'Greenfield' Sites in Brownfield Locations: Creating 'New' HR Systems through Managing 'Old' HR Problems

Kathy Monks
Michael Loughnane
John McMackin

'Greenfield' Sites in Brownfield Locations: Creating 'New' HR Systems through Managing 'Old' HR Problems

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

KATHY MONKS

MICHAEL LOUGHNANE

JOHN MCMACKIN

INTRODUCTION

Greenfield sites have proved to be of great interest to researchers in the area of international human resource management as they have provided the opportunity to study the impact of HRM practices that are introduced into organisations when management has more or less a free rein in relation both to the choice of practices and the way in which these are implemented. Given this choice of HR practices, the option to utilise what have been labelled 'high commitment' practices is possible for the employer and this offers the possibility of monitoring the impact of different HR strategies on firm performance (see, for example, Hallier and Leopold, 2000; Gunnigle and Morley, 1998, Guest and Hoque, 1994). Greenfield sites are, though, an expensive option. In many cases, the setting up of a plant in a new physical location is not a real possibility, even for the large multinational organisation. Instead, organisations that need to expand their plant capacity may have to do so within their existing locations. This process may involve the utilisation of some of the existing staff who may bring with them the legacies of ways of working that predominated within the original plant; legacies that may present barriers to introducing the types of initiatives that are possible in a completely greenfield situation. At the same time there may be opportunities presented by the new premises to introduce new working practices. Locations that mix both Greenfield and brownfield elements are therefore interesting case studies as they provide the opportunity to examine the ways in which organisations mould their existing HR practices in order to manage change and this offers the possibility of identifying the key HR practices in the process of such change.In addition, they present insights into the relationship between HR practices and performance as comparisons are possible between the old and the new plants. As Purcell (1999) has pointed out, focusing on change in this way holds out distinct possibilities for the understanding and analysis of HR issues. This paper provides an insight into some of these issues from a study undertaken within a power station in

Ireland. The paper begins by discussing some of the issues within the HRM – performance literature, before describing the results of the research.

HRM AND FIRM PERFORMANCE: THE ONGOING DEBATE

The HRM-Performance debate remains of ongoing interest to researchers (see Wood, 1999, for a synthesis of the main studies). This debate is not new: the performance of individuals has always been of concern to employers and these concerns have been mirrored in the writings of academics interested in exploring issues such as work performance and work effort. The other side of this equation, why individuals might wish to engage with the organisation in order to increase their performance has also been explored over the years with In this guise it can be traced back to the early Hawthorne studies of the 1930s while writers such as Likert (1961) maintained interest in the topic during the 1960s and 1970s. In the 1980s, Lawler (1986) undertook several studies in the USA that explored high involvement management as a mechanism for improving organisational performance. Lawler suggests that organisational effectiveness can be attained only be changing the ways in which organisations are managed and that the high-involvement or employee-centred management model is based on the belief that employees can be trusted to make important decisions about the management of their work. An organisation becomes employee centred through focussing on participation that integrates the individual with the organisation in order to achieve high productivity, thereby leading to competitive advantage (Lawler, 1992).

During the 1990s and into the 21st century, the HRM-performance debate gathered speed and there are now a large number of studies from both the USA (e.g. Huselid, 1995; Delery and Doty, 1996; Huselid, Jackson and Schuler, 1997; MacDuffie, 1995; Cappelli and Rogovsky, 1998; Cappelli and Neumark, 2001)), the UK (Guest, 1997; 1999; Guest et al., 2000a, 2000b; Purcell, 1999; Patterson et al., 1997; Wood, 1999) and Ireland (Roche, 1999; Monks and McMackin, 2001) that examine this issue. While there is no shortage to studies on the topic, there is still a good deal of uncertainty in deciding exactly how these might be interpreted. For example, the terminology used to describe the HRM element in the linkage is variously described as high commitment, high performance, and high involvement HR practices. Whether these are interchangeable terms remains unclear. There are also a variety of perspectives underpinning how the HRM-performance linkage might be interpreted. In the main these studies fall into two broad camps with evidence provided for both a best practice/universalistic approach (e.g. Arthur, 1994; Ichniowski et al. 1997) as well as a contingency perspective (e.g. Delery and Doty, 1996; Youndt et al. 1996). Other studies do not necessarily fall neatly into these two camps and instead provide evidence of both approaches.

