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HUMAN RESOURCES AND TRAINING - THE
CORE OF QUALITY IMPROVEMENT
INITIATIVES

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ABSTRACT

This paper discusses the importance of human resources and training as part of a quality management program and presents a ten steps approach to training. In discussing this, the authors reflect on the experience of several Australian companies and how each addressed the various issues.

Keywords

Human Resources, Training, Quality Management, Australia

HUMAN RESOURCES AND TRAINING - THE CORE OF QUALITY IMPROVEMENT INITIATIVES

INTRODUCTION

Many organisations are now assessing their human resources, and technical systems in terms of their contribution to obtaining a competitive advantage. Human resources particularly have yielded enormous advantage to organisations because it is the only resource competitors cannot copy (Evans and Lindsay, 1996; Brown, 1995). But having recognised this fundamental truth, organisations often falter on the next step - developing a system for consistently and effectively utilising this potential, given the mercurial environments in which organisations operate. Internally, companies can be impacted upon by a number of factors including flatter organisation structures (either due to downsizing or delayering), and an increased emphasis on multi-skilling, productivity, quality and the use of advanced manufacturing/information technologies. Externally, pressures from customers, competitors, and the increasing globalisation of businesses can all impact to varying degrees on an organisation. How the organisation responds to these pressures will decide its future, and people are central to this response.

This paper discusses one method for integrating human resources and training into a TQM program. The paper first establishes the importance of people and training based on a review and synthesis of the literature. Then, a ten step approach to training is presented which is illustrated with case examples gleaned from four Australian organisations which are being examined as part of an ongoing TQM program in Quality Management. Each of these organisations (for reasons of confidentiality we refer to these companies as "Company A", "Company B", "Company C" and "Company D") have had reasonable success in introducing TQM, and the authors, in discussing the ten steps approach, reflect on the experience of these companies and how each addressed the various issues.

PEOPLE - A COMMON ELEMENT OF ANY QUALITY INITIATIVE

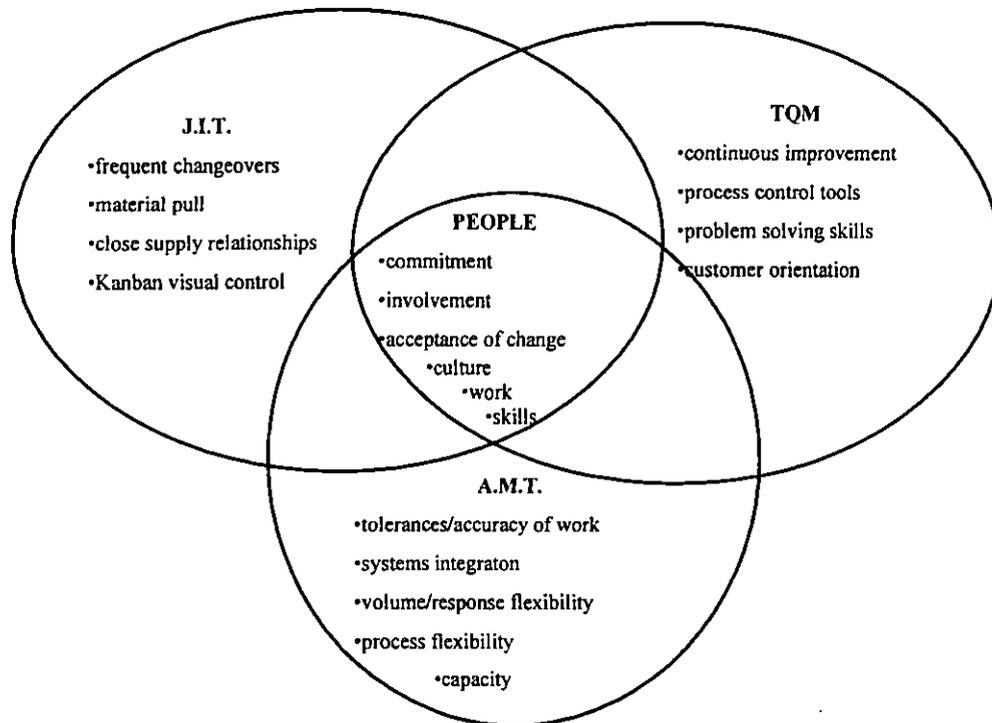
It is now generally recognised that because people are the most variable of all the factors, and the least easy to understand and control of all management resources, effective utilisation of their potential can provide the company with the unique ability to adapt to an ever-changing environment.

The importance of people is represented in Figure 1, which demonstrates that people are the core element and common to any change initiative.

