CHAPTER -2

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This chapter has been presented in four sections. In the first section “reasons for TQM implementation” highlight the various organisational needs and compulsions which can be fulfilled with TQM in an organisation. The second section constitutes “Problems of TQM Implementation”. In this section, the views of various writers and researcher about problems have been highlighted, which hinders the TQM adoption in an organisation. In the third section, the literature relating to “prospects of TQM Implementation” describe the views of researchers about ways, benefits and prospects of TQM implementation. In the last section, various strategies have been highlighted for effective TQM implementation in “strategies to effective TQM implementation”

2.1 REASONS FOR TQM IMPLEMENTATION

Quazi and Samuel (1997) highlighted the importance of TQM for SMEs to improve their current business practices as well as quality of product and services to ensure long-term survival. However, there are several barriers to effective implementation of TQM in such organisations, i.e., the lack of business experience and knowledge and limitation of financial as well as human resources. However, little has been written on how TQM has been applied in companies in Singapore region.

Sundararaju (1997) emphasised TQM as an attribute of good management practice and when practiced effectively imparts durable competitive strengths to management with simple and useful tools and techniques.

According to Sarvan (1997), the need for TQM arises in organizations due to rising customer expectations; increasing competitive pressure and competitive position of organisation; internal pressure for improvement; low value addition in existing methods; to get best from the people; changing perceptions of vendors and customers; managers and workforce perceptions; organizational priority for improvement; and to strive for excellence.
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Zbaraoki (1998) stressed that TQM is a fundamental better way to conduct business and is necessary for the economic well being. It results in higher quality; lower cost products and services that respond faster to the needs of the customer.

According to Dooley and Flor (1998), there are four important factors, which affect TQM implementation in an organisation. These are top management attitude towards change; trade union support, employees’ attitude towards change and middle managers attitude towards change.

Torbica and Stroh (1999) concluded that implementation of TQM is positively associated with customer satisfaction.

Nemeth (1999) is of the view that the implementation of TQM is a never-ending journey and there is no final destination. He also described that the major reasons for starting TQM in an organisation is to increase the company’s competitiveness, which can be improved by different ways i.e. customer satisfaction, performance improvement, integration and cultural change. He further concluded that, in the larger firms, the competitiveness is the major drive for implementing TQM programmers at their companies. However, in the smaller firms, focusing on customer satisfaction in order to get enough orders to maintain and grow business is the main drive.

The survey conducted by McIntyre and Kirschenman (2000) indicate that there are substantial economic benefits that can be attained through the implementation of TQM techniques. However, there are several key educational and operational issues that must be addressed prior to and after implementation of TQM programmes.

Tiwary (2000) has emphasised that TQM as a technique to be applied for the better results and is based on prime factors such as customer satisfaction, specified services or products, wide coverage, less cost, no defects, etc.

Chileshe and Watson (2000) in their research project paper tested the proposition that the implementation of TQM by construction organisation provides a means for achieving a 30% increase in productivity. This study provides some implications for SMEs trying to adopt TQM as strategy for attainment of competitive advantage. This paper shows that competitive
strategy and principles of TQM are complementary and any TQM approach should avoid focusing only on profit and/or price results and should not expect any major changes in the market at least in the short run. They also stated that SMEs are often suppliers of goods and services to larger organisations and therefore a lack of product quality and/or service from SME’s could adversely affect the competitive performance of larger organisations. They further established that the organisational performance is directly correlated to the adoption of TQM and it is a true vehicle for the attainment of a sustainable competitive advantage.

**Verma (2000)** in his article, “The Human Face of Service Quality” emphasized that with markets becoming fiercely competitive, the scramble for customers is getting intensified and securing edge over rivals is a major challenge facing the marketers. In this case the strategy that focuses on human side can be an effective way of competing in the current environment.

**Geoff (2001)** emphasises that an excellent quality intends to achieve total customer satisfaction and requires practical changes in three key areas i.e., the customer, the process and the employee. Clear benchmarked processes may be able to fulfill the benchmarked customer needs and requirements.

