

A TEAM APPROACH TO JOB DESIGN

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Introduction

There have been numerous anecdotal accounts of high performance work teams in both the academic and the business literature. Indeed, Peters (1987) almost raises the team working concept to that of an orthodoxy calling for modest-sized, task oriented, semi-autonomous, mainly self-managing teams to be the basic building block of all organisational design. However, empirical data to confirm whether such teams aid organisations in becoming more effective is relatively scarce and, according to Buchanan & Preston (1992), this team approach to work may now be under threat due to poor conceptualisation and a lack of systematic empirical evidence. Often subsumed under the overarching concept of job redesign or job restructuring, the underlying rationale for the introduction of work teams is to improve the organisations competitive position through the more effective utilisation of human resources. As McCalman (1989:354) puts it:

The introduction of work groups is consistently being seen as one of the major organisational tools for successful competitive edge. Invented in Britain in the 1960s, it has been exported to the United States and Scandinavia where a process of refinement has altered the basic thinking behind its application. A number of American corporations have been developing autonomous group ideas, and the approach is being re imported into Britain in the subsidiary operations of multinationals, under the revised name, High Performance Work Systems.

The team, emerging in response to the strategic imperative of the '90s, becomes the smallest identifiable element in the organisation whose members share a common objective. However, with the notable exception of Buchanan and McCalman's (1989) insightful, detailed account of Digital's experience with High Performance Work Teams, there has been a paucity of high quality studies. In general, the more rigorous the design, the more modest the results (Cohen and Ledford 1991). There is clearly a need for more rigorous designs, dedicated to the collection of longitudinal data. The present study, conducted in a high technology computer manufacturing facility, is, in part, a response to this caveat in current research. This article discusses the reasons for the revival of job redesign and the 'new' emphasis on high performance work systems.

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Then, using data from the study, the impact of the restructuring initiative on work characteristics and satisfaction and on the organisations culture and belief system is assessed.

The Revival of Job Redesign

There has been a sustained revival of interest in job restructuring and design as one of several levers available to managers interested in creating high performance organisational systems (Buchanan & McCalman 1989, Mooney 1989, Vail 1982, Lawler 1978, Cherns 1976). This revival of interest is principally associated with the quest for competitive advantage via the more effective utilisation of human resources. Human resources are now seen as perhaps the sole remaining unexploited mechanism available to organisations to improve their competitive position. This is clearly reflected in what is termed the high performance literature (Vail 1982, Perry 1984, Lawler 1986, Hanna 1988, Buchanan & McCalman 1989, Neusch & Siebentaler 1993), and indeed in the excellence literature (Peters & Waterman 1982, Moss Kanter 1983, Quinn Mills 1991). All of these contributors highlight the need to empower employees in an attempt to make organisations more effective. This empowerment is achieved through the balancing of 'responsible' autonomy and dependence in a group based work structuring approach, dedicated to the development of a highly skilled, flexible, co-ordinated, committed, productive workforce, coupled with a leaner flatter more responsive organisation (Block 1990, Mooney 1989, Buchanan & McCalman 1989, Hastings 1993, Neusch & Siebentaler 1993, Hanna 1988).

Why the 'New' Emphasis on High Performance Systems?

High performance organisations are characterised as being built upon a socio-technical systems base with a team or group approach to production (Buchanan 1987, Butteris & Murdock 1975, Hirschhorn 1984, Morley & Garavan 1993), and have thus given a new legitimacy to the somewhat faded image of job redesign and thrown a lifeline to the quality of working life (QWL) movement (Trist & Bamford 1951, Rice 1958, Cherns & Davis 1975, Davis 1977, Blackler & Brown 1981, Emery 1978). Other prominent features of the high performance organisation include developed autonomy and control, flat lean structures and advanced human resource practices, including the use of realistic job preview techniques, group based employee selection and an espoused management philosophy of open communication and feedback (Lawler 1986, Walton 1985, Aldag & Brief 1979). The team is often the smallest identifiable element in the organisation whose members share a common set of objectives. Designed to achieve the best 'person-environment fit', high performance work teams are typically small groups of individuals (between 5-12), who work with the same facilitator, sponsor or co-ordinator. Normally, team members undergo training and development in brainstorming, effective interpersonal skills, problem solving, conflict handling, consensus building

and decision making, as well as specific training designed to increase the organisations functional flexibility so that the team member has the ability to deploy acquired competencies across a boarder range of areas (Garavan & Morley 1992).

