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Manufacturing More Effective TQM: Implications for the Management of Human Resources

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ABSTRACT

This paper examines the issue of Total Quality Management (TQM) and the management of human resources. It suggests that while TQM has been identified as a major innovation in management practice, there has been a preoccupation with the "hard" production-oriented aspects of TQM, rather than the softer HRM elements. However, increasing attention is now being paid to HR issues. Drawing on research sponsored by the Institute of Personnel Management in the United Kingdom, the writers discuss three manufacturing case studies so as to explore the TQM/HRM issues. They discuss a number of critical human resource issues arising from these cases and point to an enhanced role for the personnel function.

INTRODUCTION

Total Quality Management — The HR Problem

Total Quality Management (TQM) is now widely recognised as one of the major innovations in management practice over the last decade. For the most part, however, the principal contributions to the analysis of TQM and its operation have come from people in the Operations Management area (for example, Oakland, 1989, Dale & Plunkett, 1990, Dale, 1994). Arguably, this has led to a preoccupation with the so-called "hard" production-orientated aspects of TQM as opposed to its "softer" Human Resource Management (HRM) characteristics. This means that less attention has been focused on people-management issues such as appropriate supervisory styles, compensation/payment systems, teamwork, industrial relations and the implications for different managerial functions.

Ishikawa (1985) referred to TQM as a "thought revolution" in management. Similarly Oakland (1989) has described it as a "new way of managing" and has claimed that after the industrial revolution and computing revolution of yesteryear "we are now without doubt in the midst of a quality revolution". However, whilst TQM has been much talked up by gurus/consultants and indeed practitioners promoting their companies, there is growing evidence of its spreading influence if not of its effectiveness. For example, a British Institute of Management survey analysing the future of middle managers found 60% of managers and employers saying it was being implemented. Almost half of corporate respondents and over one-third of individual managers agreed that of the suggested techniques and managerial changes, the biggest impact on the future would be TQM (Wheatley, 1991).

A subsequent Institute of Management survey reported that 71% of respondents claimed they had a Quality Management Campaign, and a further 11% were planning to introduce one. The phenomenon is a recent one with only 10% having a campaign dating back more than five years (Wilkinson, Redman & Snape, 1993).

Yet there is increasing evidence that TQM has not fulfilled its promise (see recent surveys and reports eg Kearney, 1992, Miller, 1992, Cruise, O' Brien & Voss, 1992, The Economist Intelligence Unit, 1992, Wilkinson et al, 1993). Furthermore many of the problems arising appear to have been those relating to Human Resource (HR) issues such as management style, attitudes and culture. One possible explanation for this is that TQM has developed from a quality assurance ideology and consequently focuses on the "hard" measurable aspects such as costs and production/operation performance to the relative neglect of the so-called "soft" aspects. Thus the limitations of TQM can be at least partially attributed to the neglect of human resource policies in the organisation and a failure to align the HR policies with TQM to ensure integration. These critical "soft" issues are apparent from most reports and research yet remain relatively unexplored in comparison with the use of quality management tools and techniques and quality systems (Wilkinson, 1992).

In recent years, TQM has been taken up by a number of HR writers who have seen it as an opportunity for the function to play a strategic role. Until recently the personnel profession appears to have been slow to see the implications for the function. This may have been because they saw it as refashioned quality circles (with which they had negative experience) or more likely because it was seen as essentially quality control/assurance and consequently regarded as a job for operations managers (Wilkinson, Marchington, Ackers & Goodman, 1992).

However, the past few years has seen both a shift in emphasis to human resource issues within the quality area and the growing interest of personnel specialists. The former reflects two factors. First, a shift from quality assurance to TQM with a consequent greater emphasis being placed on issues such as employee involvement. Second, growing evidence which suggests that TQM has major problems in the so-called soft areas (Plowman, 1990, Kearney, 1992, Cruise O' Brien & Voss, 1992) and in particular culture, involvement and communication. According to Cruise O' Brien and Voss:

Quality depends on broad based employee involvement and commitment. New and innovative human resource policies were reported by managers in a number of organisations, but these were not often related to quality. . . . Divorce of human resources from quality, except in name, could seriously retard the spread of quality through the firm. (1992, p. 11)

This would appear to present the personnel function with a window of opportunity, even if it has little involvement from the start of TQM. In this sense, the shift of focus to human resource issues may not have come about at the behest of the personnel people but because others have recognised a need for their involvement, albeit at a late stage. Thus, a number of writers have begun to identify the opportunities which TQM might offer for the function. Giles and Williams argue that "Quality has a high personnel content. It gives strategic importance to policies and processes that personnel managers have traditionally considered to be their own patch" (1991, p. 29) and thus "quality management is pure strategy on a plate waiting for some personnel input" (1991, p. 30).

In this article, we discuss TQM's development from quality control and the growing importance of quality management in the United Kingdom. Second, we describe the basic principles of TQM and examine its implications for HRM. Third, we draw from a programme of research on Quality and the Human Resource Dimension, outlining developments in TQM and HRM in three cases. These illustrate the diversity of TQM initiatives and their relationship with HRM. Finally, we discuss some of the key issues surrounding the relationship between TQM and HRM, and discuss the role of the Personnel Function.

