you give me any other examples of the success of Kaizen?*

It is really hard. The high volume area is split into 12 lines and basically their processes are the same but there are some lines which are really eager to participate in all of this and there are other lines where the operators just want to come in and do their job and go home.

*Why do you think that is?*

I think it because of the size of the groups and how they are spaced out.

*Would you say that it had anything to do with the mix of personalities?*

Yes, quite possibly. The age of the line we talked about earlier, they are mainly older women. They all work on the line. They have their tea-break together. It is very rare that any of them are out. It is even things like that with absenteeism. You can pick lines out that are the ones that do not run as teams. Their attendance levels are probably the worst.

*Is there competition amongst the 12 lines?*

No. They keep themselves within their lines but on occasions they have to move.

*Has there been any operator resistance at all ?*

Very little. There is always one in the pack but the biggest of these has come round to our way of thinking. I don't know why she changed. It could be that it was because she had been having some personal problems. We took time to see her through it, I think she probably responded in a positive way. She was asked to be a supervisor in the past and



she declined. The line that she went on to had a supervisor and in the supervisors absence, without having to be asked, she will take charge of the line.

Acknowledging the fact that she had gone to the line and sorted it out, she has subconsciously appreciated the recognition. [1.2.REC]

*What sort of performance measures do the teams have to perform to?*

It depends on the actual line and the scheduling. Basically what they do is, we plan a minimum of a month ahead. We say this line will make whatever quantity per week for the next number of weeks and then the work-to-list is built up to that number.

*Is the work-to-list the prime documentation?*

For production, yes.

*What about defects and scrap?*

The scrap rate is monitored by people on the line. They count their scrap and they record their scrap on a sheet which is handed to production control.

*What other things do the operators on the line control for themselves?*

Time sheets. They are also responsible for hitting performance over a period of time. We have a lady that takes the time sheets and work out their performance.

*Does CI extend to analysis of why problems persist?*

It is now. The scrap side and the defect side has always been a problem to handle. Where is the problem being generated? How do we record it? On one of the lines doing the Kaizen at the moment, they have formulated a new document to record their scrap. The old scrap sheets might have 20 or 25 reasons as to what the problem could be. You would have a defect and then you would have to scan the list to see what one it was going to be. The new sheets are simplified to identify how the problem could have happened not what the problem was.

*Are all the lines in the high volume area covered by kaizen activities?*

Not at the moment.

*What proportion are involved?*

Two out of the 12 lines with a third about to start. We also discovered that because the lines are so similar, apart from the fact that they do different products, is that part of the information can automatically be fed into the other lines so they can share because they have common features.

*Are their kaizen audits where CI targets are set?*

Targets are not set. Well, they have but they are not targets, they are projects. They have their projects and a set amount of time they have to do them. The projects are set by the group. The Kaizen teams meet every Wednesday. Wednesday is Kaizen day throughout the company. It doesn't necessarily means that all five kaizen teams get to have a meeting that day. There are three who do it one Wednesday and then the following week



the other two meet and it is in those meetings that it is discussed what has happened and what they would like to happen.

*How would you describe communications between management and the shopfloor?*

It is not even a change from management to shopfloor. It used to be that management would all go away and sit in an office, discuss what they wanted to change and then tell the people – this is the change. Slowly, from the managers telling the people on the shopfloor to the managers talking to the people on the shopfloor. Now it has got to the stage where it is now a joint problem-solving process. The managers are still there but the loop has now been closed. The shopfloor people now realise that you can't do everything you want to do within a week. It does take time and because it is now their ideas which are being implemented, rather than the supervisors or whatever...

*Do you think from a business point of view that the operators understand the reasons for implementing CI?*

I do not think so. I do not really understand it from a business point of view. I think they are all aware of the need to improve and that if the company doesn't then we stand still and that competitors will move on. The operators are basically working smarter not harder.

*What frustration or difficulties have you identified in implementing kaizen?*

The only difficulty is that when they are implementing kaizen, not maybe all of the relevant people know about what is happening. That is for a variety of reasons. On KC2 (one of the lines), they come up with an idea and they tell you about it. You are convinced that that is what they are going to run with and then somewhere along the line they have changed their minds. They have gone away and had another chat about it and they talk to you about it as if you know about their new idea. That's a bit of an

obstacle. Sometimes you feel a bit stupid in a meeting when it comes out that you don't know their new plan, as though they had told you about the change. [1.2.COMM]

*Do the teams on the lines have to seek permission before suggestions are implemented?*

No, it is not seeking permission. Because there is a combination of people in the team it is agreed and discussed with the rest. There is always going to be an idea which is not practical because it is very costly so at that given time, I wouldn't say that it is dismissed, it is sort of shelved but they try to explain why the idea isn't feasible. The people in the kaizen teams who work on the lines go and feed back to the lines. Also the rest of the lines at regular times during the month are stopped and filled in what is going on. There is always a lot of talk of what is happening.

*When I asked you about what your job entails you focussed a lot on people. Do you see your major role as being one of leadership?*

I have just had my motivation profile done. Mine is very high on leadership qualities and also on benevolence which basically means that I am a people leader. I tend to other people's needs rather than my own. People do not go out of their way to be deliberately obstructive. I think that everybody likes to have a moan and a whinge but I also think people need to see why we are doing things. If people discuss a change and they see it happening it just entices them.



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Enterprise One  
Interview Three  
Senior Manager

... I was then taken on as CI manager. I have a capacity to get people to do things. I can communicate above and below. The problem then came because somebody had just seen CI in action in another company. I started reading up on it as soon as I was given management of the C.I.P. It wasn't as straightforward as the person who originally thought it was. His idea was; you have a meeting with the shopfloor people, you get all their silly little things out of the way - they want a new broom, they want this they want that and you end up with God knows what but with no benefit to output. Now, I understand that but the problem was that I ended up with 70 projects, which was the most stupid thing.

*What constitutes a project?*

Chairs. The operators said the chairs we have don't feel comfortable. That's a good one. If you feel comfortable, output is better. Oil - we need to oil our springs to reduce friction so that they rewind better. This was driven mainly by the shopfloor. The C.I.P. manager was there as a facilitator. That came about 6 months later - as I said, I started reading about this and I thought - you don't manage CI. You empower the operators. You give the operators the power to do it. The facilitator guides them through the minefield of management requirements to get something through. When I say that, if you understand empowerment to the extreme it means that everybody on the shopfloor can write purchase requisitions for £1000. No company is going to allow that 100%. The facilitator is there to say, yes I agree. We'll involve the finance director. If he agrees then I will arrange the purchase requisition and it won't be me that gets the pat on the back, it will be the team.

*Who evaluated and implemented the suggestions?*



The projects were prioritised by the 6 or 7 people in a team. One team might have 15 projects. The teams had a format to follow through and prioritise projects from 1 - 10, 10 being the main priority. If one team ended up with 150 points, that project was honed in on. That was a standard we laid down. The problem was that people had a tendency to think that everything was a priority. & people sitting there, 5 not interested but the 2 others would get shouted down. The facilitator mediates evaluation. If the 2 people do that job 90% of the day and they have grief with it then the team starts to come round to the 2 people priority suggestion. That was the aim. The collapse to CI was not the people on the shopfloor, it was the amount of live projects generated.

*Could the operators not take responsibilities for small suggestions?*

The small suggestions were not operational. Small ones were, for example, towel holders etc. We got the silly little things out of the way. These things sound silly to us but operator comes in, sits at his machine for x amount of hours, gets up, goes for his tea-break, comes back, works away, gets up, goes for his dinner break and comes back and he has nothing else to do. He doesn't have to get up from that machine, he doesn't require anything. He shouldn't, in theory, have to move from that machine. He should have line feeders who supply him with product that he requires throughout his working day. The initiative faltered because I wasn't just responsible for CI. This is another failure. I have been to other companies and they have a CI person - that one person, it is solely what they do. Nothing else. They are sent away on training courses. We now know that an integral part of CI as a facilitator is knowledge of the structures. There were no structures. We had a consultant who we used - he is very good as a consultant. He had seen CI and he tried to take that on board as part of his consultancy work and our directors thought, well ... but in truth I have since found that there are specified courses for CI. They are not just sitting down for two hours - I spoke to a manager I have known for many years who was sent on an intensive week long course which cost his company £5000 pounds. We live hand to mouth in respect to finance. We are not

going to have that. The next thing I know, we've got the consultant and with the best will in the world it was not an intensive course.

CI started to die. Now, as a programme, CI never dies. It is just an ongoing thing - somebody on the shopfloor will say, "Why can't we have a blasted conveyor belt which will save me getting up and going round there" and you know, that's a good idea. One of the group directors has been through, in a minuscule way, of looking at Kaizen. We both know that Kaizen is CI under a different name. That is the buzzword. Now, him being the group director, we are now going through CI again. We still have not had anyone go away on a specific training course and that is the one thing I learned from that friend of mine and that is in a company one person should be sent.

In all manufacturing companies, the most high profile for improvement is the shopfloor. People are inherently aiming at those to improve. I, in my quest for CI have noted that, if you started at the office and worked your way through you wouldn't have a problem. We have a problem. Barriers, which are our biggest money earners, had a problem with customer orders. Production control - we get pulled into a meeting on a daily basis and why haven't we reached so and so. Well, we are not logged to make so and so. It's too late then. The person sitting opposite production control person is the export person who says, "Yes, we can give you those for Friday" and has put the phone down. She expects the person sitting opposite...and there you have it. If you ask somebody on the shopfloor to make A, and then B and then C, so long as they have A, B and C, they will do it. The problem comes when A is there, B isn't and C is. What do they do? This is where the term empowerment comes in. Somebody has to make the decisions.

I think that with CI, in the majority of cases we start in the wrong place. Conformity is necessary in CI - is everything in the right place. Look at the office out there. There is paper strewn all over the place. If that happened on the shopfloor, there would be all hell to pay. But we have to live with drivers we have. I am a great believer in CI. CI is about data so that if the offices were the first to be targeted they would understand that data



collection is the driver behind CI. Without the office behind us the structure will collapse.