**Yahya and Goh (2001)** described followings as the reasons for companies to seek quality registration:

a) Developmental reasons i.e. desire to improve the company’s internal process, desire to enhance the overall competitive performance of the company.

b) Non-developmental reasons i.e. requirement of major customers, conditions of tendering process or becoming a requirement of doing business, marketing and public relations tool.

c) Mixed reasons which constitutes the combination of development and non-developmental reasons.

**Watson (2001)** in his article ‘The Ease and E's—in Excellence’ reiterated that quality is not an effortless task, one must learn to sweet for quality. Excellence in quality is entitlement based on the investments made in our organisations and communities.
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Mahapatra (2001) has expressed the view that in today’s competitive environment, quality is the key to an organisation’s success and survival. In order to compete effectively, organisation must embrace the principles of TQM and incorporate them in all of their activities.

Love et al (2001) in their study of TQM implementation in construction industry identified a number of lessons learnt from the introduction of TQM programmes:

1) TQM should be implemented by line managers;
2) A quality improvement system has a role in improving the morale of employees;
3) There needs to be a link between information technology and quality system;
4) There is a need of continued commitment to education and training;
5) TQM needs to be defined and integrated with the organisations business strategy;
6) There needs to be complete commitment from MD and senior managers team to TQM implementation;
7) Management must drive the TQM programme and gain the support from all employees by making their leadership visible.

Everett (2002) stated that commitment to quality improvement by shared experiences would create an increasingly strong culture. He propagated three methods of quality improvement i.e. share, learn and celebrate.

Martins (2002) commented that quality is not determined or defined by the producing company and is determined by the customer. Thus quality of a product or service is the customer’s perception of the degree to which the product or service meets his or her expectations.

According to Sornam (2003), the TQM is used generally for the following reasons:

i) TQM helps to identify the user requirements pin-pointedly;

ii) TQM helps to minimise the operation of various process and activities by continuous assessment.

iii) TQM includes team involvement and a new style of authority.
2.2 PROBLEMS OF TQM IMPLEMENTATION

The problems of implementation of TQM pose strong and deflecting barriers in the implementation phase. There have been many studies that focus on the problems and obstacles in the TQM implementation process. Some of the significant studies are as follows:

According to Gupta (1994) the followings are the main impediments in TQM implementation:

1. Management’s behaviour not supporting of quality,
2. Environment not suitable for TQM,
3. Shifting of responsibility of TQM to the personal level,
4. Lack of corporate direction,
5. Lack of accountability,
6. No strategy implementation plan,
7. Not in priority list,
8. Benefits of TQM not properly understood, and
9. Discontinuity of training on TQM.

Frangou et al (1997) described that implementing TQM in an organisation is a difficult and complex task fraught with human and technical obstacles where failures are linked to progress that are mainly introspective and focus on improving operational effectiveness. They further emphasised that TQM failures are also attributed to the lack of focus and integration of improvement activities.

According to Sarvan (1997) following are the reasons of TQM failures in an organisation, which should be avoided:

- TQM focuses people’s attention on internal processes rather than on external results;
- The management pays more attention to internal processes to such an extent that they ignore the shifting perceptions of customers;
- TQM focuses on minimum standards which distracts people from adding value and excitement;
- TQM develops its own cumbersome bureaucracy;
- TQM delegates quality to quality czars and ‘experts’ rather than to ‘real’ people;
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- TQM does not demand radical organisational reform;
- TQM does not demand changes in management compensation;
- TQM does not demand entirely new relationship with outside partners;
- TQM appeals to faddism, egotism and quick fixes; and
- TQM draws entrepreneurship and innovation from corporate culture.

According to Sundararaju (1997), the formulation and implementation of TQM policy and programme is often a tough exercise for the top management as the environmental pressures and the prevailing policy parameters interact frequently to produce uneven results.

Lee (1997) concluded the followings as the five weaknesses of TQM in the U.S. organisations:

1. There is a lack of understanding of TQM as a step in the major shift in the management paradigm.
2. Planning in not part of TQM.
3. There is little application of organisational theory in TQM.
4. Time is not treated as an independent variable in TQM.
5. TQM has good methods for the analytic side of things but only good intentions for the human behaviour side of things.

Dooley et al (1998) highlighted that TQM implementation results may be hindered by poor implementation of change strategies that are inappropriate, piecemeal implementation and lack of strategic alignment and more words than actions.