WHAT IS TQM?

The problem of quality management is not what people don't know about it. The Problem is what they think they do know. . . . In this regard, quality has much in common with sex. Everyone is for it (under certain conditions of course). Everyone feels they understand it (Even though they wouldn't want to explain it). Everyone thinks execution is only a matter of following natural inclinations. (After all, we do get along somehow). And, of course, most people feel that all problems in these areas are caused by other people (if only they would take the time to do things right). (Crosby, 1979)

The TQM Approach

The major premise of the TQM philosophy is that quality, defined by Juran as 'fitness for use', is the key to business success and that this, rather than price or delivery, is the route to competitive advantage. Moreover, in addition to increasing sales and market share through quality improvements, TQM need not lead to increased costs, rather costs are likely to fall due to a decline in failure rates, rectification, warranty costs, returned goods and a reduction in the costs of detection. TQM is concerned with 'building in' rather than inspecting quality, with being the responsibility of all employees, rather than merely the responsibility of a specialist department. The benefits of such an approach are regarded as being potentially very significant. Dale and Plunkett (1994) estimate that quality costs in an organisation which is not committed to a process of improvement, range from 10—14% of annual sales turnover. Thus for many, the most compelling argument for TQM is that it promises to increase long-term business performance and profitability (Dale & Cooper, 1992). Quality is seen not as an option, but as a business requirement in the face of growing competition.

The origins of TQM are usually ascribed to Japan's search for quality improvements in the 1950s and its success in moulding ideas on quality into a coherent operating philosophy; by the 1960s this combined the ideas of Denning and Juran with the use of Statistical Process Control (SPC) and teamwork. In 1962 the first three quality circles were registered with JUSE (Japanese Union of Scientists and Engineers) and the quality movement spread to the workers with the extensive use of SPC. Both Denning and Juran were interested in the wider implications of quality control, and argued that quality control should be conducted as an integral part of the management control systems (in contrast to its traditional role as a policeman function). This developed into the notion that prevention not detection was the key and the concept was one of "managerial breakthrough" (Juran, 1965) whereby "continuous improvement" was held to be the ultimate goal. Furthermore, management was charged with responsibility since 85% of failures were regarded as the fault of inadequate management systems. (Ishikawa, 1985). By the 1960s the challenge to Western markets led to the adoption of Japanese methods of production within the United States. In the 1980s, TQM was taken up by many American companies and Europe followed suit with it. The European Foundation of Quality Management was founded in 1988 to improve the position of European industry in the world markets (Wilkinson, Allen & Snape, 1991).

TQM definitions

One of the problems in the discussion concerning TQM is the apparent lack of a generally accepted description of what it actually is. Until the articulation of definitions in BS4778 Part 2 (1991) and BS7850 Part I (1992) there were no national or international definitions for the term. As with the Human Resource Management debate there is confusion as to what different writers mean when they discuss TQM, although some of the buzzwords are now prominent in the management vocabulary, for example, Zero defects (Crosby, 1979), Right First Time (Crosby, 1979), Plan, Do, Check, Action (Deming, 1986), Fitness for Use (Juran, 1965).

First the distinction needs to be made between quality control, quality assurance and total quality. Quality control is the control of quality during an operational process and at the post-process stage. Its characteristics are containment and inspection. Quality assurance is the achievement of

specified levels of quality by the removal of the roots of poor quality. Its characteristics are problem solving and prevention. Quality assurance is usually in the hands of a quality manager and a department, and quality is seen as a business function in its own right. Total quality is the application of quality assurance to every company activity, so that zero defects are achieved (or aimed for). Its characteristics are the application of good practice quality management principles, as popularised by the so-called quality gurus, principally the ideas of W. Edwards Deming (1986), Joseph Juran (1965), Philip Crosby. (1979) and Feigenbaum (1983). In essence TQM is a general business management philosophy, which is about the attainment of continuously improving customer satisfaction by quality led company-wide management. This goes beyond the mere application of total quality ideas to the whole organisation and its management by any one business function, to being a new approach to corporate management itself (Wilkinson & Witcher, 1991).

“ Hard” and “ soft” aspects of TQM

TQM has both “ hard” and “ soft” aspects. The former emphasizes systems, precise data collection and measurement and involves a range of production techniques, including statistical process control, changes in the layout, design processes and procedures of the organisation, and most importantly the seven basic TQM tools used to interpret data: process flow charting, tally charts, pareto analysis, scatter diagrams, histograms, control charts and cause and effect analysis. TQM is based on the premise that all activities in a firm contribute to quality. Thus it is important that a firm’ s activities and procedures are documented so that their effects for quality are understood by everybody. The emphasis on the hard aspects reflects the production orientation of many of the TQM gurus.

