

THE PROCESS & CONTENT
OF
JOB & WORK ORGANISATION
(RE)DESIGN

EXECUTIVE SUMMARY

Work Design

One of the very quickest ways to increase dignity and meaning in a workplace is to involve people in designing their own work. This involvement of front-line staff is also one of the most effective means to identify problems and solutions, leading to lower costs and higher quality service. Work design is, therefore, *the involvement of people in developing elements of their work systems to achieve the dual objectives of more productive and more satisfying work*. Ideally, there is feedback on these outcomes for continuous improvement.

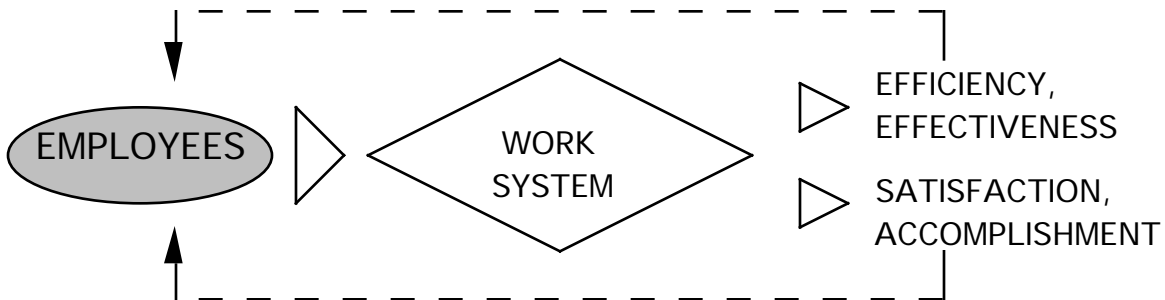
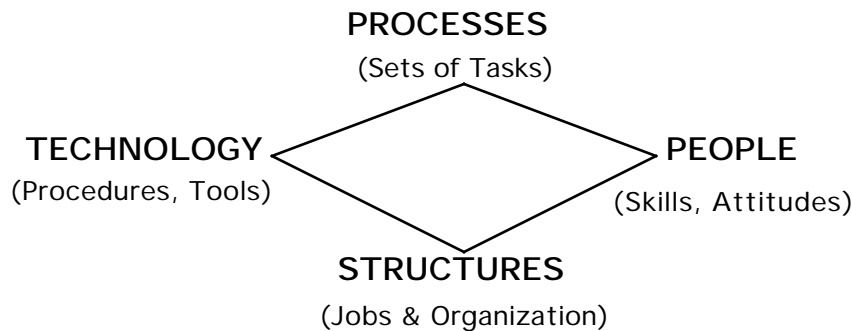


Fig. 1: Work Redesign

In concept, work design addresses *both* technical and social aspects of work. "Technical" refers to the *Processes* (sets of tasks) that must be performed and the means (*Technology*, procedures and tools). "Social" refers to *People* (skills and attitudes), and the *Structures* which define their roles and responsibilities.¹. Both aspects are deemed vital to performance, and as interdependent elements of a "system", improving their overall "fit" is considered more critical than optimizing one or the other.

Fig. 2: Elements of a Work System



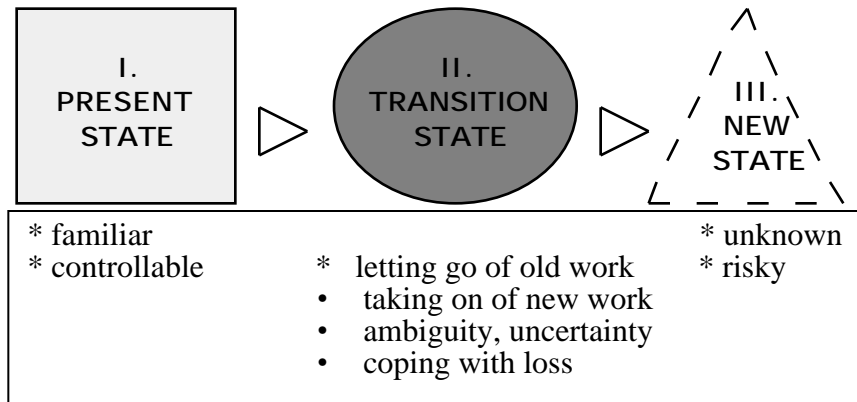
¹ Kolodny, H. et al, *Job Design and Sociotechnical Systems*, Labour Canada, 1985.