According to Jaiswal (1998), although the small business encounter the same implementation problems as large business but the followings are more pertinent to them:

1) Small businesses tend to have less experience.
2) Small businesses usually do not have confidence that quality compliance will bring additional market share or even the possibility of increased efficiency within its operations.
3) Small businesses normally have less formal structure than their counterparts
4) Small businesses can respond to internal needs and emergencies. They are generally reactive than proactive.
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Murthy (1999) highlighted that the hindrances of TQM implementation includes lack of management commitment; inability to change organisational culture, improper planning, lack of continuous training and education, incomplete organisational structure with isolated individuals and departments, ineffective measurement techniques and lack of access to end results, inadequate attention to internal and external customers, and inadequate empowerment and teamwork.

Dalela and Saurabh (1999) identified six causes of quality problems as lack of organisation, lack of discipline, lack of resources, lack of training, lack of time and lack of top management support.

Visveshvarya (1999) has given the followings as impediments in pursuit of quality in India as misconception of quality like quality costs money, reduces product and money; large domestic market; weak consumer movement; lack of institutional support; inadequate trained manpower and lack of workers participation.

Chough and Rudus (2000) found that high inventory in Indian industry is the main factor responsible for inferior quality; inventory is an evil because of its non value added culture.

Ojha (2000) concluded in his study of TQM implementation in hospitals that a large number of failures are attributed to faulty implementation. The outcome of study suggests that, when implementing TQM programmes, the immediate outcomes that need to be monitored are operational level improvement and organizational level financial outcomes.

Sharma (2000) summarized following as the main barriers to TQM implementation.

1) Employees see total quality as just another cost reduction programme.
2) Employees do not believe that management has long-range commitment.
3) Employees do believe that 'when push comes to shore', short-term market place problems and profit promise will take precedence over 'Total Quality'.
4) Consistent priorities are absent during implementation.
5) Cultural resistance exists.
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6) Senior people are not available or are too busy to be trained or to practice total quality tools and processes.
7) Results are expected too fast.
8) Management would not free work group for training.
9) There is a "Not Invented Here" attitude regarding Total Quality processes and tools.
10) The organisation has insufficient funds to implement changes and the manager is told to ‘do it within the existing budgets’.
11) The perception exists that process takes too long or that ‘we are already doing that’.
12) There is no perceived change in management behaviour.

Babai and Dharamapal (2000) in their article “Total Quality in Engineering Education” proposed following as the obstacles to successful TQM implementation
1) An organisation’s policy is based on the use of protective laws and government support and not on competitive advantages of products and processes and being people friendly.
2) High level of uncertainty in middle and top management in terms of style and commitment.
3) Partial efforts and focus on one area or level only.
4) Lack of funding and financing for promotion of quality activities.

Terziovski and Samson (2000) concluded in their study that company size impedes the implementation of TQM. Large companies tend to gain greater benefits from TQM than smaller firms. And overall findings show that a typical manufacturing organisation is more likely to achieve high organisational performance with TQM than without TQM.

According to Yong and Wilkinson (2001), different gurus have given their own meanings and interpretations and there is hardly any consensus on what TQM entails. This has contributed to the diversity of the concept and an array of quality practices. They further emphasized that the early originators emphasized on mathematical and strategic tools for improving quality and made the concept more general and strategic. Another model of TQM is based on the use of systems and procedures for controlling quality.
Yahna and Goh (2001) has identified lack of top management support and commitment; employee resistance to change; constraints of resources, lack of training and education of employees and unclear benefits as major difficulties in TQM implementation.

According to Ahire and Ravichandran (2001), many firms suspected that an adhoc selection of few components of TQM and hasty implementation is the reason for TQM failures.

Sahney et al (2001) described followings as problems faced in TQM implementation by Indian industries:

1) Lack of commitment and encouragement from top management.
2) Wrong choice of facilitators and coordinators for work improvement, teams and quality circles.
3) Dislocation of production shifts because of time requirements for quality improvement activities.
4) Lack of training in statistical tools and their applications.
5) Lack of reward schemes.
6) Resistance to change by union and employees.
7) Dominance of individualism rather than collectivism for improvement of quality.
8) Poor perception of quality improvement work by employees.

