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TQM Critical Factors:
The Recipe for Successful Implementation

Critical Factors of TQM: An Update on The Literature

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Abstract

It is often argued that Total Quality Management (TQM) should be tailored to an organisation's needs (Robin and Dennis, 1995). This view has also been supported by the work of a number of quality practitioners who argue that TQM needs to take account of the different technology histories and backgrounds of organisations. Other differences include different markets that are served with different products and the workforce which may comprise people from different cultures (Atkinson, 1990). Basic characteristics of the organisation, its culture and climate (Kanji and Yui, 1997), affect the implementation of TQM (Van Der Akker, 1989). The drive to improve quality, therefore, has to be managed differently. This paper presents the most important factors of TQM implementation often stressed by researchers, supported by the writings of quality gurus

A wide range of elements of TQM are covered in this paper. They are leadership, internal stakeholder's management including employee involvement, middle management role, training and education, rewards and recognition, team work, and the role of employee unions, policy strategies, resource management, communication management, managing supplies, cost of quality, benchmarking, self-assessment, quality control techniques, organisational climate, culture, continuous improvement, innovation culture, and TQM sustainability.

The paper concludes with a perspective on how to use critical factors as the 'foundation' for driving transformational orientation in order to create a sustainable performance culture and reap out commercial and competitive benefits on a continuous basis.

Key words: TQM, Critical Factors, Implementation, Sustainability, Transformational Orientation, Leadership, Policy & Strategy

Criticisms of Total Quality Management as a viable concept

Although there are many success stories of TQM implementation and its benefits, the real impact of TQM cannot be disregarded (Crosby, 1979; Juran, 1988; FQI, 1990,1991; Numerof and Abrams, 1994; Ramberg, 1994; Hill and Wilkinson, 1995; Mann and Kehoe, 1995; Ross, 1999; Evan and Lindsay, 2001). A number of failures have also been reported (e.g. Eskildson, 1995a; Harari, 1993b), for example, Eskildson (1995) argues that TQM does not provide either a cure-all nor is it a single key to organisational success. He provides several examples one of which was the bankruptcy of the Wallace Company (one of the winners of the MBNQA) after receiving an award. The bankruptcy of the MBNQA winner to the unsustainable loss resulted from the high spending on quality (Hill, 1993). Therefore, the collapse of the company may indicate an ineffectiveness of the management system.

The main reasons for TQM's disadvantages, based on Eskildson's suggestion, include: the number of overlapping programmes, lack of clear accountability, lack of credible measurement, inadequate reporting, difficulty in keeping up with changing customer priorities, diversification of business, and lack of strategic focus. One of the key problems, according to Goodman et al. (1994), concerns the different methods of data collection and classification – TQM requires surveys, customer complaints, field

reports and process data – and these methods cannot be combined due to data conflict.

Another criticism is that TQM focuses mainly on internal matters (performance measures, training, employee participation and leadership) and the real growth element comes from external matters (marketing). Therefore, quality programmes should incorporate the marketing side of quality – make customers' needs and perceptions meaningful internally. In addition, the key is to find ways to link external measures of customers' requirements, fulfilment and purchase behaviour to internal quality measures (Kordupleski et al., 1993).

Harari (1993a, 1993b) also strongly argue the disadvantages of TQM principles. He points to eleven reasons why TQM brings potential problems in real world applications:

1. Focuses on internal processes rather than on external result;
2. Focus on minimum standard;
3. Develops its own ponderous bureaucracy;
4. In addition, total quality philosophy involves a comprehensive transformation Delegates quality to quality Czars rather than to real people;
5. Does not require radical organisational reform;
6. Does not demand changes in management compensation;
7. Does not demand entirely now relationship with outside partners;
8. Applies to faddism, egotism, and quick-fixism;
9. Drains entrepreneurship and innovation from the organisation cultures;
10. Has no place for emotion and soul, but mechanical approach;
11. Tries a one-size-fits all solution.