The Ernst and Young /American Quality Foundation study (1991) which focused on the quality management practices of 500 companies on three continents, found employee involvement was one of ten practices with significant impact on overall business strategy. However, it seems the business world has been lagging behind authors, academics, and researchers who, over the years offered a variety of studies recognising human resource management as a critical factor in the management of quality (Saraph, Benson and Schroeder, 1989).

In fact quality gurus such as Deming, Ishikawa, and Crosby have preached this message for the last 20 years. Deming's prescription for effective employee participation and teamwork was the removal of all barriers, and the elimination of numerical goals and quotas for employees. He advocated effective communication between supervisors and employees, and company wide training and education (Deming, 1986).

Figure 1



Adapted from Samson, Sohal, and Ramsay (1993)

Ishikawa (1976), who has been a leader in stressing employee participation and quality circles, advocated training for supervisors and employees to improve quality. Crosby (1979) focused on people-oriented issues in quality management such as employee participation, while Leonard and Sasser (1982) identified that a quality management lever was management's ability to encourage open participation by employees in quality improvement, emphasise employee training and development, and hire managers with a high level of personal concern for quality.

The study by Saraph et al (1989) found that employee involvement and specifically employee training were two of eight critical factors for effective quality management (the other six were management leadership, role of the quality department, product and service design, supplier quality management, process management, and quality data and reporting).

Deming (1986) had earlier pointed out that when the decision makers of organisations focused on these critical factors, improvements would occur in quality performance and ultimately result in improved financial performance for the organisation.

Employee/management relations have traditionally been considered adversarial, based on an "us and them" approach. However, the total quality management focus has changed the role of human resource management by emphasising that all employees have a responsibility for quality because they help an organisation meet its customers needs (Ishikawa, 1985; Wilkinson, 1992; Evans and Lindsay, 1996). The TQM and the traditional approach to human resources is highlighted in Table 1.

People issues therefore are now being considered at all levels of the organisation and questions such as: Do our people match our organisation's needs to compete in the next decade? And Is there a unity of purpose and urgency for continuous improvement? are now being asked. This highlights that more companies are integrating their human resource activities into their overall business and quality plans. Although reluctant to state there is a causal relationship between strategic human resource management and the success of a

company, Miner and Crane (1995) reported a high correlation. Their study of four large, complex and successful companies revealed the following: human resource management can be a powerful tool to enhance competitiveness when policies and practices are logically driven by a firm's strategy and by the key environmental factors it faces; the companies studied carried out their staffing, training, and development functions in a way that supported each organisation's major business strategy; competitiveness of the firm was enhanced by the way that the formal human resource policies were implemented.

Table 1: Characteristics of Philosophical Positions Source: Adapted from Evans & Lindsay, 1996.

	TQM/HRM Approach	Traditional HRM
Philosophy	Share responsibility, commitment, rewards	Fair day's work for a fair days pay
Business Objectives	Increased quality, productivity, customer satisfaction, employee satisfaction, and loyalty	Increased productivity, profitability, quality is secondary, focus on labour
Quality Objectives	Total quality management and continuous improvement at and across every level	Adequate quality to remain in business. staff driven approaches to quality improvement
Business Information Sharing	Open books - share broad information on profits, productivity, quality, costs, capital spending plans	Limited to information on an as needed basis for job performance
Major shareholders	Customers, all employees, stockholders	Managers, stockholders, customers, employees
Employee involvement	Extensive, within and between levels and functions, "way of life"	Programs - suggestions, plans, individual employee awards; usually no formal system
Education and training	Quality and economic education; multiple skill training; problem solving and group process skills	On the job training; feedback on job performance
Reward structure	Designed and adjusted by management-employee committee; formal; early union involvement (if relevant)	Management designed and administered
Job security	Formal commitment; a key consideration in all decisions	Labour as a variable cost, layoffs common during business downturns

"People" consists of customers, suppliers, and employees and can be considered the three golden geese for any business. By keeping each group satisfied, the organisation will keep laying the golden eggs. All too often though organisations focus only on one or two, without considering the third (Coulthard, Howell and Clarke, 1996).

The following questions gives a quick indication as to whether the organisation is keeping employees satisfied or not:

- Are there recognisable quality deficiencies in the organisation?
- Is the work force displaying signs of inflexibility?