Underlying the increased interest in high performance work systems are a series of different rationales. Indeed, it may well be that the topic is of such popular concern because it addresses so many diverse pressures, not least among them, ever increasing competitive pressures and the expectations of the 'new' workforce.

With respect to competitive pressures, the underlying rationale is to improve the organisations competitive position through the effective utilisation of human resources. Market stagnation and rising employment costs (Atkinson 1984, Morley et al 1994), growing international and global competition (Cook & Ferris 1986), and the pervasive spread of new technologies (Walton 1985), coupled with the need to move from a situation where individuals have a narrow skills base to one where individuals posses competencies in an ever expanding range of skills (Schuler & Walker 1990), has provided perhaps one of the strongest rationales for the emergence of the high performance work system. The struggle for strategic advantage has heightened the argument for a more comprehensive approach to organisational design and work structuring, and set it within a new macro context due to developments in product markets, trading conditions and manufacturing technology (Morley & Heraty 1994, McCalman 1989, Mooney 1989, Hoerr et al 1986). As Buchanan & McCalman (1989: 33) suggest: "The new strategic imperatives require new work organisation strategies."

The emergence of the 'new workforce' also provides a strong rationale for the development of the high performance approach. One could argue that there has been a general increase in employee expectations over the years. The outcome is that increasingly, many of the most progressive, entrepreneurial and talented people are no longer willing to commit their working lives, in a typical pattern, to one employer (Brewster et al 1993). Traditional thinking advanced the idea that 'head work' was the responsibility of management only. However, as Sonduck (1981:53) notes:

One of the most dehumanising assumptions ever made is that workers work and managers think. When we give shop floor workers control over their work, they are enormously thoughtful.

Similarly, Toner (1985) maintains that the traditional form of work organisation, based upon command/obey structures, may be simply inappropriate, as a workforce which is better educated should be involved in the decision making process to avoid potential frustrations and to tap into the creative energy which exists, while Mooney (1989) notes that better educated workers seek more challenge on the job, best achieved through greater involvement in decision processes. Thus, this general increase in employee expectations transcends all aspects of the employment relationship, particularly with respect to influencing management style such that it encourages participation, gives individuals greater personal responsibility and allows employees to understand how their efforts contribute to overall organisational success. The focus must therefore

be on achieving greater individual participation and achievement, while stressing the concept of goal congruity and the value and necessity for teamwork (Mooney 1993, Morley 1993). While the importance of a good fit between an organisations approach to work structuring and its belief system is understandable, few researchers have examined the idea of a value shift accompanying methodology and job characteristics and satisfaction changes in job restructuring.

The Research Questions

Two basic research questions serve to guide our discussion:

- Does high performance job restructuring, dedicated to the introduction of a team approach to work structuring, and characterised by a broad non-segmentalist approach to work, with broad job definition and high skill variety and feedback on performance result in job characteristics and satisfaction improvements?
- Does high performance job restructuring result in a modification in an organisations culture and beliefs system?

These are two areas of inquiry that are central to the job restructuring debate. Question one essentially relates to the effectiveness of such teams. On the whole, those organisations who have implemented the high performance concept have proven the value of the approach as an effective means of managing the human factor. Research across countries (Paul & Robertson 1970, Ford 1969, Rush 1971, Wall 1980, Sims 1985, Buchanan & McCalman 1989, Garavan & Morley 1992) supports the hypothesis of a net advantage in moving towards a high performance work system. However, while the balance of evidence indicates that teams of this nature are more effective than more traditional approaches to work structuring, it has been argued (Cohen & Ledford 1991), that there is a paucity of high quality studies and there has been a call for research based on quasi-experimental designs (Wall 1986, Cohen & Ledford 1991).