Katz (1993) describes TQM pitfalls and asserts that the main reasons of TQM failures are:

1. Failing to recognise the difference of organisation characteristics and environment.
2. Applying tools of TQM before needs are determined and direction is established.
3. Conducting mass training of hourly employees without involvement of all levels of management.
4. Overemphasising technical tools.

In addition, total quality philosophy involves a comprehensive transformation of organisational beliefs, values and behaviours (Olian and Rynes, 1991). Senior management's lack of understanding the quality principles could result in a mis-estimation of the degree of change involved in the adoption of a total quality strategy.

TQM implementation requires radical change to traditional management practices. For instance, traditional management paradigm stresses authorisationism. Therefore, even though managers may support the principle of employee participation and input, they are uneasy about giving up their authority (McConnell, 1995). The development of an effective work team may be problematic in organisational cultures where human resource systems emphasise individual performance reviews and compensation (Waldman, 1993).

Despite the criticism, neither academics nor practitioners dispute the fact that the quality movement has been the most influential of all management innovations in the last two decades (Krishman et al., 1993). Evans and Lindsay (2001) assert that many

companies achieved astonishing success through total quality emphasis and because the world is becoming more quality conscious, companies that resist TQM may not be in business for long. As the editor of Quality Digest put it, “TQM isn’t dead. TQM failure just proves that bad management is still alive and kicking” (cited in Evans and Lindsay, 2001). Moreover, TQM has been credited with some extraordinary success stories. These successes involve business turnarounds for industry giants such as Ford, Motorola and XEROX (Krishman et al., 1993).

Shin et al. (1998) states that the proper implementation of TQM could be a powerful vehicle where companies are able to achieve excellence in business performance. However, they also claim that companies that have not achieved TQM potential benefits have begun abandoning its practices. These companies should not blame the TQM framework, key principles for its failure is the lack of understanding of what TQM means for each unique organisation and how to implement it effectively that has created scepticism on the effectiveness of TQM.

In their study, Salegna and Fazel (2000) sought to determine the extent to which the aforementioned obstacles represent major barriers to TQM implementation. The study reveals the following obstacles in rank order: lack of time to devote to quality initiatives, poor inter-organisational communication, lack of real employee empowerment, lack of employee trust in senior management, politics and trust issues, lack of a formalised strategic plan for change, lack of strong motivation, view of the quality programme as a quick fix, drive for short-term financial results, lack of leadership, lack of customer focus, and lack of a company wide definition of quality. It should also be understood that TQM is not a short-term fix; it is a long-term, never-ending commitment to the improvement of quality and performance.

The Significance of Critical Factors

A review of the literature suggests that a blend of ‘soft’ and ‘hard’ quality factor impact TQM implementation. Soft quality factors are intangible and difficult to measure, and are primarily related to leadership and employee involvement. Hard quality factors, on the other hand, refer to systems and tools and techniques, such as those that impact internal efficiency (e.g. quality management system, cost of quality and statistical process control) and external effectiveness (e.g. benchmarking and customer satisfaction surveys).

However, Black and Porter (1993) contends that it is difficult to classify factors along soft-hard criteria. Wilkinson (1992), on the other hand, stresses the practicality of using this classification, referring to experiences at the Co-operative Bank Plc and Black and Decker UK. Lau and Idris, (2001) conducted a study on a number of Malaysian industries to identify soft elements (culture, teamwork, employment continuity, education and training, top management leadership for quality and continuous improvement, employee involvement and customer satisfaction/ involvement) likely to have a significant effect on the TQM tangible effects. The authors found a relationship between identified soft elements and TQM tangible effects. Additionally, they identified a combination of the soft elements that are critical to TQM tangible effects.