Measuring Performance

There is as yet no consensus on the issue of what the term 'high performance' actually means for an organisation. Some researchers (e.g. Huselid, 1995) concentrate on financial performance, while others (e.g., 1994; Guest and Hoque, 1994; MacDuffie, 1995) measure productivity and quality. Attempts to measure performance frequently assume that this task is easily completed but questions remain as to how possible is it to first of all make an accurate assessment of an organisation's performance and, secondly, to compare this with the performance of other organisations. March and Sutton (1997: 70) suggest that:

> Most studies of organizational performance are incapable of identifying the true causal relations among performance variables and other variables correlated with them through the data and methods they normally use. Although there are studies that mitigate these shortcomings, the emperor of organizational performance studies is for the most part rather naked.

Finally, some studies (e.g. Guest and Hoque, 1994) provide evidence that high performance can be attained without the uptake of sophisticated HRM practices. While the downside, is that such firms may not be particularly attractive places in which to work, the fact remains that firms can and do exercise choices over the implementation of high performance work practices. Despite the wealth of studies, there are still gaps in the understanding of the HRM Performance linkage. For example, there is relatively little qualitative data available to explain the linkages between HRM and performance. Most studies to date have focused on large scale surveys and have utilised quantitative data to make statistical correlations between HRM practices and performance. However, there are limitations to and problems with this approach (Purcell, 1999; Gardner et al., 1999). There is also no general agreement as to the precise policies and practices that comprise any HRM system (Becker and Gerhart, 1996). More importantly, the ways in which the HRM system is constructed may be critical to its success and the role of HR processes in this construction is an often ignored factor (Purcell, 1999; Monks and McMackin, 2001).

THE RESEARCH

Research to explore these issues was undertaken in the business unit (PowerUnit)[1] responsible for the operation of power stations within a large organisation that operates internationally as well as in Ireland. The research is a longitudinal study of human resource practices in power stations and this paper focuses on comparing HR practices and performance in two power plants within Ireland. The first (PowerCo1) was commissioned in the 1970s while the second (PowerCo2) was built in 1996 at the same location but with new work practices negotiated to operate the plant. While PowerCo1 is considered a single unit for most purposes in this analysis, it does in fact comprise three distinct units from a technological perspective and this factor is

---

[1] Pseudonyms are adopted in order to protect the identity of the organisation.

considered when performance issues are discussed. Table 1 provides an overview of the two plants.

[Insert Table 1 about here]

The research comprised a mixture of extensive secondary research and interviews with key informants. The secondary research involved in-depth analysis of business and performance data over a time span of five years. This included the compilation of performance data on absenteeism levels, industrial relations disputes, accident rates, and attitude surveys. In addition, information was collected on the business and human resource strategies of both the business unit and the power station. Information on plant level performance was also assessed and the plants benchmarked against national and international standards. The primary research involved interviews with the HR manager, the station manager, union officials, and the top management responsible for strategic decision making within the plants. The aim in taking a case study approach was to try to overcome some of the problems that have been encountered in exploring the introduction of high performance work practices through a survey approach and to provide the qualitative data that is seen as crucial to understanding these processes (Becker and Gerhart, 1996). The remainder of the article considers the findings from the research.

Creating PowerCo2

In the early 1990s, Powerunit was faced with the need to build an additional power plant in order to cater for the continuing increase in demand for electricity within Ireland. At that stage the commercial environment within Ireland was changing rapidly and the business recognized the need to be able to indicate to potential competitors and the Irish Government that it had the expertise to operate effectively and competitively in what was rapidly becoming an international environment. The decision was therefore made that the plant would have to be operated and maintained according to best international practice. The most logical place to situate a new plant was on the same site as PowerCo1 as a physical infrastructure was already in place. However, from a management perspective, the aim was to set up a 'greenfield' plant that would have no links through staff or working conditions with PowerCo1.

