

Division of Research
Graduate School of Business Administration
The University of Michigan

March 1979

IMPLEMENTING INNOVATIVE WORK ARRANGEMENTS:
WHAT HAVE WE LEARNED?

Working Paper No. 173

Bernard J. White

The University of Michigan

FOR DISCUSSION PURPOSES ONLY

None of this material is to be quoted or
reproduced without the express permission
of the Division of Research.

Introduction: Context of the Study

As we approach the end of the 1970s, it is apparent that innovations in work organization involving participation, semi-autonomous groups and teams, cross-training, flexible job assignments, and decentralization, as evinced by the re-assignment of traditionally "supervisory" and staff responsibilities to work groups, are more than just a passing fad. A number of business organizations are demonstrating an enduring commitment to these related concepts, even to the point of making key capital investment decisions (as in the case of Volvo's auto assembly plant at Kalmar [Dowling, 1973]) to facilitate their use. For example, Walton (1975a) cites General Foods, Procter and Gamble, General Motors, TRW, Cummins Engine, Scott Paper, and General Electric as U.S. companies showing such a commitment. The European companies he cites are Volvo, Saab-Scania, Shell U.K., Philips, Olivetti, and Fiat.

One or more of the following motives appear to foster such commitments:

1. the belief that innovative organizational forms will be "something better" than traditional methods, with their attendant problems of low employee morale and commitment, and high levels of labor-management antagonism
2. the search for the means to a more "humanistic" and democratic work place, which will contribute to an enhanced "quality of work life" (Walton, 1973) (this is a goal viewed as a corporate responsibility by some senior managers)
3. the search for organizational arrangements which will yield higher productivity, broadly defined in terms of better product quality and lower total labor costs (due to reduced needs for overhead in the form of supervision and support personnel) (Henderson, 1977)

4. the desire for greater management flexibility which results from a highly trained work force with multiple skills, unencumbered by rigid job definitions and classifications.

In describing the evolution of innovative work arrangements as we have defined them above, it seems fair to label the 1960s as a decade of conceptualization, and the 1970s as a decade of experimentation. Managers in organizations undertaking such efforts typically recoil from the term "experiment," arguing that there is no room for experimentation where the costs of failure are so high and that, in any case, experiment makes for bad press for those involved. But "experimentation" in the true sense of testing new concepts and the assumptions on which they are based is, in fact, an appropriate description of these efforts. As in any experimental setting, ongoing evaluation is a critical task.

In an influential article, Hackman (1975) suggested a mid-decade identification and assessment of factors leading to failure and factors leading to success of "job enrichment" programs.¹ The present paper continues that evaluative line of inquiry. However, it differs from Hackman's study in two important respects. First, regarding data sources, Hackman and colleagues drew on observations of

¹Failure Factors:

1. Inadequate problem diagnosis prior to redesign
2. Work itself not actually changed
3. Gains reduced due to effects on surrounding work system
4. Lack of systematic evaluation
5. Inadequate education on work redesign for key players (managers, staff, union leaders)
6. Reemergence of bureaucratic practices

Success Factors:

1. Early attack by key individuals of toughest problems
2. Systematic diagnosis of underlying problems
3. Changes based on diagnosis and publicly discussed change strategy
4. Preparation of contingency plans in anticipation of problems and opportunities which arise
5. Commitment to ongoing evaluation

"some applications of work design as a strategy for change . . . in about twenty companies over the last two years" and discussions with "hundreds of employers, managers, and consultants." The present study is narrower but deeper: it is based on intensive examination by the author not only of three innovative work arrangements in new plants (two in the U.S., one in the U.K.) but also of efforts in an existing plant and in office situations, all within a single U.S. manufacturing company. Like the Hackman paper, this report is based on interviews with many managers, employees, and consultants involved in these efforts.

Second, whereas the Hackman paper focuses on the "what goes wrong" (failure) and "how can it be done" (success) factors, this paper highlights "lessons learned" from one company's considerable experience in introducing innovative work arrangements into a variety of settings over a six-year period, in terms of (1) general concerns and problems, (2) general lessons which have been learned, (3) lessons pertaining to new operations, and (4) lessons pertaining to existing operations.