The Process of Workplace Change

In terms of methodology, the basic premise is *self-design*. Alternative designs of work should be developed by those workers and managers who are members of the unit contemplating change. Indeed, most work design is (*re*)*design*. That means significant *change* -- in established work practices, work roles, etc. So important is the change factor, that work redesign should start with attention to the process of change.

Change involves a crucial *Transition State* between the Present State and a proposed New State. Transition is the 'black-hole' into which many proposed changes sink before ever reaching implementation in a New State (see Figure 3).

Fig. 3: Three States of Change



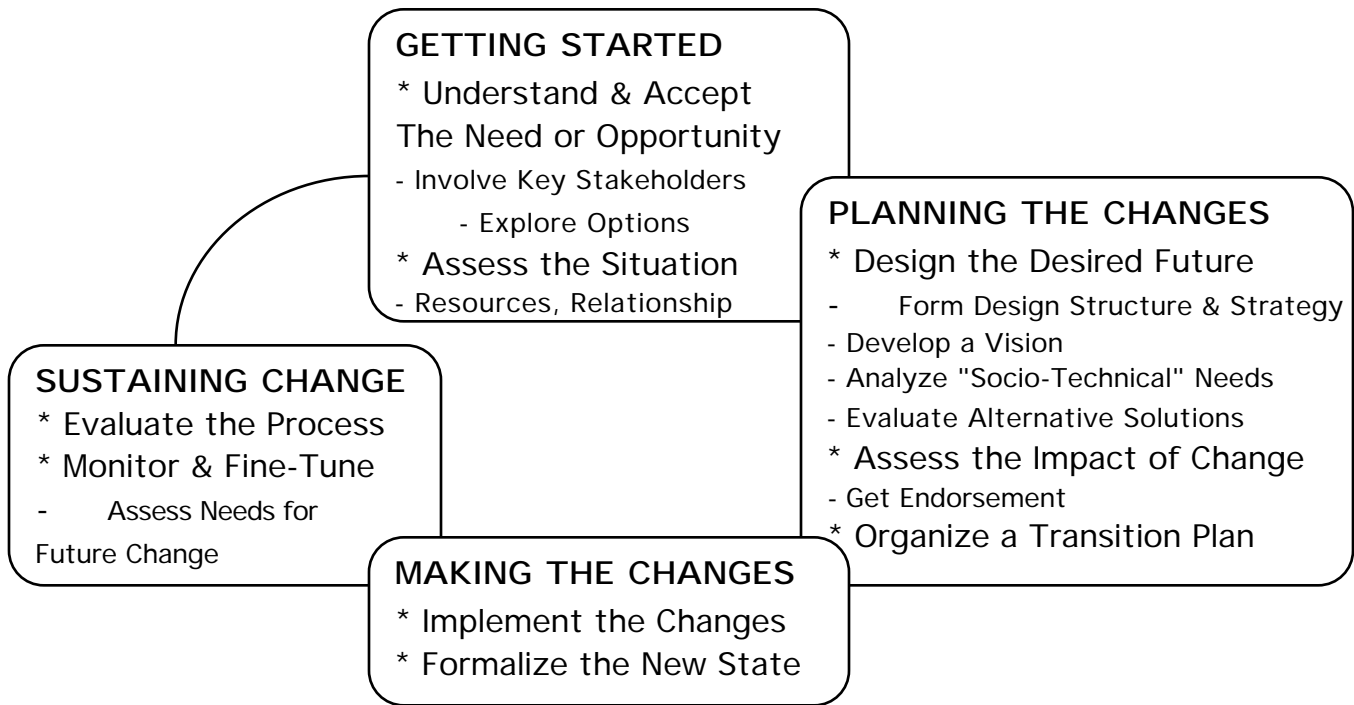
To manage this often chaotic Transition requires a series of steps--a *process* (see Figure 4: Change Process Model). There are four main stages to the process which is not linear, and may require looping back to reinforce commitment, or leaping forward to explore opportunities. However, each step is important.