‘Soft’ quality factors are discussed under leadership, internal stakeholder management and policy in this chapter. They refer to issues that impact the maximisation of organisation-wide support and involvement in attaining the quality goals of an organisation. Wilkinson (1992) argues that they may be best treated as

'internal marketing' issues. These factors include: senior executives commitment and involvement, comprehensive policy development and effective deployment of goals, entire workforce commitment to quality goals of the organisation, empowerment, effective communication, internal customer supplier concept, teamwork, system for recognition and appreciation of quality efforts, and training and education, among other things.

'Soft' quality factors are long-term issues that must be addressed as long-term issues. Their consideration in the implementation plan is critical to the success of the TQM, and there is a chance for failure in the event that they insufficiently paid attention to (Wilkinson, 1992).

'Hard quality factors' are usually the tools and systems that contribute to the success of the goals. These 'hard' quality factors include: benchmarking; performance measurement; management by fact, managing by processes, self-assessment, quality control tools, cost of quality process, documented quality management system, supplier management, and customer management.

Together, 'soft' and 'hard' quality factors comprise the total quality management model proposed by Oakland (2000). 'Soft' quality factors are expected to rate highly in terms of criticality and emphasis in TQM implementation process. The 'hard' quality factors are usually considered as tactics rather than strategies (Pegels, 1993).

The Factors of TQM

Leadership

Breiter and Bloomquist (1998) argue that the most common barrier to TQM success is failure of management leadership. In another instance, Aune (1998) suggests that among the principles of TQM, leadership ranks the first in terms of importance,

Leadership is about managing people (Hackett and Spurgeon, 1998). The questions of why and how leadership is significant in TQM need to be addressed and highlighted. Zairi (1999a) does this in the case the of Motorola company; he lists 18 main functions played by senior leadership.

Employee involvement and empowerment

Since the late 1980s, employee involvement, participating management, democratic management, and quality of work life are terms that are very common to many managers who pursue excellence in quality achievement in order to be competitive (Rees, 1999). To investigate the practice of employee involvement in TQM, we need to look at the reasons for implementing TQM, the attitudes of the staff and their management style, teamwork, and barriers to employee involvement (Hales and Klidas, 1998). We also need to consider company employees at different levels, including senior management. Typical reasons for initiating a TQM programme include the desire for improvements in productivity, performance, morale, and employee motivation, as well as skills (Tuffrey, 1997). Employee involvement, participation, and empowerment form the cornerstones of TQM.

Middle management role

Middle management has a role to play, but it has been defined as the major source of resistance to the implementation of successful quality improvement processes (Steiner, 2001). Middle management sees a quality improvement process as a threat. They fear that it will eventually eliminate their jobs as the number of management levels is decreased to improve communication. They fear that their decision-making power and responsibilities will be lost to lower level employees, leaving them without anything to do. But the middle managers are keys to process implementation that have important contributions. First, they must convert company-wide strategies, structures and intentions into detailed operational activities, fine tuning the overall direction to suit the real world where supplies arrive late, machines break down, and people come to work with a headache (Wimalasir and Kouzmin, 2000).

Secondly, they are the role models for the front-line staff. Any organisation committed to developing the middle managers needed for the future controls the factors requiring change. It does not need a new method or the adoption of new management theory (Hunt and At-Twaijri, 1996).

Training and education

The assumption that training and learning are linked to economic performance and competitiveness at the levels of both individual organisations and national economy has been central to the recent changes in education and training policies in most business corporations, and even at government level (Millar, 1999). From the perspective of human resources management, labour will no longer be considered as a commodity and a cost to be minimized, but will be a vital investment for organisational success (Wiley, 1997).

Rewards and recognition

Organisations and managers consistently acknowledge reward and recognition as an important element in motivating individual employees (Twomey and Twomey, 1998). Employee of the month schemes, profit sharing, and monetary payment for higher productivity, or commission on sales revenue, are widely used. It is important to recognise that pay incentives and rewards are also communication and motivation devices (Poole and Jenkins, 1997).