*Are you saying that things here don't function here systemically and that partial implementation of CI causes problems?*

That's exactly right. We had a programme of appraisals - the whole factory. Manufacturing, once a month, don't ask why, all manufacturing managers were appraised. I have a friend who works for a multinational company. That's all he does. He says that's not appraisal that's objectives. A month is insufficient time for anybody to reach an objective because you are still on a learning curve. Well, in manufacturing this was carried out on a monthly basis for nearly a year. Then manufacturing found out that appraisals were not being carried out on finance, sales, anywhere else ... once again manufacturing had been pushed to the forefront and ...why? Why is it always manufacturing? If manufacturing were given the right information our efficiency would rise. The office have tried in a roundabout sort of fashion.

*Is this a problem which is recognised?*

No, we've had the Kaizen team in from the Kaizen Institute. Because of the problems that we as manufacturing incur, and I tend to be the one to stick my nose in when I shouldn't, I asked the kaizen team from Ford/Jaguar, do you have anything on office Kaizen? They said yes, but we're not supposed to say anything about it. The biggest problem was because we had half a day being taught kaizen, we didn't fully understand the literature but there is programme for office environment kaizen and that is why the people on the shopfloor think, oh not us again. The people on the shopfloor are not stupid. The majority of good ideas come from the mouthpieces but the reason that they are mouthpieces is because they do a good job. One of our operators, three years ago or four years ago was the bane of everybody's life but she has so much positivity about her. She thinks she is negative but when she says something you listen. She changed the

whole structure on one of the lines. I think it cost about £2000 but there was immense benefit. Brilliant, well done girl. Truthfully, it didn't take long for that to take off.

That's another thing about kaizen, CI. The driver has to have the ability to give praise where it is due. That does not always occur. [1.3.REC]

I run the coiling kaizen group. We had one of the group directors of the parent company come onto our team and his first language is not English. At the end of the exercise, we made our presentation. He said that he thoroughly enjoyed working with the team because the team made up of two people from the shopfloor, a maintenance engineer, a supervisor and two managers. There should not have been two managers.

*Did that affect the dynamics of what happened in the team?*

It did, it did. I was one of the managers and the other was from our other local factory. He is production manager over there, which incorporates coiling. They have about five coiling machines but of the more traditional type. Coiling over here is totally different. We are high volume and we knock out about in the region of 500,000 a week. Over there, they might knock out 30,000 a week. As managers we were peers, we have worked together for many years although he now works over there. Because he was an outside manager, it put pressure on the operators who were used to either maintenance or myself. I originally thought that the group director might be a problem but I chose the two youngest operators. I want them to go forward. A youngster has enthusiasm. A person who has done the job for years might find change hard. A youngster can drive the change. This is what happened. They took their time to actually stand up. They were from two different shifts. We let operators go through the process.

They were both very, very wary first off. One of them said that they came to work on the shopfloor. I told them that because they work at the machines 8 hours a day, they know if the machine goes "kedunk" when it should go "keklank" then they know about it. As an operator, the person who should be involved should be the person at the



machine. The supervisor should be involved in an advisory capacity or to sign the purchase requisition. They go through the process with the operator. Empowerment became the buzz word. I still to this day am scared because it seems a very hard, harsh word. It contrives in one's mind to admit that that person is capable of anything they want to do. I don't care - any director in this company can say we want empowerment but if they are honest, they want empowerment to a certain level. Which is correct. If the word empowerment is taken out and if not such forceful a word is put in its place, I think that people would accept it. The word really means that the company want personnel to take hold and work and improve their area. It is normal that people are insular in some respects. This is my line. If every person involved in CI, at a senior level, that is the aim. People would love CI to happen overnight. Deeming says that in Japan it took 15 years. Japan was rebuilding itself but people like Deeming didn't take into account Japanese culture.

I think this country is totally untapped but people want to be tapped. [1.3.POS]

I have been to a hell of a lot of companies where if you used the word 'empowerment', if you said the word, you would not last in the job very long. You take away what a manager or director within that company feels is his job.

It seems to be that people's understanding - nobody is invincible, you have to be open, you have to be honest with the people on the shopfloor. Now, you can't always be honest with the people on the shopfloor. Now the problem is that sometimes you can't be honest with people on the shopfloor in respect that there are certain things you can't tell people.

This company has a workforce which want to be involved but the company, in truth don't know how to involve them and yet there are training courses in how to involve people. [1.3.INVOLVE]

After the two outside agencies came into the Company, with their different approaches, am I right in thinking that the changes they suggested are being implemented?

No. The Kaizen Institute involved the directors for the first couple of days. Then it was a programme of involvement of who the directors felt should be targeted. All that has actually stemmed from that is that the Kaizen Institute has a close link with Ford / Jaguar. As a personal thought, in part of our group, if I am totally honest, our toilet cleaner could have gone and improved their efficiency dramatically and easily. I think that they then said to us, "Come and see what we've done". That factory had a Kaizen Manager who was sent on a course. He was sent to various plants to understand how Kaizen worked at various plants. He has three Kaizen co-ordinators working for him on a 75/25 basis - 75% working for him. Spread it into the Company - oh, here you do it. He as a person is like myself. He wants to go forward. He has taken on about 5 projects and he is now finding that it is collapsing under him. He has not been involved with senior management long enough. He is a 26 year old and you are putting too much pressure on someone like that.

He has remarked that he doesn't know what management want of him. When asked what he means, he says "Well, I get started on this, I drive that through and then they pull me off". Once again, there has been no training. There has been an informal chat and that's it. Now what I find important for you to understand for your thesis is, the people who are nominated for facilitators must be adequately trained. If they are not adequately trained, you might as well forget it. [1.3.TRAIN]

The other thing is, there has got to be a budget; a specific budget that is put aside. When we did CI, I was give a specific amount of money. Within three months, that had gone not because I had spent it but because parts of the company had used that cash.



The only problem I have with Kaizen at the present time is, the level of commitment in the heart is quite strong, the level of commitment in the pocket is quite weak. You have to have both. Each of our directors will say, "We want kaizen to work". If you then ask, "Well, how much have you budgeted?" I would be surprised and flabbergasted if anyone said they had put a figure aside. This does not bode well. If they want to go that way, then let us just carry on with CI but do not put deadlines on activities or give people titles. [1.3.FIN]

Titles are stupid. I came in here as the coiling manager but I have about 6 titles in this company and I know full well that is just another title. The big thing this year is the environment. I am the Health and Safety Manager, I am the Environment Manager, I am the Coiling Manager, I am Security Manager , and I am the Utilities Manager. Now, I do a 9 or 10 hour day and I enjoy it. I do not understand why you are given a title and when you start making inroads, they take it away from you. This is what is happening with the CI Manager now,. He is getting a bit under the cosh. Everybody wants things to happen now, bang, bang, bang, bang. Things don't happen like that. CI is one of the slowest things that will happen within a company. Occasionally, you get somebody will come up with a big idea but not very often.

(Interview finishes with conversation not related to the Company)

Enterprise One  
Interview Four  
Operator

*How long have you worked at the Company?*

6 years now. I have always done the same job, on the rewind.

*Could you describe what you do in a typical day?*

You just sit there, wind the springs, re-wind them and cut them. That is all it involves, really. It doesn't take a lot of brains to do it, truthfully. There is a knack to it. You have got to pick up your speed. It is speed more than anything, really. You have to earn. The more you do, the more you earn – up to a point and then it gets cut off. There is no brain work with it.

*Is there any rotation of jobs on the line?*

No, literally you stick to the same job but if there are a couple of people down at the end of the line, doing the auditing, then you will go down and do their job. Auditing is like inspection.

*Any special training you get for the auditing?*

Basically, no. It is just somebody showing you and you just pick it up from somebody else. There is not a lot of training here at all. They might say we have trained a person and five minutes later they would be doing the job.



*What about housekeeping and servicing of the machines?*

Well, basically we tidy up our own areas. You wipe up your machine at night and tidy around. There is no procedure for that and it is up to your own discretion what you do- you, make sure there are no springs lying around, you wipe your machine down in case somebody goes on it when you are going home. The only maintenance I can do is change a pin. You have different types of springs and you have to change the pin for small, medium or large. All I would do is to take out a pin and put another one in. But that is all the maintenance I would do. Sometimes you might do it twice a day but then another time you might not do it for a week or so.

*Could you tell me a bit about the changes that you have seen here at the Company?*

Well, truthfully when I first came here it was absolutely rubbish. There was no organisation, there was no communication between management and staff. If you had a complaint or you didn't like something, they would say , "You know where the door is" and I think that that is terrible. It is no way to run a factory. [1.4.OLDORG]

There is no unions any more. We tried but there was no way we could get one in here.

Then the Production Director came and things began to get better. There was a lot more communication between them and us. If you wanted to say something to him, whether he liked it or not, you could say it. There was no backlash. There has been a lot more organisation, a lot more meetings. People are not afraid to say what they think any more, which , as I say happened before. [1.4.COMM]

They would moan but do nothing about it. There is much more communication since he has been here. If you don't like something, you can do something about it now. You can have a meeting and have a moan. Whether you can get what you really want, I don't know but I believe they do give a lot more now than they ever did before. There

is a lot more compromise now. There were only about 24, 25 when I started. They do not know any different.

A lot of what management does I do not agree with and I think they break a lot of rules, up to a point – even now. [1.4.DISAG]

You can't do a lot about it, because you haven't got any unions. I am not a strict unionist but do honestly think they used to help. You do need somebody to help when you have a situation. I don't agree with the way they do their time and motion.

*How do they do that?*

They do not care who does it. As far as I am concerned, time and motion is like a course people go on. You can't send somebody away for a week and then say they are qualified because they are not. The way they do that is out of order..

