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THE IMPORTANCE OF CULTURAL CHANGE TO IMPLEMENTING QUALITY IMPROVEMENT PROGRAMS

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Abstract

Based on case study research this paper discusses the adoption of Total Quality Management in seven Australian organisations. It reports on the reasons for adopting TQM, planning and implementation issues, benefits achieved and the limitations and difficulties associated with the introduction of TQM. The analysis concludes that the effect of TQM on an organisation's culture should not be underestimated as it is a radical change to the organisation's strategy which is geared to changing the culture in the long term. The analysis highlights that the principles found for successful introduction of effective cultural change are also applicable when implementing TQM programs in organisations. The paper proposes the implementation of a Cultural Audit as part of successful introduction of TQM into an organisation.

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1. INTRODUCTION

Since the early 1980s quality management or Total Quality Management (TQM) has emerged as a significant element of business/corporate strategy. Many authors agree that TQM is a viable competitive strategy and in many Western organisations it has had a profound effect on business performance and continues to enjoy prominence in the business world in the 1990s (Waldman 1993) Waldman concludes that for companies adopting this approach to management, the promises of TQM include increased quality and efficiency, less waste, higher productivity and enhanced customer satisfaction.

The International Quality Study conducted by the American Quality Foundation (1991) showed that improvements in quality have a positive relationship with increases in productivity, performance and profits. This study collected data from Canadian, German, Japanese and American companies and found quality to be a crucial factor in the strategic performance of virtually every organisation in that sample.

Benson, Saraph and Schroeder's (1991) system-structure model of quality-management relates organisation context, actual quality management, ideal quality management, and quality performance. Manager's perceptions of both ideal quality management and actual quality management were found to be influenced by organisational context. Corporate support for quality, past quality performance, managerial knowledge and the extent of external quality demand were found to be important contextual variables.

Adam Jr., Corbett and Rho (1994) extended the work of Benson et al to include a wider array of contextual variables. Using data collected from South Korea, New Zealand and the United States, Adam et al show that a specific profile of quality and productivity improvement approaches was significantly related to performance. The results varied in the three countries, depending on whether organisations in the various countries were more interested in performance quality, productivity improvement, or financial performance.

A 1991 study based on a questionnaire survey estimated that the extent to which companies in Australia have comprehensively implemented modern quality management practices is limited to approximately no more than 2.5% of the 44,300 manufacturing companies in Australia (1992). The study concluded that there was a need for substantially more research on the possible impediments to the rapid and comprehensive adoption of modern quality management practices in Australia.

A similar survey conducted in 1993 by Eisen, Mulraney and Sohal reported that the major impediments to adopting quality management practices in manufacturing organisations in Australia were:

- lack of understanding of managers (33%)
- resistance by managers/supervisors (26%)
- resistance by employers. (16.5%).

A parallel survey conducted in 1993 of quality management practices in the Australian service industry also identified lack of understanding and resistance by managers and employers as the two major impediments to the adoption and use of quality management practices (Gray, Sohal and Sarros). There seems to be evidence of commonality to what is viewed as

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impediments in both the manufacturing and service industries. These findings could apply to other Western organisations.

Sohal, Ramsay and Samson's (1992) study of Australian manufacturers also provide evidence of companies achieving both tangible and intangible benefits from quality improvement programs. They found that benefits do not happen quickly and that the time needed to change the organisational culture and attitudes should not be underestimated. Managers must learn to be patient and not expect benefits from their quality improvement efforts in the short term. Dawson (1995) provides further evidence on TQM implementation from his study of eight Australian and New Zealand manufacturing and service organisations. He found that the introduction of quality management in these companies was viewed as an ongoing process which required continual management effort.

Nadler and Tushman (1988) proposed that organisational change could be considered as operating at two levels. The first level being fundamental, large-scale change in the organisation's strategy and culture and the second level concerned with modest changes that improve the organisation's performance yet do not change the organisation at a fundamental level. Roberts and Thomson (1995) argue that models for total quality are transformative, in the sense that successful implementation of a Total Quality Management philosophy involves adoption of an ongoing set of disciplines that gradually affect the way people think and interact. More importantly they maintain, TQM philosophies leave the organisation fundamentally different from the way it was before the quality effort started. They go onto conclude:

> 'The quality movement is unique in its transformational potential even today. It inherently focuses people on the whole system, on both "hard" and "soft" issues, on collective learning and action, and on their own desires for improvement. The failures come, in a nutshell, because organisations expect too much from "the quality program", and too little from themselves.'