Teamwork

The concept of teams and teamwork is increasingly becoming an important key to productivity and employee satisfaction in the contemporary workforce (Adebanjo and Kehoe, 2001). The use of teams has increased significantly as organisations (both public and private) have turned more and more jobs over to team-based structures. Teams are now being used in innovative ways in strategic planning, flexible-jobbing initiatives, global networks, the horizontal organisation, and the virtual organisation. In addition, teams can be employed in traditional decision-making techniques such as brainstorming and nominal group (Stough et al., 2000).

Role of employee unions

The structure of collective bargaining occupies a central position in the debate on the effectiveness of any industrial relations system (Clarke, 1998). It is posited that the structure of collective bargaining exerts an important influence on the local autonomy of both management and employees, and the pattern of strikes and pay outcomes. For some managers, depending upon their ideology and style of management, multi-employer bargaining has a further advantage in that it can 'neutralise' or, at the very least, minimise workplace trade unionism.

Policy and strategy

An increasing number of organisations, as part of a strategic planning approach to continuous improvement, are starting to use policy deployment, suggested by Lee and Dale (1998). In western organisations, the interest in policy deployment has primarily been generated by the use of self-assessment against a recognised model for business excellence, such as the European Foundation for Quality Management Model and Malcolm Baldrige National Quality Award (Watson, 1998). In recent years, policy deployment has been a topic in which organisations have shown an increasing interest, but it is still not a well-known technique in many companies (Civi, 2000).

Resources Management

Cornford (2001) argues that resource management can be analysed in two sections: communication management and supplier management. McAdam and Reid (2000) suggest that knowledge management is an emergent and eclectic body of knowledge, which covers the systematic management of knowledge of all kinds, within all levels and types of organisations.

Communicating Management

The need for continuous quality improvement must be conveyed effectively and regularly if TQM is to take root and be sustained. Concerning management communication strategies determining job satisfaction in telecommuting, Ilozor et al. (2001) argue that several management communication strategies directly influence job satisfaction of telecommuters. By using a sample of 43 telecommuters, they found that there are eleven aspects of the strategies which had to have significant influence on the job satisfaction of telecommuters: communicating job responsibilities, goals and objectives, deadlines and job expectations, communicating freely and regularly, providing appropriate equipment, training and career development, and reviewing work and salary regularly. They conclude that cultural, economic and social contexts may have a distinct part to play in the impact of management communication strategies on the job satisfaction of telecommuters.

Managing suppliers

Supplier management is an increasingly important aspect of competitive manufacturing. The role of supplier management is highlighted by Szwejczewski et al. (2001). They suggest that suppliers can make a significant contribution to the achievement of manufacturers' performance objectives.

Accredited quality management system

A quality system is designed to provide both the support and mechanism for the effective conduct of quality-related activities in an organisation, and is a systematic means to manage quality. Accredited quality management systems form a major pillar supporting the development and operation of TQM in an organisation. The origins and basis of commercially-oriented quality system standards have evolved over the past thirty years or so. Much of the initial development was for military projects in the USA (Muthu et al., 2001). Larsen and Haversjo (1999) argue that although the latest Mobil Oil survey suggests that more than 200,000 accredited ISO 9000-family certificates had been issued world-wide up to September, 1997, few of these had been given to organisations in the social sectors.

Organising for quality

The challenge of organising for quality is to enable quality improvement to develop and flourish. The success of the quality improvement process depends on effective and systematic implementation. Given the corporate-wide nature of TQM, a suitable infrastructure to support quality initiatives is required. Oakland (2000) highlights that authority must be given to those charged with following TQM through with actions that they consider necessary to achieve the goals.

Managing by Process

Managing by process is the key to engaging an organisation's employees to take responsibility for what they are doing in relation to satisfying the customers (Guimaraes and Armstrong, 1998). In many big companies, such as Shell Chemicals UK, there is a growing recognition of the need to move away from the traditional functionally-based approach to managing through a set of clearly defined, customer-driven processes. Appelbaum et al. (2000) say that the process-based approach or managing by process improves customer focus and avoids the limitations of managing by vertical functions.