Question two, on organisation culture and belief systems, is equally important, principally because appropriate culture and belief systems are required to facilitate and sustain the high performance effort (Buchanan & McCalman 1989, Mooney 1989, Morley and Heraty 1994). Researchers have noted that organisations which have reported success in the application of participative work designs share certain cultural characteristics (Jumar et al 1991, Hackman 1986, Lawler 1986, Peters & Waterman 1982). A particularly interesting thesis which is beginning to emerge from the high performance school is the assertion that the achievement of system changes in order to introduce and sustain the high performance concept also requires value changes (Mooney 1989, Buchanan & McCalman 1989). Therefore while more traditional approaches to job restructuring brought with them a system change or changed job content, high performance job restructuring attempts to bring about a value shift along with job content and methodology changes. However, little rigorous attention has been paid to the systematic evaluation of such shifts and their importance in sustaining the long term cultural tenets of the high performance organisation. This proposition of a net

culture and belief shift, as it relates to high performance job restructuring, is tested in this article.

Research Site, the Method & the Participants

This research is set within the context of a high technology work environment. Founded in the 1970s, this company has been actively involved in building computer networks for more than 15 years. The company operates in highly competitive circumstances and its external environment is both complex and dynamic. In recent years the company has come to recognise the need for greater flexibilisation, while at the same time continuing to be employee centred. While it started out as what might be termed 'organic' in nature, a number of negative features manifested themselves over time, not least among them the following:

- Many layers of supervision;
- Large growth in the number of technical specialists and support staff;
- A large growth in the number of procedures and rules, leading to considerable inflexibility;
- Ineffective decision-making, with little input from employees;
- Poor communications and duplication of activities;
- A fall-off in the level of innovation.

Overall, the organisation was 'out of tune' in terms of what was being demanded of it by the external environment. During 1991, the company changed its pricing and distribution strategy and embarked upon a job restructuring programme aimed at the adoption of a team approach to work structuring. This job restructuring development was viewed as a move that was complementary to the pricing and distribution strategy changes because it would capitalise on these strategies by ensuring that the expanding customer base would get an improved high quality product, produced by teams of employees dedicated to quality and customer satisfaction.

One selected area in the manufacturing facility was re-organised into teams of 6–15 members. The focus of these teams is on the whole product, not on any individual process and teams cross production boundaries. Many of the decisions traditionally taken by supervisors and other support functions have been turned over to the teams, including decisions relating to work scheduling, material ordering, inspection and quality control.

A series of naturally occurring groups ($N = 50$) were identified in this area of the manufacturing facility that was to be reorganised. Since the research occurred in a natural setting, as opposed to a contrived one, such as a laboratory, participants could not be randomly allocated to the groups. These groups were naturally occurring and were therefore simply identified in the organisation in terms of whether or not they were going to be exposed to the restructuring programme. Clearly therefore, some degree of control over extraneous variables, relative to the possible in a true laboratory experiment, is lost due to that lack of complete equivalence. However, the study does have several

strengths because, as Buchanan & Preston (1992) highlight, despite the comparatively strong descriptive and speculative literature on novel manufacturing methodologies, organisational analyses of applications in practice are rare. Thus, from a naturalist paradigm, because of the nature of the study, intensive investigation in one research site, it allowed the author to come to a deeper understanding of the phenomenon under investigation and to gather a 'thick description' of the organisation and its context. Furthermore, from a positivist perspective, the research instrument provided the author with a deal of quantitative data. The reader will therefore note the adoption of a methodologically pluralist approach. Finally, the sample size is acceptable for field research of this kind.