*How often do you have a time and motion study done on your work?*

We have just had another one done. What they do here, is that you go by 3 months at a time. You have a certain amount to do and you have to keep that up for 3 months. If you don't keep that up then your money goes down. For the next three months – are you with me? You either have to say, "Stuff it, we don't care" or you have to work harder to get back again. The way they do this, I am not happy with it. The way they do the time and motion is out of order. We have quite a few fights with them about it. When I started here it was piece work, the harder you work, the more you earn. A lot of people were unhappy with that. Not me. You have to work for your money. This three monthly thing, I am not happy with it. It doesn't affect me, truthfully.



*How long has the three monthly review been in operation?*

About the beginning of last year, I think it was. We were not told why the new procedure was being introduced. A lot of people on the shopfloor wanted to get rid of piecework because they couldn't earn the money. Then they came up with this scheme. Everyone has their arguments but in the end they do what they want to do , really.

*Are you consulted about the reasonableness of the figures given to you?*

There has been no discussion at all. They tell you what they want and then you can argue about it. For example, we had a time and motion study on us. Say for arguments sake they wanted 400 and something an hour, from 360 an hour. Then their auditors wanted 600 an hour out of them but we can't make enough to give them theirs. We are in the middle of sorting this out. I have worked in loads of factories. What you have is time and motion people. They come and check for hours, not five minutes, sometimes all day. They actually watch everything you do, from the time you come in until the time you go home. Here it is a ten minute wonder.

*Would you want it to happen in that way?*

No, I suppose you do not want them there all day. You have to take into consideration pickup speeds or go out and fill your bottle up for oil. We used to pack the springs in boxes. To do a time and motion study you have to include everything you do. Alright, we just wind the springs up now and put them on a track but you still have to get up to fill your cups up and pick the springs up. They are not sitting there long enough to take that into consideration. They sit there for 10 – 15 minutes.

*Would the people who do the time and motion be familiar with the job you do?*

Yes, they would know. They would know about the jobs because they have been here long enough. But other people also do the time and motion study. But I don't care what you say. It takes much more than a week to become a time and motion specialist. It takes years. People go to college for that sort of thing.

*If you are at the machine, do you look out for the quality of what you are doing or do you think that is somebody else's responsibility?*

No, you have to look at what you are doing. You cannot send a load of old rubbish down the line - that is no good at all. It would only be thrown away at the end of the day. You look at you centres, you look at the springs to make sure there is no rust on them. Maybe the ? on it might be a bit high. This might be a bit high. The auditors will pick that up. The auditors are a double check.

*How was Continuous Improvement first introduced to you?*

It has made our life a lot easier now we have the tracks in. We are not now boxing up the springs. You are not having to make up boxes and things like that. It is also good for production because you can get a lot more out at the end of the day now. We were also sent on a course about Chanson. That is all about space saving, storage and things like that. To be honest, it was not relevant to me as much as it would be to somebody who worked in the stores. It was explained that we would learn about saving on space. But there was not much point in me going because the way we work, we cannot save space. People get little tubs and little bits and pieces to hang on the wall, this is fine for people who need nuts and screws and whatever. But we did learn to work in teams. We learned easier ways to work in a circle, or in lines or whatever way.



*Who else was on the course with you?*

Cathy and all them. A few from management as well. There were quite a few operators.

*Did you enjoy what you had to do on the course?*

Yes, it was a giggle and we had a lovely dinner. I would have thought that a course like that would have been more for warehouse people or someone who was trying to save space when you have lots of little bits to tidy up.

*Did the course change the way you work in a team on the line?*

We have always in a team on our line, you see. We have always helped each other and we have always worked in a team. A lot of lines don't. If watch them sometimes – usually they are just kids. They are not used to it. They have not been out to work long enough to know. You will get one person in a bit of trouble with a lot to do who maybe can't keep up. Instead of going to help, they just sit and look. Whereas on our line, we are a lot older, we have all done it before. We just get up and go down and give them a hand.

*Someone told me about a suggestion that you made on the line which made a big difference to the line. Could you tell me about that?*

Well, I have worked in factories all my life and I have seen how factories do things differently. Here, we were sitting there, you get up, you make your boxes, you do this ...you seemed to be up and down all day making boxes and I used to think, "This is stupid" Why don't we get a little roller track and we can put the springs on a track and shove them down. Anyway, I was talking to Bob Williams one day and I said, "This doesn't make any sense to me – why do you not have a roller track fitted?" Bob then came over and said they were going to think about it but we honestly never thought it

would go to this extent. Basically, it was only because I had worked in other factories. It seemed such a waste of time up and down all day making up boxes and packing them and then giving them to somebody else to unpack and pack them again. It was just a passing comment. [1.4.DISMIS]

*The suggestion seems to have been really appreciated.*

They didn't give me anything. They don't have suggestions here like they did at the other place I worked. All I did was to suggest something. The lines are all on tracks now. I didn't dream it would go this far. We can do twice as much as we did before – easy. [1.4.EFFECT]

*What would you say has been the biggest change at the Company?*

Well, I would honestly say communication but as I said, at the end of the day they are going to get their own way. The atmosphere is a lot better now. People feel more secure. [1.4.SEC]

*Do you think that there is there still a feeling that a union would be a good idea?*

Not as much, no, I don't think so.

*What sort of information do you get in your job, for example on how well your line is doing compared to other lines?*

Only when things go wrong, I think. Well, they do....We do not sit down and .....They have meetings about the whole place in general. Sometimes we are all involved in the meeting, sometimes not. At a general meeting, where something has gone wrong or they want you to do something.



The only time you know when your line is not doing well is if you are in the wrong. If something goes wrong, they are down on you like a ton of bricks. [1.1. FEED]

*Is there any noticeboard for your line or your production area?*

They did start giving us charts. That suddenly seems to have faded out. The charts were never kept up. [1.4.DISP]

*What about information on how the business is doing?*

They do have meetings at certain times, for example you know that we have won the Queens Award for Industry and all that. We do not have routine meetings – not as regular as you should. You tend to get meetings at payrise time – when they have to tell you that we haven't made much. We were supposed to have a lot more committee meetings than we do have. You can be on this committee or that committee.... That was going to be one of the things with the changes. They seem to have forgotten that. In fact, I can't remember the last meeting I went to.

*Going back to the 3 monthly targets, do you find the figures either threatening or do you find the motivating?*

This is hard for me to say. To a lot of people I think they are threatening. There are people here who can't keep going all day. It is very daunting for them but you get the likes of me at my age - you are so used to working at speed that it doesn't bother me because I know I can do it. It is not fair on the ones who cannot do it. I honestly think that this how it should work.

Enterprise Two

Interview One

Senior Manager

*Could you summarise the reasons why the Company introduced the concept of empowerment?*

I think it is fair to say at the outset that we did not set to introduce empowerment itself. What we set out to do was to create a different culture in which people took responsibility for their actions and which wasn't formed as centralised decision making and autocratic management style. The reason for that is one of two things and it is an either / or thing. I do not know the answer. Either the chairman and the current managing director saw what was happening at Nissan, saw what was happening at Kimatsu and other companies and decided that they wanted to do the same thing – in other words, a fashion thing. Or there was a more insightful view of what was going on and there was a recognition that a competitive advantage or a competitive edge, which was sustainable could be achieved if only 100% of people in an organisation would behave in a way that observed behaviour at Kimatsu and Nissan.

In other words, actively making a contribution, using their brain, thinking things through, applying skills and problem solving techniques. [2.1.PROB-SOLVE]

*Was the attempt at culture change linked to structural change in the organisation, involving devolved decision making responsibilities?*

That did follow. The culture came first. Well the challenge at the culture came first and then it was perceived that changes in management structure were required to cope with it. In the factory area, it was done by commission. Elsewhere in the business it was done by chance. We set out in the factory area to move from batch to cellular manufacturing and in so doing we discussed a number of issues about materials and



engineering which led us into this ownership concept and zones, engineering in zones and materials control in zones. That all flowed out of the notion of Kanban and JIT. The only other commissioned structural change was when we put Team Leaders in place and that was very early. I suppose the Team Leaders were put in place to force the culture change so there is an example, perhaps, of structure and culture going hand in hand – one being necessary for the other. All the other structural changes followed on from the cultural thing.

*Would you say that the Radar Charts are designed to influence people's behaviour?*

The whole issue of visual management is designed to influence people's behaviour. It does influence people's behaviour dramatically. There is an old saying that what gets measured gets done and what gets shown to be measured really does get done. When we are talking about people's behaviour we are talking about what they actually do. Actually measuring something and saying this is falling behind or getting ahead and really you are trying to influence what they do. Therefore you are influencing behaviour. (Discussion of Ouchi differentiation between output control and behaviour control).

*Would you say that the measures in the Company are designed towards controlling behaviour control or towards controlling output ?*

The measures are designed for output control but they do that through behaviour control. All I am saying is that measurement, per se, in visual management in particular influences behaviour.

*When you look at the measures in place in the Company, they could be perceived as manipulative and misunderstood, in that sense.*

Could be.

*Possibly?*

Well they are manipulative. I mean, Philosophy of Work, for example is a bit of social engineering and I am not pretending anything else. [2.1.SOCIAL-ENG]

The Philosophy of Work specifies seven behaviours that we want people to conform to. Now you see this most prominently with new starters in the business because they may come from traditional manufacturing culture. They come into this business and it is a radically different culture. Now these seven behaviours stand in stark contrast to what they are used to. When they first arrive they try to behave as they did in their previous organisation. The fact that we pay attention every month to those seven behaviours is an opportunity for their managers to say, "Well, hold on a minute. The order of the day here is total flexibility. Everybody does what needs to be done and you do not draw a box around your job and say this is where my responsibility starts and finishes. What you say is, "I will do whatever is necessary to achieve the overall purposes, goals and objectives of the team, organisation and or even of the individual." Similarly with Customer Supply Relationships internally – it is a behaviour. That is what you have to focus on. Do not focus on anything else. So this is a piece of social engineering that tries to change people's behaviour and it really can be seen very strongly in new staff.