Nema and Sangle (2001) in their study on ‘Barriers and Prospects of Environmental Management in SMEs’ found that the main barriers to TQM implementation are: lack of training and awareness, lack of legislative support, lack of sector /industry specific supports and solutions, lack of relevant information and quality management standards being ill suited.

Love et al (2001) concluded that employees showed resistance to the introduction of TQM for a host of reasons, which included the fear of unknown, perceived uncertainty and unwillingness to take ownership and be committed to change. Other barriers included perceived threat to foreman and project manager roles; disinterest at the site level; lack of understanding of what TQM was, particularly on site; geographically dispersed sites; fear of job
looses; inadequate training; roles not clearly defined; employee skepticism; and resistance faced in data collection.

According to Naidoo (2002), one common denominator of the failure of most previous quality effort was the failure to change the culture of the environment in which quality tools and mechanism were used.

Frangou (2002) summarised the following as the reasons for TQM failure:

1. Lack of ‘Top management commitment’;
2. The implementation of changes that are only internally focussed with little external or customer focus;
3. ‘Continuous improvement’ did not permeate the strategic process;
4. Lack of focus on critical business processes, no resource support for long term improvement efforts, and a lack of synergy between quality programme and overall strategy.
5. Poor timing and pacing of TQM initiatives that are generally crisis led;
6. Lack of measurement in all key areas, but particularly at a strategic level;
7. TQM concepts and technology are barriers to success, because there is no consensus on their meaning;
8. No supporting infrastructure for culture change and people issues;
9. Managerial or organisational ‘mind sets’ that are inconsistent with the TQM philosophy.

According to Bhatt (2002), TQM programmes fail because of a) lack of commitment from the top management, b) focussing on specific techniques rather than on the system; c) not obtaining employee’s participation; d) programme stops with training; e) expecting immediate results, not a long term pay-off and f) forcing the organisation to adopt methods that are not productive or compatible with its production system and personal.

According to Mohanty and Lakhe (2002), in a health care organisation, the following barriers were identified by senior (but not by middle level) doctors:

i) Inadequate knowledge about, and understanding of TQM;
ii) Unclear definitions of TQM goals, boundaries and authority;
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iii) Time required for meeting and problem solving;
iv) Inadequate planning for implementation; and
v) Insufficient rewards.

However, the barriers identified by middle level doctors (but not by senior level) were:
i) Sabotage / lack of support from top management;
ii) Politics / turf battles;
iii) Lack of resources;
iv) Turnover and changes in key personnel;
v) Inadequate / insufficient training in TQM; and
vi) Employee’s lack of confidence in programme.

Bradford and Childe (2002) identified resource paucity as the most serious disadvantage faced in TQM implementation where the term ‘resource’ is used in its widest sense to cover not only financial resources but those of knowledge, technical expertise and management time. This would suggest that for an approach to be successful, it should have an explicit concern for resource sensitivity.

Prasad and Tata (2003) emphasised that problem in TQM implementation arose in European countries due to cultural differences in terms of power and authority, distance between supervisors and subordinates and the conflict between departments. They further emphasised that there is considerably more difficulty in promoting quality management in developing countries due to problems such as unorganised customer sectors, lack of quality standards and testing facilities, obsolete technologies, low levels of education, lack of low technological investment and lack of communication infrastructures.

Sebastianelli and Tamini (2003) found the barriers to TQM implementation as inadequate human resource development and management, lack for planning for quality, lack of leadership for quality, inadequate resources for TQM, and lack of customer focus. They further highlighted that these obstacles resulted in frequent turnover of employees, including senior management, the high cost/benefit ratio of implementing TQM and quality improvement rarely meeting expectations.
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Yeung et al (2003), in their investigations suggested that when formal quality management procedures are established, a lack of communication between functions, culture problems and conflicts between different work groups create obstacles to further development.

Nanda (2003), found following as the reasons for schedule slippage in QMS implementation:

a) Lack of employee participation, which occurs when usual employee job responsibilities take precedence over participation in the implementation effort;

b) Inadequate policy management, which occurs when the corporate quality department lacks an effective means to monitor and report progress against the established schedule.