A final point should be made about data sources. The new operations studied are manufacturing plants ranging in size from 200 to 1,000 members. All are in medium-sized cities, one in a nonunion area, one in a traditionally strong union area, and one in the U.K. Only in the U.K. plant are employees represented by a union. All plants are involved in the machining and assembly of metal parts into a high-quality, technically complex capital good. One of the existing operations is a plant performing identical tasks with represented employees and is located in a small town. Of the other two existing operations, one involves a support activity, staffed by technicians, and the other involves a clerical staff. Both are in large office complexes in a small town

setting. In each instance, the personnel department and senior management played initiating and support roles in the switch to the innovative arrangements. Operating managers were involved and directly responsible for execution.

General Concerns and Problems

In the subject organization, five general concerns have arisen with each effort to implement an innovative work arrangement. They are: (1) "rightness" of the concepts; (2) technical aspects of managing under the new design; (3) behavioral aspects of managing; (4) sustainability of gains achieved; and (5) depth of senior management commitment to the effort. Each of these concerns is discussed below.

1. "Rightness" of the Concepts. The organizational concepts involved in the innovations defined at the outset of this paper are based on some fairly optimistic assumptions about the nature of human beings (Gallagher and Hillel, 1976). Can employees be found, either through external selection (in the case of new plants) or from the incumbent workforce (in the case of existing operations) who want significant responsibility, who wish to develop their skills through training and broader job experience, and who can handle enhanced freedom? These are key questions, often unarticulated but present nonetheless, in the minds of many managers in the subject company. There is a deep skepticism on their part that the answer could possibly be "yes!" Only direct observation of positive experiences (as opposed to assurances and exhortations from consultants and senior management), as well as the acknowledgement that such organizational arrangements are indeed not for everybody, seem to be effective responses to such skepticism.

Concern over "rightness" of the concept has not been restricted to the

accuracy of assumptions about human nature. Concerns have also been expressed about measures of effectiveness, like productivity, costs, and product quality under the new design. Many managers do not share the optimistic assumptions of advocates in this area, either.

2. Technical Aspects of Managing. This set of concerns can generally be identified by the prefacing phrase, "How do you handle . . . ?" The phrase is followed by a litany of issues: discipline and discharge, training, required increases in output, quality problems, etc. Underlying such questions is the assumption that management has yielded control of the work situation to those performing the work and is thus unable to take corrective action where necessary. Discussion of (a) the reduced incidence of certain problems, (b) the work group's capacity to manage certain problems autonomously, and (c) new and different supervisory roles and strategies have proven helpful in dealing with these concerns.

3. Behavioral Aspects of Managing. It has often been noted that due to the systemic nature of organizations (Katz and Kahn, 1966), a change in one element (e.g., the job design of an operative) inevitably, it unintentionally, changes other elements (e.g., the job design of supervisors, managers, and staff personnel). Experience in the subject organization verifies that this phenomenon occurs in innovative organization design. As one manager observed,

In retrospect we should certainly have addressed the implications for the exempts. That's where the pain is today. There is a lot of uncertainty about their responsibilities, authority, rights, and prerogatives.

Such concerns are, of course, not unfounded. Effective implementation of innovative arrangements results in profound job changes for "exempt" employees. Power, authority, patterns of influence and communication all shift in

directions which require significant behavioral change and role redefinition for supervisors, managers, and staff. "Facilitator" or "advisor" rather than "supervisor," "support" rather than "staff" become new distinctions. Experience in the subject company suggests that for some the change in role and behavior is natural and easy. For others it is difficult but achievable with help. For still others it is impossible, and reassignment is indicated.

4. Sustainability of Gains. In the subject company, successful implementation of innovative work arrangements has been accompanied, ironically, by initial skepticism giving way to anxiety over the sustainability of valued outcomes. These include enhanced employee commitment, morale, flexibility, and a generally positive work climate enjoyed by people at all organizational levels. Concern over sustainability is rooted in perceived possibilities that gains are attributable to newness and special treatment (a "Hawthorne effect") and can be threatened by a number of phenomena: too many demands being placed too early on the new organization, lack of management commitment, etc. Because of the relative newness (less than six or eight years in duration) of most innovative arrangements, including those of the subject company, this is perhaps the single concern least conducive to evaluation and response.