The soft side of TQM gets a good deal less attention although it is by no means ignored. Hill (1991, p. 391) says “ while solutions to the technical issues of designing appropriate systems and procedures are fully specified there are lacunae in the treatment of social factors” . Clearly there are implications for the workforce in the quality philosophy with the message that “ quality is everyone’ s business” , as firms are urged to move away from supervisory approaches to quality control towards a situation where employees themselves take responsibility. The soft side thus puts the emphasis on the management of human resources in the organisation and lays particular emphasis on the need to change culture. Thus, TQM has clear implications for human resources whether this be in terms of employees taking greater responsibility for quality (empowerment according to the quality gurus), having accountability for its achievement, or in terms of the introduction of teamworking principles into organisations.

TQM appears to be consistent with a move towards human resource management, not only in the emphasis on employee commitment rather than compliance, and in the underlying unitarist philosophy, but also it identifies line managers as having a key responsibility for the management of people. Both TQM and HRM call for the involvement of top management, and in this sense can be seen as requiring a more strategic approach to the management of human resources. However, it is commonplace in the literature to point to the failure to adopt such a strategic approach (Wilkinson et al, 1991).

THE RESEARCH PROGRAMME

The practice of quality management — via quality assurance and British Standards (BS5750) /International Standards Organisation (ISO9000) alone or TQM — is now becoming much more widespread throughout the United Kingdom. Recent interest has focused on the shortcomings which are associated with the ‘ hard’ , systems-type initiatives, and their failure to pay sufficient attention to the ‘ people’ elements in the drive for continuous quality improvement. There is a feeling, not just confined to those within the personnel function, that greater emphasis needs to be placed on the human aspects of quality management.

This led the U.K. Institute of Personnel Management (IPM) to commission a project into Quality Management and the Human Resource Dimension in order to give guidance to members (and others) on the challenges posed for people management. This consisted of three separate but

interrelated pieces of research — a questionnaire to organisations in the United Kingdom, a telephone survey of personnel and human resource managers throughout mainland Europe and a case study analysis designed to provide in-depth data at the organisational level. We were responsible for conducting the third of these elements of the programme over the summer of 1992, while IPM undertook the other two elements and coordinated the whole project. The findings are reported in IPM (1993).

The case studies were undertaken in 15 organisations during the summer of 1992, drawn from different sectors, size bands of employer and regions throughout the United Kingdom. These organisations were chosen so as to provide a diverse mix of experiences, and not just those cases which were known as exemplars in the quality field.

A variety of research methods were employed in order to obtain data from each organisation. This included the collection of documentary information both from published and internal reports, and interviews with a range of staff from different functions, including the Chief Executive/General Manager in most cases, as well as line managers, personnel practitioners and (as appropriate) trade union representatives. We interviewed around ten people in each organisation of whom the vast majority were not personnel practitioners. In the next section we draw upon the research findings from three cases to illustrate the issues relating to TQM and the management of human resources. These cases are drawn from manufacturing which is appropriate since this is seen both as the best testbed for TQM initiatives and also in so far as manufacturing companies are usually regarded as the 'mainstream' companies for HRM (Storey, 1992). Hence manufacturing provides a good basis to examine the interrelationship between TQM and HRM and our three cases are chosen to reflect quite different patterns of existing HRM within manufacturing — namely those of the automotive components supplier industry, electronics and chemical industries. This, therefore provides quite different starting points and contexts for the development of TQM.

THE CASE STUDIES

Electron

Electron is part of a large Japanese-owned multidivisional company. The factory is the sole producer of the company's portable digital oscilloscopes. The company operates in a highly competitive market with business to business sales, and customers include major international companies. All but 10% of its products are exported. Its main competitors include Hewlett Packard and Tektronic. The company operates a worldwide direct order entry system, which downloads orders overnight from Electron sales offices to the sites own order book. Ordered products are shipped directly to the customer from the factory ready for use. The company employs some 200 workers at the site, which is over 100 less than a year ago. About one-third of the workforce are graduates or graduate equivalents. There is a recognised union but this is for grievance and disciplinary issues only. Union membership has steadily declined over the course of the 1980s from 30% to around 10% today. There is an Employee Council which meets on an ad hoc basis to discuss non-substantive issues and to share information.

The quality initiative originated in 1989 when developments in "quality" in the manufacturing area meant they were beginning to come into conflict with other departments. In particular the company had a very segmented/departmentalised approach to its manufacturing process. Second, market research found that the perception of Electron was still shaped by its early history, and it had a "cheap and cheerful" reputation. At the same time, a customer survey found that quality issues, such as reliability, support, warranty and maintenance costs were at least as important as performance and technical specification. Finally, a particular incident relating to a converter proNem resulted in a considerable amount of cost in recall and re-work activities.

A visit by the MD to a number of suppliers convinced him that TQM was required as a vehicle for organisational change. From an early stage, HR aspects were identified as central to the development of TQM. Electron had a number of long-serving staff who had experienced over the years a number of short-lived initiatives (including quality circles) introduced by a number of

different managers. To show his commitment the MD introduced all staff (then over 300) on a one-to-one basis, with meetings ranging from half an hour to over two hours. It was at this stage that the MD decided to appoint the HR Director to champion TQM. This was for three main reasons. First, given that the company was stressing communication, it made sense to place responsibility within the HR function. Second, it was necessary that TQM should be seen as a much broader issue than simply quality assurance, and it was felt that the wrong message would be given if the Quality Department was given the responsibility for introduction. Third, given some conflict and friction between different departments, it was important to have 'Quality' steered by what was perceived to be a neutral body — Human Resources.