*Am I right in understanding that the Philosophy of Work has recently been redesigned or reconsidered?*

What happened was that the Philosophy Of Work was written one morning in an hour, in an endeavour to explain to the shop stewards back in 1993, what we were about when we were changing from batch to cellular manufacturing and wanted to become a model organisation which is flexible, agile and all the rest. It was very effective at explaining the purposes of the culture change so we enlarged it using a working party and broke it down originally into 28 subdivisions, against which people could be measured. There were behaviour statements so that you cannot tell what an attitude is, it doesn't exist but



what does exist is behaviour. You can observe it and measure it and you can explain to people what they are doing. You can video and you can show them. We even made a video and we trained everybody using this video to show them that behaviour is highly visible and we then put the Philosophy Of Work in originally to guide the direct labour through the new salary structure because we went from ? scales down to one. What we needed was a way of making sure that when people went through that salary structure that it was justified. We could have used skill, which most people use but what we said is that skill is given. You cannot work here unless you are improving your skill and developing and training and all the rest of it. Secondly, everyone would fall back on saying, "Ah, the reason I am not going to get a pay increase is because you didn't give me the training you promised me." So behaviour is the way to do it and behaviour is a much more powerful ingredient in success or failure than skill. You can have the skill but if you have not got the behaviour then the skill will not be deployed effectively. That was the original intention of Philosophy Of Work. We then applied it to the rest of the organisation. The rest of the organisation is in some respects a little bit more sophisticated, or certainly thinks it is than the direct labour areas. It was always a bit difficult with some people. The best people were those that took it as game. Not in a cynical way but they saw it almost as a challenge in a light-hearted way with a serious intent and they responded in that way. The worst of the people said, "Well, it is beneath my dignity to be involved in this" so they resisted it. Apart from that, it was OK until we came to our redundancy in January (1997). We had to use as one of 10 criteria, somebody's scored Philosophy Of Work. If we had not used the Philosophy Of Work score then some of the 50 people fired would have successfully have taken us for unfair selection. They must have been by definition because the Philosophy Of Work specifies certain behaviours we said people should adhere to and we applauded adherence and condemned non-adherence. Therefore not to have included it in selection for redundancy would have been quite wrong.

Unfortunately, that tarnished it. Even amongst the people in the factory, it became unpopular. When we had our Week 37 activity about what was liked and not liked, one of the things that was not liked was Philosophy Of Work. What is liked is the monthly review. There is a working party looking at the whole issue and the vibes I've had back from that working party are, OK - Philosophy of Work is a bit crude. It could be improved but fundamentally we quite like it, actually, as a skeleton for measuring behaviour.

Certainly what we must hang on to is a monthly review. This encourages good relationships between boss and subordinates, understanding what's expected of you, knowing where you are going and how well you are doing – all the stuff that human beings like. [2.1.MOTIVATE]

*Philosophy Of Work is obviously an issue because it came out in Week 37. The adherence to measuring behaviour, when measuring output itself, per se, measures behaviour, to me might indicate that there is perhaps tension which is unnecessarily being generated. Would you like to comment on that?*

Certainly. I mean, I wouldn't care. The strategic decision that was taken was that in order to accelerate the culture change to where we wanted it, we had to use a device which manipulated behaviour and I am quite comfortable with that. If people disliked it intensely, I still wouldn't mind because if we said in order to position this organisation until it has an advantage in the marketplace, we have to go through this painful process. So be it. That does not bother me in the slightest. It is almost a means justifies the end sort of argument.

*But does it? If Week 37 highlighted a real dislike of Philosophy of Work, as it is currently measured, does that means justify the end?*



Yes. That would be a value judgement. Everybody is entitled to make their own value judgement and I really do not mind what judgement they arrive at. What I am saying is that, from where I sit, if we can be assured of gaining competitive advantage in our market place, and by Jove we need one, by procuring some social engineering through Philosophy Of Work – even if was terribly unpopular with people, then we would still do it. There are many thing at work which are unpopular with people. Just because some, many people dislike something doesn't mean to say you shouldn't do it. With Philosophy Of Work, it has a limited currency. It will do a job over a period of time. It is our view that it has done its job but I am still arguing the point that no matter how unpopular something is that doesn't mean to say you shouldn't do it.

*I believe that the Strategy Group is largely responsible for the design of the Radar Charts. Did you have any input into the their design?*

Yes. Myself and some of the other managers, in 1992, were doing the rounds of other factories. It was arranged for us to visit Nissan. Nissan had these huge displays all over the place about quality improvements and targets and goals. We had to do the same thing. We had to have some central visual display of core objectives and purposes. We wanted a display where progress was tracked towards the centre. I then drew up the Radar Charts. The concept of Securing The Future and Delighting the Customer were determined. We then decided what we were going to measure. We came up with 12 key measures. We started centrally determining measures but moved towards asking people what we thought. What we wanted with the Radar Charts was a method of saying, there are the corporate goals, that is the team effort to achieve them, that has to be sustained by individual activity. Given that, we said that every department will have their plans on the board and we had this very prescriptive demand on people that you have your Radar Charts, your Team Objectives, individual plans alongside those put on those boards. Some people feel uncomfortable with that and some people like that. That went between 1993 and 1995.

In 1995 we brought in this whole thing about Policy Deployment and the ? model. It was a great opportunity to say - this is us and this is the model of excellence. Where do we fall short of it? Where we fall short of it has to be where we where we target our improvements. The way we target our improvement is, of course, is Policy Deployment. When you get really sophisticated about, it is done in a particular way. At the base level you are saying, this is what I want – this is what the managing director wants. How can I get it? I give my “what “ to you and you convert it to make it appropriate to you. An example. At the board level, we say “We have got to reduce our product cost by 10% this year”. The Production Manager picks that up and the Materials Manager picks it up and the MM says, “What is needed is a 10% reduction in product costs. How can I deliver to that. I can deliver 10% costs out of materials. He then says to his team, “What I want is 10% out of the material costs next year.” One of his Purchasing Engineers picks that up and says, “How can I do that?”. He then negotiates with suppliers. The PM goes through the same process with the Zone Managers, Team Leaders and that is the way it has to be all the way through. At a higher level, the Zone Managers will go to the engineers doing the same thing. When you get sophisticated about this you start to measure it. Cost/Benefit is analysed. The more sophisticated it, the more the planning becomes detailed and the more you can people to own the process, predict what is going to happen and write everything down. You identify the resources that you need and decisions have to be made up about budgets. The whole thing flows together. If you want people to do this, you have give people the confidence and the skills to do it. That is how the Radar Charts experience thing is evolving together for us.[2.1.POL-DEPL]

*Can I ask you to comment on what you think the effectiveness of the Radar Charts has been? Do you think they mean anything to people in Production?*

Well, this is a trick question.

*No, it is not. I would like to know you what you think.*



I suspect that you have noted and got information that says it doesn't mean anything, very often. My instinctive reaction is to say well, they bloody well ought to. Perhaps they feel too distant from it.

I think that we have made a number of mistakes with our Radar Charts. We are still in this 'top down' trap where we are saying things like, these are the things we measure", whereas Policy Deployment is designed to enable the measures to be developed from the bottom up. [2.1.MAN-LRN]

We need to get to the point where we get to the point where the guys at the bottom of the tree understand that their policy deployment activities, where they take our corporate goals and break them down to the level of their own particular personal activity, which are now being pushed right back up again and a measurement is beginning to evolve. Rank Xerox have been doing this for 14 years but they are not there yet. We are desperately trying to do it by 1999 but we can't.

*A common view expressed to me was that the Radar Charts are only for visitors.*

In a year from now, I can guarantee that I shall get the same message – that the Radar Charts are for visitors because we have done it top down. If we can only get to the position where Policy Deployment is in smartly enough, then we can make it different.

*There seems to be more of a sense of ownership, recognition and purpose at the Cell display boards. But even at that there was still some feeling that you could fill in any old thing.*

This all lies at the core of why you and I are talking because it is this dilemma between prescription and direction and empowerment and initiative. It lies at the very heart of our discussion. I talked about anarchy. The work you are doing is going to help us

understand how all this works. Three months ago, perhaps, we were sitting in our monthly meeting, where we discuss the Radar Charts.

Now, you have a bunch of managers in there, some of whom are senior guys who sit at board level, some of whom are beneath board level, for example the production manager, and the MD goes round the table, as he always does. Have you communicated the Radar Charts, or have you had a briefing on the Radar Charts. Have you briefed you team? Are they enthusiastic? Everyone, but everyone says yes. A week later, something happens – I cannot even remember what it was – but we discovered in black and white terms that they were telling a lie. They had not done it at all. [2.1.COMM-PERF]

*What do you think about concentrating in a few critical measures, getting those right and then gradually introduce other measures?*

That is an extremely seductive proposition. Probably where we are coming from is from a different direction. We are saying that important things should be measured at a local level, anyway. It is the managers responsibility to measure anything which is critical to his or her operation. The Radar Charts are a much more general measure:

One, of our commitment to measurement itself

Two, of the general direction that we are taking, and

Three, because there are an awful lot of soft measures in there – an indication that we do not want to just measure hard things. We have a belief that measuring processes and measuring soft issues is just as important as measuring the hard things.

Four, there is an element there of for customers. Of course there is. We bring customers to the premises and we sell these machines. Customers actually come here and we take them around. Now, I have seen this.



Abroad, we have terrible reputation, perhaps for quality according to people I have spoken to , [2.1.QUAL]

for all that you might be a bit more expensive, I can see the will here, the determination, the customer focus, I can see the embracing of everyone into the organisation. I am going to buy some machines from you because I believe in you. That actually, literally, happens. So there are a whole multitude of reason.