Benchmarking

Benchmarking can be seen as an important management tool of TQM. Xerox Corporation first developed it in 1979, when severe quality and costs problems became visible in the face of the extremely low price of Canon copier machines (Davies and Kochhar, 1999). Today, this instrument is used by a large number of US companies, such as Motorola, Ford, GTE, IBM, and Kouzmin et al. (1999) define benchmarking as

"the continuous process of measuring products, services and practices against the toughest competitors or those companies recognized as industry leaders, that is the search for industry best practices that will lead to superior performance" (Sarkis, 2001). Benchmarking is a more comprehensive exercise than 'reverse' product engineering which only focuses on the analysis of specific components and functions of the products of competitors (Fong et al., 1998).

Self-assessment

If a process of continuous improvement is to be sustained and its pace increased, it is essential that an organisation monitors on a regular basis what activities are going well (Gore et al., 2000). Self-assessment provides such a framework. Self-assessment is more than just another fad, it is a management approach based on a vision of business excellence (van der Wiele et al., 2000). The use of self-assessment against an excellence model can provide the stimulus for further improvement, and can facilitate the necessary linkage between improvements and the business planning process, including policy deployment (Coleman et al., 2001;Lee and Quazi, 2001; Zink and Voss, 1998).

Cost of quality

Cost and quality have long been the centre of attention for both manufacturing and logistics managers as cost centres for most firms. Cost considerations drive a host of strategic decisions, including global manufacturing rationalisation, outsourcing and downsizing, as firms seek ever-lower labour and materials costs (Andersen and Moen, 1999). Quality cost measurement has its origin in the early 1950s, and Feigenbaum's classification of quality costs in the familiar categories of prevention, appraisal and failure has been almost universally accepted (Lee and Cunningham, 2001).

Quality Control Techniques

Quality control is an aspect that strongly influences the competitiveness of organisations and continually demands managerial attention. Since a quality control system is a aspect system of the organisation, it contains all elements of the organisation (Xie and Goh, 1999). The means of the organisation (i.e. workers and machines), for instance, belong to both the production control system and the quality control system. However, in a production control system, workers and machines are the main sources of capacity. In a quality control system, emphasis is laid on the knowledge and skills of the workers and the transformation capabilities of the machines (van der Bij and van Ekert, 1999).

Measuring Customer Wants and Satisfaction

To survive in highly competitive markets, organisations need to provide goods and services that yield highly satisfied and loyal customers. When customers are satisfied, they are more likely to return to those who helped them, while dissatisfied customers are more likely to go elsewhere (Robledo, 2001). Without a unifying vision of customer needs, even the most talented and motivated teams earn only the small satisfaction of narrow competence, and the customer is lost. It is the clear customer-oriented vision of where they are headed that is one of the main factors that distinguish great companies from the rest.

Critical analysis of the literature review.

TQM has sought to enhance operating efficiency through continuous improvement of organisational systems. Quality achievement has become an important measure of organisational success in both manufacturing and services. An attempt was made to survey the literature on the most important factors in the process of TQM

implementation. An extensive review of literature on quality management was performed for the purpose of clarifying critical factors that are essential for TQM implementation. Through the extensive literature review, many critical success elements of TQM implementation are identified based on reviews of various models, Quality Awards, and conceptual frameworks of academics, practitioners along with empirical studies. From the literature review several quality factors for effective quality management implementation were identified. Table 1 provides a comprehensive list of the major critical quality factors and literature support.