TQM was introduced and overseen by a Central Steering Committee (the Quality Improvement Team) comprising senior management and chaired by the HR Director. There are also standing teams on recognition and communication, both of which are chaired by the HR Director, and a number of Corrective Action Teams. Central to Electron's approach to facilitating employee involvement is an Error Identification Form (EIF). This report sheet can be filled in by any employee and starts with the statement, "the following is preventing me from performing error-free work". Problems that are highlighted range from bad lighting to design problems. The report is filed with the coordinator (the HR Director) who approaches either the supervisor or the QIT. The report stays in existence until the problem has been dealt with, whereupon the document is signed off by the employee who originated the enquiry. A list of outstanding EIFs is displayed on the noticeboards. There have been over 220 EIFs in less than two years, the vast majority of which have been resolved, in relation to tools and techniques, the company has chosen to use simple measure and display techniques at task level (eg late delivery, past shortages). Electron has recently achieved ISO9001 registration and moved to a Just In Time system. The latter has enabled the company to maintain its build to order policy with a ten-day manufacturing lead time.

The main benefits of TQM are seen as flatter structures and improved teamworking, particularly with the development of project teams. Prior to TQM, while design and production were organised around product families, support functions were not and as departments grew this led to greater complexity and documentation, and departmental goals came to be seen as superior to project goals. Under the new approach half the sites workforce and equipment was moved to facilitate a greater cross fertilisation of ideas. Other benefits include an increase in productivity (with less need for service engineers and quality staff), a significant percentage decrease in return of products during the warranty period, quicker payment of invoices, the maintenance of market share in a poor economic climate, the introduction of a superior warranty programme and the assurance of a worldwide delivery guarantee for any configuration of oscilloscope.

In addition to playing a central coordinating role, the HR department is also responsible for conducting all awareness training seminars — with some help from a consultant. In the early days — when it was important to demonstrate good faith and when a high proportion of the EIFs related to the physical condition of the building — the HR department was responsible for a variety of work including the installation of new floors, ceilings and air conditioning. HR issues have been at the forefront of the TQM approach: all staff have attended a two-day quality seminar, with full union cooperation. Improvement, personal responsibility, involvement and self-development are all implicit in the approach. Staff are less likely to 'go on living with problems' and the EIF provides a mechanism to address this although there has been some middle management concern that this undermines their role. Communications have also been improved with a TQ newsletter and noticeboards (updated every two weeks) to go alongside team briefing. Together with the EIFs, these appear to have reduced collective activity through the union. Finally, performance appraisal now gives greater emphasis to quality and employees willingness to change, and the recognition team is responsible for a variety of prizes, badges and certificates.

Photochem

Photochem is part of a large U.S.-owned organisation with interests in a wide range of areas connected with paper products. The company was acquired in 1989, having previously been part of a major European firm for the past twenty years. The head office and sole U.K. manufacturing

site of Photochem is located about 20 miles south of Manchester, but there are sister plants within the division elsewhere in Europe. It is a market leader in monochrome photographic products and equipment, selling on a worldwide basis.

The site now employs approximately 1,150 people — which is less than half that of a decade ago — of which about two-thirds work in manufacturing, and there is also a substantial R&D presence on site (most of whom are graduates). Several trade unions are recognised for collective bargaining purposes, and there are high levels of membership both among the chemical process operators and research staff. In 1992, there was a move to single table bargaining, although the unions have collaborated (together and with management) on several projects in the past — notably a major reorganisation of the payment system. The main union convenor has taken a leading role in these developments.

The seeds of the quality improvement process were first sown in 1985, with a Deming quality initiative. This was supplemented by a raft of training programmes which covered all managers in a short period of time, but which ultimately failed to generate any significant changes in culture. Accordingly, the Board decided to adopt a different approach, to focus more on organisational change, and to build their own customised route to TQM. This was an altogether slower process, and ISO9001 registration has only recently been achieved for some business on site; and it is anticipated that there will be site-wide registration by the middle of 1993. Product and service quality has been a dominant theme at the company for years, and senior management did not see registration as anything more than a recognition of past achievements. The 'people-focus' on the journey to TQM has been especially apparent through a major change programme which started in 1989.

