

The Role of Unions in Sociotechnical Systems

Marian Baird*

Abstract

In 1980 Dr F. Emery published a paper discussing the design of socio-technical systems for 'greenfield sites'. In his paper Emery argued that a new and different paradigm of work, which is based on 'co-operative, symmetrically dependent relations', is more easily introduced into 'greenfield sites' and that 'most matters can be negotiated beforehand with trade union officials' (1980: 19&21).

In this paper the author explores the use of socio-technical design in a greenfield plant, and its application in an old, or brownfield plant of the same company. The socio-technical approach is embodied in the new production model being introduced, which is called a high commitment work system. Of specific interest is the role of unions in the sites. Two questions are addressed in this respect. Are unions involved in the design and implementation of the socio-technical system? What are the implications for the future of the unions in these two sites?

1. Introduction

This paper examines the introduction of socio-technical principles in two manufacturing workplaces of the one company. The company's name remains confidential, the purpose of the paper being to discuss and question the implications for unions of the workplace innovations. One workplace is a 'greenfield site', where management were able to plan the 'ideal' work-

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place, (Guest and Rosenthal 1985) unencumbered by custom and practice. In order to break with the past, a new site was purchased, a new factory built, new managers and new employees recruited and a new system of work was introduced, which is called a 'high commitment work system'. The other site is an old workplace, or a 'brownfield site', with a history of multi-unionism, industrial conflict and autocratic management. This site is undergoing a period of conversion to a 'high commitment work system'. Both sites produce goods for the consumer products market.

The body of the paper is divided into three sections. The first section discusses the 'high commitment work system' (HCWS), a production model identified by management as a socio-technical system (STS). The second section describes the two workplaces and the characteristics of change in each of them, and the third section analyses union involvement and union concerns at the workplaces. The conclusion argues that a new paradigm of work based on 'co-operative symmetrically dependent relations' between employer and employee as suggested by Emery (1980: 19) has not really developed at either site. The role of the union at the 'greenfield site' has been minimised, and the process at the old site has been one characterised by an absence of 'negotiated change' (Mathews 1994: 258) with the unions.

2. High Commitment Work System – A Sociotechnical System

There is some vagueness about the meaning of the term socio-technical systems amongst managers promoting the model in the company. However, they do use the language and talk of the 'joint optimisation of the social and technical systems'. They also specifically refer to the production model of high commitment work system as a sociotechnical system. Sometimes HCWS is more simply expressed as a 'team work system'. A high commitment work system as described by Walton is 'a system designed to generate high commitment, to utilize fully high commitment for gains (human and business), and to depend on high commitment for its effectiveness'. (Walton 1980: 209)

This company, which is a multi-national, has adopted the HCWS throughout many of its global affiliates, although local factors such as relative union strength and labour force characteristics, make its diffusion less than uniform (Baird 1995). It is expected that the HCWS will improve product quality, productivity, customer service, profitability and reduce turnover. The main components of this system are a respect for the capa-

bilities of the individual and their contribution to the company, team-work, training, open and honest communication, management by principles, recognition of the value of diversity and continuous improvement.

The company recognises that HCWS requires a major philosophical change in the employment relationship and a fundamental change in work and management. In short, as Emery said, a 'paradigm shift'. This shift involves a re-definition of the way work is conducted. This involves a change from a system where management has authority over worker, to one where the worker takes responsibility. The HCWS is seen as a holistic system, covering all aspects of the organisation and manufacture of the product, it has been described as 'the glue that binds everything together'. The underlying aim of the HCWS is to align employee and business goals. The company is quite open about promoting 'a shared vision and commitment to company goals' which in practice, potentially excludes unions from the picture, operating as they do from a different perspective, or paradigm.

Ironically, in these cases there is little attention paid to the issue of technology. This is explained by the nature of the industry, which in this case uses relatively simple and stable technology. Even in the 'greenfield site', technology from an old site was transferred to the new factory, and in the 'brownfield site' technology had been modernised before any reference to a socio-technical framework. In the changes being introduced there is much more emphasis on the social relations of production.

The essential component of socio-technical work systems for Emery and Trist was the concept of the self-managing work group which would allow for greater democracy at work. Although STS language and design concepts are used in HCWS, there are two important differences between production models such as the HCWS and these earlier versions of socio-technical work. These differences relate to two questions. The first is the issue of the design agent, that is: *Who has authority over design and implementation of the socio-technical system?* The second difference is the underlying context and rationale for introducing the socio-technical system, that is: *Why is the socio-technical system being introduced? Is it to democratize or humanise work?*

The answer to the first question in the two cases studied here is that management acting unilaterally has decided to design and implement the STS/HCWS system. Employee input is encouraged later in the operation of the system, but union input is not invited, neither in the design nor implementation phases. The answer to the second question is that the rationale is clearly to meet business ends in response to competitive pressures. In Australia the objective is to have responsive, low cost manufacturing. The rationale is therefore not industrial democracy nor the humanising of work.