5. Depth of Senior Management Commitment. Coincident with and related to concern over sustainability of gains is recognition that senior management in the larger organization possesses significant power to enhance or reduce the survivability of the innovative design. This point will become clearer in the context of discussing the lessons learned from new operations. But clearly, senior management decisions on staffing, training resources, and rates of increase in required output, to cite only three, can make or break

an inevitably vulnerable and fragile new organization.

General Lessons

Experience in the subject organization with implementing innovative work arrangements in both new and existing settings has yielded important insights, some of which help address the concerns raised above. Others are simply points related to effective implementation on which a consensus among employees, managers, and consultants is emerging.

1. Organization concepts are primarily means to an end, not ends in themselves. This is an immensely important, yet a surprisingly difficult, point to keep in perspective. It is especially important and especially difficult for organizations moving into an experimental mode and exploring innovative work arrangements. A great deal of ideology quickly develops among managers in such organizations about how to organize and design work. For example, assembly lines and strong direction become "bad;" teams and participation become "good." Yet thoughtful managers know that different tasks, cultures, people, and times require (or permit) different paths to achieve the same end.

Systematic measurement of ends (productivity, labor costs, morale, perceived quality of work life) rather than excessive focus on means is one effective way of maintaining the right perspective. If ideology becomes the dominant agent of organization design, flexibility is lost, the capacity to learn and adapt is destroyed, and, simply stated, means quickly become ends in themselves.

2. Build into the organization capacity to assess and feed back into the development process experience in implementing innovative arrangements. Not only does the lack of such capacity prevent appropriate adaptive adjustments

in a given setting, it also ensures that management in new efforts will either reinvent the wheel or simply pursue an unthinking ideology to guide the design process. Either alternative is ineffective and unnecessary.

Assessment capacity can take any of a number of complementary forms: careful measurement of outcome variables, longitudinal studies, internal and external comparison among organization forms, and sharing of information within and among experimenting organizations. Feedback into the development process can occur through centralized assessment information, special seminars to disseminate results, and staffing decisions designed to place managers and employees with experience in implementing innovative design in positions to share and reapply their expertise and insights.

3. Expect and be prepared to tolerate a period of role ambiguity and redefinition. Reference was made earlier to this phenomenon, which seems to affect supervisory and staff personnel most strongly. In many respects, the innovative design under consideration here turns the organization upside down from the point of view of influence and communication patterns. The focal point is operating activity. The managerial hierarchy and staff specialists exist to serve operating needs in a sense which has been lost over time in many organizations. Time, tolerance, and often help are required to accustom operating people at the lowest level of the hierarchy to call the shots -- requesting advice, information, technical expertise, etc. The same is true for those (supervisors and staff) at the receiving end of such requests. A good deal of ambiguity, shuffling, trial and error, misunderstanding, and anxiety are not only possible, but inevitable. Their absence suggests extraordinary behavioral flexibility or (more likely) less real change than originally intended.

4. Senior management commitment -- strong but not blind -- is critical to success. The need for senior management commitment, both to inspire and support the risk-taking inherent in innovation, and to ensure decisions which will enhance the effort's prospects for success, is apparent. Indeed, in the subject organization of this study, the term "adequate commitment to permit failure," became a meaningful concept.

At the same time, a subtle balance is required. The line between strong commitment and blind, stubborn unwillingness to change is, in practice, a fine one indeed. Earlier, a strong case was made for the need to develop assessment and feedback capacity for the purpose of making appropriate adaptations in the original design. It is this need which must be balanced with the requirement for staying power with basic organizational concepts.

Innovation in Start-up Situations: Some Lessons

The nature of start-up situations (new manufacturing plants in the case of the subject organization) results in special requirements that innovative organizational concepts be introduced. Such situations demand what new product managers call an "infant care program." Ironically, innovative organizations designed to be especially flexible, resilient, and adaptive over the long term may, at their inception, be more fragile and less capable than traditional organizations at the same stage of development. What explains this phenomenon?