Indeed, the plant was physically fenced off in order to emphasise its separateness and it was given a different name. PowerCo1 was not operating to best international practice and, for a combination of reasons, was overmanned. In addition, there was a poor track record of industrial relations within the plant with a major strike in 1992. The plant had been built in the 1970s and had:

adopted the industrial relations model that would have originated at that time and that has tended to carry through to today………In the early 1970s there was a culture that management didn't understand or didn't want to understand what the problem was. There was also a view by people, let's say the 1950s, 1960s trade unionists, and their view was that there is only one way to do this and that is to walk off the job…… You would tend to have people from the old school in [PowerCo1] and the old style type of industrial relations issues would still surface. Union official #1

In contrast to the management view that PowerCo2 should be a separate entity, the decision to build a new plant was seen as an opportunity by unions and employees to secure the future of the staff within PowerCo1 through a monetary package:

The biggest interest the people had in it was the monetary aspect. They reckoned it secured the future of [PowerC1) and it secured their future. The monetary benefits had the potential to reflect in on their pension. For the age profile of the people that were there that was important. Pension seems to kick in when you are about 35-40. Before that you're going to live forever and it never happens. Union Official#2

In 1993, a decision was taken by the senior management team in Powerunit that it would work with the unions in the commissioning of PowerCo2. There was agreement to the setting up of a taskforce comprising management and union representatives 'to investigate the appropriate structures and working practices necessary for the operation and maintenance of the development at [powerstation site] and to present a report to both parties for their consideration' (Internal Task Force Report, 1994: 3). The taskforce visited power stations in the US and UK as part of the process in order to identify best practice. The critical 'best practices' that emerged from these visits were the much lower staffing levels within the overseas plants and the differences in the way in which the work was organized. For example, one station in the UK was producing twice the electricity as PowerCo1 but with 36 staff rather than 150. Some of the union representatives found the staffing levels difficult to comprehend:

They were shocking to the guys because they were dramatically different and the working arrangements were dramatically different to the extent that they were checking car parks, they were looking behind doors as we were walking around the stations to see if people were hiding – "let's look at the canteen to see how big it is". They had very shrewd ways to say at the car park, "well how many people are actually here" to find out the actual working arrangements. Business Manager #1

After extensive negotiations, a set of proposals were agreed within the taskforce and subsequently ratified at board level within the organisation. The key elements revolved around staffing levels and the organisation of work:

> *The problem was the people issue. It's easy enough regarding the technology, we'll always get that right and that will be linked to what's the most efficient unit cost you'll get that's available on the market at the best price. The task was really about getting staff agreements.* Manager #1

It was agreed that multi-disciplinary, self-directed teams would replace the demarcated positions that applied in PowerCo1 and that these teams would carry out both operational and first line maintenance tasks:

> *This was a self-directed team structure where operations and maintenance tasks were performed by the team. There was no demarcation. This meant that if there was a problem it could be fixed by the team. The previous model had delineated between operator and maintenance tasks and all faults had to be logged and await fixing by a maintenance person.* Manager #4

This was a major change as in Pow erCo1 craftsmen did not work shift and if a breakdown occurred during the night shift it was not fixed until the following morning.

Creating the Multi-Skilled Teams

The staff selected to operate PowerCo2 went through a competency based selection process. This identified individuals who would have the set of competencies required for working in the new power plant. However, the requirement for a 'change in mindset or an attitude change' was the most crucial element in the process (Manager #2). This had to be accompanied by the removal of the symbolism that had previously enhanced the segregation between different crafts. For example, in PowerCo1, there were separate workshops for electricians and fitters and they had tended to withdraw into their own sections.

The teams that emerged have worked successfully together:

> *They are occupied all the time. This is a totally different atmosphere from the old plant. They have total flexibility with job rotation. If there is a fault on the plant, they fix it themselves. In the old plant the operator simply logged the fault and then it was fixed by someone else. This has made a huge difference to job satisfaction and performance - there is more control, more ownership, they are more involved and they are more productive and effective.* HR Manager

The Impact on the HR system in PowerCo1

The HR system that emerged within PowerCo2 was therefore based on the need for multidisciplinary work teams to work within internationally accepted staffing levels Once the main elements of the agreement were determined, the unions once more returned to the issue of 'the deal' for those in PowerCo1. For their part, the unions suggested that the new station could be staffed from the existing employees within PowerCo1 as part of the deal. This had not been envisaged by the management team:

> *We didn't want them to be absorbed if you like in the [PowerCo1] way of doing things because then the work practices would just be the same as [PowerCo1]. Now this meant for them that if would be better for them if the numbers were small because this would mean taking less from [PowerCo1]. So now we were talking about the right level of numbers. The other thing I said was "if we are going to do this we might take 30 odd people out of [PowerCo1] we can't run [PowerCo1] the same way because we will be 30 odd people short".* Business Manager #1

The 'deal' that emerged in PowerCo1 was focused on annualized hours. It had already been agreed that the deal had to be self-financing and the annualized hours approach seemed to provide the opportunity to ensure that the levels of overtime earnings that had previously operated would be credited for superannuation purposes. The workforce were at a stage in their life cycle when pension issues were coming to the fore and when locking in their overtime earnings would provide a guaranteed income for the future. However, many problems emerged with the concept once it became operationalised. Both the managers and union officials who were interviewed agreed that an annualised hours system was not workable in the environment that existed within PowerCo1:

> *There was some serious problems with [PowerCo1] in going down this route and we didn't get it right. We made our best shot at it but there wasn't a whole lot of annualised hours arrangements in place so you might forgive us for not getting it right and I don't think we really did in hindsight...... It was then thought we would have a trial of an annualised hours system in place to see if we could bring in a culture change. [PowerCo1] wasn't the first place you would go to in this because of the entrenched views and the terrible custom and practice in place, now that's where we were; it was the only choice we had. And secondly overtime earnings were extremely high historically because of particular working practices like a "one in all in" how overhauls were handled so overtime earnings were very high. And again that another guideline in taking on annualised hours, you really need to get the overtime right down and then bring it in.* Manager #1

The onus was on each category to manage the time between themselves but this meant that management had no sanction against the individual and discipline issues emerged:

> *The other thing we didn't pay enough attention to was the discipline or the penalties around what were you going to do if anyone breached it. We were relying on peer pressure. There was an acceptance by the staff that the work had to be done. If you're saying that you are not available you're taking too much sick leave to avoid work because you're going to be paid anyway, then other people in your team had to take up that slack and if it ended up being the same people all the time. They were the kind of things we were relying on and the understanding of the group: "well this is how it works".* Manager #1

> *The way the agreement was written was; if somebody wasn't available for the hours the group could decide to carry them. So if I said "I won't be available" the group would carry me. That was done on the basis now that each group had to mind themselves,……… it wouldn't be a clinical exercise of saying "here are the numbers and saying you have worked the hours or you haven't worked the hours". It prevented management from taking anyone to task other than if the group as a collective felt that they needed to be taken to task. What happened then was people were complaining that people were not carrying their fair share. Informally they were complaining to management. Nobody would make a formal complaint. Therefore if management didn't have a formal complaint they didn't have the facility to go and address it.* Union Official #2

Creating the HR System

Figure 1 sets out the way in which the HR system was created in PowerCo2 and the impact on PowerCo1:

[Insert Figure 1 about here]

In PowerCo2, the HR system emerged in an integrated way: the creation of the multi-skilled teams involved a selection system that sought not just a specific set of competencies but also a changed approach to working. The new team-based structure then demanded a reward system that supported and enhanced the new working arrangements. The utilisation of the competency-based selection process resulted in a shift of probably the most highly skilled staff to the new power plant:

> *We got some of the best people.* Manager #2

> *The 18 came out of the top third tier of the people, i.e. people of particularly good ability. It did pose a problem in that it diluted the main station of sort of*

skills. Those with particular skills could cover 80% of the plant so it left a bit of a gap. So when particular work came up particularly emergency work the skill base that was left had less of the highly competent people and more of the average skilled people. Union Official #2

This had repercussions for the skills left in PowerCo1 and, as a result, the decision was taken to train some of the unskilled day workers within the plant up to the standard of craftsmen. The creation of the new HR systems in the power plants was also impacted by the broader internal and external environments. One of the union officials interviewed summarised the various issues:

There is a certain understanding now with what's expected of people. In the 70s and the 80s and the introduction of new technology, people saw that as an opportunity to increase their income. You had an organisation that was moving from a 50s, 60s culture and that literally changed in the early 70s. Bits of it still lingered here and the company is good for us and if we can develop something that is good for the company then what follows is good for us also. The advent of competition has I suppose concentrated people's minds on it too that we're not a monopoly anymore, OK we are to some extent at the moment but in a short time we possibly won't be and I think exposure to other industries and to the broader industry in terms of what's operating in other countries. ....there is an acceptance at this stage and a reality that the industry has changed, that competition is out there and if we are to survive there is a need to change the way we work and the way we operate, both on the management side and the workers' side. Union Official #1