More humane work environments may be a fortunate consequence, especially so in the 'greenfield site', but this was not an objective. Indeed, enhanced quality of work life is listed by the company as a misguided objective, because the result would be a lack of focus on the real issue, ie business objectives. It may also be argued that industrial democracy is an outcome, although unintended. In the HCWS communication is more open, management style is consultative rather than autocratic, employee opinion is sought and decision making is lowered. Increased responsibility for employees is clearly intended, for the purpose of increasing responsiveness and flexibility of production, but this does not necessarily equate with increased democracy. Other writers also question the ethics of commitment strategies, arguing that they are designed by management for instrumental purposes in the pursuit of competitive advantage and not to improve democracy in the workplace (Akhtar et al 1995).

To summarise this section, it has been suggested that while there is some ambiguity over definition, the HCWS is a socio-technical system primarily because the management in this company are labelling it thus, and because they are interested in altering the socio-technical relationship (though principally the former). Certainly in operational terms increased labour responsibility, a broadening of the roles of individual workers and a more responsive production system are envisaged, thus meeting the characteristics of STS as described by Mathews (1994: 47) However, the contextual setting in which the HCWS/STS is introduced raises some queries about its objectives. That is, the model has been conceived and to some extent, developed, by management alone, and the rationale for its introduction is not explicitly to improve democracy in the workplace but rather to increase competitiveness. The paper now turns to a brief outline of each of the workplaces.

3. The Workplaces

The Greenfield Site -

'The need for 'greenfield site' design has become more critical as more and more organisations find that they are incapable of undoing the exploitative and defensive systems built into their existing plants.'
(Emery 1980: 21)

Such was the case in this company, which in management's words, required 'a major discontinuity with the past' because of the entrenched position of labour and management in their old sites. The break was achieved through the opening of a greenfield site. A new location and new

employees were chosen, two new factories were designed and built, now four years old and one year old and employing about twenty-four and ninety production team members respectively. This move immediately signalled to employees and managers in the older sites that the company was prepared to change direction. The new factories and new employees enabled the immediate application of a new organisation of work that featured team work, multi-skilling and job rotation, a skill block related pay system, extensive training, continuous learning and problem solving. Although new technology was not featured, a new arrangement of production lines was introduced, emphasising 'line of sight' and removing task demarcations.

The 'greenfield site' location corresponds with location patterns documented overseas, where companies move to areas with a 'favourable business climate' (Herod 1991: 385), and to reduce their 'dependence on well-paid and possibly militant workers' (Edwards and Heery 1989: 22). In this particular case a combination of industrial relations factors, government incentive and market position attracted the company to the new location. Significantly, it is well distanced from the old sites and their unions.

At the greenfield site a large investment was made in the architecture of the manufacturing space, to remove as many physical barriers as possible. This was more easily achieved in one of the 'greenfield site's' factories than the other because of the goods being manufactured. The line of sight was important, either literally or through computer systems, so that all production employees are able to view the total production process. The spatial arrangement of production is a significant feature of this site.

The recruitment of new employees was also a deliberate strategy in facilitating the break with previous patterns of employment. The company's aim was to avoid hiring a labour force tainted with adversarial industrial relations experiences, thus 'green' employees were selected. This involved a program of targeted selection, a time consuming and costly process where large numbers of applicants were scrutinised. The highly selective procedures resulted in very eager and enthusiastic employees, but who had limited on-the-job knowledge. One consequence of such 'green' labour has been a lack of specific machine knowledge and technical expertise among the new employees, as well as the managers, resulting in a major problem in getting the factory to operate to required capacity. Eventually some employees from the old site were re-hired to assist in overcoming the problems.

Importantly, outright union avoidance was not a strategy as it has been in many 'greenfield sites' overseas, (Herod 1991: 377, Kochan et al 1985: 67), but union involvement on the site has been at the behest of the company. In planning the 'greenfield site', a conscious decision was made by management for a single union site. This avoided the angst of pursuing a

non-union strategy, and also the potential problem of creating a vacuum allowing future union campaigns and possibly multi-unionism. However, the intention was not to develop a partnership with the union, but to guarantee a quiet union presence. Employee interest in the union is weak, and willing union delegates are difficult to find. One of the paradoxes of this strategy has been that while employees question membership of the union, management have advocated union membership, in order to maintain stable union relations.