The answer lies in the increased role complexity, particularly for operating personnel, implied by decentralized, participative, team-structured organizations. In all start-up situations, a heavy burden of training new people a skill in basic operations is experienced. But in innovative

designs, additional training is required in at least two areas: interpersonal/team/problem-solving skills, and "vertical responsibilities" skills (quality assurance, materials planning, inventory control, etc.).¹

In addition, even traditional systems, in which decision authority is clear-cut and centralized, can be nearly overwhelmed by information processing/decision-making demands at start-up. Participation and consensus decision-making may be perceived as an extraordinary burden and fundamentally at odds with the operational success of the start-up. As quality, cost, and other hard measures of effectiveness become problematic, pressures intensify for a return to traditional organizational roles and managerial styles.

Experience in the subject organization suggests that the pattern of developing pressure described above is strongly moderated by the extent and rate of increases in demands for output (volume) and performance (cost, quality, response time) imposed upon the new organization.* The opening of one domestic plant coincided with a surge in demand for the company's product, while the opening of the other domestic plant was followed by a major decline in demand due to recessionary trends in the general economy. Consensus within the company is that there was an inverse relationship between the effect of these changes in demand on the organization as a whole and their effects on the new plant start-ups. Specifically, the surge in demand resulted in financial prosperity for the company but put demands on the new plant which compromised the initial organizational concepts. By contrast, the sharp drop in demand was very painful for the organization as a whole, but yielded valuable breathing room--time for orientation, training in skills

*Note that in the case of a new plant this is a variable not fully within the control of the Plant Manager. Corporate needs and opportunities are translated by senior management into demands on the new organization.

of all kinds, team development, and sorting out of roles--for the new plant. While this pattern may well hold for any start-up situation, it was especially damaging in one case and helpful in the other because of the special needs and risks associated with innovative designs at their inception.

Following directly from these experiences are at least three constructive lessons in facilitating the introduction of innovative concepts in new operations and in maximizing the probabilities of success:

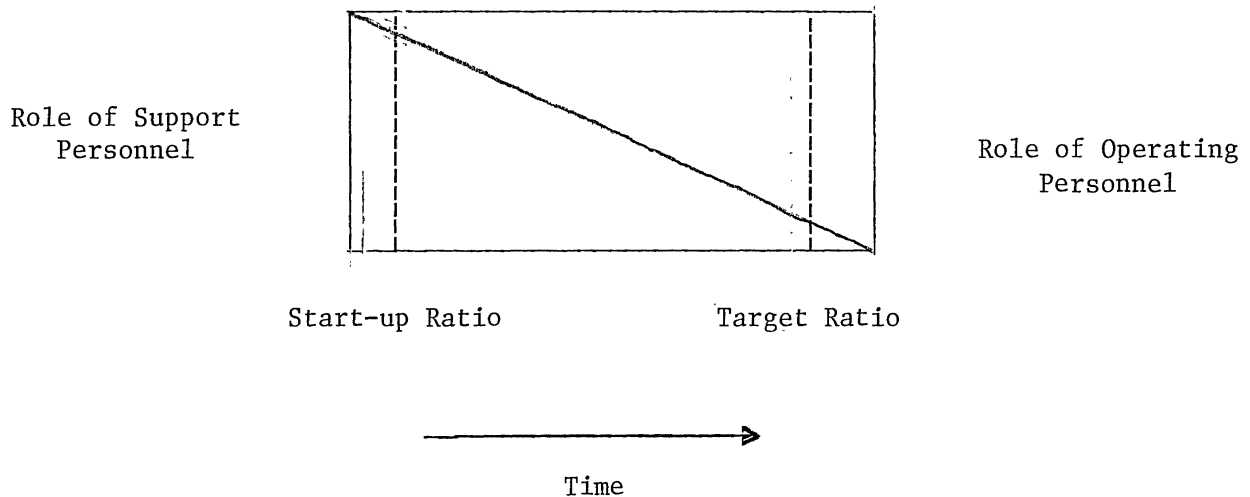
1. Be prepared for and committed to unusually heavy front-end investment.