Just as the new system was being introduced, an organisation-wide change process was initiated that involved a major downsizing exercise. Unfortunately, this caused difficulties in the implementation of the new HR system for PowerCo1. The changes that had been wrought in the agreements involving PowerCo1 and PowerCo2 were essentially the result of a partnership approach with unions and management working together towards a solution. However the organisation-wide change management process was focused on the old industrial relations system of bargaining and negotiation. This caused problems in the implementation of the new system within PowerCo1. While some changes were made to the HR system within PowerCo1, these changes did not fit together in any coherent way and the problems within the plant are still not resolved:

The culture in both [PowerCo2] is different to the culture in [PowerCo1]. You still tend to have people from the old school in [PowerCo1] and the old style type of industrial issues would still surface. Whereas in the new one there is an acceptance that they have signed up and are being rewarded for this change and this is the way forward and this is the way things should be done. I

am quite sure there are niggley bits of problems but having said that there is nothing to the extent that is creating mayhem or whatever. Union Official #1

PERFORMANCE IN POWERCO1 AND POWERCO2

All those interviewed were firmly convinced of the positive outcomes on both behaviour and performance in PowerCo2:

In the new plant you can see the relationship between team and plant performance. They take pride in the station - people come in on their days off if there are problems. They are aware of plant performance and see the impact of their own performance on the plant. There is no division between operations and maintenance - they see the problems as their own. Manager #4

What funnily enough seemed to happen was that the people who were 'brown' or whatever colour you might like to call them became 'greenfield' when they went over to the new station. They made reference to the fact that they couldn't operate that [old] way again. Manager #2

In order to assess whether or not the creation of a new HR system within PowerCo2 made a difference to performance, various indicators of individual performance were analysed. These included individual level measures including absenteeism, accidents and industrial relations. While attitude survey data was available, the small number of staff within PowerCo2 do not make comparisons between the two plants meaningful. Organisational level performance measures were also analysed.

Absenteeism

An analysis of absenteeism over a five year period showed that absence rates in PowerCo2 are lower for casual, certified and occupational absence when compared with PowerCo1. In addition, PowerCo2 shows a much lower rate of absence on these three dimensions when compared with all the power stations in the organisation.

Productivity

Productivity is not a simple concept to measure within a power station. The critical contribution which employees make to enhancing the performance of the plant, and hence the income of the power station, relates to:

- The efficient operation of the plant, thus minimising fuel costs and wear and tear;
- Monitoring the plant while in operation thus preventing emerging plant problems, which, if not attended to, would result in the plant being 'forced off';
- The quality of maintenance (which reduces plant downtime); and
- Minimising scheduled outages.

However, many factors other than the employee contribution determine plant performance. These include the running hours, the running regime, the number of stop/starts, the technology, the type of fuel, design faults, the performance of contractors brought in to do specialist work during scheduled outages, the availability of parts etc. It is difficult therefore to find a direct causal link between employee performance and plant performance. This is illustrated in Figure 2, based on Guest's (1997) model.

[Insert Figure 2 about here]

The profitability of the power station is determined by plant performance, which determines the income and the overall costs. Employee costs usually form a small part of the operating costs of power stations, particularly more modern gas power stations where the technology is advanced and there is no requirement to handle fuel. One way of benchmarking power stations is to compare the number of employees and the size of the plant. This compares the employee costs but masks a number of other variables. Little if any benchmarking in done in relation to the employee contribution. However, the performance of power stations can be benchmarked in relation to the centre box in the model i.e. 'forced outages'. This is referred to also as the "Unplanned Capability Loss Factor" (UCLF). Using this factor, performance in PowerCo1 compares very poorly with other plants in the PowerUnit system and also against international comparisons. In contrast, PowerCo2 operates better than other units and achieve a performance close to the best quartile of international comparators.