The major objectives of TQM are to improve competitive advantage, product and service quality, and market share, as well as reduce defects. All of the technical objectives have been very closely integrated with a massive attempt to adjust organisation culture. The company has all the usual sets of quality policy manuals, committees and improvement teams, as well as a focus on quality in the mission and vision statements. The quality improvement process is facilitated by the Head of R&D (a Board Member), and there is a Quality Assurance Manager at the next tier in the hierarchy. The Board meets monthly specifically to focus on quality (through the Quality Improvement Steering Committee) in sessions which last for half a day. It is felt that TQM has produced clear benefits for the company — such as a massive reduction in customer complaints and a substantial decline in the costs of failure. A reduction in the number of grades and layers in the hierarchy has also taken place. In addition, there has been positive feedback from the three-day TQM courses which the company runs for employees (including those from the shopfloor). At the same time, a reluctance to change has been identified among some employees, some of the unions (especially the full-time Officials and the craft stewards) have been sceptical about TQM, and sections of the supervisors are anxious about the implications of TQM. Some employees expressed their doubts about TQM following a recent round of redundancies, with the view that "the first person to be made redundant last year was Deming!"

There is little doubt that the HR function (and especially its Director) has played a sizeable part in the quality process. It is well-respected by the Managing Director, who referred to HR as "helping to create an organisation culture and framework in which TQM is possible", by unlocking some of the barriers between people and departments, and he sees HR as "managing for the future rather than the present". Incidentally, HR now conducts its own audit of internal customers, asking other managers and employees to rate the performance of individuals as well as the function as a whole. A measure of its success is the recognition by the quality manager that "HR provides the engine of change" (in an adaptation of the Oakland model), and the fact that HR people have received more nominations than any other department for the company's internal Quality Supplier Award. The HR ethos at the company can be characterised as progressive, with considerable investment in training, moves to further harmonisation and well-developed employee involvement schemes.

The influence of HR can be seen at all stages of the quality process, from instigation through to

implementation. Its strategic influence is apparent through a place on the Board, the Quality Improvement Steering Committee (the chosen route to quality with a great emphasis on people type aspects), and in membership of multifunctional teams which are driving through the next series of projects. The Board is committed to maintaining progress from the top by stimulating an internal evaluation against the Malcolm Baldrige National Quality Award criteria. The HR Director is responsible for leading the examination of HRM under Category 4 of the Baldrige criteria entitled ' Human Resource Development and Management' , but his team comprises managers drawn from manufacturing, engineering, R&D, and marketing. Equally, senior members of the HR function are joining teams to evaluate performance under the other categories.

HR people and practices have also played a key role in implementing TQM (at times under the banner of IMPACT), especially with regard to communications. The bi-monthly site newspaper was used to communicate to everybody the success of ISO9001, for example. Teamworking is well-developed at all levels in the organisation, and some of the manual workers have been involved in teamworking/ problem-solving sessions within their plants. There have been a number of attitude surveys during the last few years. The training system is highly developed, with one section of the TQM Manual devoted to Photochem's training and development policy. All process operators use Statistical Process Control (SPC), and there has been a three-day workshop on TQM which has now covered all managerial, supervisory and administrative employees. The decision to ' work with' the stewards in introducing change has also meant that HR people have played a major part in adapting the culture of the site as well as liaising with employee representatives on an ongoing basis.

Carcoin

Carcom is a supplier of automotive safety components including seat belt restraints and air bags which is located on two sites in Northern Ireland. The company was originally American owned but after a joint- venture with a Japanese partner in the late 1980s it was eventually bought out by the latter. The market is currently in decline because of the recession in the motor industry, but ultimately the company is aiming for 30% of the market and to be the leading seat belt supplier in Europe. The company employs over 700 staff, around only two-thirds of those employed three years ago and there has been a considerable number of redundancies which have been nearly all handled on a voluntary basis. Two main unions are recognised with 100% membership for hourly paid workers.

The quality initiative began in 1988/1989 with a five year plan based on the Kaizen philosophy, this concept having been picked up from the Japanese partner. This was driven by senior management in response to what they saw as increasing customer demand and operating considerations. The achievement of ISO9001 registration in 1990 brought together processes carried out by departments which had previously been undertaken in isolation and the company won an award for quality in the same year. The company is now focusing on Kaizen with the principles of improvement, customer delight, system focus and participation. A range of quality management tools and techniques are used including Statistical Process Control (SPC), the seven basic quality control tools and Failure Mode and Effects Analysis (FMEA). A TQM steering committee is responsible for overall direction but there is also a further steering committee to oversee implementation of the quality improvement teams as well as a full-time coordinator. These are teams of shopfloor operators based on natural workgroups, with their first line supervisor as team leader, and these tend to focus on product problems and environmental issues (eg working conditions). In contrast, Kaizen teams focus on process improvements (eg die change) and comprise middle management, engineers and line operators. In addition, problem- solving workgroups are established in response to customer concerns (eg warranty claims) and comprise section managers, coordinators, quality and product engineers.

Senior managers stress that a long-term approach is now being taken which is in contrast to some of the programmes in the early 1980s. These former piecemeal initiatives included quality circles which had been characterised by considerable changes in personnel with a number of champions having moved on leaving behind a flagging initiative. Such programmes were short-lived and

lacked cohesion. In contrast, the company is now taking time to get the processes right and providing a central focus through quality for change. Cultural change is the aim but it is recognised that only incremental progress can be achieved and that a supportive attitude is required from management. Thus, Quality Improvement Team (QIT) members are given extensive training and encouraged to tackle problems which give early success and build teamwork, rather than put pressure on teams to deliver immediately on big issues.

