Chapter 11

Company-Wide Participation in Air Products

*The advancement of knowledge and human happiness requires the greatest possible human freedom.*

John Stuart Mill

INTRODUCTION

Most socio-technical system design has been used to create participative, high quality, people-friendly systems for specific projects or parts of the work environment. This was true of the early coal mine experiments when a number of experimental working faces were redesigned for multiskilled groups. It was also true of the redesign of the car-assembly shop floor in Sweden and of most of my own socio-technical design efforts. Even the Digital Equipment XSEL project, which affected the entire US company, was restricted to the configuring activity of members of the sales force. Frank Heller tells us that this narrow focus was never intended by the socio-technical pioneers. They had a much wider vision. Eric Trist, the originator of the approach, envisaged a top-down model which looked at the environment in which an organization operated, then at the design of the organization as a whole, and only then considered the primary work system (Emery & Trist, 1965).
Some of the early exponents of the approach were able to put this broad philosophy into practice. Einer Thorsrud, the Norwegian chairman of the International Quality of Working Life Group, made one of his research interests the Norwegian shipping industry. Professor Lou Davis, director of the Quality of Working Life Program at the Graduate School of Management, University of California, Los Angeles, and a visiting fellow at the Tavistock Institute in London, had as one of his early projects the socio-technical design of a greenfield site for a new US company, and at a later date, the Digital Equipment Corporation in Boston used a similar philosophy for one of its new plants (Davis, 1971).

Socio-technical design has also always rested on two essential premises. The first is that in all organizations there are multiple combined social and technical systems in operation. Men, and women, have to relate with each other and carry out sets of tasks within an organized work situation that usually contains some kind of technology. In most of industry, the social cannot work without the technical and vice versa. Technical is defined here as sets of tasks as well as machines. The second premise is that every socio-technical system is embedded in an environment. This environment is greatly influenced by culture and values and provides both constraints and opportunities. To understand a work system or an organization or a technology, one must also understand the environmental forces that operate on it (Davis, 1971).

The earlier researchers saw the environment as acting on and constraining the lower-level systems—the company and the workplace. It was not seen as something that socio-technical principles could influence (Heller, 1997). But socio-technical design has never stood still. While its boom period was the seventies and early eighties, with economic pressures causing its decline in the early nineties, it is now back and accelerating forward on two fronts. The first is the involvement of large numbers of employees in helping to create a total organization redesign. This is usually directed at large systems change that has to be introduced quickly. This kind of approach to change goes under a number of different names, for example, high-performance work systems, sustainable production, shared purpose organizations, the conference model and many others.

The second is ensuring that any environment affected by technology is both people-friendly and capable of performing the functions desired of it. This does not yet have a name. Frank Heller (1997) suggests socio-technology to cover the required characteristics of joint optimisation, socio-technology and oecology (ecology).
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