(Discussion about intelligence related to individual willingness to embrace change)

*What about individuality? The Company's strategy to effect culture change may be received differently by individuals.*

I am sure it is. I have been thinking on this. When I was working at Kimatsu, one of the things which struck me was how homogenous the Japanese are in terms of personality and outlook. The Japanese tend to recruit from a particular university and they take huge tranches of people from that particular university. They do use a lot of assessment but at the end of the day, they take very similar personalities and they will act as a cohort in that organisation throughout their working lives. The group is much more important. When we were recruiting at Kimatsu, I was looking at the Japanese and thought, "They must wonder about us because we put huge effort we put in to selecting between people." I took it upon myself to explain to them that in the West we are heterogeneous. We have this huge diversity of population, I mean even between you and I. We have differences in background and culture.

We have to retain pluralism in this place because pluralism is our way of thinking and living but we have to get rid of the unacceptable extremes, those things which will stop us working effectively. [2.1.EXTREMES]

I have a passionate belief in what we are doing here. We are paid for that passionate belief. We are paid to make a decision and then to fire through it and to make it work. Obviously if you make a mistake, you are making a big mistake.

*There appears to be a mismatch in perceptions about what you are trying to do. How do you go about addressing this mismatch in understanding?*

Well the only way to address the problem is to communicate. This then indicates that either we do not communicate very well or people do not understand what we are saying because the messages do not really go home. This is a severe and serious problem. I recall on 16 July when I went to the beginning of this years policy deployment round. I gave an introduction to it to the senior managers. I was shocked to realise that at least one or two of them didn't think about strategy in the way that I was thinking about it. I said to everyone to everyone in that room – we have 5 underlying strategies and these are what they are, these are what they are. I realised straight away that certainly 2 people had never thought of it like that. That was from a group of 6 people. [2.1.COMM-STRAT.1]

*How was that mis-aligning of misunderstanding addressed in this example?*

What happened was that people then suddenly saw things in a different perspective as a result of the ideas put forward. I could see people saying, "Ah, right". None of that was secret. Everyone in that room knew all that information but they had never pieced it all together in that particular way.

It was that prompted me that to go and start talking to all the managers, right down to team leader level and go through this process of saying, "What is our competitive environment?" What do you think it is? If this was your business, what would you do in response to that and getting them to tell me, coming up with a generic differentiating strategy and then building up to the 5 strategies we have. Corporate goals were then



determined for this year. But it was a nightmare. I was trying to make it interactive. Some people understood what was going on but an awful lot of people didn't. These are all managers - team leader and above. [2.1.COMM-STRAT.2]

It was worth it. It is not wasted effort. We have learned a number of things about communication. You tell 'em what you are going to tell 'em, tell 'em what you are telling 'em and then tell 'em what you have told 'em. It is very, very true because repeatedly we have something in the daily brief and then a week later people think, "Nobody told me that". From a banal little thing like that to the big issues, communication is incredibly difficult.

Draws two diagrams. In one of the first talks I gave to the company, I showed then a drawing of a machine. That is the labour cost, material cost and there is the overhead, the sales price and there is the profit. That was in 1991. In the year 2000, increased costs. We still need a profit something has got to give. Costs and overheads must come down. This was done by increasing the volume so that overhead costs were shared amongst the units. These are the first two diagrams that I ever presented to everybody that works here. Management understood them but the workforce if you like just thought, ah it is a con artist.

*They really did?*

I am pretty convinced of it.

*What makes you believe that?*

They knew I had come from Kimatsu. Nobody likes change. The people here then thought that everything was OK. They did. The manufacturing process was dreadful. (In their mind) I was employed to unfold another page in the dark Machiavellian Plot which had been laid down in 1950 by the family that founded the Company. I was a

stage along the way – a more threatening one. I think what made it even worse was that because this company had never had a personnel department – people thought, “Oh personnel, that means tea and sympathy, doesn’t it?”. They got the opposite. They got somebody who said, “We can only keep you if we can afford you.” You have to pay your way, which means you have to change and have to learn new things. Put your blanket aside, mate.

*Do you perceive that economic decline in this region has had any sort of effect within the Company?*

No. I think that because of new industries like Nissan and Kimatsu, there is an exemplary wind of change so that people can understand better. People still do not like change. People are used to what they are used to. If they think it is good, it is good.

*The same people who are employed in this Company cannot be very different to those employed at Kimatsu.*

That is the whole point.

*So, from your point of view, what do you see as being the critical difference between the two companies?*

Well, there are the standards that are set. For example, nobody at Kimatsu would dream of sleeping on the nightshift. One of the first jobs I had here was to fire 11 people for sleeping on the nightshift. It depends on the standards that management impose. For example, at Kimatsu you would never dream of ending the month with a machine in arrears. It is institutionalised here still that we can end the week with a machine in arrears. It is infinitely better than it was. At least there is an intent to deliver on time. At Kimatsu, if you had a quality problem, you would solve that quality problem very



quickly and everybody would get together to solve it if it was unacceptable, but you wouldn't put cost on that machine to solve it. You just would not do it. You cannot put a penny on the cost. Here, whenever we solve a quality problem we breathe a sigh of relief and put a pound on the cost. It is a matter of the standards you set.

*Who is responsible for setting standards?*

It is the culture which is responsible. We have made huge changes in the culture but there are still areas to address. Kimatsu was set up by the Japanese. The culture in Japan is that you do not add a penny to the cost but you solve the problem within 48 hours. You come here and we do not even know there is a problem. The systems, the skills, the communications, the visibility is so low that the lack of any management information, the lack of visual management – we do not even know there is a problem. So we go through a whole series of steps. First of all, we learn how to know when there is a problem, we learn how to flatten the hierarchies and to improve the communications so that we can communicate that there is a problem to the appropriate place. We put in place the skills to deal with the problem but the residual the is still there - that we don't say we must solve the problem in 24 hours without adding a penny to the cost.

*The responsibility for the continuing residual problems must end with a person.*

Well, it will end up with the Chairman. The managing director and I have talked about this, a number of times. This is an area that I fumble with. An organisation is made up of a lot of power bases – we all have influence and we all have power. We can all make things happen or not make things happen. When people in technology and quality and production are told that the problem must be solved without adding to the cost, there is a huge challenge to them in terms of their capabilities, their resources, their skills, their attitudes and all the rest of it. If one of those things is not right, than they are not going to be able to do it. The Purchasing Manager is interesting. It took an arm and a leg to

persuade this man, who is an engineer, to move to purchasing. He is very good engineer and production person as well but he would say that our engineering is dreadful. Our technology people are by and large – our standards are low and it takes me all the way back to standards. I believe that you should set a standard and then say, I will make it twice as good. And then go for that. What should happen is that you will get somewhere above where you wanted to be.

*Can I just go back to Week 37? Am I right in thinking that the results of Week 37 were a surprise to management?*

Well, they were no surprise for me. I think for me there was one surprise. I was surprised at the severity of some factions vis-à-vis human resources and myself in particular. There were one or two factions which were pretty embittered, and I am convinced it was factions. Obviously, I am always going to upset some people quite badly. Particularly when I am not supported by managers over things like pay and redundancy. That was a bit of a shock, to see how vitriolic some of them, but it doesn't worry me because you cannot make omelettes without breaking eggs. I suppose I will have to do something to try to improve the image of the department.



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Enterprise Two

Interview Two

Production Manager

*How long have you been with the Company?*

Just over five and a half years.

*Were you here just as the changes were being implemented?*

Yes. I came in about three months after Gerry (HR manager brought into the company to implement 'culture change') and it was just at the beginning of all sorts of changes.

*Could you comment generally on your involvement in the changes?*

When I first came into the business it had grown very quickly. The business then realised that that growth could not be sustained and it needed to become a lot more competitive. They recognised that people issues were something that they had to get involved with but they probably didn't understand what was meant by that. They started by bringing Gerry in so they knew that all the sort of stuff about people are our most important resource and they knew that there was something there. The style and the culture at the time was very much autocratic – you would do what was directed. This was necessary because of the senior management were reflecting upon the process because of the style and the way that people solve problems - they had to be told what to do.

If you think back to certain issues within three, four or five weeks of starting to where we are now I would say that we are a much more empowered organisation. That is because the people have changed – literally some of them have left and a lot of new



people have joined. The expectation and the culture is now that we will not tell them – we will endeavour to involve them in and discuss with them and communicate.

We understand the importance of getting ‘buy-in’ and communicating the bigger picture. I think that at the very top levels of the business people are consciously working hard to try and do that. [2.2. BUY-IN]

It is a conscious change of style and approach. Five and a half years ago the senior team would have been much more autocratic and they would argue that it was because they had to be.

*Are you in charge of the Zone Managers?*

Correct.

*I am interested in the fact that the Company flattened and the re-hierarchied the organisation. What was the rationale behind that?*

The rationale was that it had to be for two reasons. One was that it eases the admin and the co-ordination and communication and to put somebody into a role who can hopefully get standardisation as well across four areas of the plant. [2.2.CO-ORD]

It was always the principle reason from my perspective because I am not a manufacturing director. There is an argument to say that that is the level of technical background that we should have but to illustrate that point I can remember one particular manager who was chuffed to bits with this position having been created because his first words were “I know only need to pick the phone up and talk to one person instead of trying to chase four.”

But that is an interesting insight into empowerment because previously you had four very good Zone Managers but as the intellect increases, independence of expectations goes with it. It becomes like herding cats. [2.2.IND-EXP] That created frustration if you like from the senior management team because what you want is - you do want co-ordination and people buying-in to the process, you want a degree of standardisation and empowerment to an extent allows people to be a bit more creative and you are moving into the territory of anarchy. [2.2.CONT-AUT].

That is the danger. The way that people have been developing the intellect is that people coming into the business – they will not tolerate being told what to do. They just up and off so it is a double edged sword.