While it is still early days, the initiative is already felt to have had a major impact. The management structure has been reduced by one layer, shopfloor layout has been improved and scrap rates, stock, work- in-progress and inspection times have been reduced, so too have the number of inspectors whose role is now seen as one of analysts. Employees' response to these changes has generally been positive, and the company has spent considerable effort in relating " quality" directly to employees' work particularly through the use of measures which are displayed adjacent to the work station and maintained by staff themselves. The unions were assured that there would not be job losses as a result of Kaizen although they continue to have concerns about this and also raise the issue of payment for changes in job roles — particularly in relation to SPC. The company has adopted an open information policy to foster greater trust in the workplace and business-related issues are given greater prominence at the joint works committee meetings. Management also believe that the quality initiative has led to a reduction in union influence, although this was not an original objective.

The HR function has emerged from a welfare to a more strategic role in recent years. This has been assisted by an MD who is regarded as a " people' s person" claiming that " you can' t divorce people from quality" and also because of the appointment of a Personnel Director to the Board together with a new Industrial Relations Manager. This has broadened the role of HR and enhanced its status. The appointment of a Training Manager was significant since under the previous regime little off-the-job training was conducted. Training budgets have actually increased in volume and monetary terms despite the company' s recently recorded trading losses. Recruitment and selection is becoming more sophisticated as the company wish to identify teamworkers.

The links between HR and Quality were made explicitly to the MD — " we cannot separate HR from TQM, and without HR the Quality Improvement Programme (QIP) will not work effectively." In addition to the issues mentioned above, HR was also seen as being important in building the people aspect into the strategic quality planning process, addressing the problem of absenteeism, and supporting line management by helping to change employees' attitudes/organisational culture. In addition, HR has provided appropriate training programmes for quality in which there has been considerable investment in time and resources, it has counselled the mentors to the QIT, and ensured that managers communicate with staff by providing advice on the best means of doing this. Quality principles are also being developed in relation to the HR function, with specific targets being set (eg absenteeism) as well as more general aims (eg on training).

DISCUSSION: HUMAN RESOURCE POLICIES AND PRACTICES

In this section, we draw out a number of issues from the three case studies and discuss the implications of TQM for the management of human resources and in particular for the role of the Personnel Function.

The question of ' fit' between the ' hard' and ' soft' side of TQM requires a re-examination of existing human resources policies. (see Wilkinson, 1994). Clearly the HR policies must be consistent with and reflect the Quality Policy of the organisation, so that different and contradictory messages are not being disseminated by management.

There are a number of critical human resources issues arising from the three cases:

1. Education and communication Each of our case study companies had placed great emphasis on this; through a variety of vehicles — videos, briefing, magazines, newsletters

and noticeboards, etc. so as to promulgate and reinforce the quality message. As Ishikawa (1985) says — “ Quality begins and ends with education ” .

However, the evidence suggests that it is inadequate for senior management to express their commitment solely through communicating vision and mission statements. The “ levers ” at the disposal of the Personnel Department may be more powerful in providing clear messages of change and taking this message beyond the talking stage. We find our companies supporting the quality message through the adaptation of personnel practices and the development of new communications channels between management and non-managerial employees.

2. **Selection** In our cases there is some evidence that TQM has had an effect on selection procedures. At Carcom for example, more sophisticated recruitment and selection techniques were being introduced, including psychometric and aptitude tests and assessment centres in an attempt to identify teamworkers appropriate to a quality culture. The careful recruitment and selection of workers also characterises many Japanese companies which have established plants in the United Kingdom and want to facilitate the appropriate “ culture ” . Aptitude tests are also being used at Photochem when considering which of the current staff might be moved into “ new ” plants (that is, those with new and more sophisticated technology) within the major European manufacturing site.
3. **Appraisal** Deblieux (1991) argues that performance appraisal has a key role to play as a primary tool to communicate to managers whether quality standards are being met. Furthermore, under TQM the customer — internal or external — is regarded as supreme and it thus seems a logical step to include customer evaluation of managerial performance in their overall appraisal (Snape, Redman & Bamber, 1994). In our cases, companies were reassessing their appraisal systems to incorporate quality criteria so as to reinforce the critical importance of the “ quality ” message. This is a prime area in which the gap between the broad organisational philosophy (eg “ quality is king ”) and managerial practices/systems (eg people are not appraised on the basis of quality) can be most easily observed. Any contradiction between espoused policies and operational reality can easily lead to employee cynicism and frustration.
4. **Training** Technical training (tools and techniques) predominates in TQM texts but there is less emphasis on the necessary soft skills (eg teamwork) which may also be required. An increased emphasis on both types of training was apparent in each of our case studies. The case of Carcom, in particular, illustrates that training can be seen as a key litmus test of management commitment to developing employees. Training had increased in volume despite the business losses incurred and the appointment of a training officer was also seen as significant. Similarly, at Photochem, the HR department had recently initiated training sessions which — at least in part — was geared up to improving interpersonal and teamworking skills. The recent Institute of Management survey found a strong relationship between an individual manager’s assessment of the adequacy of training and the degree of success of the quality management programme (Wilkinson et al, 1993).
5. **Recognition** It seems likely that companies will abandon pay policies which reward sheer volume of output. The evidence from Incomes Data Study Survey 492 suggested that, although many companies have tried to foster a quality culture, not many had tried to embody this in their payment systems. The quality management literature assumes employees are keen to participate in the pursuit of quality improvements with little concern for extrinsic reward. Of course, one reason for this could be that managements believe that the continuous improvement of quality is a part of employees’ routine work, and hence should not be rewarded. Furthermore, popular schemes such as performance-related pay may, at the individual level, militate against the ideas of cooperation and teamwork espoused by TQM. At the time of the research, management and unions, supervisors and their teams were involved in a wide-ranging exercise to consider a shift towards some kind of performance-related pay scheme. None of the three case study companies had as yet