DISCUSSION

The research found that the process of deciding on the components of the HR system for Power Co2 was based on the need to resolve as many dysfunctional elements as possible of the HR system that existed within PowerCo1. The major problems in PowerCo1 centred around demarcation issues: jobs were strictly defined and there was a clear division between operating and maintenance activities. In setting up PowerCo2 these problems were overcome by first of all introducing a selection system that recruited individuals based on the competencies required for working as a member of a multi-skilled team. Second, crossskilled, self-directed work teams were introduced whose members were trained in both operational and routine maintenance tasks. Third, a new reward system was introduced to support the new working arrangements. Thus many of the problems experienced in operating the old plant did not emerge in the new plant, even though all members of the new workforce within PowerCo2 had previously been employed in PowerCo1.

The creation of a HR system for the new plant was therefore a two stage process. Unlike 'pure' greenfield sites where a complete set of integrated HR practices can be introduced at one time, the building of a new plant such as PowerCo2 in a brownfield location allowed for the implementation of only certain new practices and these were

designed to counteract the negative practices that had emerged in PowerCo1. In addition, while some new practices could be introduced, these had to be implemented with the existing workforce as part of the decision to continue to invest in the existing location was based on an agreement not to increase staffing levels. The research provides insights into the design and construction of HR systems. HR managers are not generally provided with the opportunity to design HR systems from scratch. Their ideas, how ever well informed, about HR systems should work, will necessarily be tempered by the exigencies of the circumstances within which they find themselves operating. These circumstances are particularly complex in a multi-union environment with long-established working arrangements. For the HR manager trying to resolve the dysfunctional elements of an existing system the concentration of change efforts on crucial elements of its operation may be key to ensuring that a new system works effectively. In the case of the HR system in the PowerCo2, the design or 'guiding principles in its system architecture' (Becker and Gerhart, 1996) was based on a conviction that the focus on working arrangements through crossskilled teams was a core determinant of enhanced business performance when compared with the traditional approach based on strictly defined jobs that existed in PowerCo1.

While the complexity and difficulty of making causal relationships between HRM practices and plant performance is well documented (March and Sutton, 1997), the research provided some useful insights into the HRM-Performance debate. First, the research compared the power stations on various individual performance dimensions and found differences in performance metrics at an individual level between PowerCo1 and PowerCo2 and also in the overall performance of the plants when compared to international standards. However, to have made comparison s between the plants based solely on their performance proved impossible as the technologies were dissimilar. This suggests that careful account needs to be taken of how performance is defined and measured within a particular industry and that generalisations about direct linkages between HRM and firm performance need to be tempered by reference to technological and industry level factors. This illustrates the complexity for the international firms of making direct comparisons of performance between its various business units or locations and suggests that these need to be considered in the wider context of the range of variables that impact on performance and in the light of the different types of HR strategies that may be used to implement the business decisions.

ACKNOWLEDGEMENTS

REFERENCES

Arthur, J. B. (1994) 'Effects of human resource systems on manufacturing performance and turnover', *Academy Of Management Journal*, 37: 670-687.

Becker, B. and Gerhart, B. (1996) 'The impact of human resource management on organizational performance: progress and prospects', *Academy of Management Journal*, 39 (4): 779- 801.

Becker, B., Huselid, M., Pickus, P., and Spratt, M. (1997) 'HR as a source of shareholder value: research and recommendations', *Human Resource Management,* 36 (1): 39-47.

Cappelli, P. and Neumark, D. (2001) 'Do "High Performance" Work Practices Improve Establishment-Level Outcomes?', *Industrial and Labour Relations Review,* 54 (4): 737-771.

Cappelli, P. and Rogovsky, N. (1998) 'Employee involvement and organisational citizenship: implications for labour law reform and lean production', *Industrial and Labor Relations Review,* 51(4): 633-653).

Delery, J., and Doty, D. H. (1996) 'Models of theorizing in strategic human resource management: tests of universalistic, contingency and configurational performance predictions', *Academy of Management Journal*, 39(4), 802-835: 12.

Guest, D. (1997) 'Human resource management and performance: a review and a research agenda', *The International Journal of Human Resource Management,* 8(3): 263- 276.

Guest, D. (1999) 'Human resource management - the workers' verdict', *Human Resource Management Journal*, 9 (3): 5-25.

Guest, D. and Hoque, K. (1994) 'The good, the bad and the ugly: Employment relations in the new non-union workplaces', *Human Resource Management Journal,* 5, 1: 1-14.