*What would you say is your greatest concern as Production Manager?*

That's a good question. It is doing the job effectively with the weakness of not having the technical background. I am actually very close to two of my team members in terms of technical ability. I do not want to have fifteen years ahead of them in terms of technical knowledge so getting back to that earlier quote about expectation, there is a fairly narrow gap in terms of technical capabilities. From an organisational concern, I think it is actually achieving the business objectives at the same time as balancing the needs of individuals and getting that balance right. Optimising that is sometimes very, very difficult. It is also - OK, I have done some courses but the difficulty is, the classic middle management position of taking the vision from the board, converting that through middle management and getting it down to the sharp end because taking a vision or a concept or whatever and making it happen at the sharp end is actually very difficult. I understand, the last 12 months have been particularly good in terms of understanding the Managing Director's frustration because



I now on bad days, for want of a better word, I am being perfectly honest, look at the Zone Managers and Team Leaders and I am frustrated by the fact that they are in the way and I cannot get at the cell members and I am thinking, "If they were out of the way, I could communicate with the cell members effectively and we would move along faster". [2.2.COM-LAYER]

So they frustrate me and yet a year before I was in exactly the same position so inevitably people must have been saying the same about me in my role. I am sure they were and it is the frustration of I want to get on and get my job done but I have to go through these other people. But despite that, and having only been in this position for a relatively short period of time, you still have that frustration.

*On the issue of your technical ability, do you really think that that is relevant?*

In a manufacturing company, the expectation in terms of the vision it is not just about implementing what the board come up with, we should be making contribution to that process in terms of the longer term planning of the organisation strategy development, this that and the other which is about influencing new products, influencing the selection of suppliers – certainly the shape of the factory, its layout – this kind of thing. So there is a part where your functionality - you are expected to make a contribution. For example, for the Quality Manager, his expectation is what is next in terms of ISO? So there is a functional responsibility in terms of saying this is how we contribute to this process. Personally speaking, I still think that there is the need to have that technical background other wise how can you make choices between certain technical recommendations between this machine tool and that machine tool or between this system and that system. There needs to be a degree of technical understanding. The expectation of a boss is that they have greater technical expertise. The MD does not have greater technical expertise than I do in terms of engineering but he does from the

functional or interpersonal perspective he has lots of 'school of hard knocks'. Because of that distance I can give him greater credibility, if you like.

*Have you been trained in leadership and inter-personal skills?*

No, but it is essential. I have just had a session with the Team Leaders and we had a debate about training and development and in my humble opinion, we are very good at technical training, good at functional training and organisational planning. We are pretty poor on the personal and inter-personal things. [2.2.NOTRAIN]

*Is that not interesting considering how much weight is attached to the importance of people?*

What we now understand is how Team Leaders out there are very good at these things but for whatever reason lack the natural communication skills, charisma all that very difficult stuff to define, develop and measure. You know it when you see it – for example, someone walks in the room and you realise that this guy has a certain presence or influence. Chris (Zone Manager) and I had a debate about how we can develop this, that and the other but it is very messy.

You don't like to talk about it - sounds soft and namby pamby. [2.2.MACHO]

If I am perfectly honest, a genuine criticism is where you are too consensual and you are not tough enough and you go out there and just occasionally shoot a couple of people just to say – I am here, just watch yourself. There is probably something in that. One reason that I am in this position, I assume, is because I am not like that but there's probably a place where it comes into play. People who have been in this role have been to an extent a bit like that and the business didn't want that. It is trying to understand



what the expectation is. (Discussion about training) I still think you can acquire personal skills.

*Are the enforcing of performance measures your concern or is it the concern of the Zone Managers?*

We all have a common concern. There are two issues to that.

One of them is the process, which possibly because of the way in which the measures were defined and set - in that other people were not involved in how they were set. There is a degree of resistance. [2.2.PERF-RESIST]

Plus, trying to communicate the issues and get people buying into it - there is all that messy process of managing change if you like. Plus there is also the opposite side of the coin which is, well, we want to be empowered so why do you need to be too prescriptive about how and when we do things. I happen to think that you do need performance measures. Last year we went through this policy defining process of saying this is what I want, I am not going to tell you how to do it but what I want to see is that you are achieving those objectives on time against these defined criteria. That is a good way of actually getting empowerment. I think where the process failed partly, or was not entirely successful, was that we didn't manage it effectively in terms of allowing people to buy into the process and get these measures in place and understand how we were going to do it. We did the measure but we didn't really know how we were actually going to achieve it.

People have not made these measures their own and therefore they are not relevant. It is a third party exercise which is a waste of time when I am doing a real job, Monday to Friday and they ask me to do these daft things as well. [2.2.PERF-REL]

There has been some pretty hot debate about why so many measures have been set and should we not be focusing on the quality of the product rather than some of these what some people would regard as peripheral issues, [2.2.PERF-FOCUS]

which is a reflection if you like on the double edged sword that we talked about earlier where people want to get involved in the process and feel at a disadvantage where somebody just comes down and ... We haven't aligned their concerns and objectives with the business need and we have to do that or else you have, as in this case, 12 months where it is not clicking together. People argue that the measures come down autocratically from on high.

People of my sort of level in the organisation have some experience and you understand that the problem we have is that we have such a high degree of expectation of how we want to be treated and involved. People externally think that it would be nice if my boss didn't shout at me, let alone come along and said how would you want to contribute to next years corporate objectives, I mean they find that absolutely incredible.

The key to balancing people's expectations with the needs of the business is to define how you will make a contribution to that particular objective and where people get frustrated is where they have lots of things to do, they know what's important but they are being pushed on what they regard as lesser important issues. Things that you may pick up (in the interviews) is that we do not concentrate on the core activities, we have lots of initiatives and we do not finish things off and people fundamentally want to succeed. If you allow them to do that then you can shape them and influence them in such a way that their objectives and what they do is in alignment with the company goal, which is no easy thing to do and then you get a double hit.

The trick is to get that standardisation, getting everybody focused, not necessarily in a rigid way but knowing what we are trying to do and to get the most from the



performance measures if nothing else just to encourage people and motivate to show we are succeeding here but to allow them within that to go about that process in some very harebrained ways to think outside the box. [2.2.ORG-OBJ], [2.2.MOTIVATE]

The idea of stretch comes with performance measures, where the MD might say I want you to halve the time it takes you to build a machine. It takes a day or two to get over the shock and then you think, "Right got to start some radical processes here" and that is the key behind the performance measurement in achieving those sorts of goals and it fulfils people's expectations because it is not more of the same again only slicker. It is taking a much more radical view and I think in terms of empowerment that is really where we should be tapping more into people's intellect and their experience and knowledge. It is not about making the wheels turn faster but taking the wheels out in time and being much more radical. Part of the problem is people have that frustration in wanting to see a task completed and there are too many layers of bureaucracy, they get the information late. We concentrate on speeding up that process when what we should be saying is forget the process entirely. Change it. You take total responsibility or get an engineer to sit beside you and you can work together and be much more radical. When you do that then you have the authority and you also have the responsibility. You need both. It is very motivating because it is my factory and I have the team that I need and you can motivate them and get on and do it.

There is a degree of senior managers being out of touch but that also means that middle managers are not communicating issues upwards. There are barriers there - perhaps because there is management by fear or they are frightened of being shot because they are the messenger or whatever but we were all very surprised (by Week 37) that there was such a degree of surprise from the senior team because we knew what would happen and yet we were surprised that there was that surprise from the senior team. [2.2.MID-MAN-COMM]

*Can I ask you where you draw the line between senior and middle management?*

It varies. Basically I would say that the senior team probably would be mostly the Strategic Committee members which would be director level and the senior managers which attend the Strategic Committee. I would definitely consider myself to be middle management. Therefore I am legitimately part of the communication problem. Week 37 was a very good session. It was definitely the right thing to do. I must admit that I felt slightly that we had opened up a whole can of worms here but it was the right thing to do. To his credit, this includes the Human Resources Director, they were brave enough to say "We are going to do it". I am still surprised that they are still so shocked at what people said. It comes back to the expectations. My personal view is that in a production environment, or indeed in any organisation, you take people into a room, away from their normal leader or manager or whatever and put in there that degree of trust and co-operation and two way communication, which the facilitators ( of Week 37) did then you will inevitably bring out concerns. If you didn't then I would argue that there is something wrong with the process. You are either in Heaven or they are frightened about holding back. It is a classic example comparable to when telephones were first established, the number of road accidents shot up because people had a mechanism of communication. It didn't necessarily mean that the rate of accidents had increased, it just means that a means of communication. You create a facility like that then you will inevitably thrown open those issues and that is good. We should keep churning over these issues. The MD summarised it well when he said we are breaking new ground here and some of the companies I have worked for here including (name of company the author has visited. The Production Manager worked there for 5 years. Cell members were not encouraged to talk to visitors). The only real test of what a culture is like in a business is to allow visitors to talk to the cell members. Senior management is renowned for their autocracy in getting things done.



*From your own perspective, how would you maintain this level of knowing what is happening while not being prescriptive?*

That is a good question. Based on the last 12 months in particular, what I would do now is to put in more tighter levels of performance measurement. The way to do is to be very clear and specific about what the objective is, how we are going to time bound performance measures. How people are going to achieve those things I will review and agree but that is down to the individual how they will achieve that target. [2.2.PERF-MEAS-PROC]

I will not impose a percentage. I will say we need to do something on productivity – what are your ideas? OK, why haven't you considered this option which is trying to get them to think outside of the box. Ideally, they will define their own target but it is not just plucked out of thin air. If a figure of 15% productivity is agreed, what does that mean? What is the profile through the year? Do you expect to do it evenly through each month. What will happen at the end? Why? It is getting them to break it down so that they know in their own minds eye how to do it. The other mistake, in hindsight, was we had overplanned. So this engineer will next Tuesday at 2.15 be doing that. So long as I know that they know what they are trying to achieve and how they are going to do it and they have the rough cut resources in place to do it, then let them get on with it. You do two things. You measure formally these performance issues in relation to their job and you also talk to the people that work for them, which might seem a bit sneaky but you say you are part of this productivity drive. Six weeks out we are going to doing this, that and the other – I take it you will be involved in that process. Review the plan if problems emerge.