Especially important is the availability of resources for careful personnel selection (job/role previewing), orientation, and training and team development. As noted above, multiple skills (horizontal and vertical) for operating personnel, as well as new roles for supervision and management, imply a major training and development task within a limited period of time.

In addition, availability of experienced, competent technical resources at start-up is critical and often overlooked. Individuals struggling to learn the basic skills of their job need strong technical support, even if the guiding organization concepts call for their eventually performing the support function themselves, within the team, as part of the total job. An apparent dilemma--strong support personnel involvement to insure effective performance of the function but in violation of the organization concept versus untrained operators performing the function ineffectively but consistent with the organizational concept--is resolvable. Required is a clear vision of how to balance current needs against longer-term goals. Shifting responsibility from support to operating personnel as training and experience permit (see Figure 1) is the key.

Figure 1

Shifting Responsibility for Performance of Support Functions



2. Control the rate of growth in demands upon and size of the new organization.

While the logic of this lesson should be clear from earlier comments, it is a recommendation considerably easier said than done. Will senior management forego market opportunities to protect the growth and development of a promising organizational concept? What is the value of potentially enhanced flexibility, productivity, and employee commitment in the future versus financial reward and market share today?

And while the focus of the discussion has been on managing growth, what are the implications of managing contraction? Those involved in starting up new organizations with innovative concepts agree that both breaking a trust relationship and loss of investment in heavy personnel training and development make the cost of a layoff in such situations exceptionally high. Yet, will other plants or equivalent units within the same organization accept a disproportionate share of the burden to protect the integrity and promise of the new organization? These are most difficult questions, yet they represent genuine tradeoffs which should be reflected in management decisions.

3. Maintain a balance between isolation and overexposure of the new organization.

Insulation of a new operation from the rest of the organization, especially if it is geographically remote, is a natural development. Innovative design compounds the problem because of a sense of exclusivity and superiority which can build within the new system, especially when operating successes occur and an open, positive style develops. Such an attitude is obviously resented by those in the larger organization, and it makes the new organization, already dependent and vulnerable, an easy target for unsupportive actions and attitudes, subtle or blatant.

At the same time, many organizations have found the costs of overexposure of new and innovative arrangements to be high. A constant flow of visitors and interviewers, and public reports (often distorted) of problems and successes, are at best not helpful and at times actually disruptive and detrimental to success. Indeed, to the chagrin of researchers, many companies recognizing the problem are maintaining increasingly low profiles in this area.

Introducing Innovative Work Arrangements to Existing Operations: Some Lessons

Experience in the subject organization of this study confirms what many have suggested: that introducing innovation to existing operations involves different, and more difficult, problems than those faced in start-up situations (Sirota and Wolfson, 1972; Grote, 1972). It is clearly not coincidental that virtually all of the innovative efforts cited in the Appendix of Work in America (1972) are nonunionized. Nor is it coincidental that the two best-known cases of work restructuring (Volvo at Kalmar, General Foods at Topeka) involved the physical transplanting of operations from traditional settings to new plants in new sites (Walton, 1975b).

Obstacles in existing operations are forbidding: traditional employee and managerial attitudes, roles, and work practices, union resistance (White, 1975), suspicion and cynicism, even physical facilities make change difficult. In the subject company despite six years of significant effort by management, very limited success in innovative work structuring has only begun to be apparent in the last year. But, as one senior manager has noted, "It took us fifty years to create the conditions we want to undo. It's unrealistic to expect results tomorrow."

Managers involved in this long and difficult process agree on certain lessons from the few successes they have experienced.

1. Be opportunistic. A change in personnel, introduction of new technology or methods, even an expression of dissatisfaction with things as they are or an expression of interest in what's going on at the new plants can provide a small opening in an apparently impenetrable wall of indifference and inertia.