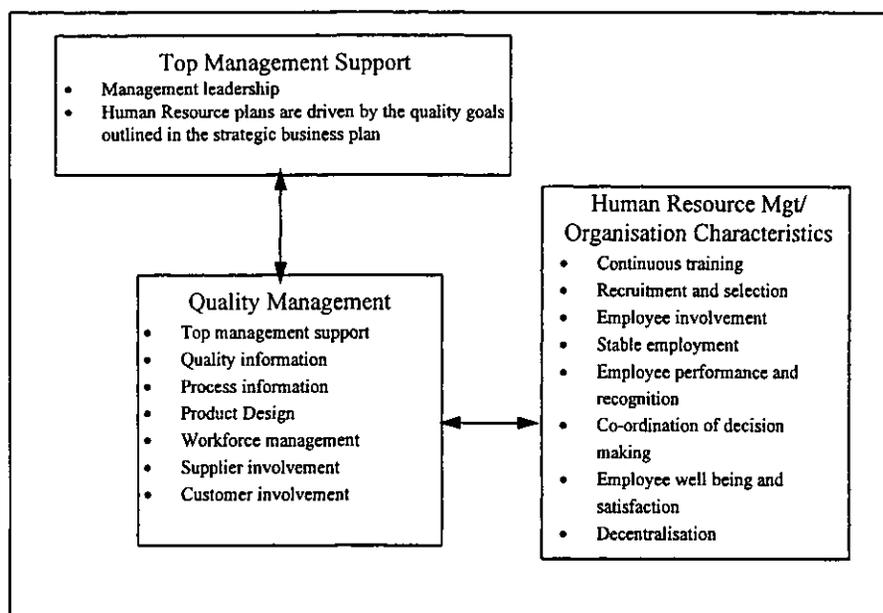
- Are managers disappointed at the employees' lack of commitment to quality?
- Are absenteeism and turnover rates higher than normal?

If the answer was yes to more than one of these questions, the implementation of a planned approach to quality and job specific training is one of the most effective solutions.

Planned Approach to Training

If quality is one of the key ways for an organisation to establish a competitive advantage, then training is the base upon which this competitive advantage is built - but only if it is linked to the organisation's business plan, goals and objectives (Parry, 1991). The importance of training is highlighted in Figure 2, in the HRM and TQM framework. It has a high priority for organisations in keeping focus on their employees and addressing their needs in the context of quality management and organisational objectives.

Figure 2 : Human Resources and TQM



Adapted from the Relationship of Quality Management to Dimensions of World Class Manufacturing (Flynn, Schroeder, and Sakakibara, 1994)

Samson and Terziovski (1993) support the emphasis given to training saying it is vital to the internal diffusion of quality ideas and practices, without which there can be no solid foundation for a formal quality program. Adam, Hershauer and Ruch (1981), Garvin (1983, 1984), Juran (1981a, 1981b), and Mondon (1982) also identified training as a critical factor.

Because quality management practices invariably depart from the traditional work procedures and attitudes, employees require considerable retraining. For example, implementation of the Just in Time (JIT) practice necessitates training employees to complete various tasks. As inventory buffers decline with the implementation of JIT, there is no room for labour specialisation. Instead, an integrated manufacturing process requires workers to be provided with the skills to perform multiple tasks and co-ordinate activities (Banker, Potter, and Schroeder, 1993).

Another example is the philosophy of continuous improvement. The key to continuous improvement is the process innovations created and implemented by employees. Continuous improvement requires continuous training (Schonberger, 1986). Gunasekaran, Korukonda, and Yli-Olli (1994) also point to recent trends in

manufacturing, automation (FMS, CIM) and quality management (TQM, QFD, SPC) which has highlighted the need for highly trained personnel.

10 STEP APPROACH TO TRAINING

Having established the importance of employee involvement and specifically training in quality management, organisations need to focus on how to train people to keep them motivated to pursue quality improvements. The “how to” approach can be divided into three major areas including planning, delivery and evaluation (see Table 2).

Table 2: Ten Step Approach to Training

Planning	<ol style="list-style-type: none"> 1. Identify the organisation’s mission and quality objectives, and quality training needs 2. Determine the activities required of employees to achieve the quality objectives 3. Analyse and list the competencies (knowledge, attitudes and skills) needed by employees in order to produce workplace behaviours that result in improved quality 4. Identify the quality gaps 5. Explore ways to close the quality gaps
Delivery	<ol style="list-style-type: none"> 6. Design, develop or select and deliver the necessary quality training 7. Establish a system for maintaining the desired quality performance after training by strengthening reinforcers of learning and minimising constraints
Evaluation	<ol style="list-style-type: none"> 8. Evaluate the impact of quality training 9. Revise and fine tune the quality training if necessary 10. Give feedback

Source: Adapted from Parry, 1991.

Planning

Many organisations will already be aware of the need for planning which occurs everyday at all levels within business. However planning for quality is never easy. Organisations go down the quality path not understanding what the commitment to quality actually means. This relates into a number of “false starts” which later can severely impede the organisation’s adoption of quality.

Employees tend to regard any new quality initiatives as “flavour of the month”, and based on previous results, lose interest. A strategic focus to planning is the vital first step. According to Rao et al. (1996) organisations need to ask the following questions:

- is a quality program appropriate (ie. is the company stable and looking long term to improve performance)?
- what goals and what programs are involved (clarity at the formulation stage will assist with implementation at a later stage)
- how should the quality program be initiated?