The Measures

With respect to the measures, the questions in the study were scored on a five point scale ranging from 'strongly agree' to 'strongly disagree'. A modified version of the Job Diagnostic Survey (JDS) (Hackman & Oldham 1980) and job characteristics scales developed by Hackman and Lawler (1971, 1976) were used to collect information on employee perceptions of job characteristics, including autonomy and general satisfaction. (For the item content, see Table 1). Culture and beliefs were measured using a modified version of Shaskins (1984) Organisational Beliefs Instrument. (For the item content, see Table 2). A pilot test of the research instrument was conducted on a group of participants. Participants individually completed the questionnaire with the researcher present. In all cases an interview lasting approximately 20 minutes was conducted with each respondent after the questionnaire had been completed. The purpose of this follow up interview was to validate the research tool by cross-checking what was said in the interviews with the responses made in the questionnaire. In light of this pilot study, a number of minor modifications were made to the questionnaire. To eliminate the potential for agreement bias, the scales in some questions were reversed by changing from '1= most positive' to '1= most negative' and '5= most negative' to '5= most positive'. Furthermore, in relation to particular questions where the respondents were asked to rate their agreement/disagreement with a number of statements, a number of these statements were rewritten in the negative form.

The Results

The Students 't' test was used to discover whether the mean difference in the pre and post scores was statistically significant.

Table 1: Work Characteristics and Satisfaction

| | Time 1 Mean | Time 2 SD | Mean | SD | |
|--|------------------------|----------------------|-------------|-----------|-----------|
| <i>Work Variety</i> | 1.880 | 1.069 | 3.860 | 0.351 | 12.37 *** |
| <i>Autonomy</i> | 1.720 | 0.743 | 3.250 | 0.354 | 16.04 *** |
| <i>Satisfaction with feedback on performance</i> | 1.940 | 0.424 | 4.300 | 0.863 | 16.27 *** |
| <i>Satisfaction with work allocation</i> | 2.240 | 0.573 | 3.400 | 0.833 | 7.900 *** |
| <i>Suggestion/idea input</i> | 1.760 | 0.687 | 3.800 | 0.728 | 14.01 *** |

*** P < 0.001; ** P < 0.01; * P < 0.05

With respect to work characteristics and satisfaction, the results are extremely positive and in the direction predicted. Following the introduction of the high performance work teams, both work variety (Pre X= 1.88, SD= 1.069; Post X= 3.860, SD= 0.351) and autonomy (Pre X= 1.720, SD= 0.743; Post X= 3.250, SD= 0.345) have improved significantly (P<0.001). In relation to feedback on performance the pre (X=1.94, SD= 0.424) and post (X= 4.30, SD= 0.863) test results reveal a significant (P<0.001) improvement. The results also reveal a significant improvement (P<0.001) in satisfaction with work allocation. Finally, the pre (X= 1.760, SD= 0.687) and post (X=3.80, SD= 0.728) results reveal a significant improvement (P<0.001) in satisfaction with suggestion/idea input.

Table 2: Organisation Culture and Beliefs

| | Time 1 Mean | SD | Time 2 Mean | SD | |
|--|----------------|-------|----------------|-------|-----------|
| <i>A belief in the importance of having fun through one's work</i> | 3.852 | 0.467 | 4.076 | 0.539 | 2.030 ** |
| <i>A belief in being the best at what the company does</i> | 3.832 | 0.253 | 3.516 | 0.146 | -7.38 ** |
| <i>A belief that people in the organisation should be innovators and should take risks without feeling that they will be punished if they fail</i> | 3.546 | 0.306 | 3.640 | 0.140 | 0.770 |
| <i>A belief in the importance of attending to details in doing a job</i> | 3.252 | 0.416 | 3.336 | 0.278 | 1.240 |
| <i>A belief in the importance of people as individuals</i> | 3.184 | 0.277 | 3.388 | 0.110 | 5.410 *** |
| <i>A belief in superior quality and service</i> | 3.232 | 0.298 | 3.406 | 0.246 | 4.160 *** |
| <i>A belief in the importance of informality to improve the flow of communication through the organisation</i> | 3.269 | 0.220 | 3.556 | 0.222 | 1.750 |
| <i>A belief in the importance of economic growth and profits</i> | 3.440 | 0.124 | 3.820 | 0.243 | 7.790 *** |
| <i>A belief in the importance of hands on management, the notion that managers should be doers, not just planners and administrators</i> | 3.148 | 0.303 | 3.472 | 0.180 | 6.680 *** |
| <i>A belief in the importance of a recognised organisational philosophy developed and supported by those at the top</i> | 3.272 | 0.419 | 3.460 | 0.236 | 3.370 ** |