Gunnigle, P. and Morley, M. (1998) 'Strategic integration and industrial relations in Greenfield sites'. In C. Mabey, D. Skinner, and T. Clark *Experiencing Human Resource Management*, London: Sage.

Hallier, J. and Leopold, J. (2000) 'Managing employment on greenfield sites: attempts to replicate high commitment practices in the UK and New Zealand', *Industrial Relations Journal*, 31, 3: 177-191.

Huselid, M. (1995) 'The impact of human resource management practices on turnover, productivity and corporate financial performance', *Academy of Management Journal*, 38 (3): 635- 672.

Ichniowski, C., Shaw, K. and Prennushi, G. (1997) 'The effects of human resource management on productivity', *American Economic Review*, 87(3): 291-313.

March, J. and Sutton, R. (1997) 'Organisation performance as a dependent variable', *Organization Science,* 8, 6: 698-709.

McDuffie, J.P. (1995) 'Human resource bundles and manufacturing performance: organisational logic and flexible productions systems in the world auto industry', *Industrial and Labour Relations Review,* 48: 197 - 221.

Monks, K. and McMackin, J. (2001) 'Constructing a HR system: best practice or good Practice?', *Human Resource Management Journal*, 11 (2): 57-89.

Patterson, M., West, M.A., Lawthorne, R. and Niskell, S. (1998) 'Impact of people management practices on business performance', *Issues in People Management*, No. 22. London: Institute of Personnel and Development.

Pfeffer, J. (1994) *Competitive Advantage through People*. Boston, Mass: Harvard Business School Press.

Purcell, J. (1999) 'Bet practice and best fit: chimera or cul-de-sac?', *Human Resource Management Journal*, 9 (3): 26-41.

Roche, W. (1999) 'In search of coherent commitment-oriented human resource policies and the conditions which sustain them', *Journal of Management Studies*, 36 (5): 653-678.

Wood, S. (1999) 'Human resource management and performance', *International Journal of Management Reviews*, 1(4): 367-413.

TABLES AND FIGURES

Table 2: Profile of PowerCo1 and PowerCo2

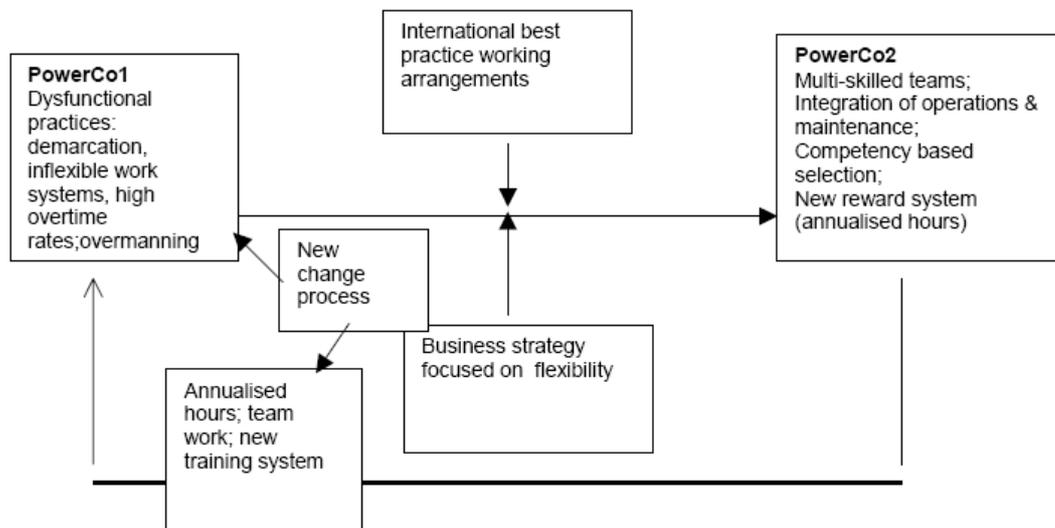| Plant	No. Employees	Type of plant
PowerCo1	150	Oil/gas
PowerCo2	18	Gas

Figure 3: The Construction of the HR System in PowerCo2

Figure 4: Linkages between Employee contribution and plant performance (Adapted from Guest, 1997)