changed existing payment policies although none of them operated piece-rate systems. Other types of recognition such as prizes and awards were also being considered and had been introduced at Electron.

6. Other personnel policies like single status may be important in providing some underpinning for the "call to arms" in terms of introducing TQM for the corporate good. This would certainly be consistent with the ideas of Deming. Clearly visible senior management commitment is crucial. Thus at Electron, the interviewing of all staff on a one-to-one basis by the MD clearly marked off the quality initiative from past fads.
7. Employee Involvement can take a wide variety of forms, ranging from direct downward communication from managers to other employees or the seeking of employee opinions via problem-solving groups through to high-level meetings between directors and trade union representatives on Works Councils or Company Boards. The subject matter equally can vary from the mundane to the strategic, focusing on social and sports items through to high-level financial and commercial information. The article by Wilkinson et al (1992) differentiates between employee involvement defined as:
 1. education, communications, customer care, as in all the case organisations.
 2. amended job responsibilities, hierarchically and at the same skill level, as at Photochem.
 3. problem solving and the tapping of employee opinion, as at Electron.

Even though these are not radical in orientation, their successful operation depends to a large extent on the climate within which they are introduced, the motives and abilities of managers to make them work, and their primacy in relation to other organisational goals and objectives. The most innovative approach in our case studies could be seen at Electron where the Error Identification Form proved a powerful tool for both involving staff and, because of the visible allocation of responsibility, for getting things done.

8. Industrial Relations TQM seems to require wholesale organisational changes and a re-examination of production/operations methods and working practices and this has implications for industrial relations. The literature suggests that persuading workers to take responsibility for quality assurance and improvement and adjusting traditional job roles requires little more than a dose of motivation and training. However, these are issues which (certainly in the manufacturing sector) involve questions of job control and working practices and possibly compensation as well. At Photochem, for example, a decision was made to 'work with' the stewards in introducing change rather than ignoring or passing them. Industrial relations considerations may also be important where TQM is associated with a programme of job losses and work intensification. Furthermore, trade unions may be concerned that TQM would marginalise the union as a communications channel, as at Electron and Carcom, at the same time strengthening the sense of commitment to what might be seen as 'managerial' objectives.

All this raises the question of the role of the Personnel Department. Recognition of the significance of HR issues in principle is by itself inadequate. In her classic work Legge (1978) pointed out that:

non-specialists, while formally recognising the importance of effectively utilising human resources, lacking as they did the expertise to develop a systematic view of what this entailed in terms of personnel strategies and actions, in practice tended to underestimate the importance of the human resource variable in decision making on issues that were not explicitly personnel management.

Hence, a personnel contribution is crucial to all full consideration of HR issues. Thus, Giles and Williams (1991) suggest that TQM could either be a heaven sent opportunity for the Personnel Functions (because of the human resource implications of TQM) or alternatively actually lead to a

diminishment of the function since such issues are deemed to be too important to be left to Personnel! Yet as they rightly point out Personnel people have much to offer quality management. They are guardians of key processes such as selection, appraisal, training and reward systems, which get right to the heart of achieving strategic change. Given conflict and friction between different departments as at Electron, Personnel also has the advantage of being seen as a 'neutral' function and has a better chance of driving change forward in a less divisive way with fewer political wranglings. The Personnel Function played a central role in all three case studies by helping to develop and shape TQM. At Electron and Photochem the Personnel Function held most responsibility for driving TQM, whilst at Carcom it played more of a facilitating role.

CONCLUSIONS

There is growing evidence that TQM is unlikely to achieve its objectives unless there is a greater awareness of the 'people' factors in quality management (Wilkinson, 1994). However logical a strategy and the tools which are employed to put into effect, nothing will be achieved if the people-side of the equation is not properly addressed. Although writers and organisations often refer to the 'human factors', this is rarely treated at anything more than a superficial level: the need for more training, better communications, empowerment of staff, open management styles and so on.