Atkinson (1990) concludes that the effect of TQM on an organisation's culture should not be minimised as it is a radical change to the organisation's strategy which is geared to changing the culture in the long term. He goes on to conclude that effective cultural change is the secret to implementing TQM successfully. The importance of considering specifically the need to create a readiness for transformative change and applying the theoretical perspective of change are imperative.

Beckhard and Harris (1987) suggest that large-scale complex organisational change can be conceptualised as a matter of first, assessing the current organisation situation (present state). Second, determining the desired future (future state) and third and most importantly, both planning ways to reach that desired future and implementing the plans (transition state).

In a seminal piece of work, Lewin (1958) stated that organisational change can occur at three levels:
1. Changing the individuals who work in the organisation eg skills, values, attitudes and behaviour (**individual strategy**)
2. Changing various organisational structures and systems (**system and structure strategy**)
3. Directly changing the organisational culture or interpersonal style (**cultural strategy**).

As Kanter (1985) concludes the failure to achieve transformative change (such as total quality management implementation) has more to do with the lack of integrating, institutionalising strategies than with inherent problems in the innovation itself.

The small number of empirical studies which have been referred to above, show a positive and significant relationship between the quality related activities of an organisation and the organisation's performance particularly in productivity improvements. Empirical and qualitative studies that have focussed on the processes and cultural factors of implementing the Total Quality Management philosophy are still limited. This weakness in the literature is highlighted by Gupta and Ash (1994). They conclude that very few studies describe the process of implementation in any detail and argue for using longitudinal and multi-source data analysis using the case study approach.

Case study based research, exploring TQM issues in particular, has been gaining momentum over the past few years. Two recent studies exploring TQM issues using the case study approach, include Marchington, Wilkinson and Dale's study of 15 organisations in the United Kingdom (1994) and Shea and Gobeli's study of ten small businesses in the United States (1995). Both found the case study approach had particular applicability to the evaluation of Total Quality Management projects because this method provided the contextual detail that is often missing from, for example, survey methods. Others using the case study method include Oliver, Delbridge, Jones and Lowe (1994) who studied the performance and management practices of 18 autocomponent plants in the UK and Japan; and Gosse (1993) who studied the role of cost accounting in CIM, comparing the cost accounting activities of four CIM factories with four traditional manufacturing plants in the USA.

Empirical and qualitative studies that have focussed on the processes and cultural factors associated with implementing the Total Quality Management philosophy are still limited. This paper adds to the growing body of empirically-based literature on TQM. It presents the experiences of seven Australian companies which have adopted quality management practices. The lessons learnt from this study are likely to apply to other organisations overseas adopting TQM. The next section describes the case study research methodology including field study design, site selection and field interviews. This is followed by the Analysis and Results section in which a number of issues concerning implementation are discussed. The final section discusses the lessons learnt from the case study research and proposes the adoption of a cultural audit as part of a successful TQM implementation program.

2. METHODOLOGY

The objective of our study was to assess TQM implementation initiatives in a number of different organisations to explain and identify similarities and differences in the implementation approach, benefits achieved, difficulties experienced and the critical success factors. The field study design followed the one described by Gosse (1993) who says that:

> 'field study design reflects a research issue in transition, for which grounded
> theory or experience with relationships among well-defined variables have not
> yet emerged. Field studies are appropriate for such circumstances.'

The first stage of a field study is the development of a set of guidelines. Gosse developed his field study guidelines based on the suggestions of Stone (1978) and Yin (1989). Similar

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guidelines were also used for our study and covered site selection, focus of inquiry, seeking richness in data and data gathering procedures.

2.1 Field Study Design and Site Selection

The seven organisations involved in this study were chosen after preliminary discussion with the company contacts concerning the aims and objectives of the research project. Potential companies for participation in the study were initially identified through various sources: i.e.: suggestions by faculty staff members, existing on-going personal contacts with local companies/managers, new contacts made with company representatives participating in conferences and seminars and through publicity of the company's TQM initiatives.

Table 1 summarises the key characteristics of the seven companies involved in this research project.