According to John (2003), the taxonomy of root causes of poor quality includes;

a) Placing budgetary considerations ahead of quality.

b) Placing schedule considerations ahead of quality;

c) Placing political considerations ahead of quality;

d) Being arrogant;

e) Lacking fundamental knowledge, research or education;

f) Pervasively believing in entitlement; and

 g) Practicing autocratic behaviors, resulting in endulement (endulement is opposite of empowerment).

Mony (2004) highlighted that most of the problems originate if the rank and file feels that

a) Top management (especially in India) is only interested in profits and pays only a lip service to qualify; and

b) The bottom up approach is not followed by most Indian companies with the result that quality initiatives begin from top and workers believe that it is one more stick for the management to beat workers with.
However, to enhance prospect of TQM implementation,

- A lot of patience and painstaking effort is required;
- The policies, people, products and process must be congruent to pervade TQM in whole enterprise; and
- Quality should be assured with defect prevention attitude

According to Radhika (2004), the reasons why TQM fails are as follows:

i) Lack of customer awareness when companies focus on the processes, problems, error rectification and standardisation procedures, ignoring the customers.

ii) No relation to strategy when companies join the quality drive as a me-too activity without establishing a clear goal in line with their strategy and long term goals.

iii) Lack of compatibility when companies choose one of the TQM models available for their quality practices without considering its compatibility with the companies’ culture, operations and requirements.

iv) Lack of communication – when top management fails to communicate its goals and objectives to employees.

v) Lack of integration of transferring the employee expertise to upstream or down stream in the process of employee empowerment.

2.3 PROSPECTS OF TQM IMPLEMENTATION

Frangou et al (1997) asserted that to overcome the TQM failures a holistic approach to quality improvement is required which is dynamic and market led, and can meet the demands of a changing market.

Sarvan (1997) described followings as the benefits of having TQM:

i) Increased customer satisfaction and loyalty;

ii) Gain in competitive advantage and larger market share;

iii) Reduction of non value added steps throughout the organisation;
iv) Streaming of cycle and response times;
v) Elimination of scrap, waste, defects and errors;
vi) Increase in employee involvement, dedication and loyalty;
vii) Enhanced knowledge of customer requirements;
viii) Defined customer satisfaction issues;
ix) Higher quality of products and services;
x) Teamwork, information sharing and employee involvement;
xi) Standardised recommended award amounts; and
xii) Modified budget submission process.

According to Cole and Mogab (1999), successful, TQM process results into improved technology that yields new products, new features, enhanced performance, greater reliability, reduced costs and prompt delivery.

Juran et al (1999) described following as the results of TQM implementation:

1) Lower costs by reducing errors, rework and non-value added activities.
2) Higher revenue by satisfied customers, increased market share, improved customer retention, more loyal customers and even premium prices.
3) Delighted customers who buy and advertise for goods and services for which commercial success depends on how well they are served.
4) Empowered employees who are always in self control and who understand how to plan for quality; who their customers are; what are customers needs, wants and expectations; how to design new goods and services to meet these needs and how to continuously improve these processes.

According to Bottrell and Bath (2000), the benefits of consistent quality system include: improved effectiveness of programmers by focussing on results, clarification of roles and responsibilities in managing, sufficient confidence in system such that duplication of oversight efforts are minimised and enhanced accountability and public confidence.
Barker and Cagwin (2000) found that TQM appears to provide more benefits to firms that are relatively poor performers than to high performers as there is simply more room for improvement in these firms.

According to Wali et al (2000), the benefits of TQM implementation are better quality, continuous improvement, increasing flexibility, enhanced profitability / productivity, faster organisational learning, safe and healthy communication, better customer service / greater loyalty; strong organisation economy and market share improvement.

Love et al (2001) concluded that a major benefit of initiating a TQM programme as reported by contractors was an increasing awareness and focus by all employees on satisfying both internal and external customers. Other benefits include:

- Project performance with reduced waste and rework;
- Client satisfaction i.e. repeat orders;
- Enhanced Market share;
- Relations with customers / suppliers (i.e. partnering);
- Enhanced Staff morale (training and education);
- Measurement of performance (i.e. internal and external benchmarking);
- Organisational competitiveness (i.e. success in bidding).