*** P < 0.001; ** P < 0.01; * P < 0.05

With respect to culture and belief changes (Table 2) the results reveal that of the ten dimensions measured by the Organisational Beliefs Instrument there was an improvement in six i.e. these particular beliefs were more evident in the organisation into the job restructuring intervention than prior to it. Those dimensions were (a) a belief in the importance of having fun through ones work ($P < 0.01$) (b) a belief in the importance of people as individuals ($P < 0.001$) (c) a belief in superior quality and service ($P < 0.001$) (d) a belief in the importance of economic growth and profits ($P < 0.001$) (e) a belief in the importance of hands on management ($P < 0.001$) and (f) a belief in the importance of a recognised organisational philosophy ($P < 0.01$). Three dimensions remained unchanged. They were (a) a belief that people in the organisation should be innovators and should take risks without feeling that they will be punished if they fail (b) a belief in the importance of attending to details in doing a job and (c) a belief in the importance of informality to improve the flow of communication through the organisation. Finally the results suggest that one belief is less evident in the organisation as a result of the intervention i.e. a belief in being the best at what the company does ($P < 0.01$).

Discussion & Conclusions

The evidence from this study supports earlier research which suggests that a team/group approach to work structuring can be an effective mechanism for improving job characteristics and general satisfaction and bringing about the flexibility and responsiveness required to deal with ever increasing turbulent competitive and economic circumstances. Members of the high performance work teams report a significant increase in work variety, autonomy, and satisfaction with feedback on performance, with work allocation and with suggestion/idea input.

The participative empowerment approach would seem to have created a situation where individuals perceive that their jobs are higher in variety and autonomy. Testimonial data from one team member strongly reinforces the change: "It (the team intervention) has given us control of how we do our own job. It is no longer a matter of just do what the supervisor says." In relation to the improvement in feedback on performance, the result may potentially be explained by the re-deployment of a second 'Sponsor' to the restructured area, which resulted in sponsors having more time to dedicate to giving teams feedback on performance. Prior to the restructuring, this had been highlighted as a particular problem, with 95% of individuals surveyed being dissatisfied with the amount of feedback on performance they received from their supervisor.

With respect to the improvement in satisfaction with work allocation, this may be explained by the fact that individuals are now being constantly updated on what has been achieved with respect to output, quality etc. and what remains to be achieved, coupled with a rationale for such targets. Prior to this, individuals would have been much less aware of the reasons for completing certain tasks, of fluctuations in demand, of the sales achieved for a particular period and so forth. Furthermore, on this issue of satisfaction with work allocation, because individuals are now working in teams, the

burden of responsibility is shared, and a shared sense of purpose now seems to be emerging. One operator explained this development in the following way:

They (the teams) help in achieving the end product easier. They help people to mix with people they would otherwise not be in contact with and they involve everyone in making the department work out right together.

Turning to the improvement in suggestion/idea input, there has always been a suggestion scheme in operation at the plant and its operation has not changed. However, individuals at lower levels in the organisation are now much more involved in idea generation and continuous process improvement than heretofore. Weekly meetings are held, as part of the high performance system, in which individuals are encouraged to make suggestions which are then evaluated by fellow team members. This has resulted in a much higher level of suggestion/idea input and also in a healthy degree of competition between the teams. A technician explained:

People in general have become much more involved in the day to day running of the department and in making suggestions that would improve the overall effectiveness of the department.