Table 1: A comprehensive list of quality factors and literature support

Critical quality factors	**Supporting literature**
Leadership	Feigenbaum, 1989; Deming; 1986; Crosby; 1979; Juran, 1993; Powell, 1995; Saraph et al, 1989; Black and Porter, 1996; Ahire et al, 1996; Motwani et al, 1994; Deming Prize; Baldrige Award; European Quality Award; Australian Quality Award; Canadian Quality Award; Kanji, 1990; Oakland, 2000; Zairi, 1999; George and Weimerskirch, 1998; Ross, 1999; Krasachali and Tannock, 1999; Laszlo, 1999; Evans and Linsday, 2001; Ramirez and Loney, 1993; Hoffman and Mehra, 1999; Zeitz et al, 1997; Grahn, 1995; Stamatis, 1997; Garvin, 1983; Anderson and Sohal, 1999; Mohanty and Lakhe ,1998.
Employee Involvement	Deming, 1986; Juran, 1993; Ross, 1999; Ramirez and Loney, 1993; Evans and Linsday, 2001; Crosby, 1979; Zairi, 1999; Flynn et al, 1995; Tan, 1997; European Quality Award; Canadian Quality award; Zhang et al, 2000; George and Weimerskirch, 1998; Ahire et al, 1996.
Training and Education	Saraph et al, 1989; Kanji, 1990; Deming, 1986; Juran, 1974; Black and Porter, 1996; Powell, 1995; Motwani et al, 1994; Thiagaragan and Zairi, 1997; Flynn et al, 1994; Oakland, 2000; Zhang et al, 2000; Mann and Kehoe, 1995; Ishikawa, 1985; Crosby, 1989; Porter and Parker, 1993; Rao et al, 1996; Mathews et al, 2001a; Evans and Linsday, 2001.
Middle Management Role	Wilkinson et al, 1994; Thiagaragan and Zairi, 1997; Ross, 1999; Mann Kehoe, 1995; Evans and Linsday, 2001;Crosby, 1989; Ishikawa, 1985; Deming, 1986; Samuel, 1992.
Reward and Recognition	Zhang et al., 2000; Johnston and Daniel, 1991;London and Higgot, 1997; Sweatman 1996; Crosby 1989; Evans and Lindsey, 2001; Rao et al., 1996; Zhang et al., 2000; George and Weimerskirch, 1998; Thiagaragan and Zairi, 1997.

Table 1: A comprehensive list of quality factors and literature support (continued)

Teamwork	Deming, 1986; Zhang et al, 2000; Evans and Linsday, 2001; Thiagaragan and Zairi, 1997; Shapiro, 1995; Tan, 1997; Scholtes, 1995; Longenecker et al, 1993; Rao et al, 1996; Crosby 1979; Juran, 1993; Ross, 1999; Oakland, 2000; Kanji, 1990; Luzon, 1988; Juran, 1993.
Policy and strategic planning	Deming, 1986; MBNQA, EFQM, Juran, 1993; Crosby, 1979; Feigenbaum, 1989; Garvin, 1984; Saraph, et al, 1989; Black and Porter, 1996; Australian Quality Award; Canadian Quality Award; Powell, 1995; Zairi, 1999; Motwani et al, 1994; Ross, 1999; Oakland, 2000; Sinclair and Zairi, 2001, Sureshchandar et al, 2001; Evans and Linsday, 2001.
Communication for Quality	Ross, 1999; Spechler, 1993; Kanji et al, 1993; George and Weimerskirch,1998; Zairi, 1999; MBNQA, EFQM; Smith, 1994; Garvin, 1988; Juran, 1988; Thiagaragan and Zairi, 1997; Powell, 1995; Badri et al, 1995;
Supplier's Management	Zhang et al, 2000; Crosby, 1989, Deming, 1986; Ishikawa, 1985; MBNQA, Canadian Quality Award; Garvin, 1988; Juran, 1988; Saraph et al, 1989; Powell, 1995; Badri et al, 1995; Richardson, 1996.
Process Management	Flynn et al, 1994; Juran, 1988; Powell, 1995; Deming, 1986; Motwani et al, 1994; Oakland, 2000; Ross, 1999; Mcteer and Dale, 1996; Evans and Linsday, 2001; Singels et al, 2001; Saraph et al, 1989; Mann and Kehoe, 1995; Ramires and Loney, 1993; Ahire et al, 1996; Black and Porter, 1996; MBNQA; EFQM; Australian Quality Award; Canadian Quality Award. Tan, 1997.
Organising for Quality	Oakland and Porter, 1994; Spechler, 1993; Ross, 1999; Thiagaragan and Zairi, 1997; Kanji and Yui, 1997; Black and Porter, 1996.
Quality measurement and Benchmarking	Evans and Linsday, 2001; Ahire et al, 1996; Black and Porter, 1996; Flynn et al, 1994; Powell, 1995; Saraph et al, 1989; Motwani et al, 1994; Ross, 1999; Zairi, 1994; Booth, 1995; Macdonald 1998; Jackson, 1999; Pitt, 1999; Campanella, 1999; Crosby, 1979; Roden and Dale, 2000; Tsai, 1998; Juran 1978; Taguchi, et al, 1983; Ahire et al, 1996; Sinlair and Zairi, 2000.
Customer Focus	Deming, 1986; Juran, 1988; Crosby, 1979; Powell, 1995; Black and Porter, 1996; EFQM; MBNQA; Flynn et al, 1994; Oakland, 2000; Govers, 2001; Zairi, 1996; Evans and Linsday, 2001; Richardson 1996; Ross, 1999; Saraph et al, 1989; Zeitz et al, 1997; Kanji, 1990; Spring et al,1998; Chan and Chan, 2001.