Goswami (2001) in his study on "Application of TQM in Engineering Education" describes the following points on which success of TQM implementation depends:

a) Autonomy in deciding and implementing better practices.

b) Cooperation, involvement and team effort of everyone concerned.

c) To involve and train others.

d) Inclination and willingness of the follower group in effective implementation.

According to Gosavi (2001), TQM results in:

a) Appropriate expectations and performance appraisal;

b) Continuous improvement as strategic objective;
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c) Ensures desired quality, which improves overall results;
d) Consistence and inbuilt readability;
e) Close monitoring of improvement and future needs;
f) Splitting the objective into long term and short term plans;
g) Corrective measures based on feedback, and
h) Possibility of reward sharing on improvements.

According to Yahna and Goh (2001) the internal benefits associated with TQM implementation are greater standardisation or operational procedures; fewer mistaken and less defective work; few customer complaints; lower operating costs; efficiency; awareness; organisation’s control; staying in business; customer relationships; financial aspects and market share and human resources aspects. They have given the eight dimensions of internal benefits as the better management of scrap/rework; intercompany communicators; departmental/cross functional cooperation, documents, measurement system; cultural change; quality awareness; and prevention. They also identified the dimensions of external benefits i.e. customer satisfaction; market share; perceived quality; company’s glory; competitive edge; time to market; and quality audits.

According to Stevenson and Barnes (2001), adoption of QMS resulted into six ways of communication effectiveness:

i) It builds interpersonal communication between employees and managers;

ii) It helps resolve political conflicts, work procedure inconsistencies and conflict between formal and informal communication flows;

iii) It trains management and employees in communication skills, such as interviewing, writing and editing;

iv) It creates a documentation system and system for disseminating information company-wide and to all customers;

v) To provide the basis for a networked communication system;

vi) It lays a foundation for using employees as sophisticated information gathers and sorters.
Bhatt (2002) described following as the benefits of quality adoption in an organisation:

a) It gives positive company image.
b) It improves competitive ability both nationally and internationally.
c) It creates market share, which translates into improved profits.
d) Overall, it reduces costs, enhancing profits.
e) It reduces or eliminates product liability problems, avoiding unnecessary costs.
f) It creates an atmosphere for high employee morale, which improves productivity.

According to Chandra (2003), the benefits of ISO 9000 starts with inspiring confidence among customers and suppliers, providing means for identifying and resolving problems and preventing their recurrence, enabling staff to control their own company experiences. In addition to these, ISO 9000 helps an organised and cost effective quality management system, which can give tremendous competitive advantage to the company.

2.4 STRATEGIES FOR TQM IMPLEMENTATION

Dalela and Ali (1997) argued that TQM implementation requires that the four components i.e. quality control, quality assurance, continuous improvement and total customer satisfaction be implemented systematically. Here Q.C. and Q.A. represent the control dimension while C.I. and C.S. represent the learning dimension.

Sarathi (1997) summarized that TQM encompasses all facts of management such as decision making, problem solving, and integration of quality planning, quality implementation and quality improvement strategies throughout the organisation. It requires that the people assume leadership throughout the organisation. He further emphasises that TQM is becoming an ‘in thing’ in India after the race for ISO 9000.

Chuan (1997) supports the view that with different levels of existence, there are different TQM models appropriate for each level and to make each
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TQM model relevant, it has to be associated with the prevailing dominant life values at each level.

According to Kawamoto (1998), Honda conducted business based on the TQM method of 'not relying on past success'; analysing the facts; basing in on customers requirements and reforming the process of daily operations.

Arora (1998) highlighted following as essential for the organisations going for TQM implementation:

a) A lean organisation structure to allow greater span of control;
b) Empowered employees for on the spot decisions;
c) Teamwork with knowledge sharing and knowledge integration that can provide an emergence of consensus;
d) Facts based on data;
e) Priority for quality approaches;
f) Process improvement for quality improvement;
g) Transformation through training with organised sessions.

According to Winn and Green (1998), the key elements to a successful implementation are:

i) Gain the support of everyone in the chain of supervision;
ii) Identify your customers;
iii) Focus on refining the process; and
iv) Use Deming's 14 points as a guide and check list during the implementation effort.