The 10 step approach is now evaluated in detail; assuming a quality program is appropriate for the organisation. It is necessary to reference back to the organisation's vision and mission statements as a starting point.

Step One: Identify the organisation's mission and quality objectives, and quality training needs.

The organisation's mission defines the business and is a statement of how the organisation will achieve its vision through its customers, employees, products, services, markets and philosophy. Company A's vision is (Company A designs, manufactures, tests, installs, and services a range of electric transformers in Australia and overseas):

- to be a customer focused, innovative, people oriented company specialising in the transformer and related markets;
- to be a successful multi-divisional company with operations in Australia and Asia;
- to have lean, hungry and focused divisions;
- to be a company whose products and services are recognised by the market as first choice for quality, value and delivery.

Company A's quality policy identifies its mission is to "satisfy customers' needs and expectations by providing expertise in the marketing, development, engineering, manufacture, testing, supply of transformers and related products and services". However the central theme is "getting it right the first time".

According to Coulthard, et al (1996), once the groundwork has been laid, the organisation needs to establish some quality objectives, which typically may include:

- establish a quality plan for each department within 12 months
- achieve ISO 9000 within two years
- appoint a Quality Manager to facilitate the quality assurance program
- begin documenting the system and procedures
- investigate and report on the various tools of quality to determine usage internally
- ensure all staff undertake a "Dealing with Customers" course within 12 months
- begin a waste minimisation program by reviewing raw materials waste, time utilisation, stock inventory, and spoilt work; etc.

It is important to remember that employee commitment to a quality management system will depend on employee acceptance of the quality objectives as legitimate (Thurley and Wirdenius, 1989).

But Company B's (a large manufacturer of electronic equipment and communications equipment) experience suggests quality objective setting can be overdone. "We set goals for what would be within the mission statement, and then continuously cascaded the plans and processes down to employees. We absolutely went mad with the number of measurements we had in place, and many of them were not thought out - it was just that we had to measure this and that, which was a reaction to our previous condition when we weren't measuring anything" (National Training and Development Manager).

In 1990, Company B faced a major challenge. "We were doing everything right, except we weren't making a buck. We realised the company had to change if it was going to survive. Two key aims underpinned the improvement program: making the improvement process more visible, and getting quality in place as early as possible." (National Training and Development Manager).

Once an organisation has determined it wants to embark on a quality program, the identification of quality training needs is essential to the success of any quality program. Managers often lack the time and ability to gauge the learning needs of their employees according to Overman (1995) and do not have the background or patience to develop learning systems. Money and speed of training are key issues in training, however it is more important for training to be done at the right time.

Training will by necessity be multi-dimensional due to the "hard" and "soft" nature of TQM (Wilkinson, 1992). The hard training issues involve the production orientation of organisations and include amongst others:

- statistical process control
- quality function deployment
- changes in the layout, design processes and procedures of organisations
- just-in-time inventory control

The soft training issues include understanding the quality culture, and customer awareness - which involves both external (marketing) and internal (employee communications) focus.

Balancing both means management must be careful not to over-emphasise costs and production performance, at the expense of underlying values and recognition of the culture change necessary to achieve successful implementation of TQM. Company A ensures 10% of time spent at the work place is focused on quality training activities and there is an emphasis on ownership. The company states the quality system belongs to all associates who are responsible for the work they perform and employees are bound by the requirements of the system.

Step Two: Determine the activities required of employees as individuals and employees as part of groups to achieve the quality objectives.

Management needs to identify what it wants its employees to do in order to achieve the organisation's quality objectives. Activities may be culture driven - such as focusing responsibility for quality in the hands of those who do the work (Wilkinson, 1992); quality focused - requiring employees to participate in quality improvement teams or continuous improvement activities; or job related - such as wanting the sales representatives to gather customer feedback on the organisation's ability to meet customer needs.

Employees may be encouraged to participate in quality circles or quality teams (Flood, 1993). Company B initially had approximately 92% of its employees involved in a project or quality team, however this has now decreased to about 65%.

"This is where we differ from many other organisations - we don't maintain the teams working on solving problems just for the sake of solving problems. If there is a problem we get a group together, work on it, and solve it. If you have a group sitting around for 30 minutes a week trying to invent problems to solve, this is where your quality efforts can fail (Company B, National Training and Development Manager).

Quality circles are seen as a less successful method of increasing employee participation, probably because they became faddish and were perhaps not implemented or utilised to the best advantage (Lawler, 1992).