Towards a Transformational orientation in TQM

Implementing a business strategy requires a paradigm shift (Deming, 1993; Gummesson, 1998; Piercy, 1997). The learning organisation, TQM, empowerment, process reengineering and the other strategies used by organisations to improve corporate competitiveness represent a transformational change. Successful implementation requires a significant change in mindsets, attitudes and culture - a new way of thinking and seeing the world. Individuals and organisations need to develop new and more effective paradigms (Johnson, 1993).

For many individuals and organisations, the beliefs upon which today's change initiatives are based represent a transformation, a discontinuous break with existing individually and collectively held paradigms. Yet it is only 'through a break' with existing paradigms that the performance 'breakthrough' potential of these strategies can be fully realised. Through transformational change, a 'new reality' can be created, an outcome not possible through the traditional process of incremental change (Johnson, 1993). Transformational change redefines the standards of peak performance. Meeting them requires more than the conventional development of new skills and knowledge through training, or changes to structure and processes through organisation development. These standards also require the development of new individual and organisational paradigms through transformational learning. Garvare and Isaksson (2001) also argue that the paradigm shift drives changes in different roles as customer, employee, manager and citizen. As what Al-Nofal and Zairi (2002b) argue: "The change from product orientation to service orientation to customer orientation to market orientation shows that different focus in different time periods marks the different emphasis in TQM management and sustainability".

In other words, Guimarfaes and Armstrong (1998) argue that the importance of change is a necessity for business survival and growth. The change of paradigm intends to redesign the business processes, to improve the company's products and services, to involve organisational changes and organisational structure. All these will result in a significant change to the policies and procedures. Some firms may take advantage of strategic opportunities and address problems. They also show that organisations are to successfully implement business changes to their products business, business processes, organisation structure, and organisation culture to improve company performance.

A paradigm is a cluster or system of self-reinforcing beliefs. It is through these mental frameworks that we see the world and select and interpret information. And it is from our paradigms that we interpret this information, think, feel and perform. Once paradigms are incorporated into an individual's frame of reference or an organisation's culture, they tend to be taken for granted and lost to everyday awareness. They function as 'invisible boundaries' on the meaning given to experience and expectations of the future (Johnson, 1993).

Like prophecies, paradigms tend to be self-fulfilling. So it is essential that performance be based on effective paradigms. This ensures that organisations focus on the most relevant information, interpret it constructively and obtain the best possible outcome in every situation. Performance based on ineffective paradigms will significantly diminish the individual and organisational potential for excellence.

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