Gaither and Frazier (1999) highlighted that fundamental changes must occur in the culture of the organisation, if TQM is to succeed.

Dalela and Saurabh (1999) are of the view that:

a) Total Quality means zero defects in products and services and to be successful in quality efforts, there must be affirm and sustained commitment to total quality from the top of the organisation to downward.
b) Quality is the presence or absence of various characteristics.
c) Implementing TQM requires nerve, temerity (rashness); unreasonableness and contempt for danger. However, quality may adversely affect the financial performance in the short run. The cost of TQM implementation is definitely high, but worth it, because the employees of company have been trained and are having a motto for excellence through teamwork.

Natarajan and Pio (1999) opined that the methodology for TQM implementation has to be such that workers feel cared for and do not see themselves as a separate entity for the management. Further they added that, "In TQM implementation, no opportunity for improvement should be lost and to meet this challenge, involvement of every person in the process of problem solving is to be assured so that improvement becomes a habit".

Wali et al (2000) concluded that for effective implementation, it is necessary to align a few critical success factors (CSFs) with organisation philosophy.

According to Wailam and Lo (2000), the key factors for successful implementation of TQM include the commitment to customer focus, continuous improvement, ongoing preventive management, process understanding and teamwork. To achieve these factors, before the implementation, proper planning and business analysis should be done in order to pay efforts in the right way.

Selvakumar and Natarajan (2000) gave three phases of TQM implementation methodology for educational institutions. First is orientation with the help of diffusion of TQM success stories from within the institutions as well as from outside. Second is empowering the employee with necessary tools to practice them and encouragement to use them and be involved in the quality effort. Third is directing the activities to synchronising with the goals and practices of the organisation.

Murofaure et al (2000) emphasised that quality can only be achieved by a total effort involving everyone in the organisation, from design to manufacturing and from supplies to delivery.
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Babai and Dharmambal (2000) had given the followings as measures to overcome the obstacles to successful TQM implementation.

i) Draft a vision or mission collectively.

ii) Conduct the SWOT analysis, needs analysis and gap analysis.

iii) Identify thrust areas and the interrelationship based on SWOT analysis.

iv) Prepare long-term and short-term plans incorporating the strategies, goals and objectives with measurable quality standards.

v) Incorporate review and monitoring methods in planning and fix quality standards for evaluation.

vi) Design work and workable action plans.

vii) Conduct HRD networks for all staff periodically.

viii) Implement all components in total integration and not in isolation.

ix) Build linkages with industries, quality institutions both within the country and outside.

X Carry out more meaningful activities solely for image building.

Vlacohos (2000) is of the view that in TQM implementation time, patience and perseverance were great allies. As time will progress, the problems will diminish and the company will already begin to reap the benefits of TQM implementation.

Michael (2000) pointed out the following six sigma practices followed at Motorola:

a) Identify the work you do. (your product),

b) Identify whom your work is for. (your customer),

c) What do you need to do your work and for whom (your supplier),

d) Map the process,

e) Mistake proof the process and eliminate delays,

f) Establish quality and cycle time measurement and improvement goals.
Ahire and Ravichandran (2001) used a eight point model for TQM implementation: a) top management commitment; b) customer focus; c) employee management; d) supplier management; e) internal co-operation; f) external co-operation; g) quality related learning; and h) core quality improvement.

Yahya and Goh (2001) consolidated following as critical for Quality system implementation:
   i) Corrective action and preventive action;
   ii) Internal quality audit;
   iii) Management responsibility; and
   iv) Control of quality records

Nema and Sangle (2001) suuggested the following factors for effective TQM implementation in SMEs:
1) Inexpensive nature of SME’s can facilitate the supportive organisations to respect their needs for overcoming internal weaknesses.
2) SMEs need to be sensitive to their limitations i.e. lack of human resources and lack of time and money to investigate their quality performance.
3) Cooperation that is crucial for effective support mechanisms.
4) Locally based ownership, employees and closely linked with community culture gives synergistic results.
5) Flexibility can be achieved for improvement.