Table 1   **Key Characteristics of the Seven Companies**

Co.	Business Type / Description	Number of Staff	Year TQM Initiated	Certification to AS3900/ISO 9000	Previous Attempts
A	Food packaging	200	1985	Yes (1991)	One prior attempt - not successful.
B	Engineering Components (vehicle parts)	32	1989	No, but does have second party accreditation from local car manufacturer	None
C	Pharmaceutical products (medical drugs)	500	1991	Yes (1993)	None
D	Optical Spectroscopy Instruments	400	Mid to late 1980s	Yes (1992)	There were several programs designed at introducing quality which form part of an evolutionary process. Some were more successful than others.
E	Processing and trading agricultural products	200	1992	No	None
F	Retail of textiles and haberdashery	1200	1989	No	None
G	Supermarket chain	17,000	1988	No, currently investigating	None

2.2 Field Interviews

An interview guide helps to focus the investigation and ensures that a consistent inquiry procedure is followed (1993). An interview guide was developed based on the TQM 'How To' Model developed as part of the Australian Government's National Industry Extension Scheme (NIES) (1992). This model is based on a set of core principles to describe the key aspects of Total Quality Management. According to this model the central focus of the TQM approach is the *customer* who has expectations that must be satisfied by the supplier. The ability of the supplier to satisfy customers expectations is primarily influenced by three basic interacting factors: people, systems and variation. An understanding of the relationship between these interacting factors is conveyed through the three principles namely:

- All **people** serve customers through and within a system.
- All **systems** are adversely affected by variation.
- **Variation** impedes the ability of the people in the system to satisfy customers.

These three core principles of TQM require the adoption of seven management imperatives for developing and maintaining a competitive advantage. According to the NIES Model the seven management imperatives are:

1. Quality is defined in terms of customers' perceptions.
2. The system is improved by improving processes within the system.
3. Suppliers and contractors are treated as partners in the system.
4. Statistical thinking and methods are used to manage and reduce variation.
5. All people are creatively involved in continuous improvement of the system.
6. Continuous improvement activities are integrated within the strategic and annual planning cycle.
7. Continuous improvement is led, managed and supported at all levels in the organisation. (1992)

The NIES model was used as a basis for discussion and interviews because all of the case companies had some familiarity with this model and it is a model that many Australian companies are familiar with.

The interview guide was designed to collect both quantitative data and qualitative data. To complete the information collection, several visits were made to each company. During the initial meeting with senior management (typically the Managing Director, General Manager or Plant Manager), the aims and objectives of the research project were described and discussed in some detail. Discussion with senior management focussed on the overall strategy of the organisation, the basis of competitive advantage, competition, reasons for implementing TQM, etc.

Following the interviews with senior management, the focus of the interviews shifted to exploring issues concerning planning for, implementation of and scope of the TQM program. At this stage interviews were conducted with several functional managers including quality managers, manufacturing/operations managers, marketing managers, the company accountant, the human resources managers and several supervisors/foremen and operators. The interviews were conducted over several visits to the companies and generally interviews lasted one to two hours.

3. ANALYSIS AND RESULTS

The information gathered through interviews at each company was written up in the form of a case study. This was the most time consuming stage of the process as each case study went through a number of drafts, sometimes requiring further input from the companies. On completion, the case study was sent to the company contact for verification and request for general use in publications.

The written case studies were then used to identify and explain the following issues that really focused on the implementation stage of the TQM change process:

- competitive priorities and company goals
- motivation for embarking on TQM
- planning and implementation
- barriers and resistance to implementation
- major benefits realised

These cases are written around the NIES TQM 'How To' model referred to earlier. All the seven organisations had understood the three core principles and the seven imperatives of TQM. Below are presented what we consider to be the key results of this study.

4. MOTIVATION FOR EMBARKING ON TQM

The companies varied in the reasons that prompted them to start adopting TQM measures. In general, the reason for embarking on some form of TQM process was due to external forces. Company A reported that the initial impetus had been a directive from the overseas head office. For companies B, C, D, F and G the CEO was the primary catalyst for embarking on TQM. This supports the conclusion of many studies (eg Beer and Walton 1990) that it is difficult to introduce change without having senior leadership support. The other distinguishing feature of the leadership support was that these managers were 'passionate' in their belief that TQM was the way for the future. This concurs with a survey conducted by Fisher (1993) of Chief Executive Officer's of member companies of the Total Quality Management Institute (now part of the Australian Quality Council) which found that there was often an initial resistance to the changes required by TQM, and considerable time and effort on part of the CEO to drive or lead the change was essential.