You have to check. The view was that I didn't check and things weren't happening to the level that they should be. Not because people were trying to be manipulative or hype things but there was so much pressure and they were not making me aware of the issues. It needs actually going out there and checking. To do that you have to have a degree of

trust. You have to get them in such a frame of mind where they will open up. You are not going to let them down. You do not want to drop them in it. [2.2.PERF-MEAS-CHECK]



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Enterprise Two  
Interview Three  
Team Leader

*How long have you worked for the Company?*

3 years. My background is as a time served CNC machinist. I was on a four year apprenticeship. Not long after that I was made redundant and then went to another company doing conventional for a couple of years. I then came here. I started here as a machinist but I was made a team leader after 3 months so the majority of my time here has been as a team leader.

*Were you recruited with a view to being promoted in a short time?*

No. I was recruited as a CNC operator. The opportunity came up to apply and I did so.

*How does your experience at this Company compare to your previous jobs, in terms of the culture you are working in?*

It is a world away. I worked for traditional, autocratic companies. I know very, very well the mentality of those sorts of companies. To come from those sorts of background into this open, and willingly open atmosphere is very different. I noticed the difference as soon as I came here. Some people couldn't see it but I could. There is a willingness to change. I had that insight because I had worked somewhere else. That is probably one of the reasons I have been asked to speak to you. That is one of the things which came over to me very strongly in the first couple of weeks.



*What sort of things indicated that to you – that this was a different culture?*

Traditionally everybody is responsible for their own quality but it is also the fact that, the best way to describe it is ownership – you have ownership of your own problems. If you have a problem get on and do something about it. I actually like that approach. Another very big difference is the openness or the visible effort be open to the, if you like, audience of the company. That is very good. (Recap on the zones. CFM is continuous flow manufacturing.)

*Are your team skilled?*

Not in the traditional sense. The jobs are predominantly routinely specialised. Tasks are broken down specifically to allow unskilled people to do the job. However, within the context of electronics those particular skills are quite important. On my line, the overcoming of problems and getting back into production as soon as possible is important.

*Are you saying that of itself the work that your team does is not skilled but that the skills they employ in quality and right first time are problem solving skills?*

That is very true. Myself and the other leader I work with on shifts are responsible for 22 people. The thing that you were getting at about before, about skills, where I am going with my team is developing people. They have not very highly recognised skills but as a culture this company needs, they drive the commitment. For example, if there is a problem there is a will to put it right and that is much, much more important than the skills of the time-served man. Now, I am a time-served man but I will take anyone with no skills but the drive and commitment over someone who is, to put it mildly, lazy and who thinks he has all the skills in the world.

*Are you saying that you would chose attitude over aptitude?*

Every time. Without a shadow of a doubt. I have seen it in action in both men and women where people have come in with little or no skill level and they have said, "Right, I can do this. I want to learn this." They have come in and thrown themselves headlong into it, learning off other people and doing their best. They stay back after time to learn, take bits of information home. That is a state of mind.

*Would you say that leadership is a part of your job?*

It is paramount. One of the other reasons I have been asked to speak to you is that I have left the traditional ways behind.



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Enterprise Three

Interview One

Team Leader

*How long have you worked at the Company?*

10 years. I have been here through all the changes.

*Could you describe working at the company before the changes?*

If I put it in a nutshell, it was an ordinary metal-bashing shop. Very little organisation. We had one foreman and he dished out the work to numerous people, subcontractors; 20 to 30 people. You got on with your work, did overtime. Never knew when you were going to work. Could be on two, three day weeks. It was just a normal, humdrum shop – clock in, clock out and off you go home.

*What was the relationship between shopfloor and management like?*

Neither here nor there. They were totally non-existent. They would come down on the shopfloor and you would feel dread. The foreman would get it in the neck and he would come to us ....it was chaos. We didn't get involved because if we were on the shopfloor we were just getting the bollockings, if you like. Nothing was going right. We didn't know what was going on. We didn't have the financial information on how the company was doing. It was just a normal company.

*What was the management structure like, say 15 years ago?*

There was the top MD, production manager, sales manager and a couple of foremen.

*Same MD as now?*

Yes.



*Did the MD come down to the shopfloor at that time?*

Yes, he did. He wasn't in like ... like bear with a sore head. He wasn't that like that. He would talk to us now and again but nothing like we talk now.

*How do you remember the changes starting?*

The MD went to Japan and saw all these ideas and thought, right, we are working like that. He came back and started with Kaizen. He came back and told us all about what was happening. He explained that if you look at companies that do our type of work. They are just closing up and not going anywhere. They have got less and less workers. If we didn't go down this route we would not survive.

*Can you remember what your reaction was?*

Yes, you can imagine. You have to start doing something different. You think ...Oh, no. Everybody goes, "I don't want to do that". At the end of day, he put it over and when you think we are losing jobs, the factory is closing down....you went, hmm. You listened to what he had to say. When he actually took it over and did a course on the actual Kaizen about how you improved you work – it started to go down onto the shopfloor. With all the Kaizen - then people started to think, hmm "I can make a difference to this" and make the job better, and do it quicker.

*How do you make a Kaizen suggestion?*

The suggestion goes to management and then management goes back to the Team Leader to work through it to see if it works and how much money it could save the company. The procedure is still the same but Continuous Improvement has become a way of life. It is the norm.

*If people just do it, do they still go through the process?*

Yes, if you put it on a Kaizen (form) then you get a reward and recognition for it.

*Can you remember how you felt about new learning - did you feel bothered by it?*

Not myself. Not at all. I was confident about what I was doing anyway, I knew the processes in the environment that I was in so that way, if you get somebody who hasn't done most skills as what I have done, then oh, they might be worried...

*From your own point of view, you were well skilled...How long have you been a Team Leader?*

One year now.

*What are the major differences between being a team member and being a team leader?*

Actually handling people, talking to people - it was a big change, really. The insight you get to people when you work on the other side, although you work as a team, it is different. You get all the feedback, or you don't get all the feedback, because they don't talk to you as 'one of them'.

*Have you found that happening?*



Oh God, yes. I have had a terrible year. There are loads of situations you have to look at.

The Team Leader before me was still in the team but he was demoted. I was promoted. Right? Now you can understand the actual goings on because what really should have happened – I imagine, is, to have moved him out to another team. Yes? Because obviously, how would you feel? [3.1.DEM]

*Who made the decision that he would stay within the team?*

Nobody made a decision to...em, it never cropped up– management felt, well, you are OK where you are and that is what they did. In hindsight, they probably should have moved him out.

*OK, that created a problem for you.*

It took about two or three months for things to calm down, which they did after a while.

*Did you have any inkling that this situation was going to give you problems?*

No. It was difficult.

*Going back to CI, you saw what the MD was getting at and you thought this was the way to go.*

Correct.

*Do you find this new way of working more satisfying than the old ways?*

Definitely.

*In what way?*

Annualised hours, that was a whole new change. What is it going to involve? It was about 85 – 90 % pushed it through. There were some people who didn't want to know. Mainly it was about overtime and the money they would lose. As it happens, these people who were anti were controlling the overtime – they were creating bottlenecks within the company. So all the people who were doing their work were going home, getting their work done. This work had to be out on the Monday so these people or person could phase the work in so that he could come in on a weekend. He could increase his wages by manipulating the work flow rate - and these people went, "No, I don't want to know". The same amount of money goes into the bank account every month. That's not a bad deal, is it? They even put a percentage of overtime into the salary. So that was fair. The work in this industry is that you can be on a three day week just like that for 6 months. Anyway, it was on the first year of the July that we had 6 weeks of three day weeks, and this was in the height of summer, and we could go home and do whatever and still get paid. You can imagine, management were thinking, we must be mad. As it happens, we were getting the work out faster and quicker to the customer. It didn't work out that all this money we was paying for overtime – it worked out cheaper.

*Are you saying that a real source of satisfaction is for you to have control of your time in that way?*

That is absolutely right. You see, you are focusing on the customer. Now, literally that is what you have to do.

*And you find that satisfying?*



Yes, because you are dealing with the customer day in, day out. Actually talking to the customers at the top, at the bottom. That is what we do. But it was difficult. The supplier who do the plating, painting – it was a nightmare. They were doing the products wrong, so when it got to the customer, they weren't satisfied. I had to do all this customer liaison thing. I was on the phone all the time, all day. In the end, we got somebody in do to the administration.

*Was it straightforward to make the suppliers understand your problem?*

No, they couldn't grasp the idea of the Kanban system. We were operating a Kanban system and they were ignorant of the process. It was trying to teach them how to do the Kanban. I actually had to explain to them.

*Had you had experience of explaining and communicating with people in your previous work?*

Very little. I used to out to other customers and get quoted type work, so I had training with other customers. I learned to deal with customers by going out with management and listened and learned through experience.

*Do you still do customer liaison now that you are a team leader?*

Yes, but I have stepped back a bit.

The team has taken over some of the roles. I used to have a problem when I went on holiday. It would all go pear-shaped. I used to think I had explained things but I thought it was. When I came back, they would say, "I can't do that". And I said, I told you... [3.1.COMM.1]

It is getting better. They can actually get on with the work while I am away.

*What do you think has happened for things to improve?*

We had to keep having meetings. Tell me why – same as the customers. It happened again while I was away.

We analysed the situation. We have two main customers. Individual responsibilities and goals within the teams, in relation to the team's two major customers, were clarified. You have to give people clear direction. The teams members all knew their jobs, they were flexible, but it was all a bit muddled. [3.1.COMM.2]

*Was it getting muddled from the suppliers or from this end?*

From this end. All the parts coming in now are right.

*How much formal training do you get here at the Company?*

We now have a training officer – we are trying to get in-house training.