Self managed teams or autonomous workgroups are more appropriate for today's businesses due to downsizing and flatter management structures. Teamwork is central to TQM according to Oakland (1993) because it builds up trust, improves communications and develops interdependence. In the early stages of the quality improvement program, responsibilities should be team based rather than individually based wherever possible as this makes mistakes and risk taking easier for individuals to bear (Wilkinson, 1992). Once the organisation has inculcated quality, both team and individual contributions can be actively and simultaneously encouraged.

Step Three: Analyse and list the competencies (knowledge, attitudes and skills) needed by employees in order to achieve quality objectives.

Employees need to be made aware that quality is more than just adoption of educational activities that provides employees with a basic understanding of the subject. In order to get commitment from employees, organisations need to help them understand what quality is, how does it affect them, and what are the benefits for them. If you ask people to support quality programs, and put them into teams without giving them the knowledge, or the tools they need to measure and evaluate the quality of their work, then you can not expect 'quality' results.

Company B believes there are a number of critical steps that need to be taken when implementing a quality program. Firstly, educate the top people in the organisation about quality and what the lack of good quality is taking from the bottom line, and then find some believers and champions of the cause; secondly tell all the people why the company needs to change, and what the change it all about; thirdly undertake a training needs analysis. According to the National Training and Development Manager, the training needs analysis allowed the company to understand the gap in the skills levels of its employees. "When you start to focus on quality, you start talking about operating in teams, but if you try that in the Australian psyche, without improving the individual and giving the individual the opportunity for self development, your teams will never work."

The company benchmarked its employees in terms of basic problem solving skills, interpersonal skills, and train the trainer, "because we were about recognising that everybody has something to contribute, so you have to ensure that they are capable of communicating the message".

Examples from the literature support Company B's approach:

- The emphasis on teams and continuous improvement requires employees with skills such as teambuilding and conflict resolution, effort and commitment (Shiba, Walden, Graham, 1993)
- Managers and employees will have greater demands placed on them by TQM, at least in the interim phase, while they try to come to grips with these new concepts. Many often find themselves lacking some literacy and negotiation skills required to understand and carry out the processes. QA and TQM required them not only to be more disciplined in their paperwork but also more accountable for their actions (Stewart, 1993);
- Managers must have the knowledge (support by senior management) and skills to assist employees in overcoming fear of failure in favour of search for failure so that the causes of failure can be addressed (Wilkinson, 1992);
- Everyone must understand the company's position on costs versus quality. If senior management can support customer satisfaction ahead of profit, and market share, then this sends a clear message of the importance of quality.

Often an organisation will state it has a skilled, flexible and committed workforce but while this is given lip service, little of substance is done about it. How many times have one heard "quality is the responsibility of us all" yet this tends to remain more of a slogan than a "way of life".

Job related knowledge and skill is easier to define: it's either there or it's not, and more often than not, it can be tested. For example, employees may need to track waste in order to meet the organisation's objective of reducing waste by 5%. Although employees may have an idea of the cause of waste, they need to establish the major cause in order to eliminate it. They also need to ensure waste remains under control.

Step Four: Identify the quality gaps.

This exercise determines the difference between the organisation's interpretation of "ideal quality", and where the organisation is now. This can be done internally between departments, or externally, by benchmarking against a competitor, an industry standard, or World Best Practice.

Company C is a medium sized web offset printing company, which was selected to pilot the Australian TQM model for the Australian Organisation for Quality in 1987. Management identified reduction of print waste as one of its quality objectives, and because it was part of a multi-national publishing empire, was able to benchmark itself against a sister printing company in the USA utilising the same type of printing processes. The three shifts were given a target, which was based on their past performance (upper limit) and the results obtained from the plant in USA. (lower limit). The three shifts received training in quality and job related issues, however the results were not uniform. The night shift was unable to reduce its waste consistently, and the upper control limit was exceeded periodically showing the process was out of control. The afternoon shift managed to be consistent, but reduced their waste only marginally. The day shift had the best result, consistently coming under the target. The exercise highlighted further quality gaps and so the process began again.

Customers are often the best source of establishing where the quality gaps are. For example, an organisation in the service industry may conduct a customer satisfaction survey to measure the quality of service given by sales representatives. Ideally the organisation seeks 100 per cent of its customers to rate it 10/10 which is the established quality measure. The results however show customers perceive the organisation's quality of service offering as 5/10. This is the quality gap, or the difference between ideal quality and where the organisation is now (Bureau of Business Practice, 1991). The results force the organisation to re-evaluate its customer orientation and also start benchmarking against competitors.

By referring back to the organisation's mission statement and quality objectives, organisations can focus on possible quality gaps by asking questions such as:

- is the organisation responsive in meeting customer's needs and expectations?
- can the organisation do things better?

Step Five: Explore ways to close the quality gaps.

Once quality gaps have been identified, organisations can work on ways of closing the gaps. In the case of Company C, it was found the leading printer of the night shift crew did not supervise his crew well enough when they stripped the outer layers from the big webs of paper, which resulted in excessive waste. The crew also did not have a systematic process for a press "make ready" therefore they wasted more paper in getting good copies.