All companies viewed the TQM initiatives as part of the means to respond to the competitive environment in which they were operating in and part of an ongoing process of professional management to ensure continued survival. There was also recognition that to compete effectively, the company must focus on issues such as improving plant efficiency, reducing inventory levels and increasing employee autonomy. TQM was perceived as one means of obtaining these efficiencies.

It can be concluded that the initial reason for embarking on TQM for some companies has (at least initially) nothing to do with the value laden philosophy of being customer driven. This is interesting since the importance of customers is part of any contemporary definition of TQM. However, it confirms what Goodstein and Burke (1991) concluded that organisations tend to change primarily because of external pressure, rather than an internal desire or need for change. Despite variations in the primary reason for adopting TQM and in some cases several attempts at its introduction, none of the companies have disbanded TQM.

5. PLANNING AND IMPLEMENTATION OF TQM

Companies A and D had several attempts at introducing TQM initiatives which had not been entirely successful. The common factor that had led to this was that the responsibility for implementing the TQM processes was given to the Quality Manager or Quality Department and not part of line management responsibility or integrated in the strategic planning systems of the organisation. Employees in these companies did not perceive the program as the corporate vision for quality and consequently had no enthusiasm. This finding concurs with Roberts and Thomson's (1995) conclusions that two fundamental reasons why quality programs may not work is because there is a lack of a clearly shared mental model of quality throughout the organisation and following on from this, a lack of shared values and vision for the organisation.

The above companies (A and D) who had experienced an evolutionary approach to implementing continuous improvement programs and Company G did share common planning and implementation stages at their subsequent attempts. These were:

- **Creating an awareness of TQM.**
  This characteristically involved providing all employees with intensive training in TQM philosophy and processes. This served not only to raise an awareness of the benefits of TQM but also addressed specific issues such as training in team building, process improvement and problem solving skills. As Beer and Walton (1990) concluded participation educates employees about the need for changes and the logic behind new arrangements and the realities of the competitive environment and this can play a part in developing a shared vision.

- **Formation of Teams**
  Companies A, C, D and G had all attempted to encourage the involvement of their employees through the formation of teams. The types of teams varied in almost every organisation. Shea and Gobeli (1995) in their study of TQM experiences in small firms also found that the formation of teams was fundamental to the implementation strategy of TQM for each of these firms.

6. BARRIERS/RESISTANCE TO TQM

Atkinson (1995) concluded that people resisted the introduction of total quality for a host of reasons including fear of the unknown; perceived loss of control; personal uncertainty; "it may mean more work" syndrome; past resentments; "flavour of the month"; "it may go away if I ignore it"; and an unwillingness to 'take ownership" and be committed. It became apparent from the case data collected, that to a certain extent all of these factors were operating in the seven companies under investigation as can be seen from the list below. The barriers reported by the companies included;

- perceived threat to supervisor and manager roles
- disinterest at the workforce level
- lack of understanding of what TQM was at the employee level
- geographically dispersed sites
- many casual staff
- fear of job losses

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- inadequate training
- plans not clearly defined
- employee scepticism
- resistance to data collection

The analysis of the case study interviews also supports the findings of an earlier Australian survey by Eisen, Mulraney and Sohal (1992) and confirms that companies were not aware of a single major impediment to the adoption of modern quality management practices - rather they gave a wide range of responses for the barriers to implementing TQM. This is not surprising given the uniqueness of each organisation in terms of products, processes, structure, culture and attitude of employees to change.

One barrier reported by several companies can be described as 'cultural pluralism'. The case studies support Dawson's conclusion, that the introduction of any organisational change such as TQM should be understood as a process and that unitary notions of culture do not accurately reflect the realities of organisational life in Australian and New Zealand companies (Dawson 1995) or many other Western organisations. This was certainly evident in the companies studied. Companies A, B, C and G reported that language and cultural barriers were a major problem in communicating the principles of the TQM program. Also older employees who had spent a work life time being rewarded on totally different criteria and working in a different economic era were not interested in the latest 'trendy fad'. This was also linked to the issue of the perceived threat to hard won supervisory and managerial roles.