Wages and conditions have been negotiated with the union and are formalised in an enterprise agreement. This relatively short agreement covers the contract of employment (by the week), hours of work (38 per week), leave (sick, family, bereavement and parental), superannuation, preference of employment to union members and rates of pay. Another document, called the site handbook, covers the company's expectations of the employees and the site. Expected outcomes are detailed with reference to the business, customers, employees and the community. The principles, goals and objectives of the site are outlined and the performance agreement is explained. This latter document is regarded by management as the more important one, and it has not been negotiated with the union.

For the union, the position of security creates a dilemma. While a guaranteed membership is desirable, it is achieved at the cost of a recognised presence on site. As a result, the future of the union on site is precarious, as ultimately management may not continue to bolster their presence. Alternatively, a union presence that is active and agitates for involvement would not be so well accommodated by management, and would probably lead to more active non-union campaigns. Either way, it appears that union presence on the 'greenfield site' remains only at the goodwill of management, and that this delicate position cannot be sustained in the long term. In the short term, the union position has undoubtedly been minimised.

The Brownfield Site-

'There is, furthermore, the chance that by demonstrating what can be done at a new plant, the management and workers in the old plants will be inspired to follow suit.' (Emery 1980: 21)

To some extent this has been proved true in the old plant of the same company where management have been directed to introduce similar processes and systems as the greenfield site, although direct comparisons by site managers are avoided. However, not all employees at the 'brownfield site' have accepted the challenge enthusiastically. Perhaps there is a lot more at stake for them. There is certainly much more history, and in that history lies the core of their resistance to change.

A decade ago there were fourteen unions on site, representing all occupational groups. Union control was strong, wage levels were comparatively high and conditions of work were good, but conflict levels were also high, with approximately 20% of production time lost due to industrial action in some years. Frustrated by their inability to manage, the company embarked upon a strategic assault of the most militant union groups. In one move all maintenance employees were dismissed and replaced with contract labour. The factory was restructured, workforce numbers on the site were almost halved and union numbers were finally reduced to two primary unions. This was a period of recession and economic uncertainty where management were able to use their stronger position to their advantage. Trust levels were low and suspicion of management's actions was high. After these changes and against this history, management then embarked on a policy of reconstructing employment relations, developing trust and introducing the company socio-technical system, the high commitment work system.

Two largely symbolic gestures by management to improve trust were the abolition of the bundy clock, and the removal of plant security, where for example, employees bags were no longer checked on departure. An intensive period of socio-technical analysis was also initiated. An employee education program was introduced which emphasised communication skills, regarded as essential for the HCWS to successfully operate. Concurrent with this a selection of employees joined design teams whose objective was to suggest a new flow and organisation of work, in sympathy with socio-technical principles of co-operation, teams and multi-skilling. Union delegates declined to join the design teams and union officials were not invited to participate in these discussions.

The aim of management at the old site is to integrate the whole work process in the factory, from receipt and warehousing, through to making and packaging, and including dispatch. Presently there are hard barriers between the different functions. Receipt, warehousing and dispatch, which covers approximately 25% of the work, is performed by a group of warehouse employees who are covered by one union. Making and packaging of the goods, which amounts to approximately 75% of the work, is performed by production employees who are covered by another union. These are the two main unions on site. The demarcation of work tasks between them is clear and the warehouse employees are most reluctant to have them removed. The production workers union is more receptive to an integrative process and to team work arrangements.

The design teams' recommendations have recently been communicated to all the employees, however union organisers were not invited to this

presentation. Management's intention has been to obtain employee support before approaching the unions for formal approval. Ratification of any of the proposed changes to work arrangements, to classification structures and to wages will have to be made through a new Enterprise Agreement. Currently, there is a State Award which has expired, but both management and unions had agreed to holding over negotiations for a new consent award until the design teams had reported. In the interim period a pay rise was agreed to, which satisfied employees and unions.

4. The Unions

Union coverage at both the greenfield site and brownfield site is 100%. The 'greenfield site' is a single union site. The same union, but a different branch, also covers the warehouse employees at the 'brownfield site'. A second union covers production workers at the old site. Each of the sites operate independently, and there is no contact between the unions, even the branches of the same union maintain a distinct state orientation.

For all the unions involved, membership is a critical factor. Against a backdrop of declining union numbers in Australia, (currently at 26% in the private sector), unions are sensitive to their position, and therefore wary of management moves that might endanger their position. Of these two workplaces, the unions at the old site are in a stronger position than the union at the 'greenfield site' because of the stronger delegate structure and the much greater membership support.