Training was used to explain the need for the improvement, and re-iterate the importance of quality at all levels. The three crews were organised into one workgroup of quality team to determine a common "make ready" process which could be applied across the board. The company initiated teambuilding coursework for the leading printers of each crew, and then provided all crew members with ongoing training in the tools and techniques required to achieve the quality objectives. Management explained they would absorb the costs incurred while the crews were learning (slower lead time and turn-around), however they expected the crews to participate and apply what they had learned in order to meet their benchmarks.

In the service organisation example mentioned earlier, management could review its service offerings in terms of cost and quality of service, and flexibility and timeliness of delivery amongst others. If customers are getting better service from a rival company which is delivering two hours earlier then the company may work toward eliminating time wasting activities, and identify improvements to the service. This could result in the company matching its competitor's service, and even exceeding customer expectations, for example by offering a 6 day a week service.

To reduce quality gaps, training can be used to:

- explain the need for improvement and create awareness of the importance of quality at all levels;
- communicate the company's vision, values, guiding principles and strategic quality tools;
- develop a common language and understanding of concepts for communicating about quality;

- help define the structure and process through which continuous improvements will take place;
- clarify responsibilities;
- provide managers and staff with the skills, knowledge, tools and techniques they need to manage and improve the quality of their work;
- build teamwork.

Delivery

Step Six: Design, develop/select and deliver the necessary quality training.

The link between awareness of quality, training and application is clear. Firstly, employees need to understand what quality means and have an appreciation that the adoption of quality will mean a fundamental change to the organisation's culture. The terms and meanings of quality also need to be understood. Organisations would be wise to compile a manual of words and meanings which is uniformly used within the organisation, and if necessary externally when dealing with customers and suppliers.

Secondly, according to Coulthard et al (1996) training in any organisation - big or small - should be:

- consistent
- undertaken by everyone, including senior management
- relevant (covering not only job specific or quality specific training but generic subjects such as safety and operations)
- timely (occurring immediately when there is a change to a process or new technology or a new product has been introduced)

The philosophy of continuous improvement can help organisations to close the quality gaps.

In August 1987, Compny D (involved in design and manufacture of electronic and electro-mechanical assembly; precision metal fabrication; plastic injection moulding; distribution; and customer support and installation) entered into a joint venture with Telecom Australia, (Telecom Technologies Pty Ltd) to jointly develop advanced telephone system technology. Due to the advent of industry deregulation and a second telecommunications industry carrier, Company D had to think about changing the workplace culture in order to become internationally competitive (Terziovski, Sohal, Samson, 1996). The adoption of the TQM philosophy was a mandatory goal for success.

Company D's starting point was to develop the TQM strategy and oversee the progress and the implementation of the various activities of the continuous improvement change process. In order to overcome the old culture barriers, all employees were empowered to make decisions on the quality of their product/service. Their aim was to satisfy their internal customer needs, and this necessitated strong emphasis on training of continuous improvement planning and tools and techniques such as SPC and project management. A staged approach was taken which started off with the basic training to more advanced training.

Company A however learned the hard way. It introduced manufacturing initiatives valued at \$250,000 in 1983 designed to improve performance and help the company achieve its aim of becoming a market leader. But it failed to address the people issues (Samson, Sohal, and Ramsay, 1993). Little was done about training and defining new job roles and tasks, appropriate resources were not made available (funds, and trained staff to support the program) and top management did not become involved. The potential gains from the new initiatives, and the support desired from the staff were not forthcoming.

The company decided to upgrade the system and in 1989 invested another \$A1 million but a working party of senior managers was set up to ensure successful implementation and ongoing training occurred. Company A budgeted \$A1.5 million toward this, and the new strategy paid off handsomely.

Most successful organisations invest heavily at the beginning of their quality programs, believing this will reap more benefits in the long run. Motorola spent \$25m in the first year on education programs to explain the TQM concepts to all employees. Quality awareness training helps develop appropriate attitudes and values relating to quality and the skills and techniques required. Brown (1993) agrees, saying the content and delivery of the training program should focus on communicating the vision of TQM, training in TQM tools, and training in job skills.

Many Asian organisations also invest heavily in training - induction, company, quality, work specific and work related. "On the job" training is the major method of learning. Supervisors can allocate anywhere from 10-50% of their time to training. Induction programs ease employees into a heightened awareness of quality, the organisation's quality efforts, and specific job skills. These types of programs can address job roles, people, machinery and safety amongst other things (Brown, 1995)

Whilst an organisation may utilise standardised quality programs such as TQM, JIT, BPR, etc. it may also have a need to develop its own unique response to quality. This has resulted in the development of a number of in-house programs to meet organisation's specific needs. For example, Company B's quality training program focuses not on "abstract quality theory", but real life case studies, depending on the level of the person being trained. "One of the things they [employees] work through, to actually learn how to work together and solve a problem, is how to improve their home budget - very basic stuff - to get them to understand the principles involved. We don't particularly mind if they don't know the jargon; we just teach them very simple systematic ways of doing things and you actually get them working on real world problems" (National Training and Development Manager).