Stoletova (2001) in her article “Russia’s Journey Towards Performance Excellence” summarized the following quality improvement stages:
1. Fulfillment of ISO standards requirements
2. Creation of effective quality system and its certification.
3. Adoption of TQM and changes of working capital.
4. Changes in organisational culture and transition in quality leaders.
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According to Gosavi (2001), TQM implementation requires active and visible support and involvement of top management with proper support at all levels.

Brown et al (2001) suggested that although there are many different approaches to TQM but at least three common entry points can be identified. The first is ‘vision led TQM’, which is characterized by a vision led process usually starting at the top of the organisation. The second is ‘planned TQM’ which is a planned and structured approach to implementation. The third is ‘training TQM’ which emerges from the human resource concerns of the business and the efforts are made to create “learning organisation” and is empowering at the individual level. This is often termed as ‘transformational TQM’ with its continuous monitoring and change programme.

Cao et al (2002) suggested that for TQM to be applied successfully, either an approach is required which adequately addresses all types of change contexts or application needs to be restricted to those contests where process dominates.

The findings of the study by Wiele and Brown (2002) identified a number of factors which impact on the continuity of quality management over the longer term, including: the tenure of CEO and the executive through quality initiatives in the past; the driving forces behind the quality management journey; the management system and the extent to which quality is integrated into the system.

Khanna et al (2002) in their survey results of Indian Automobile sector presented the views that to achieve the benefits of TQM philosophy and to be globally competitive it must focus on effective implementation of TQM. He also concluded that to achieve the benefits of TQM philosophy and to be globally competitive, companies must focus on effective implementation of TQM tools.

Kumar et al (2002) studied the present status of JIT/TQM Quality techniques in India through a survey of 46 Indian industries and concluded that the techniques such as quality circle, total production management, cause and effect diagram, quality policy deployment, affinity diagram, Kaizen, benchmarking, JIT, matrix diagram, require more attention since their efficient
implementation may be helpful to determine the ways and means to improve the present position of Indian industries in the areas of quality, cost and flexibility by developing specific time bound improvement action plans.

According to Sharma (2002), once an organisation has decided to launch TQM, it has to do the three things i.e. a) establish the desired future state; b) assess the current state, and c) identify the action steps for transition to TQM. He further highlighted the followings for a successful transformation to TQM:

i) Management leadership and commitment;
ii) Supportive organisational structures and roles;
iii) Tools and processes;
iv) Education and training programmes;
v) Reward and Recognition strategies;
vi) Effective and Transparent communication; and
vii) Focus on customer satisfaction.

Panda (2003) has developed the term, ‘Quality Hierarchy’ on the observations of Kumarmangalam Birla, chairman of Aditya Birla Group who has been quoted as saying that it consists of four levels, wherein “the product quality” figures at the bottom of the pyramid and the other three levels involve the “total customer experience”, “the quality of employees’ work life” and at the apex “the quality of corporate governance”.

Keller (2003) advocated the following for the managing and improving performance in TQM implementing organisation:

i) Ensure the mission, values; goals and priorities of the system are clear;
ii) Provide only as much control as necessary for each system;
iii) Ensure there is sufficient feedback from the environment so the system can detect and act on signals indicating a need for change.
iv) Monitor a wide range of system performance matrices to understand more fully how well the organisation is performing;
v) Make much small change rather than major disruptions to improve system performance.
REVIEW OF LITERATURE

According to Edmondson (2003) factors found to promote implementation success include top management support, slack resources and prior experience with innovation and the first step in an implementation journey is the decision to bring new innovation quality management thoughts into a complex organisation.

The findings of the study by Kaynak (2003), suggest that a positive relationship exist between the extent to which companies implement TQM and firm performance. The findings also show that assessment of management leadership is necessary when the effectiveness of TQM implementation is investigated.

Nanda and Kelly (2004) postulated four phases of providing focus and purpose to different components of QMS implementation. The first phase is the establishment of quality management infrastructure; second is concerned with critical quality discrepancies; third is complying with set quality standards; and the last phase is to maintain and continuously improve the QMS. They further recommended following as strategies for implementing organisations:

a) Ensure the final objectives are clearly established.

b) Establish a roadmap for achieving the objectives and identify and plan for the activities to be performed during each phase of the roadmap.

c) Keep it real to ensure an adequate and effective QMS establishment.