Getting Started

The primary requirement is for all key stakeholders to be *involved* in determining or recognizing the need for change. There must be a critical mass of information that justifies breaking from the status quo, either because of existing problems or anticipated opportunities. Often, awareness has to be heightened and new information has to be shared. Even still, acceptance of the need to change requires that people perceive the possibility of remedy. Generally, the exploration of options draws upon other worksites' experience of innovation through case-studies, site visits, bench-marking, seminars, etc.

Secondly, the organizational situation has to be assessed (and perhaps, upgraded) in terms of available resources, necessary information, and a better appreciation of what's in it for key stakeholders. This will determine the scope, timing, and viability of an initiative. One prior condition to the viability of work redesign is the existence of a valid and clear mission or "business" strategy for the organization, (ie. form follows function).

Fig. 4: Change Process Model

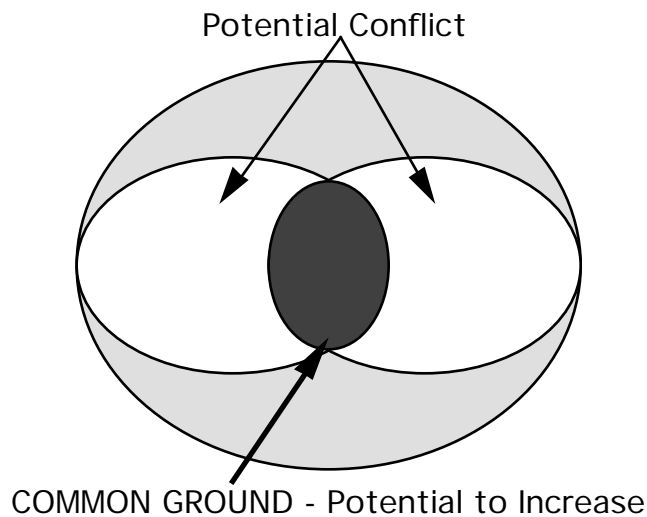


Sources: Adapted from *Managing Complex Change Workbook*, Being First Inc., 1989; and, *The Organization Change Process*, Ontario Task Force on the Organization of Work, 1994.

Labour-Management Participation

Participation occurs throughout the process, and especially while "getting started" when the key stakeholders must develop their commitment to each other as well as to the change. The parties must come to understand each other's objectives for change, and respect how their objectives may differ. Too often, management or, to a lesser extent, labour has attempted to sell *its* well-researched recipe for change, which the other party has invariably rejected as a "cooked meal".

Fig. 5: Labour-Management Participation Model



The arena for meaningful participation (ie. joint ventures, partnership, strategic alliance) is the *common ground* where the interests of labour and management overlap (see Fig. 5: Labour-Management Participation Model). It should also be understood that the parties may agree to proceed with a particular change, while agreeing to disagree on other issues.

Planning the Changes

The process at this stage consists of four main activities:

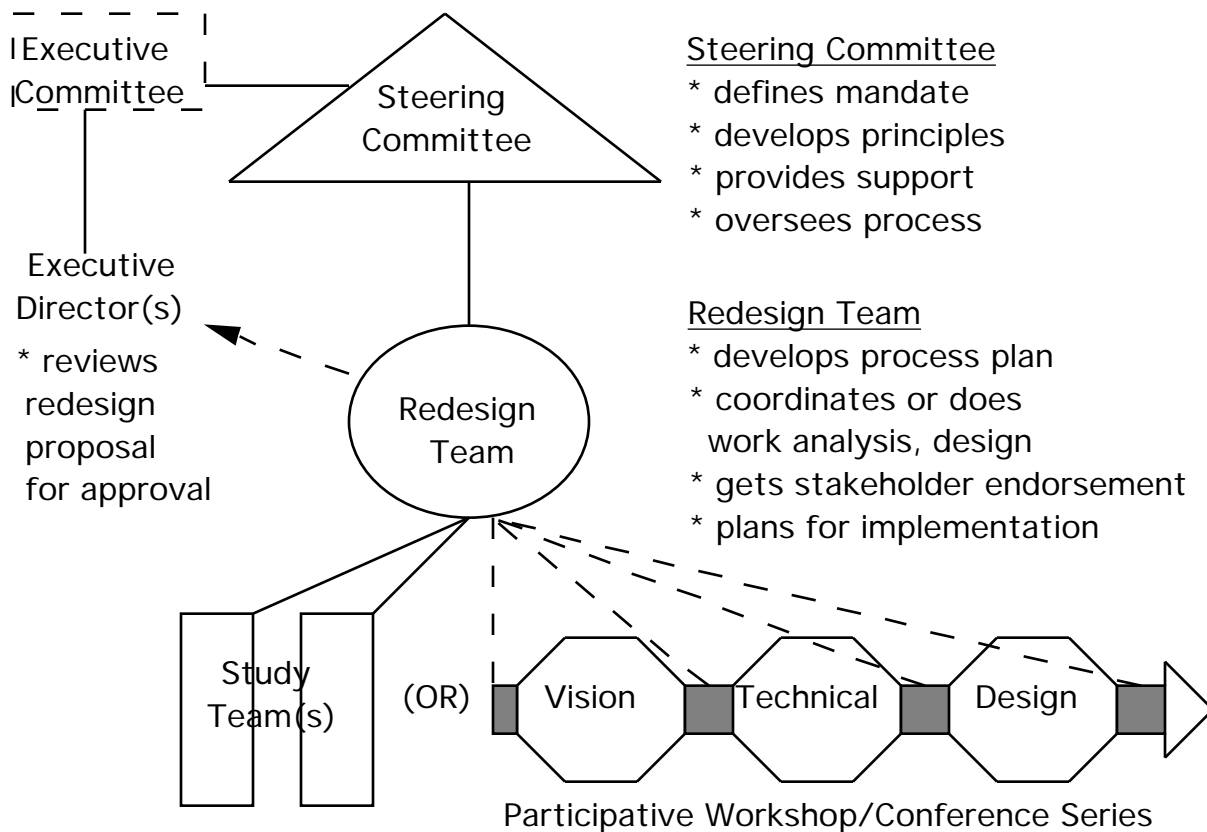
- (1) establishing the structure to steer and manage the redesign process;
- (2) data collection, through a system scan and sociotechnical analysis;
- (3) formulation of redesign proposal; and,
- (4) development of a transition plan.

Structures to Support redesign

Proper sanctioning and support for work redesign is critical.² This is provided by local and/or corporate Steering Groups formed of senior management and union representatives.

A Steering Group acts as an "umbrella" structure, defining objectives and scope for redesign, clarification of issues that are off-limits, and principles which redesign is meant to embody. It also affords protection from interference by wider organizational influences.

Fig. 6: Structure for Work Redesign



² McGee, E. Craig, *Increasing the Success of Work Design Efforts: Diffusing the Landmines*, 1991.

The actual redesign of work, though sometimes coordinated by the Steering Group, is most often coordinated, (and sometimes conducted) by a Redesign Team. As a general principle, the Redesign Team should have representation from various levels of management, different work functions and employee groups most affected by redesign.

The Redesign Team develops the detailed plan (including timetable) for the redesign process. The specific work system analysis and change recommendations may be developed directly by the Redesign Team or, more commonly, by Study Teams/Task Forces which it coordinates. However, the Redesign Team has a key role to ensure completion of an effective stakeholder review and endorsement of the redesign proposals.

In order to accelerate the pace of redesign, and most importantly, to maximize employee involvement, a "Conference" method³ or "Participative Design Workshops"⁴ can also be used. These are alternatives to representative mechanisms like Study Teams/Task Forces.