In summary, with respect to job characteristics and satisfaction, the results lend support to the proposition of a net advantage in moving towards a high performance work system, with respect to individuals experiencing greater work variety, greater autonomy, greater satisfaction with feedback on performance, greater satisfaction with how work is allocated and greater satisfaction with suggestion/idea input. Significantly, as the extant literature suggests, it is characteristics such as these which draw out and satisfy the individuals higher needs (Cherns & Davis 1975).

With respect to culture and belief outcomes, while the pattern is mixed, the overall result is highly significant. The high performance job restructuring intervention, aimed at creating a better 'person environment fit' has not only resulted in job characteristics and satisfaction changes, but has also had the effect of bringing about a cultural and belief shift in the area in the organisation that has been restructured. Indeed, it may well be that there is a symbiotic relationship between these two factors in this study. Thus, the job characteristics and satisfaction improvements may well have come about because their emergence was supported by and congruent with the shift in the belief system. Indeed, it is plausible to suggest that it is precisely this that distinguishes the broader high performance approach from earlier job redesign approaches, dedicated to job content issues only. However, as highlighted earlier, the intervention does not appear to have had a significant impact on three beliefs, namely, a belief that people in the organisation should be innovators, a belief in the importance of attending to details and a belief in the importance of informality to improve the flow of communications. This result may potentially be explained by a number of factors. Firstly, in the reorganised area in the plant, there had been pressure to improve the performance of the section, particularly in relation to the number of modules shipped and in relation to dealing with the large backlog that had accumulated. This may well have led to an

emphasis on 'getting the job done'. As one operator revealed: "We like our jobs best of all when we are on top of them in terms of numbers. We hate it when there are backlogs."

Secondly, because the outcome of a previous study in the section revealed that non-productive time was as high as 40%, it resulted in the re deployment of a second sponsor to the area, which appears to have made each individual more accountable for the work they do and the time they spend doing it. A technician explained: "You have to be very careful now – there is less time for doing your own thing". Individuals have become more accountable for the work they do as team members, and there has been a concentration on "getting the extra push from people" (Sponsor). In relation to attending to detail in getting the job done, when questioned on whether or not they were thanked/praised for doing a good job, one operator replied "only sometimes", while another maintained that:

A lot of the time the sponsor is most interested in quantity, and we are not heavily praised for doing a good job as it assumed that we will do it properly anyway.

Finally in relation to culture and value changes, the results revealed that there had been a disimprovement in the belief relating to being the best at what the company does. The result here is worth highlighting as this is seen as a dynamic that is central to the high performance concept. While 'being the best' has always been stressed, most recently as part of a TQM training initiative, it is possible that the apparent disimprovement may have come about as a result of the management team compromising themselves i.e. continuously reinforcing that good is not good enough on the one hand, while at the same time, and often perhaps more vigorously, stressing the necessity for increased output in order to improve the backlog status. Aiming for perfection is clearly a goad to progress, but it is not easily attained. While high performance, perfection and superb execution are at the heart of management's message, it is arguable that the teams may well be finding it difficult to balance 'always being the best' with 'always improving output'.

Overall, the results point up job restructuring as a overarching concept which not only has the potential to bring about methodology and job content changes, but also a shift in the organisations belief system, a concept not widely examined in the extant literature. Furthermore, it is evident that the intervention has taken the organisation concerned a step further towards realising its vision of a high performance work system aimed at increasing the flexibility and responsiveness required to deal with turbulent, dynamic competitive circumstances and dedicated to the establishment of a better person-environment fit.

This study does have some limitations. By attempting to undertake research of this nature in a relatively natural non artificial setting the author has attempted to improve the ecological validity of the study. However, because the teams in the study were given, it is possible to argue that the author has not given sufficient attention to sampling, and therefore the extent to which it is possible to generalise from the given

sample of individuals involved in the research to the wider population may be limited. This is a weakness to be lamented but unfortunately it could not have been overcome. Furthermore, it is clearly inadvisable to generalise to wider trends from a single case. Further research in this area should, therefore, concentrate on the outcomes from the application of the team concept in comparative settings. A second weakness concerns the time frame of the study itself. While eight months is acceptable as an interval between measurements, further follow up work is necessary in order to assess the extent to which the changes that have been witnessed will remain as central operating tenets of the high performance organisation and to pinpoint exactly which aspects of the intervention are primarily responsible for the culture and beliefs shift.