Flynn, et al (1994) suggest this quality oriented training achieves the goal of developing workers who are flexible problem solvers. And by applying the knowledge learned and developing the competency to use the "know-how", the learning cycle is completed (Tribus, 1988). Employees can spend many hours learning about terms, work and problem solving tools, but unless training is closely coupled with application in real life situations, the effectiveness is greatly diminished.

The impact of training on quality performance has been documented empirically. Reeves (1988) found a positive relationship between total hours of training and the extent to which quality strategies were implemented by employees, while Garvin (1984) found that plants with higher quality levels provided substantially more of both quality-oriented and job-specific training.

Step Seven: Establish a system for maintaining the desired quality performance after training by strengthening reinforcers of learning and minimising constraints.

Maintaining the desired level of quality performance after training has always posed a dilemma for management. It's not enough to upgrade employee's skills, because in order to achieve your quality goals, employees must be committed to consistently meeting customers needs. (Bureau of Business Practice, 1991). Rather than establishing a "system", Company B established a culture of quality, and in the process won a major quality award. However, employees are quick to state they did nothing different to win the award, but simply continued normal practices. Senior General Manager, Corporate Services Division said the emphasis was on strengthening skills and encouraging people to be aware of what other people expect of them. "We train our people to listen and we foster a culture where the main feature is the information flow that is given. This comes through the fact that we don't mind groups of people getting together and talking about things, as there is an opportunity to put their views across".

This information flow also came from Company B's senior management. The National Training and Development Manager explained that the main business plan "had to stop being top secret" and the "profit

and loss of the organisation had to stop being a secret within the organisation". Company B set up some innovative mechanisms for enhancing the communication process such as "communication forums, vertical slide representations, and meetings at different times where it was not uncommon for the company treasurer to come along and give an account on how the company was going".

Employees at Company B advise they are happy to have been given the opportunity to make a contribution; despite the fact that the company does not give salary increases or bonuses based on contribution. The Senior General Manager, Corporate Services Division said "Keeping in mind that a team of people usually comes up with some output, then that output is pinned on the notice board. Teams are advised of the results of the project or whatever they are working on so they are quite happy to make a contribution. We don't give salary increases and we don't give bonuses. There may be a small certificate given, and they seem to appreciate a pat on the back far greater than anything else".

This supports the work of Hackman and Oldham (1980) who believed quality performance would be sustained when organisations understood:

- the need of workers to have the feeling that their work is a significant contribution to the organisation (experienced meaningfulness);
- the need of workers to be accountable for the quality and quantity of work produced (experienced responsibility);
- the need felt by all workers to know how their work is evaluated and what the results of the evaluation are (knowledge of results).

Having won a major quality award does not make Company B complacent about quality efforts, and senior management are mindful of the need to continue reinforcing the quality approach. While the company achieved ISO 9000 in 1992, it believes the next level is the development of Best Practice benchmarks based on the company's own system "for letting us know clearly the gap between us and the best managed and best performing organisations in the world" (National Training and Development Manager).

Evaluation

Step Eight: Evaluate the impact of quality training.

Every quality initiative can not be expected to be 100 per cent successful, so management needs to constantly evaluate the impact of the training. Did it really work? What has the organisation achieved? Has the training provided a base from which to work from, although some fine tuning is required?

Company C began their quality program by trialing the Australian model for Quality which was later fine-tuned based on these results. This included a heavy emphasis on quality circles, which although initially well supported, became bogged down due to three main reasons:

- ideas were not implemented by management;
- the organisation struggled with the problems and opportunities of the philosophy;
- the teams often ran out of ideas

While the company then loosely followed the continuous improvement philosophy, it was the lure of becoming one of Australia's few web offset printing companies to achieve certification that led to the focus on ISO 9000. However it was deemed that the training employees had received from the initial forays into quality management was pertinent to the certification process, and therefore could be measured in terms of contribution to the company's quality focus as well as to the employee's quality of work.