In a "Conference" process, through a series of large (usually 25-100 people) gatherings of 2-3 days, (i.e. visioning conference, customer conference, technical conference, design conference, and implementation conference), *as many members as possible* in a work unit can *participate directly* in analysis and redesign of their work.

Participative Design Workshops (usually 2 days) provide a highly flexible format for people from one or more work units to assess their jobs compared to 6 critical human requirements, and then analyze the workflow and current organization structure, in order to redesign for a better, more natural way of doing the work. Often, PD workshops are preceded by a strategic planning method called a Search Conference.

There is also a Hybrid⁵ method, involving a combination of large group conferences, interspersed with a smaller design team who produce alternatives from which the employee population selects a design for their implementation planning. In whatever process, it is key to focus on a small number of issues with the biggest leverage for the future.⁶

Systems Thinking

The first modern approach to work design was "scientific management",⁷ a turn of the century innovation to improve productivity through standardized tools and procedures, and simplification of tasks. Then, somewhat in reaction to this technical perspective came the "human relations" school which demonstrated how people's attitudes affect work outcomes⁸. It was not until after World War II, that social scientists saw these technical and human dimensions as *interrelated* parts of a "socio-technical system".⁹

³ Gates, G., McKinnon, C., *Redesigning for Fast Impact*, Training & Development, October 1994.

⁴ Emery, Merrelyn (Ed), *Participative Design for Participative Democracy*, Australian National University, 1993.

⁵ Fisher, K., & Fisher, M., *The Distributed Mind*, American Management Association, NY, 1998, pp.95-96

⁶ Cotter, J., *The 20% Solution: Using Rapid Redesign to Create Tomorrow's Organization*, John Wiley & Sons, 1995.

⁷ Taylor, F.W., *The Principles of Scientific Management*, N.Y., Harper & Row, 1915.

⁸ Mayo, E., *The Social Problems of an Industrial Civilization*, Harvard University, 1945.

⁹ Trist, E., *The Relation of Social and Technical Systems in Coal-Mining*, Tavistock Institute, 1950; and, Emery, F. *Characteristics of Socio-Technical Systems*, Tavistock Institute, London, 1959; and, Trist, E., *The Evolution of Socio-Technical Systems*, Ontario Ministry of Labour, 1991.

Thus, separate and piecemeal approaches to the social and technical dimensions of work no longer suffice. Work occurs through the inter-action of these "socio" and "technical" elements. *People* use their skills and knowledge to apply *Procedures* or operate *Technology* which, through a series of steps or *Processes* transform information or raw materials (Inputs) into services or products (Outputs).

For example, the typical inputs of office work include data or inquiries that are transformed into outputs such as reports, informed decisions, or disbursements. The overall aim is conversion of input to output with as few errors and delays as possible.

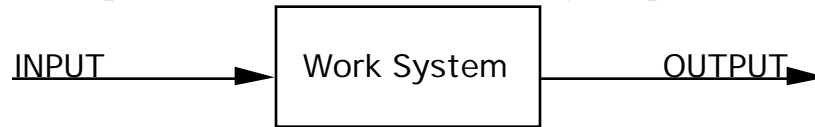
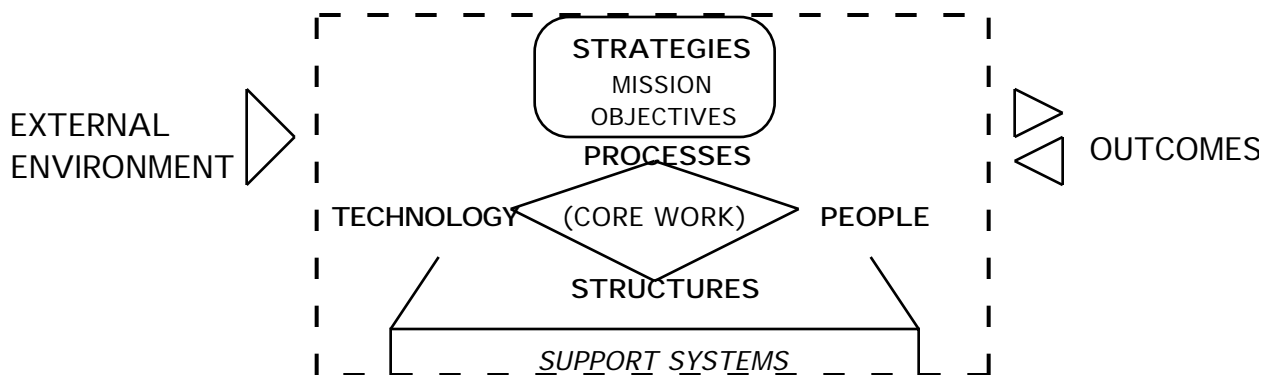