At the 'brownfield site' the warehouse employees are opposed to the changes for two reasons. The first is the belief that there will not be a large enough wage increase to compensate for the changes management want to make. The second is a view that their current jobs are more interesting and of higher status than the production work they would be expected to take on. The proposed arrangements would therefore mean a diminishing of their job satisfaction and job control. Their union is similarly not supportive of the changes, but is willing to enter into a new site agreement to which both unions would be parties. This union does not use the term socio-technical systems, although they are aware of the concept. Their officials' reluctance to change is also influenced by the experience of members at another company where a continuous improvement system is in place. This system is not working the union argues, because of the never ending expansion of tasks expected to be done by the employees. In addition, union members feel they are taking away other peoples jobs.

For the production workers' union the response to the company's strategies has been to watch and wait for an overture from management. Although they have been kept informed of the company's initiatives by the delegates, union officials have not asked to be involved. Although union officials are unaware of the concept of socio-technical systems, the production workers union is more willing than the warehouse union to consider alternative work arrangements, including team work and removing demarcations. Their attitude however, is that the changes can't succeed because the company has not invited union input.

For both unions at the 'brownfield site' the proposed changes must be compensated for by a wage increase, undoubtedly more than the company is willing to pay. Although the company has paid much attention to the communication systems, work systems and management systems at the old site, they have tried to by-pass the industrial relations system. Integral to the industrial relations system is the wage contract, which is likely to be a source of instability and potential conflict. As Emery recognised, there is a need for compatibility between responsibility, status and reward (Emery 1978: 67). How this compatibility is achieved is yet to be seen, but it will in all likelihood require significant trade-offs and compromise between the unions and the company in negotiations for a new enterprise agreement.

The short term success of the proposed changes at the old site might be in question, but the long term strength of both unions at the site must also be in question. Resistance from the unions may force a harder response from the company, and they have demonstrated in the recent past a capacity to take decisive actions to remove recalcitrant employees and unions.

At the 'greenfield site' too, the union has not been involved in the development of the socio-technical system, however it has been introduced here before the parties could develop the 'lines of resistance and defence' as Emery described them, that as have developed at the old site. Despite the absence of union problems and job demarcations, the production system in one of the factories at the 'greenfield site' has suffered considerable teething problems. The specially recruited, all new workforce did not have the job knowledge to operate the machinery, nor did the managers have the skills to train them. Enthusiasm and commitment have not been enough to ensure efficient and reliable production.

5. Conclusion

Emery argued that the new paradigm of 'co-operative, symmetrically dependent relations' could be achieved more readily in 'greenfield sites'

than in brownfield sites. The comparison in this paper shows this to be true. However, the symmetry of the relations in both sites must be questioned, as the role of unions in both sites has been challenged by the introduction of the socio-technical model, and because efficiency and responsiveness, not industrial democracy, is the rationale for the HCWS/STS model.

As the HCWS/STS is working from an assumption of shared goals, and not of divergent or competing interests, the historically adversarial role of unions must be challenged. Emery noted this possibility (1978: 1), and it certainly seems to have been the case in these two sites. This study shows that the introduction of socio-technical production systems does not necessarily guarantee union involvement. If in management's eyes, they cannot add value to the process, then they can easily be side-stepped, especially if a 'greenfield site' is established. In the example discussed in this paper, the union's role has been minimised in the 'greenfield site' where it has no input into the design or maintenance of the socio-technical production system. At the brownfield site the unions have been excluded from the design of the HCWS/STS and negotiations over the changes will possibly threaten their strength and position on site, as well as the sustainability of the new production model. Although Mathews argues quite convincingly that '(I)ndustrial relations systems provide the institutional framework within which production strategies and organisational change strategies can be negotiated and legitimated... (and that) industrial relations can make or break programmes of organisational change' (1994: 158), it is equally clear that in some cases companies are not interested in legitimating the change process through the industrial relations arena, and that if they can side-step union involvement they will. It is an illusion to think otherwise, and trade union leaders are aware of this: 'of course many employers given half a chance will rid their establishment of the union. That is only to be expected, and any strategy must be predicated on that assumption' (Ogden 1993: 20).

The challenge for unions is to develop a strategy that can successfully meet the introduction of new production concepts, such as the socio-technical model. How can unions ensure that they are included both in the change process to a socio-technical model of production, and to its ongoing sustainability? This is a difficult position for many unions, traditionally working within an adversarial framework and now faced with the dilemma of protecting members interests and at the same time meeting management's business needs. Potentially there is a clash of paradigms.

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