Quality training should ultimately be measured against the main purpose of the training. In Step Two, it was recognised training could be relevant in three areas: culture driven; quality focused; or job related. In assessing the outcomes and impact of quality training, this also needs to be linked back to quantitative,

measurable performance targets. For example, evaluation can be based on the following measures identified by Saraph et al (1989):

- Extent to which quality circle or employee involvement type programs are implemented in the organisation, division, or department.
- Effectiveness of quality circle or employee involvement type programs in the division or department.
- Extent to which employees are held responsible for error free output.
- Amount of feedback provided to employees on their quality performance.
- Degree of participation in quality decisions by hourly/non supervisory employees.
- Extent to which quality awareness building among employees is ongoing.
- Extent to which employees are recognised for superior quality performance.

Company B first focused on the extent of employee participation in either a quality team or project team, advising 92% of their people took the challenge to become involved. When the company realised some quality teams were sitting around trying to invent problems, the company began to focus on the outcomes more, and quality team participation dropped off to 65%. As an example, labour efficiency improved 27% and this could be linked directly back training.

Employee surveys are another proven method of determining the impact of quality initiatives. Because employee welfare and satisfaction has a considerable impact on the quality culture, so measuring this is seen as equally important as measuring external customer satisfaction (Brown, 1995).

The output or end result of any quality training should be an understanding of, commitment to and use of the TQM principles and practices in order to satisfy customer needs. The message "Quality is everyone's business" should no longer be a message but a part of "the way things are done around here".

Step Nine: Revise and fine tune the quality training if necessary.

If the quality performance parameters indicate the training is not meeting organisational or quality objectives, management needs to revise its approach. For example the organisation may start their quality improvement program with quality awareness. Management may encourage employee involvement through the introduction of quality circles. Training is undertaken in the dynamics of quality circle involvement. However it may be that circle participation falls off. Circle members may feel that meetings don't solve departmental problems which have a higher priority. Management, in order to sustain employee participation, may decide cross functional teams or task forces are more appropriate.

In hindsight, senior management at Company B believes too much emphasis was put on "quality". The National Training and Development Manager said, "We should not have talked about quality or TQM - we used too much quality jargon... and it's a gigantic turn-off. Usually the term TQM gives people an excuse to think that there are two types of work - normal, and the TQM thing, which in actual fact is the same thing. We should have talked about solving problems and improving business".

The company has now changed its approach. The National Training and Development Manager indicated that the company also changed the way it benchmarked. While the company undertakes internal audits regularly, it wanted to benchmark externally. "We participated in fairly expensive benchmarking exercises, but all we got was some vague general waffle. We are interested in very specific details, but I won't pay another dollar to anyone to do an external benchmark, because there's lots of money being spent but very little reward coming back". It developed its own best practice audit and training program and utilised their own line managers to determine "where we are at the moment, what can be done better, what the gap is" and then going to best practice organisations to exchange benchmarks.

Step Ten: Give feedback and recognition

Good quality management practices involve constant reinforcement of management's commitment to quality. This should also come from supportive actions such as giving feedback to employees. This generally leads to better performance. In addition, the periodic review process can have a positive effect on employee's attitudes, creating feelings of friendliness, confidence in management and a more tolerant acceptance of criticism (Stoner, Collins, and Yetton 1985).

Company B's culture is based on communication and information, and all employees share in the knowledge of where the company is going. Employees are aware of the company's vision and the features of every year mid range plan. The mid-range plan is formulated by senior management and the current plan covers the period from 1994-1998.

Company B also conducted a number of surveys such as Cost of Quality, and operational problems facing middle management in order to understand what was happening in the business. These results were passed onto employees. According to one senior manager 90% of the employees agreed with the results and 10% "were uncomfortable with them". While Company B tried to support and offer practical assistance to this group in order to help them meet the organisation's goals, the 10% eventually left the company.

Feedback is important for both employees and the organisation - employees want to know what is expected of them and how they are going; organisations want the employees to know the organisation's goals, and how the employee contributes to these goals. However, feedback must be timely; frequent; specific and factual; and noticed by employees (CCH, 1988).

In all the organisations referred to in this paper, feedback occurred on a number of levels - senior management ensured employees were aware of the direction of the company, and regularly advised on the status of the company. The quality progress of the organisation was chartered and displayed for staff and customers to see. And employees received feedback in relation to their jobs. Company C annually recognises the contribution of an employee, and occasionally undertakes a special initiative designed to reward a team for its efforts.

CONCLUSION

Human resources play a central role in quality management, and training is the method by which quality ideas and practices are spread throughout the organisation. It is the bedrock upon which a quality program must be based on. However, in today's quality focused business world, competitive advantage in the future will not be about human resources, quality, or technology but rather how well an organisation can effectively utilise all of its resources to achieve its aims (Belohav, 1996; Edmondson, 1994).

Organisations can use the ten step approach to maximise the potential which can be found in all employees, but this should not be a one off exercise. The principle of linkages or interrelationships within an organisation is vital. Effective management of human resources which includes quality training, therefore should be tightly coupled with other functions, routines and structures within an organisation.

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