Fig. 7: Work as a System

Thus, a hospital can be viewed as a work system that takes a variety of "inputs" (people with symptoms of illness, professional knowledge) and applies standard procedures and sophisticated equipment to transform these "inputs" through processes of diagnosis and treatment into desired outcomes/"outputs" (healthy people, new medical knowledge).

Work systems are also "open" systems that are "acted-on" by their environments (markets, government, customers, etc.). To help manage this dynamic relationship with the environment, an organization needs a clear sense of purpose, objectives, effective feedback mechanisms, and above all, a solid understanding of its economic, social, political context. The contexts in which organizations exist today are changing at an increasing rate and toward increasing complexity and uncertainty.¹⁰

Fig. 9: Work as an Open Socio-Technical System



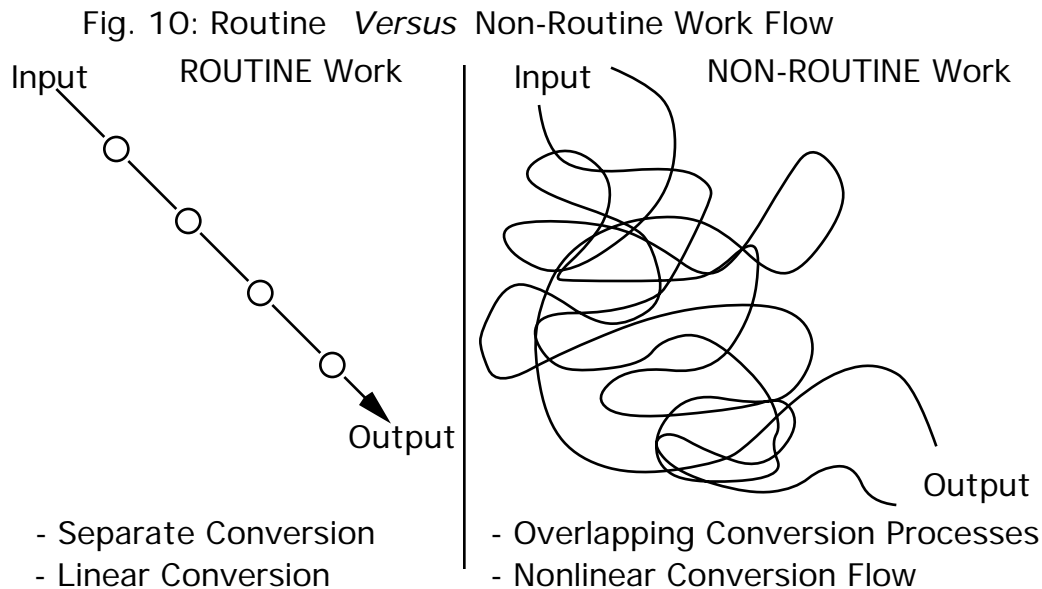
¹⁰ Emery, F., & Trist, E., *The Causal Texture of Organizational Environments*, Human Relations, 18:21-32, 1965.

Socio-technical Analysis

For putting "systems" thinking into practice, redesign teams can do 3 phases of analysis. These are usually conducted sequentially, though concurrent analyses are also possible.