Company A employs a multi cultural workforce of many ethnic nationalities. In general, production operators are not required to have specialist skills to be considered for employment or be fluent in English. Although this does not pose a problem in daily activities, this factor made it difficult to communicate new initiatives and gain commitment from all levels of the organisation.

Company D reported that a previous attempt at introducing TQM processes had created a climate of disinterest that permeated to all levels of staff . This was also combined with the fact that the more recent TQM initiatives lacked credibility because some good employee suggestions had previously been ignored. This theme was also found in a similar study by Westbrook and Barwise (1994) describing the state of art of Total Quality Management (or Continuous Improvement) in seven leading fast-moving consumer good companies in the UK.

In this study it was found that four companies;

> 'had launched, or had had launched upon them, a TQM programme which after an initial burst of enthusiasm, petered out. This had produced an aversion to the term "total quality" and increased doubt about the concepts, especially among the workforce.'

Past resentments can be a significant barrier to the successful implementation of any change program (Whittle et.al. 1994). This highlights the negative impact of the 'false start' on the success of any subsequent change program and the importance of follow-through if an organisation is attempting to develop long term commitment to any continuous improvement initiative.

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Company A found that employees did not perceive the program as part of the corporate vision for quality but rather as something that was being delivered by the Training Manager. It was necessary to position the program so that it was perceived by the employees as being mainstream to the activities of the company. This has been achieved over a six year period during which TQM was incorporated as part of the annual strategic planning cycle in Company A. This was also experienced to a lesser extent by Company B, C, D and G.

7. MAJOR BENEFITS

A major benefit of initiating a TQM program reported by all companies was that there was an increasing awareness and focus by all employees on satisfying both internal and external customers. There was an increasing focus by top management on the activities and the needs of lower level employees in the organisation. Other benefits reported included:

- better control of processes resulting in consistency from design through to delivery,
- reduced production time
- reduced damaged goods in transit
- reduced delivery times
- decreased set up times
- reduced usage of chemicals.
- increased measurement of performance, and
- improvement in customer perceptions of the company.

As the studies reported in the introduction indicated there is a link between TQM and improved organisational performance. It is important to note that all companies reported the benefits of TQM were not visible in the early stages of the program. Most of the organisations had started their TQM initiative in the mid to late 1980s and did not begin to realise any significant financial benefits until the early to mid 1990s. It was also interesting to note that no company had in place a comprehensive system for accurately measuring total costs and benefits of total quality management. Rather the benefits were reported on an ad hoc basis. This was also found in the study of seven UK companies reported earlier (Westbrook and Barwise 1994).

8. LESSONS LEARNT

Atkinson (1990) concludes that the effect of TQM on an organisation's culture should not be minimised as it is a radical change to the organisation's strategy which is geared to changing the culture in the long term. He goes on to conclude that effective cultural change is the secret to implementing TQM successfully. The importance of considering specifically the need to create a readiness for transformative change and applying the theoretical perspectives of change are imperative.

The companies involved in our research reported a number of lessons they had learnt from the introduction of a quality improvement program:

- TQM must be implemented by line managers rather than by staff functions such as training

- 'slow and steady' approach may not be as visible or bring immediate results but some of the companies felt it led to longer term benefits
- a quality improvement system has a role in improving the morale of employees
- there needs to be link between information technology and quality systems
- it is imperative that there is complete commitment from the CEO and senior management team and this leadership is highly visible to employees
- commitment to training
- effectiveness of linking TQM to a clearly defined business strategy.

A total quality management program requires changes in structures and systems that demand new behaviours by individuals and groups. As Beer and Walton 1990) conclude;

> 'To be successful these changes must be accompanied by the development of leadership, human skills and shared values that are consistent with the purpose of structures and systems introduced; high commitment; and coordination and cooperation. One reason why this does not occur is that leaders make structural and systems changes without having culture change objectives in mind.'

As Westbrook and Barwise (1994) also found in their study of continuous improvement implementations, there is a risk of no gains if changes are not underpinned by cultural change. Methods of implementing a new organisational strategy such as total quality management initiatives require different change strategies and techniques at the individual, structure/systems and cultural level. The implementation of TQM has a number of potential problems associated with it and faces a number of barriers. It is the authors' contention that an analysis of the organisation, using culture auditing tools can help with the design of a successful TQM implementation program. As Anthony (1994) concludes, cultural change or at least a version of it must be woven into the planned change in structure and power relationships. By doing this it acknowledges that structure is itself an influence on values which are also related to interests, often entrenched by cultural defences in groups and functions.