References

- Aldag, R. & Brief, A. (1979), *Task Design and Employee Motivation*, Scott, Foreman & Company.
- Atkinson, J. (1984), 'Manpower Strategies for Flexible Organisations', *Personnel Management*, August.
- Blackler, F. & Brown, C. (1981), 'A New Philosophy of Management: Shell Revisited', *Personnel Review*, Vol. 10, No. 1.
- Block, P. (1990), *The Empowered Manager: Positive Political Skills at Work*, Jossey-Bass.
- Brewster, C., Hegevisch, A., Lockhart, T. & Mayne, L. (1993), *Flexible Working Patterns in Europe*, Institute of Personnel Management.
- Buchanan, D. (1987), 'Job Enrichment is Dead: long live high performance work design', *Personnel Management*, May.
- Buchanan, D. & McCalman, J. (1989), *High Performance Work Systems: The Digital Experience*, Routledge.
- Buchanan, D. & Preston, D. (1992), Life in the Cell: Supervision & Teamwork in a Manufacturing Systems Engineering Environment, *Human Resource Management Journal*, Vol. 2, No. 4.
- Butteris, M. & Murdoch, R. (1975), 'Work Restructuring Projects and Experiments in the United Kingdom', Work Research Unit Report, No. 2.
- Cherns, A. (1976), 'The Principles of Socio Technical Design', *Human Relations*, No. 29.
- Cherns, A. & Davis, L. (1975), *The Quality of Working Life: Vols. 1 & 2*, Macmillan.
- Cohen, S. & Ledford, G. (1991), 'The Effectiveness of Self-Managing Teams: A Quasi-Experiment', in Proceedings of the 1991 International Conference on Self-Managed Work Teams, October 2-4, Dallas.
- Cook, D. & Ferris, G. (1988), 'Strategic Human Resource Management and Firm Effectiveness in Industries Experiencing Decline', *Human Resource Management*, Vol. 25, No. 3.
- Davis, L. (1977), 'Enhancing the Quality of Working Life: Developments in the United States', *International Labour Review*, Vol. 116, No. 1.
- Dumaine, B. (1991), 'The Bureaucracy Busters', *Fortune*, June 17, 1991.
- Emery, F. (1978), *The Emergence of New Paradigms of Work*, Australian National University, C.C.E.
- Ford, R. (1969), *Motivation Through the Work Itself*, American Management Association.