First is a *Scan* of the system's environmental demands--what clients, customers, the public, and the community want from the organization--and how the work system currently responds. Another phase is the *Technical* analysis--a profile of key steps in the work flow as well as factors that must be controlled to prevent errors, and identification of possibilities to stream-line work processes. Third is the *Social* analysis--an assessment of how well people are deployed to control technical variances, and how well job structures and other features of the workplace sustain commitment and involvement of people.

There is rigour to the methodology of socio-technical analysis, refined since its origin in the late 1960's.¹¹ However, there are important contingencies, particularly in settings which combine routine and non-routine work, as is the case in much office work, and creative design and planning activity in the private and public sector.



Different techniques to analyze the workflow will often have to be used within the same organization, depending on whether the steps in various conversion processes are linear or nonlinear.¹² Processing and adjudicating payment of claims for pharmaceuticals in a public or private insurance company may follow a fairly standard series of procedures. However, questions about new health care standards, resource allocation, or external regulatory policies cannot be resolved in a strictly linear manner. The same challenge applies, for example, to the analysis of work processes in software design.

¹¹ Emery, F. & Thorsrud, E., *New Forms of Work Organization*, in "Democracy at Work", Leiden: Nijhoff, 1969, 1976; Pasmore, W. & Sherwood, J. (Ed.), *Sociotechnical Systems*, University Associates, 1978;

Weisbord, M., *Productive Workplaces: Organizing & Managing for Dignity, Meaning & Community*, Jossey-Bass, 1987, ¹² Pava, C., *Managing New Office Technology: An Organizational Strategy*, Harvard Business School, The Free Press, 1983.

Nevertheless, workers and managers performing what is often called “knowledge work” in companies like Hewlett-Packard, and in public sector agencies like Ministries of Health have demonstrated that redesign teams of employees can analyze diverse types of work, and identify meaningful directions for redesign of their work organization.¹³

General Principles for Work Design

Design is not a mechanical extrapolation from analysis. Instead, it is a creative synthesis informed by issues identified in the analysis, and guided by a short list of principles.¹⁴

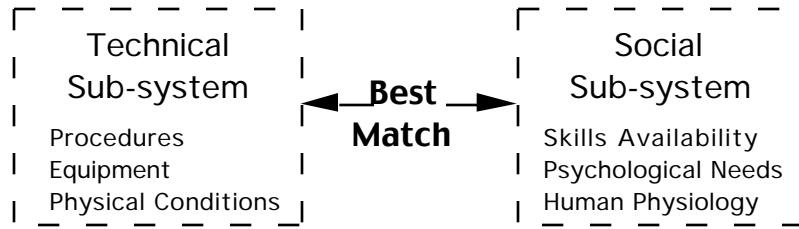


Fig. 11: Socio-Technical "Joint Optimization"

The over-riding principle is that the dissimilar demands of the social and technical subsystems must be coupled and co-related to achieve overall high performance. In fact, the actual "*joint optimization*" or "*best match*" will reflect the judgment of the redesign team. In one situation, automation of work procedures may be withheld in order to meet employees' desire for more discretion in their jobs, whereas in another workplace, employees on a help-desk may request automated procedures to assist with high-stress emergency response situations.¹⁵

Some design principles contrast significantly with traditional thinking. For example, the principle of *self-regulation* locates the responsibility for coordination of related activities with persons who actually perform those activities. (Traditionally, coordination of activities at one level is controlled by persons at a higher level in the organization.)