Wilkinson, Marchington and Dale (1993) postulate that the human resource (HR) function may contribute in the shaping of TQM at the formulation and development stage. Part of this they argue is that TQM needs to be integrated with the current organisational practices and ethos. An important part of the successful implementation of TQM is to review the current practices, behaviour and attitudes in the organisation and assess the fit with the TQM philosophy. Conducting a company audit to assess organisational culture can provide data to pinpoint required changes at the three levels of organisation change mentioned earlier. This is necessary for successful transformational change and to facilitate the introduction of TQM.

If behaviours can be aligned with the fundamentals necessary for TQM implementation, the likelihood of success is increased. The elements of a TQM program that can be affected by the culture of the organisation are:

- Cooperation (relationships with internal and external customers and suppliers, etc.)
- Use of statistical analysis tools in managing processes and operations.
- Providing support and encouragement for continuous improvement.
- Good record keeping and documentation.

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This does raise the point that Anthony (1994) alludes to, that there is a fundamental question of the nature of change that is required. That is, whether it is to be a change in culture or a change in the behaviour of the organisation's employees. For many organisations change in behaviour may be considered sufficient. However, sustained commitment is more likely if employees share the same mental models of quality in the organisation (Roberts and Thomson 1995). A cultural audit can enable the senior management leadership to identify what are considered assets as well as liabilities in their culture (Glover, 1994). This can be done by carefully reviewing the results and determining which aspects are assets of the existing culture and are contributing to the TQM mission and goals of the organisation. Simultaneously, the organisational leadership can identify those aspects of the culture which are impeding organisational performance (liabilities). Given a set of corporate objectives and behaviours that an organisation would want it's employees to exhibit, a process for achieving this would entail:

- **Step 1**

    Undertaking a cultural audit to determine the predominant shared values and attitudes possessed by the employees and the corresponding behaviours which can be expected. The audit can provide a basis of descriptive profiles of the culture. It should be undertaken in such a way that it can be conducted at regular intervals (once a year) to identify positive and negative changes in attitudes, values and behaviour of employees.

- **Step 2**

    Identify current values and attitudes which align with the corporate quality goals; those which would conflict with the desired set of behaviours; as well as those which need to be developed. This provides a basis for analysing the alignment of the culture with the organisation's vision and goals for quality. Most organisations do not have the expertise in-house to carry out such cultural audits and it is sensible to seek outside assistance in completing steps 1 and 2.

    Glover et. al. (1994) has developed the Cultural Assets Profiles (CAPS) which is a multi-method approach to measuring an organisation's culture comprising of both qualitative and quantitative data collection tools. These tools include structured interviews, focus groups, document analysis, a survey, participant observations, individual ratings from an on-site study team, and the results of a team consensus meeting in which all data sources are compared. CAPS has been developed to assist in strategic planning and to reduce the risk of organisational change failures.

- **Step 3**

    An important part of the successful implementation of TQM is to review the current practices, behaviour and attitudes in the organisation and to assess the fit with TQM objectives. Hence, it is necessary to develop organisational and human resource management strategies to reinforce behaviours, attitudes and practices in the organisation to align with the desired culture . This is likely to require extensive education and training, action learning exercises and social interaction. The time and effort spent undertaking the cultural audit and understanding the beliefs and values held by employees at all levels should be of considerable worth in ensuring a successful launch of the TQM program.

- **Step 4**

  Conduct further cultural audits every 12 months to identify the gap in current and desired behaviours. Where positive changes have been identified ensuring that everyone in the organisation becomes aware of these and those responsible are rewarded appropriately.

- **Step 5**

  Include performance measures as part of the cultural audit process and the TQM processes. This is often found to be the major hurdle for organisations in successfully implementing and sustaining the quality improvement initiatives.

With such a program in place, the authors believe that a number of the barriers and problems encountered by organisations implementing a cultural change program that are a fundamental component of TQM initiatives can be overcome. The steps listed above concur with Kanter's (1985) contention that you will not get cultural change unless it is supported by 'action vehicles' such as structures, mechanisms, processes of reward and control, that reinforce the attitudes and behaviour that is desired. TQM requires a change in the organisation's culture if performance improvements are to be sustained.

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