This paper has examined the growing development of TQM in the United Kingdom and its linkages to the management of human resources. We found that there was a growing emphasis on the HR aspect of TQM and associated with this, much greater and growing involvement by Personnel departments. Yet we also found diversity in the role which was being played and it is therefore inappropriate to produce some simple prescription for all Personnel Managers to follow in order to enhance their contribution to TQM, and increase the likelihood of continuous quality improvement. Much, of course, depends upon the kind of organisation in which Personnel is operating, its status and influence, and the resources at its disposal.

However it is now being suggested that TQM cannot achieve its objectives without a more explicit contribution from the Human Resource Function. This can occur at several phases of development. First, HR practitioners may play a creative role at the shaping stage of TQM, for example by designing and delivering senior management development courses or reviewing current organisational cultures. Second, HR can contribute at the introduction phase by designing communications events to publicise the launch of TQM or assisting the Board to produce mission statements. Third, assistance can be provided to maintain and reinforce TQM by identifying ways in which to recognise and reward achievements, or redesigning suggestions schemes. Fourth, HR practitioners have a role to play in reviewing TQM, by designing attitude surveys and analysing their results.

It is not assumed that the more of these which are undertaken the better. Indeed, employing such a strategy might result in poorer performance because resources are spread too thinly or the function comes to be seen as the purveyor of the latest fads and fashions which are irrelevant for organisational needs. The key question must be how the function can continually improve its contribution to quality management initiatives and organisational success.

REFERENCES

- Crosby, P.B., (1979), *Quality is Free*, McGraw-Hill, New York.
- Cruise O' Brien R. & Voss C., (1992), *In Search of Quality*. London Business School Working Paper.
- Dale B.C. & Plunkett J.J., (1990), *Managing Quality*, Phillip Allan, Herts.
- Dale B.C. & Cooper C.L., (1992), *Total Quality Management and Human Resources: An Executive Guide*, Basil Blackwell, Oxford.
- Dale B.C. & Plunkett J.J., (1994), *Quality Costing* (2nd edition), Chapman and Hall, London.

- Deblieux M., (1991), Performance Reviews Support the Quest for Quality, *HR Focus*, November, pp. 3-4.
- Deming, W.E., (1986), *Out of the Crisis*, MIT Centre for Advanced Engineering Study, Cambridge; Mass.
- Feigenbaum, A.V., (1983), *Total Quality Control* (3rd edition), McGraw-Hill, New York.
- Giles E. & Williams, R., (1991), Can the Personnel Department Survive Quality Management?, *Personnel Management*, April, pp. 28-33.
- Hill S., (1991), Why Quality Circles Failed but Total Quality Might Succeed, *British Journal of Industrial Relations*, 29, 4, pp. 541-568.
- Incomes Data Services Limited (1991) *Bonus Schemes Study No 492* October.
- Institute of Personnel Management, (1993), *Quality, People Management Matters*, IPM, London.
- Ishikawa K., (1985), (translated by D.J. Lu) *What is Total Quality Control? The Japanese Way*, Prentice Hall, Englewood Cliff.
- Juran J.M., (1965), *Managerial Breakthrough*, McGraw-Hill, New York.
- Kearney, A.T., (1992), *Total Quality — Time to Take Off the Rose-Tinted Spectacles*, IFS Publications, London.
- Legge, K., (1978), *Power, Innovation and Problem Solving in Problem Management*, McGraw-Hill, London.
- Marchington M., Wilkinson A. & Dale B.C., (1993), Quality and the Human Resource Dimension: The case study report in *Quality, People Management Matters*, IPM, London.
- Miller, C., (1992), TQM value criticised in New Report, *American Marketing Association Journal*, 9 November, p. 16.
- Oakland J., (1989), *Total Quality Management*, Heinemann, London.
- Plowman, B., (1990), Management Behaviour, *The TQM Magazine*, 2, 4, pp. 217-219.
- Snape, E., Redman, T. & Bamber, C., (1994), *Managing Managers*, Basil Blackwell, Oxford.
- Storey, J., (1992), *Developments in the management of human resources*, Basil Blackwell, Oxford.
- The Economist Intelligence Unit, (1992), *Making Quality Work, Lessons from Europe's Leading Companies*, London.
- Wheatley, M., (1991), *The Future of Middle Management*, British Institute of Management, London.
- Wilkinson A., (1992), The Other Side of Quality: Soft Issues and the Human Resource Dimension, *Total Quality Management*, 3, 3, pp. 323-329.
- Wilkinson A., (1994), Managing Human Resources for Quality in B.C. Dale (Eds) *Managing Quality* (2nd Edition), Prentice Hall, Hemel Hempstead.
- Wilkinson A., Allen P. & Snape F., (1991), TQM and the Management of Labour, *Employee Relations*, 13, 1, pp. 24-31.
- Wilkinson, A. & Witcher, B., (1991), Fitness For Use? Barriers to Full TQM in the UK, *Management Decision*, 29, 8, pp. 46-51.
- Wilkinson A., Marchington M., Ackers P. & Goodman J., (1992), Total Quality Management and Employee Involvement, *Human Resource Management Journal*, 2, 3, Summer, pp. 1-20.