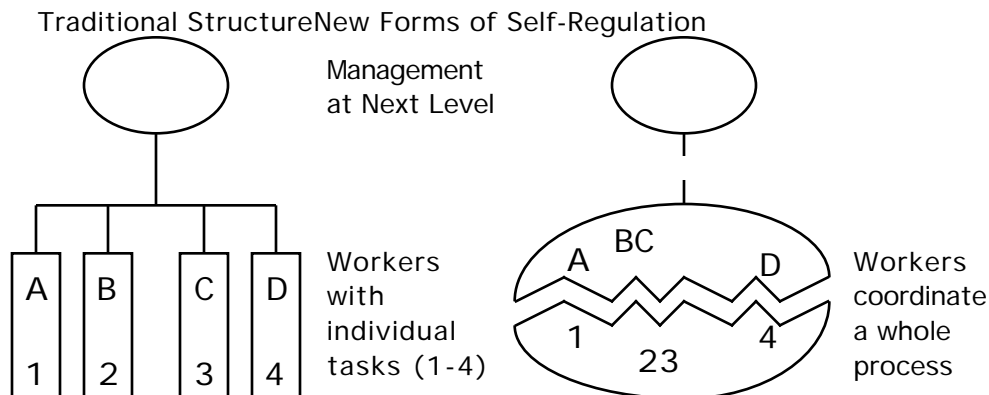


Fig. 12: Shift from an old to new form of organization

¹³ Ibid, Fisher & Fisher: *The Distributed Mind*.

¹⁴ Cherna, A., "The Principles of Organizational Design", *Human Relations*, 29:8, 1976.

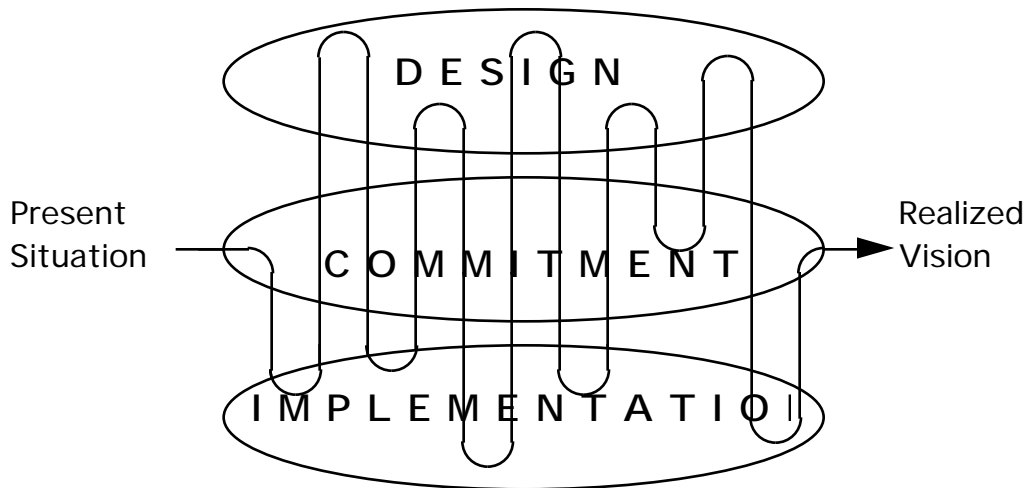
¹⁵ Painter, B., *Good Jobs With New Technology*, B.C. Research, 1991.

There is substantial variation possible in the specific form which these principles take in actual redesign. For example, the degrees of self-regulation can vary, and the extent to which workers share individual tasks (within the overall process) can also vary. What is vital is that workers and managers have alternative redesign scenarios to evaluate and choose from. Maximizing choice and creative thinking is a key role of any redesign team, as is a process to resolve alternatives and get endorsement for implementation.

Ongoing Redesign

No more should be specified in the redesign than is absolutely essential (ie. *minimal critical specification*). This is to allow for learning and participation by the people who must implement and live-out the redesign. It is also advisable that implementation be phased, with transitional structures and adequate provision for re-training

Fig. 13: Work Redesign as a Continuous Process



Implementation of a new work system should not be considered a phase totally subsequent to design. Implementation actually starts when management and labour approach each other in a different manner to discuss something of mutual significance to them, ie. how their work is done. It starts when new principles are established so that virtually every aspect of work can come under scrutiny in a non-punitive, non-defensive way that encourages problem-solving and innovation.

Work redesign is a vigorous learning process. At best, it is a continual process that incorporates emergent social, technical, and environmental needs, with new levels of commitment and understanding based upon real experience of change. There is tremendous inter-group learning, i.e. cross-functional, and labour-management. Most of all, there is shared personal learning about the context and meaning of one's work.