*Is that technical training, training in management skills?*

Everything. Training is essential and allocated as the need arises.

*What are the principle responsibilities of teams?*



Customer and supplier relations, control own budgets. We have two main customers that supply a large chunk of the business. The work with the customers is long-term and on-going. Health and safety. Recruitment.

At this present time, we have a young lad. We have given him loads of training and he is just not performing. It looks like we will have to recruit again. [3.1.FRICT]

We can source our own suppliers if we have a problem. Empowerment is total. Everything you can do to run a business, we are given the authority to do it.

*Was it after management was sure that everyone was pulling in the same direction that these additional responsibilities were given to you?*

Without a doubt. Annualised hour was the next step after Kaizen, going on to business budgeting.

*Is it true that the MD told everyone, individually, that this is how things will be done and if you do not like it then here is the door?*

Yes

*How did you feel about that?*

I think it was a matter of reassuring people that what he was doing was right. Rather than people chatting in groups, he thought that he would talk to people individually and if they want to come on board. People had a choice. It was fine by me. Dinosaurs are no good to the company.

*I assume a proportion of people left?*

A couple.

*Were there some who stayed that didn't actually agree with what was happening but who didn't own up?*

Yes. Once they started realising how much the company was going to change and they started to visit other companies, they thought to themselves that this isn't so bad after all. It is not as hard, it is fair and what we are doing is right. You only have to go out there and they will tell you that they are quite happy with how things are going.

*What are the main performance measures?*

The teams are responsible for reporting each month. We have a target for each team member that will make a profit over that month. We monitor it before the period is up. If we are not going to make it, can we get some more work in to make us more profitable, so we have got to keep on top of it all the time. We can see what is happening week by week. We do our own projections. We talk to our customers to see how much business is coming in. We present the projections to management, tell management what customers are doing and put it on paper.

*The sales and production targets are set bottom-up?*

It makes you feel like you are running your own business. You are so involved with everything.

*How important is money as a reward to you?*

Not at all important. When we first went to annualised hours, I took a pay cut of £2000 a year. What I saw that money is less important than getting the business and working



in an environment that you like and want to be a part of. The people who liked money left.

*Do you get recognition? Do management just assume that you will always do a good job?*

They are always coming down, all the time, saying well done. They do not take us for granted.

*Would you say people are easy or difficult to manage people?*

Once you have the right people, it is when you have a bad apple, well it is a nightmare. He can be very disruptive and make things go horribly wrong. Everybody has to fit in; if a person is not fitting in then he is no good to us.

*We are running out of time. What about other performance measures?*

Everything you can think of is measured and displayed down on the board – delivery times, reject rates. Management monitor the numbers and liase with the teams to see what is being done about discrepancies.

*When is things are not going too well, in your experience, has management stepped in and taken over?*

Yes. When it is looking like we are not meeting our targets then the management did step in said, look this is what is going to be done. The management comes up with a plan for wage reductions until things pick up. The wage cut was paid back.

*Management have a hands-off approach, apart from monitoring and co-ordinating team performance, but they will step in when there are problems?*

Enterprise Three

Interview Two

Team Member

*How long have you worked here?*

One year

*Where did you work before this?*

(Name of company) for three years. I got made redundant when they moved all welding to Birmingham. I basically.. redundancy was going on. I was the redundancy rep.

*What was that?*

Basically because I was the safety rep on the shopfloor, well, for two factories and when they found out about the redundancies, I had a delegation come up to me and say, we want you to represent us as far as redundancies goes. So I took it on, basically.

*How would you compare working in this company to your previous company?*

It is pretty much the same in a lot of ways. Because I was the safety rep I was involved in meetings with directors, management and supervisors. I basically had the power to overrule the supervisor or management. So I have a good feel for....

*Your previous company sounds like it was quite enlightened.*

It wasn't too bad at all. They had just moved into team working.

*Were you already familiar with Continuous Improvement when you came here?*



Not 100%. I heard of it and I had also come for an interview here about two years, maybe three years ago. It was a bit of a strange thing. I thought I was coming for an interview but when I came up there was about twenty or thirty people here. They had decided to invite people in and give them, if you like a DTI talk but for prospective employees and I don't think they took anybody on from that. They changed their minds as to what they were going to do. I had heard about this company and I knew what they were all about, which is what appealed to me. Which is why I sent in a CV. I started life in the office. I decided that if I wanted to be a manager, the best way to get respect off the shopfloor is to actually go and do an apprenticeship. Then I got married...For me this was the place to be. This is where I wanted to be.

*Was this part of a job strategy?*

On my part it was. It was a way to move forward.

*What did you do in your previous job?*

I was a welder. I have been a welder for the last 12 years but I have been aiming to get back into the managerial / supervisory side. But with engineering, five years ago, I don't know if you know there was a very slack period and I got laid off from round the corner and I have never been out of work, touch wood, but I was just dropping in CVs and banging on doors and when you are moving around you tend to find that you are never somewhere long enough to be able to progress up a ladder. It is a big stumbling block. But then again, you gain a lot of experience. I have seen lot of different techniques. I have built up a good knowledge of how not to do things.

*Could you give me a general impression of what it has been like to work here?*

The first thing is because I came with a view to getting on and getting on very quickly because I had moved around, I have pushed myself, as far as I am concerned, very hard. I have been going for it. Now that was encouraged if you like and it was noticed. I went up to Grade 1 straight away. I am now the safety officer.

But I would say that there is a bit of tension, or there was, between myself and the team leader. I think he felt that...whereas I was trying to do it for ?, "this isn't working, I think it should be done this way". Obviously, he has been here a long time and I he probably felt, "hang on a minute, what is going on?". But that is human nature. No matter how your systems run, you are going to get that sort of friction, I suppose.  
[3.2.FRICT]

*Was it a big problem?*

It got out of proportion. It got a little bit out of hand.

I actually had a written warning before Christmas, on attitude. But that stemmed from the fact that we had got to a situation where we were not addressing the problems. We were sort of going apart and I was getting disillusioned and the team leader was getting more fed up and it went round and round. We ended up upstairs. [3.1.WARN]

*Who instigated that?*

The team leader pushed the production director...I have had one before that, I went on the...I told you that I had taken the safety role. I said I wanted to go on a proper training course. Halfway through the course, somewhere along the line, somebody said that once I had got I would leave, which caused me all sorts of problems. And then I knew, basically, I knew that the knowledge I had gained on that course – they tried to get me to sign a contract to stay for two years – and I used the knowledge I had got to say , "No, I am sorry". It got a little bit iffy. Having said that, we have now aired the



problems and got it sorted out, like a lot of places, you would just be gone but now we have decided to go forward again and carry on.

*You are being very open...*

I tell you what, I had a feeling of what you were after. It would have been very easy for me to come up here and say it is wonderful..

*...What interests me is the process of resolving these sort of problems. Have you had two written warnings?*

No one and a talking to. It was mainly over, it was a lot of things and eventually they came up with the view that I had a negative attitude towards the company, which I did not deny because, the way I felt I had been treated it was making me negative. Extremely negative. But I have always been able to see things from both sides and yes, I was told at times, you have got to be but then it is swings and roundabouts. You have to look at it from both sides and say right, you have done that, you have done that and end of the day you are out. I have worked in loads of places. I know what goes on and I have seen people fired. I want to come to work. I want to do my job. That what is difficult here – they are looking for that bit more. They are looking for you to be for the company 100% and you can do that but there's real life as well.

*What do you mean by that?*

You can be 100% for the company but at the end of the day, I go home. What I do when I leave here is up to me.

*Would anybody here contradict that?*

I think by the very nature of the team-work you are made to feel you are part of the team and you have to got to pull your weight...there are people who have been here 15 or 16 years and feel it is there life and if you say anything out of turn, the sort of thing you would say every day, that can – you can be construed as being a bit funny. That can become a bit...

*Do you feel that you are being moulded or coerced in any way? Is that an unfair question?*

No. I tend to look into people. I ask questions and I ask , why? Why am I doing that? You have got to have a management system. To me you can only take the team working so far. You have still have still got to have someone who will say, "This is how it is going to be". You can take ideas and that is good but at the end of the day you still have to have somebody at the top saying, even if everybody agrees, that is not going to work because. We don't get all the facts on the shopfloor. You have got to have things that cannot be said until the right time. The decision-makers in the company will know which way the company is going. You don't know what is going on for, what for some months at least. They have that period of time to make you go in that direction as easily as possible. You can only work on what they tell you. You make your decision-making based on the information.

*I find this clash of values between you and the company interesting because there is no real clash...*

No that is what has been disappointing for me because I pushed...it is probably a misconception on my part because I took it too far, if you like. I thought for once I am going to get on but there is only a small management structure. There is no progression. You get to a point where you can't go anywhere until there is another team leader's job.



The team leader cannot go anywhere unless the business expands and gets more business, then that person becomes team leader and the team leader works his way up. It is a very slow process.

*It sounds to me as though you might have got more than you bargained for.*

It some ways my past experience and knowledge of business studies has helped but in a lot of ways it is kicking back at me. I have just done a safety report, an audit, and I am waiting to see what happens on that. Basically my job is as a production worker and I am there to make money for the company. Whatever else I can offer is a bonus but it is only.....you see I don't get paid for the safety job. So to do all that and then to be dragged upstairs and told that I am negative. It was quite unpleasant.

*How was all that resolved?*

I was given a month's notice...

*Were you given a chance to put your side of the story?*

I was, but it was two against one. The production manager's job is to back up the team leader, otherwise the system falls apart. You have got to have control. At the end of the day, it all blew over. I was given a month to sort myself out with targets to achieve, customer focus or whatever. I didn't really do anything different. A month passed. The end of the month was last night. Nothing was heard and then I spoke to the production director and he just said, carry on. It just got a bit out of hand. It was compounded by the inexperience as a team leader. Really only a young person should be doing his job.