- Garavan, T. & Morley, M. (1992), 'Organisation Change and Development: Introducing Flexible Working Groups in a High Technology Environment', in Winstanley, D. & Woodhall, J. (Eds), *Case Studies in Personnel*, Institute of Personnel Management.
- Hanna, D. (1988), *Designing Organisations for High Performance*, Addison-Wesley.
- Hastings, C. (1993), *The New Organisation: Growing the Culture of Organizational Networking*, McGraw Hill.
- Hirschhorn, L. (1984), *Beyond Mechanization*, MIT Press.
- Hoerr, J., Pollock, M. & Whiteside, D. (1986), 'Management Discovers the Human Side of Automation', *Business Week*, September, No. 29.
- Jumar, K., Replogle, S. & Beyerlein, M. (1991), 'Analyzing the Effectiveness of Autonomous Work Groups: Framework and Longitudinal Study', in Proceedings of the 1991 International Conference on Self-Managed Work Teams, October 2-4, Dallas.
- Katzenbach, J. & Smith, D. (1993), *The Wisdom of Teams: Creating the High Performance Organisation*, Harvard Business School Press.
- Lawler, E. (1986), *High Involvement Management: Participative Strategies for Improving Organizational performance*, Jossey-Bass.
- Lawler, E. (1978), 'The New Plant Revolution', *Organisational Dynamics*, Winter.
- McCalman, J. (1989), 'Performance Organisations in the 1990s: Flexibility for Manufacturing Management', *European Management Journal*, Vol. 7 No. 3.
- Mooney, P. (1993), 'Developing and Sustaining a High Performance Organisation', paper to the Institute of Personnel Management in Ireland Mid West Group Seminar, October, University of Limerick.
- Mooney, P. (1989), *The Growth of the Non Union Sector & Union Counter Strategies in Ireland*, Unpublished PhD, University of Dublin, Trinity College.
- Morley, M. (1993), 'Thoughts on the Management of Change: A Review of Current Issues in Organisational Design and Work Restructuring with Some Case Evidence', in Proceedings of the 1st Labour Relations Commission Seminar, The Management of Change: Experiences, Practices, Procedures, Cork, May.
- Morley, M. & Garavan, T. (1993), 'The New Organisation: Its Implications for Training and Development', *Paper to the Irish Institute of Training and Development 24th National Conference*, The Emerging Organisation, Galway, April.
- Morley, M., Gunnigle, P. & Heraty, N. (1994), 'The Flexibilisation of Working Practices in Ireland: Gradual Incrementalism or Radical Path Breaking Developments?', *Administration*, Vol. 42, No. 2, Summer.
- Morley, M. & Heraty, N. (1994), 'High Performance Work Design: Evidence From One Research Site', in Proceedings of the 2nd European Business Process Redesign Academic Conference, BPR: Academic Directions, School of Management, Cranfield University, June.
- Moss Kanter, R. (1983), *The Change Masters*, Unwin Hyman Limited.
- Neusch, D. & Siebentaler, A. (1993), *The High Performance Enterprise: Reinventing the People Side of Your Enterprise*, Oliver Wright Publications.
- Paul, W. & Robertson, K. (1970), *Job Enrichment & Employee Motivation*, Gower Press.
- Perry, B. (1984), *Enfield: A High Performance System*, Digital Equipment Corporation, Educational Services Development and Publishing.
- Peters, T. (1987), *Thriving on Chaos: Handbook for a Management Revolution*, Macmillan.
- Peters, T. & Waterman, R. (1982), *In Search of Excellence: Lessons from America's Best Run Companies*, Harper & Row.
- Quinn Mills, D. (1991), *Rebirth of the Corporation*, John Wiley.

- Rice, A. (1958), *Productivity & Social Organisation: The Ahmedabad Experiment*, Tavistock Publications.
- Rush, H. (1971), Job Design for Motivation, Conference Board Incorporated, Report No. 55.
- Schuler, R. & Walker, J. (1990), 'Human Resource Strategy: Focusing on Issues & Actions', *Organizational Dynamics*, Summer.
- Sims, H. (1985), 'Beyond Quality Circles: Self Managing Teams', *Personnel*, January.
- Tichy, N. & Nisberg, J. (1976), 'When does work restructuring work? Organization innovations at Volvo & GM', *Organizational Dynamics*, Summer.
- Toner, W. (1985), 'The Unionisation and Productivity Debate: An Employee Opinion Survey in Ireland', *British Journal of Industrial Relations*, Vol. 23, No. 2.
- Trist, E. & Bamforth, K. (1951), 'Some Social Psychological Consequences of the Longwall Method of Coal Getting', *Human Relations*, No. 4.
- Vaill, P. (1982), 'The Purposing of High Performing Systems', *Organisational Dynamics*, Autumn.
- Wall, T. (1986), 'Outcomes of Autonomous Work Groups: A long term field experiment', *Academy of Management Journal*, Vol. 29.
- Wall, T. (1980), 'Group Work Redesign in Context: A Two Phase Model', in Dunkan, R. & Gruneberg, M. & Wallis, D. (Eds), *Changes in Working Life*, Wiley.
- Walton, R. (1985), 'From Control to Commitment in the Workplace', *Harvard Business Review*, March/April.