2. Start small and be pragmatic. In the subject organization, every grand scheme of work redesign in existing operations has failed completely. Every success has been the result of the growth of small, opportunistic experimentation by an individual manager or supervisor. It is clearly within the authority of the manager to restructure work quite significantly within his area of responsibility: cross-training, delegating vertical responsibilities, changing his role in accordance with his people's capabilities, etc. Waiting for the grand scheme is ineffective on two counts. In many organizations, it never comes. And, when it does, too often it fails--a big, controversial, and inviting target.

3. Be persistent and creative in working through, and around, constraints.

The first step is to identify them systematically. Restrictive union contract provisions and employee fears over job security and related rights are typical examples. While both suggest that a redesign effort should end before it is begun, many organizations, including the subject of this study, have found ways through and around these obstacles. An example concerning contract provisions is the joint labor-management committee established to facilitate the work restructuring project (White, 1977). Restrictive clauses are temporarily waived, under assurances and conditions agreed to by both parties. In addition, time-limited assurances of no layoffs or downgrading may be offered to facilitate the redesign effort. In practice, few obstacles are overwhelming with adequate persistence and creativity.

4. Provide alternatives for those who prefer not to participate in the new working arrangements. With management having minimal opportunities to select new people, and with many individuals having years of experience in an existing operation, a number of unenthusiastic responses, from both operating and supervisory personnel, is inevitable. Yet, if a significant percentage of those involved are positive, and if management is convinced of the value of outcomes, the new arrangements can be maintained only by providing fair and equitable opportunities for reassignment to those who decline to participate and prefer more traditional arrangements. This is clearly a delicate matter. Experience in the subject organization suggests that the only effective method of managing it is to generate opportunities which are attractive enough to induce a truly voluntary transfer. Any other practice will generate feelings of mistrust and inequitable treatment that threaten the new arrangements and any future efforts.

5. Develop a high tolerance for frustration and failure. Even armed with pragmatism, opportunism, persistence, and flexibility, successes will be initially small and slow in coming. For this reason, it is clear that only those organizations in which managers have thought through their fundamental motives for undertaking innovative work arrangements and are convinced of their value in terms of multiple outcomes will have the staying power and internal mutual reinforcement to institute them on a wide-scale basis in existing operations.

Conclusion

The objective of this paper has been to continue a line of inquiry directed at identifying and exploring the complex dynamics associated with implementing innovative work arrangements in both new organizations and existing operations. Specifically, typical concerns of managers involved in such situations, general lessons, and specific lessons from new organizations and from existing operations were highlighted.

References

- Dowling, W. F. "Job Redesign on the Assembly Line: Farewell to Blue-Collar Blues?" Organizational Dynamics (Autumn 1973): 51-67.
- Gallagher, W. E., and Hillel, J. E. "Motivation Theory and Job Design." Journal of Business, July 1976.
- Grote, R. C. "Implementing Job Enrichment." California Management Review, Fall 1972.
- Hackman, J. R. "Is Job Enrichment Just a Fad?" Harvard Business Review (Sept.-Oct. 1975): 129-38.
- Henderson, J. A. "What the Chief Executive Expects of the Personnel Function." The Personnel Administrator (May 1977): 40-45.
- Katz, D., and Kahn, R. C. The Social Psychology of Organizations, New York: Wiley, 1966.
- Sirota, D., and Wolfson, A. D. "Job Enrichment: What Are the Obstacles?" Personnel, May-June 1972.
- Walton, R. E. "Quality of Working Life: What Is It?" Sloan Management Review (Fall 1973): 11-22.
- _____. "The Quality of Working Life " Encyclopedia Britannica Yearbook (1975): 402-404.
- _____. "From Hawthorne to Topeka and Kalmar." Man and Work in Society, ed. by Cass, E. I. and Zimmer, F. G., New York: Van Nostrand Reinhold, 1975.
- White, B. J. "Union Response to the Humanization of Work: An Explanatory Proposition." Human Resource Management (Fall 1973): 2-9.
- _____. "Innovations in Job Design: The Union Perspective." Journal of Contemporary Business (Spring 1977): 23-36.
- Work in America. Report of a Special Task Force to the Secretary of Health, Education, and Welfare. Cambridge, Mass.: MIT, 1972.